



# Mental Health Task-Shifting in Community-Based Organizations

---

*Implementation, Impact, and Cost—  
Evaluation of the Connections to Care Program*

Lynsay Ayer and Dana Schultz

EDITORS

Michele Abbott, Dionne Barnes-Proby, Wing Yi Chan, Michael Stephan Dunbar,  
Emily Hoch, Harry H. Liu, Monique Martineau, Elie Ohana, Daniel Siconolfi,  
Joshua Snoke, Clare Stevens, Vivian L. Towe

CONTRIBUTORS





November 12, 2020

Dear Reader,

New Yorkers turn to social service providers in their neighborhoods for many forms of support. They may expect help with a resume, connections to potential employers, safe and enriching childcare to permit them to work, or guidance about educational opportunities. In 2016, the Mayor's Fund to Advance New York City, the Mayor's Office for Economic Opportunity, the NYC Department of Health and Mental Hygiene, and ThriveNYC set out to assess whether combining these services with new mental health supports would be possible, improve social service outcomes, and increase the use of mental health services. The Connections to Care (C2C) program explored whether equipping trusted staff at social service agencies with mental health knowledge and skills could create new opportunities for New Yorkers to access mental health services, while also improving their economic and social outcomes. This public-private partnership was supported by the federal Social Innovation Fund, New York City funding, and private donors.

We asked the RAND Corporation to evaluate the program's effectiveness – through an implementation study that examined how and whether providers integrated mental health support into their work and an impact study that compared the mental health and social service outcomes of participants in C2C programs with participant outcomes at comparison organizations without C2C programs. RAND also estimated the costs of the model to both government and non-profit providers.

The implementation evaluation demonstrated that the community-based organizations (CBOs) participating in C2C were able to incorporate mental health practices into their work. CBOs were able to expand the skillsets of their staff to identify and address mental health needs and promote positive mental health. These organizations trained large numbers of staff, implemented practices to support those staff in adopting skills, and in doing so changed the culture at their organizations. This implementation evaluation shows that our communities have valuable assets that can be deployed to meet residents' mental health needs.

The impact evaluation focused on C2C participants who screened positive for mental health needs. Overall, the researchers did not find that these C2C participants experienced different mental health or social service outcomes than New Yorkers who accessed services at a comparison CBO. However, the impact evaluation did find a positive effect on mental health and social services outcomes for some groups included in this study. Specifically:

- Expecting parents and parents of young children who were engaged in C2C were three times *less* likely to use emergency services and inpatient care than the comparison group.
- C2C participants in youth development programs were *three times more* likely to seek outpatient care than the comparison group.
- C2C participants in workforce development CBOs saw greater increase in hours worked per week than the comparison group.

Based on these findings, RAND researchers concluded that CBOs are capable and well-suited to integrate mental health support into their usual services, when connected to the right expertise. RAND also offers recommendations for how

practitioners can refine and evaluate the C2C model to realize improved mental health outcomes for additional groups and settings.

There are many challenges in implementing and measuring the impact of real-world interventions. The evaluation began while the providers were still ramping up training and support, when the program was not fully mature. In addition, the study sample, by design, does not reflect the full population of 50,000 people who received C2C services, as it focused only on those who were screened as having symptoms of mental health challenges. An additional limitation in evaluating this complex intervention is the great variation in service delivery. Providers were asked to customize based on individual and community needs but the study was not able to examine differences in outcomes for participants who received more or fewer services. Nonetheless, the report's findings, including qualitative results from interviews and feedback from leadership, staff and participants, can shape the implementation of C2C and similar programs that aim to increase mental health integration into social services.

The needs continue, and the opportunity is clear. COVID-19 has laid bare the effects of racism and inequality across New York City neighborhoods. The pandemic has also ushered in new mental health needs, as isolation, anxiety, fear, and economic distress have increased across New York City. The City's social service providers are being called on to respond to ongoing and new mental health needs. And the lessons of C2C can help them meet those needs.

In addition to these evaluation reports, RAND and DOHMH published a practitioner's guide to share the core components of the task-sharing approach used in the C2C model. Released in May 2020, "Helpers in Plain Sight: A Guide to Mental Health Task-Sharing in Community-Based Organizations," is a resource for CBOs and mental health providers who are interested in partnering to address mental health issues in their communities. The guide offers recommendations, tools, and best practices to support promoting mental health in community-based settings.

We are excited to partner with the New York City Human Resources Administration to invest in the next version of C2C. Beginning in early 2021, providers of Jobs-Plus, an employment program that serves residents of the New York City Housing Authority, will integrate mental health supports into their model. We will build and improve on and learn from the C2C model through this initiative.

C2C is a noteworthy example of the potential of public-private partnerships and collaboration across City agencies. We thank you for your interest in this evaluation.

Sincerely,



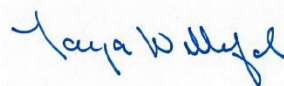
Susan Herman  
Director, Mayor's Office of Thrive NYC



Hillary Kunins  
Executive Deputy Commissioner of Mental Hygiene at  
the New York City Department of Health and Mental  
Hygiene



Matt Klein  
Executive Director, Mayor's Office for Economic  
Opportunity



Toya Williford  
Executive Director, Mayor's Fund to Advance New York  
City

For more information on this publication, visit [www.rand.org/t/RR3083](http://www.rand.org/t/RR3083)

Published by the RAND Corporation, Santa Monica, Calif.

© Copyright 2020 RAND Corporation

**RAND**® is a registered trademark.

*Cover image: Lyubov Ivanova/GettyImages*

#### Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of its research documents for commercial use. For information on reprint and linking permissions, please visit [www.rand.org/pubs/permissions](http://www.rand.org/pubs/permissions).

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

#### Support RAND

Make a tax-deductible charitable contribution at  
[www.rand.org/giving/contribute](http://www.rand.org/giving/contribute)

[www.rand.org](http://www.rand.org)

## Preface

---

Mental health and substance use problems affect at least one in five adults in the United States, and yet access to treatment is not guaranteed. Some of our most vulnerable communities, including low-income communities of color, face the greatest challenges finding evidence-based services. In 2016, New York City (NYC) policymakers came together with federal and private funders to support an innovative program intended to open doors to quality mental health support within these high-risk communities. The program, called Connections to Care (C2C), used a mental health task-shifting approach to integrate evidence-informed mental health supports into the work of community-based organizations (CBOs) serving low-income communities in NYC. Partnering with local mental health providers (MHPs), 15 CBOs served more than 40,000 New Yorkers over the course of 4 years. RAND Corporation conducted an evaluation of C2C, examining its implementation across 15 organizations, its effect on mental health and other outcomes, and its costs. This report presents the results of that evaluation. The results should be of interest to CBOs, MHPs, health policymakers, and communities struggling to overcome barriers to mental health care.

Data collection for this study began in 2017 and ended in February 2020, just before the COVID-19 pandemic led to stay-at-home orders and shutdowns of nonessential businesses in NYC. Specific activities included a literature review and development of a logic model; site visits and qualitative interviews with CBO and MHP staff and clients; a survey of CBO staff involved in the C2C program; collection of CBO financial reports and other spending information; and a three-wave, quasi-experimental study of C2C and comparison clients.

At the time of this writing, the United States was the epicenter of the COVID-19 pandemic, where these same communities were—largely due to systemic, social inequalities—disproportionately at risk of contracting and dying from the virus. This was the case in NYC, one of the initial virus hot spots and where the C2C program was implemented and tested. Leveling the playing field when it comes to health care access (including mental health care) was more critical than ever. Findings from the evaluation of C2C—a program specifically designed to address this problem—could help inform communities inside and outside NYC as they considered new ways to bring mental health support to their most vulnerable members.

This research was sponsored by the Mayor’s Fund to Advance NYC under the contract “Evaluation and Research Services Relating to the Connections to Care Initiative” and carried out within the Access and Delivery Program in RAND Health Care. The Mayor’s Fund received funding through the Social Innovation Fund (SIF), which was a program that received funding from 2010 to 2016 from the Corporation for National and Community Service, a federal agency that engages millions of Americans in service through its AmeriCorps, Senior Corps, and Volunteer Generation Fund programs, and leads the nation’s volunteer and service efforts. Using

public and private resources to find and grow community-based nonprofits with evidence of results, SIF intermediaries received funding to award subgrants that focus on overcoming challenges in economic opportunity, healthy futures, and youth development. Although CNCS made its last SIF intermediary awards in fiscal year 2016, SIF intermediaries will continue to administer their subgrant programs until their federal funding is exhausted.

RAND Health Care, a division of RAND, promotes healthier societies by improving health care systems in the United States and other countries. We do this by providing health care decisionmakers, practitioners, and consumers with actionable, rigorous, objective evidence to support their most complex decisions. For more information, see [www.rand.org/health-care](http://www.rand.org/health-care), or contact

RAND Health Care Communications  
1776 Main Street  
P.O. Box 2138  
Santa Monica, CA 90407-2138  
(310) 393-0411, ext. 7775  
[RAND\\_Health-Care@rand.org](mailto:RAND_Health-Care@rand.org)

**Study Directors**

Lynsay Ayer  
Clare Stevens  
Vivian L. Towe

**Management Team**

Lynsay Ayer<sup>a</sup>  
Emily Hoch  
Susan Lovejoy  
Clare Stevens  
Vivian L. Towe

**Implementation Evaluation Team**

Michael Stephan Dunbar<sup>a</sup>  
Wing Yi Chan<sup>a</sup>  
Michele Abbott  
Dionne Barnes-Proby  
Emily Hoch  
Sarah Lieff  
Lisa Wagner  
Rebecca Weir

**Impact Evaluation Team**

Dana Schultz<sup>a</sup>  
Daniel Siconolfi<sup>a</sup>  
Dionne Barnes-Proby  
Boyer Bazelais  
Dianne Egelhoff  
Naomi Hale  
Emily Hoch  
Polina Kats-Kariyanakatte  
Serafina Lanna  
Rebecca Lawrence  
Susan Lovejoy  
Ammarah Mahmud  
Elie Ohana  
Robert Reynoso  
Massiel Ubilus Rivera  
Ricardo Sanchez  
Joshua Snoke

**Cost Evaluation Team**

Harry Liu<sup>a</sup>  
Michele Abbott  
Thomas Goughner

**Technical Assistance Team**

Clare Stevens<sup>a</sup>  
Andrew Cleek<sup>a</sup>  
Dionne Barnes-Proby  
Lydia Franco  
Priya Gopalan

**Communications Support**

Monique Martineau

<sup>a</sup> Team leader.

# Contents

---

Preface.....	iii
Figures.....	ix
Tables.....	xi
Summary.....	xx
Acknowledgments.....	xxx
Abbreviations.....	xxxii
PART I. INTRODUCTION.....	1
1. Introduction.....	2
Consequences of Untreated Mental Health Problems.....	2
Access to Mental Health Care.....	3
Increasing Access to Mental Health Care Through C2C.....	4
Evaluating the C2C Program.....	5
2. Background and Rationale for C2C.....	6
Mental Health Service Utilization in Low-Income Populations.....	6
Barriers to Mental Health Care.....	8
Mental Health Task-Shifting.....	8
3. C2C Program and Logic Model.....	13
Program Overview.....	13
Building the Program.....	14
Logic Model.....	17
C2C Evaluation.....	21
References.....	25
PART II. IMPLEMENTATION.....	36
4. Adaptation of C2C at Community-Based Organizations in Early-Stage Implementation.....	37
Key Findings.....	37
Introduction.....	38
Methods.....	41
Results.....	44
Discussion.....	63
Limitations.....	65
Summary.....	65
References.....	66
5. Evolution of C2C Implementation.....	67
Key Findings.....	67



Introduction.....	68
Methods .....	69
Results.....	71
Discussion.....	108
Limitations.....	112
Summary.....	113
References.....	114
6. How C2C Transformed Organizational Culture and Approaches to Client Care Coordination.....	116
Key Findings.....	116
Introduction.....	117
Methods .....	118
Results.....	119
Discussion.....	140
Limitations.....	144
Summary.....	145
References.....	146
PART III. IMPACT .....	148
7. Impact of C2C on Mental Health Care Access and Utilization.....	149
Key Findings.....	149
Introduction.....	150
Methods .....	152
Results.....	159
Discussion.....	169
Limitations.....	175
Summary.....	176
References.....	177
8. Impact of C2C on Mental Health Symptoms.....	181
Key Findings.....	181
Introduction.....	182
Methods .....	184
Results.....	185
Discussion.....	191
Limitations.....	195
Summary.....	196
References.....	197
9. Impact of C2C on Employment, Education, Housing, and Incarceration .....	200
Key Findings.....	200

Introduction.....	201
Method.....	204
Results.....	205
Discussion.....	213
Limitations.....	218
Summary.....	219
References.....	220
PART IV: COST.....	224
10. Resources Required to Implement and Maintain the C2C Program.....	225
Key Findings.....	225
Introduction.....	226
Methods.....	227
Results.....	234
Discussion.....	249
Limitations.....	254
Summary.....	255
References.....	257
PART V. CONCLUSIONS AND RECOMMENDATIONS.....	258
11. Conclusions and Recommendations.....	259
Conclusions.....	260
Recommendations.....	263
Final Thoughts.....	266
References.....	267
Appendix A. C2C Program Summaries.....	269
Appendix B. Implementation Evaluation Methods.....	326
Appendix C. Impact Evaluation Methods.....	338
Appendix D. Cost Evaluation and Sensitivity Analyses.....	461

## Figures

---

Figure 1.1. C2C Evaluation and Data Collection Timeline .....	5
Figure 3.1. C2C Program Logic Model .....	20
Figure 4.1. Key C2C Program Implementation Events from 2016 Through 2019.....	39
Figure 4.2. Conceptual Model of C2C Program Implementation Phases in CBO Settings.....	40
Figure 5.1. CBO Staff and Supervisors Trained in C2C Skills .....	74
Figure 5.2. CBO Staff Trained by C2C Skills .....	75
Figure 5.3. C2C Skills Trainings Received by CBO Staff .....	75
Figure 5.4. CBO Staff Trained in Each C2C Skill (Year 4) .....	76
Figure 5.5. Perceptions of C2C Program Functioning by CBO Type .....	81
Figure 5.6. Coaching and Supervision Hours by Core C2C Skill .....	82
Figure 5.7. New C2C Program Clients Served per Quarter, by Year .....	88
Figure 5.8. Average C2C Program Clients Served per CBO, by CBO Type .....	89
Figure 5.9. Average Percent of Annual New Client Targets Met per CBO, by CBO Type.....	91
Figure 5.10. Eligible CBO Clients Who Received at Least One C2C Skill .....	91
Figure 5.11. Use of C2C Skills by CBO Program Staff .....	92
Figure 5.12. Clients Screened for Mental Health Symptoms per Quarter .....	93
Figure 5.13. Clients Screened per CBO, by CBO Type .....	94
Figure 5.14. Screenings and Other C2C Services Delivered to CBO Clients .....	96
Figure 5.15. Number of Screenings for Mental Health Symptoms, Overall and by Type .....	97
Figure 5.16. Client Accepted Referrals and Kept Referrals by Type .....	101
Figure 5.17. Percentage of Kept Referrals to MHPs .....	102
Figure 5.18. Client Referrals by CBO Type .....	103
Figure 6.1. CBO Staff Satisfaction with C2C Training (Year 4).....	120
Figure 6.2. Organizational Support for Addressing Client Mental Health .....	127
Figure 6.3. Staff Perceptions of Community Mental Health Stigma by Wave.....	130
Figure 6.4. Staff Perception of Why Clients Decline Mental Health Referrals.....	131
Figure 6.5. Staff Perception of Client Comfort with Accepting Referrals .....	134
Figure 10.1. Program-Level Cost Data Collection .....	228
Figure 10.2. Average Number of Staff Members Who Received C2C Training per CBO, by Job Category, C2C Project Year, and CBO Type.....	235
Figure 10.3. Average Number of Unique Clients Served per CBO, by CBO Type and Project Year .....	236
Figure 10.4. Average Weekly C2C Labor Hours per Staff Member, by Job Category, C2C Activity, and Project Year.....	238
Figure 10.5. Average Annual C2C Labor Hours per CBO, by CBO Type and Project Year ....	239

Figure 10.6. Average Annual Staff Compensation in Year 3, by CBO Type.....	240
Figure 10.7. Average Annual Labor Cost per CBO, by CBO Type and Project Year .....	240
Figure 10.8. Average Annual C2C Program Cost per CBO, by Cost Component, Project Year, and CBO Type.....	241
Figure 10.9. Average Annual Program Cost per CBO, by Funding Source and Project Year ...	242
Figure 10.10. Average C2C Program Cost per Client Served, by Cost Component, Project Year, and CBO Type.....	243
Figure 10.11. Average Program Cost per Client Served, by Cost Component, MHP Partnership Model, and Project Year .....	244
Figure 10.12. Average Program Cost per Client Served, by Cost Component, CBO Employment Size, and CBO Project Year .....	245
Figure C.1. Data Collection Process at C2C CBOs .....	350
Figure C.2. Data Collection Process at Comparison CBOs.....	352
Figure C.3. Study Enrollment Timeline by CBO .....	356
Figure C.4. Impact Study Analytic Database Development Process.....	359
Figure D.1. Average Annual Program Cost per CBO Using Invoice-Based Overhead Cost Rates, by Cost Component, Project Year, and CBO Type .....	461
Figure D.2. Average Annual Program Cost per CBO Based on Invoices, by Cost Component, Project Year, and CBO Type.....	462
Figure D.3. Average Program Cost per Client Served Based on Invoices, by Cost Component, Project Year, and CBO Type.....	463
Figure D.4. Average Annual Program Cost per Client Served, Adjusted for Incremental Time Spent on Delivering CBO Services Due to Utilizing C2C Skills, by Cost Component and Project Year .....	464
Figure D.5. Average Weekly Labor Hours per Staff Member in Year 4, by Job Category and C2C Activity .....	465
Figure D.6. Average Annual Labor Hours per CBO in Year 4, by CBO Type.....	465

## Tables

---

Table S.1. Participating CBOs, by Type.....	xxii
Table 3.1. Overview of CBOs Participating in the C2C Program .....	15
Table 3.2 Implementation Evaluation Research Questions .....	21
Table 3.3. Impact Evaluation Research Questions .....	23
Table 3.4. Cost Evaluation Research Questions .....	24
Table 4.1. Required Components of C2C Program .....	38
Table 4.2. Number of Key Informants Interviewed by Year and Type of Informant.....	42
Table 4.3. CBOs with Integrated and Stand-Alone Delivery of C2C Skills.....	53
Table 5.1. CBOs by Type .....	71
Table 5.2. Distribution of Training Provided During Year 4 (2019).....	73
Table 5.3. Annual New C2C Client Targets, by Year and CBO Type.....	90
Table 5.4. Delivery of Specific C2C Skills by Lay Staff.....	92
Table 5.5. Percent of Clients Who Received Any C2C Skill That Received at Least a Screening, by CBO Type and Project Year .....	95
Table 7.1. Baseline Characteristics.....	154
Table 7.2. Sample Sizes for Subgroup Analysis.....	156
Table 7.3. Strength of Baseline Barriers to Seeking Professional Care for a Mental Health Problem—Domain Scores (Weighted) .....	159
Table 7.4. Number of Endorsed Baseline Barriers to Seeking Professional Care for a Mental Health Problem—Individual Barrier Endorsement (Weighted) .....	160
Table 7.5. Baseline Mental Health Care Utilization Among Persons with Baseline Unmet Need (Weighted).....	161
Table 7.6. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted).....	162
Table 7.7. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted).....	163
Table 7.8. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	164
Table 7.9. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	165
Table 7.10. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted).....	166
Table 7.11. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	166
Table 7.12. Summary of Mental Health Care Barriers and Utilization Outcomes in the Overall Sample.....	170
Table 8.1. Clinically Significant and Reliable Improvement for Mental Health Outcomes.....	185

Table 8.2. Baseline Mental Health Symptoms (Weighted) .....	186
Table 8.3. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	188
Table 8.4. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	189
Table 8.5. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	189
Table 8.6. Summary of Mental Health Outcome Results in the Overall Sample .....	192
Table 8.7. Summary of Mental Health Status of Study Participants at Baseline.....	193
Table 9.1. Recall Period for Non–Mental Health Outcomes .....	205
Table 9.2. Baseline Indicators for Employment, Housing, Educational Attainment, and Incarceration (Weighted) .....	206
Table 9.3. Within-Group Differences in Full-Time or Part-Time Employment at 12 Months (Weighted) .....	207
Table 9.4. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted) .....	207
Table 9.5. Within-Group Differences in Housing Status at 12 Months (Weighted) .....	208
Table 9.6. Within-Group Changes in Homelessness at 12 Months (Weighted).....	208
Table 9.7. Within-Group Differences in Educational Attainment at 12 Months (Weighted).....	208
Table 9.8. Within-Group Changes in Incarceration at 12 Months (Weighted) .....	209
Table 9.9. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months (Weighted) .....	210
Table 9.10. Summary of Employment, Educational Attainment, Housing, and Incarceration Outcomes in the Overall Sample .....	214
Table A.1. AAANY Training, Coaching, and Supervision .....	272
Table A.2. BSRC Training, Coaching, and Supervision .....	275
Table A.3. CAMBA Training, Coaching, and Supervision.....	278
Table A.4. CEO Training, Coaching, and Supervision.....	281
Table A.5. HMI Training, Coaching, and Supervision.....	286
Table A.6. Hudson Guild Training, Coaching, and Supervision.....	288
Table A.7. NMIC Training, Coaching, and Supervision .....	293
Table A.8. RHI Training, Coaching, and Supervision.....	295
Table A.9. Safe Horizon Training, Coaching, and Supervision .....	301
Table A.10. Sheltering Arms Training, Coaching, Supervision, and Continuous Quality Improvement.....	305
Table A.11. STRIVE Training, Coaching, and Supervision.....	309
Table A.12. The Door Training, Coaching, and Supervision .....	315
Table A.13. HOPE Training, Coaching, and Supervision .....	319
Table A.14. Voces Latinas Training, Coaching, and Supervision.....	322

Table B.1. Number of Key Informants Interviewed by Year and Type .....	327
Table B.2. Quarterly Progress Report Data Elements .....	335
Table C.1. Comparison Group CBOs .....	340
Table C.2. CBO Information .....	341
Table C.3. Minimum Detectable Effect Size with 80-Percent Power, Accounting for Propensity Score Adjustments .....	341
Table C.4. Impact Evaluation Eligibility Criteria on Screening Measures.....	349
Table C.5. Balance Table for Propensity Score Weighting of Study Participants at Baseline, Demographic Characteristics .....	364
Table C.6. Balance Table for Propensity Score Weighting of Study Participants at Baseline, Mental Health Symptoms .....	366
Table C.7. Balance Table for Propensity Score Weighting of Retained Study Participants at 6 Months, Baseline Demographic Characteristics .....	367
Table C.8. Balance Table for Propensity Score Weighting of Retained Study Participants at 6 Months, Baseline Mental Health Symptoms .....	369
Table C.9. Balance Table for Propensity Score Weighting of Retained Study Participants at 12 Months, Baseline Demographic Characteristics .....	370
Table C.10. Balance Table for Propensity Score Weighting of Retained Study Participants at 12 Months, Baseline Outcomes .....	372
Table C.11. Balance Table for Propensity Score Weighting of Retained Study Participants at Either 6 or 12 Months, Baseline Demographic Characteristics, Unmet Need Sample for Pooled 1-Year Utilization-Related Outcomes .....	373
Table C.12. Balance Table for Propensity Score Weighting of Retained Study Participants at Either 6 or 12 Months, Baseline Outcomes, Unmet Need Sample for Pooled 1-Year Utilization-Related Outcomes.....	375
Table C.13. Final Study Enrollment .....	378
Table C.14. Required Versus Actual Enrollment for a Small Effect Size .....	379
Table C.15. Retention of Participants Eligible to Participate at Each Time Point .....	380
Table C.16. Study Participants by Time Point.....	381
Table C.17. Baseline Sample Characteristics by Study Retention at 6 Months (Unweighted) ...	382
Table C.18. Baseline Sample Characteristics by Study Retention at 12 Months (Unweighted)...	384
Table C.19. Sample Characteristics: Full Unweighted Sample at Baseline .....	387
Table C.20. Sample Characteristics: Full Unweighted Subsample with Unmet Mental Health Need at Baseline.....	388
Table C.21. Baseline Barriers to Seeking Professional Care for a Mental Health Problem— Individual Barrier Endorsement (Weighted) .....	389
Table C.22. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	391
Table C.23. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	391

Table C.24. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	392
Table C.25. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	392
Table C.26. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months .....	393
Table C.27. Within-Group Differences in FT/PT Employment at 6 Months (Weighted) .....	394
Table C.28. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted) .....	394
Table C.29. Within-Group Differences in Housing at 6 Months (Weighted) .....	394
Table C.30. Within-Group Differences in Educational Attainment at 6 Months (Weighted) .....	394
Table C.31. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted) .....	395
Table C.32. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	396
Table C.33. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	396
Table C.34. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	397
Table C.35. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	397
Table C.36. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	398
Table C.37. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	398
Table C.38. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	399
Table C.39. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	399
Table C.40. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	400
Table C.41. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	400
Table C.42. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	401
Table C.43. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	401
Table C.44. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months .....	402
Table C.45. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	402
Table C.46. Within-Group Differences in FT/PT Employment at 6 Months (Weighted) .....	403



Table C.47. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted) .....	403
Table C.48. Within-Group Differences in FT/PT Employment at 12 Months (Weighted) .....	403
Table C.49. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted) .....	404
Table C.50. Within-Group Differences in Housing at 6 Months (Weighted) .....	404
Table C.51. Within-Group Differences in Housing at 12 Months (Weighted) .....	404
Table C.52. Within-Group Changes in Homelessness over 1 Year (Weighted) .....	404
Table C.53. Within-Group Differences in Educational Attainment at 6 Months (Weighted)....	405
Table C.54. Within-Group Differences in Educational Attainment at 12 Months (Weighted)...	405
Table C.55. Within-Group Changes in Incarceration over 1 Year (Weighted) .....	405
Table C.56. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted) .....	406
Table C.57. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted).....	407
Table C.58. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	408
Table C.59. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	408
Table C.60. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	409
Table C.61. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	409
Table C.62. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	410
Table C.63. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	410
Table C.64. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted).....	411
Table C.65. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	411
Table C.66. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	412
Table C.67. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	412
Table C.68. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	413
Table C.69. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	413
Table C.70. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months .....	414
Table C.71. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	414

Table C.72. Within-Group Differences in FT/PT Employment at 6 Months (Weighted).....	415
Table C.73. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted).....	415
Table C.74. Within-Group Differences in FT/PT Employment at 12 Months (Weighted).....	415
Table C.75. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted).....	416
Table C.76. Within-Group Differences in Housing at 6 Months (Weighted).....	416
Table C.77. Within-Group Differences in Housing at 12 Months (Weighted).....	416
Table C.78. Within-Group Changes in Homelessness over 1 Year (Weighted).....	416
Table C.79. Within-Group Differences in Educational Attainment at 6 Months (Weighted)....	417
Table C.80. Within-Group Differences in Educational Attainment at 12 Months (Weighted)...	417
Table C.81. Within-Group Changes in Incarceration over 1 Year (Weighted).....	417
Table C.82. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted).....	418
Table C.83. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted).....	419
Table C.84. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted).....	420
Table C.85. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted).....	420
Table C.86. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted).....	421
Table C.87. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted).....	421
Table C.88. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted).....	422
Table C.89. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted).....	422
Table C.90. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted).....	423
Table C.91. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted).....	423
Table C.92. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted).....	424
Table C.93. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted).....	424
Table C.94. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted).....	425
Table C.95. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted).....	425
Table C.96. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months.....	426

Table C.97. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	427
Table C.98. Within-Group Differences in FT/PT Employment at 6 Months (Weighted) .....	428
Table C.99. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted) .....	428
Table C.100. Within-Group Differences in FT/PT Employment at 12 Months (Weighted) .....	428
Table C.101. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted) .....	428
Table C.102. Within-Group Differences in Housing at 6 Months (Weighted) .....	429
Table C.103. Within-Group Differences in Housing at 12 Months (Weighted) .....	429
Table C.104. Within-Group Changes in Homelessness over 1 Year (Weighted) .....	429
Table C.105. Within-Group Differences in Educational Attainment at 6 Months (Weighted) ...	429
Table C.106. Within-Group Differences in Educational Attainment at 12 Months (Weighted) ...	430
Table C.107. Within-Group Changes in Incarceration over 1 Year (Weighted) .....	430
Table C.108. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted) .....	431
Table C.109. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted) .....	432
Table C.110. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	433
Table C.111. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	433
Table C.112. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	434
Table C.113. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted) ....	434
Table C.114. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	435
Table C.115. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	435
Table C.116. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	436
Table C.117. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous Weighted .....	436
Table C.118. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	437
Table C.119. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	437
Table C.120. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	438
Table C.121. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	438

Table C.122. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months .....	439
Table C.123. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	439
Table C.124. Within-Group Differences in FT/PT Employment at 6 Months (Weighted) .....	440
Table C.125. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted) .....	440
Table C.126. Within-Group Differences in FT/PT Employment at 12 Months (Weighted) .....	440
Table C.127. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted) .....	441
Table C.128. Within-Group Differences in Housing at 6 Months (Weighted) .....	441
Table C.129. Within-Group Differences in Housing at 12 Months Weighted .....	441
Table C.130. Within-Group Changes in Homelessness over 1 Year (Weighted) .....	441
Table C.131. Within-Group Differences in Educational Attainment at 6 Months (Weighted) ...	442
Table C.132. Within-Group Differences in Educational Attainment at 12 Months (Weighted) ...	442
Table C.133. Within-Group Changes in Incarceration over 1 Year (Weighted) .....	442
Table C.134. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted) .....	443
Table C.135. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted).....	444
Table C.136. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	445
Table C.137. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted) .....	445
Table C.138. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted) .....	446
Table C.139. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted) ....	446
Table C.140. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted) .....	447
Table C.141. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	447
Table C.142. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted).....	448
Table C.143. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted) .....	448
Table C.144. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	449
Table C.145. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	449
Table C.146. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted) .....	450

Table C.147. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted) .....	450
Table C.148. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months .....	451
Table C.149. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months .....	452
Table C.150. Within-Group Differences in FT/PT Employment at 6 Months (Weighted) .....	453
Table C.151. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted) .....	453
Table C.152. Within-Group Differences in FT/PT Employment at 12 Months (Weighted) .....	453
Table C.153. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted) .....	453
Table C.154. Within-Group Differences in Housing at 6 Months (Weighted) .....	454
Table C.155. Within-Group Differences in Housing at 12 Months (Weighted) .....	454
Table C.156. Within-Group Changes in Homelessness over 1 Year (Weighted) .....	454
Table C.157. Within-Group Differences in Educational Attainment at 6 Months (Weighted) ...	454
Table C.158. Within-Group Differences in Educational Attainment at 12 Months (Weighted)...	455
Table C.159. Within-Group Changes in Incarceration over 1 Year (Weighted) .....	455
Table C.160. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted) .....	456
Table C.161. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted).....	457

## Summary

---

*Monique Martineau, Lynsay Ayer, Dana Schultz, Michael Stephan Dunbar, and Harry H. Liu*

Mental health problems affect a substantial portion of the U.S. population: National surveys estimate that every year about 20 percent of Americans deal with mental health problems such as depression or anxiety. Among young adults (age 18–25) that figure is even higher, at just more than 25 percent. Yet the distribution of these problems is uneven across segments of the U.S. population. Mental health problems disproportionately affect low-income individuals, racial and ethnic minorities, and those with low English proficiency in comparison to other populations in the United States. Left unaddressed, mental health problems can profoundly affect people’s lives, from their ability to engage in healthy relationships and secure employment, to their ability to care for themselves physically and emotionally. Mental health disorders represent a serious public health problem in the United States with a societal cost approximated at \$200 billion per year in lost earnings.

Easy-to-administer screening can detect mental health problems, and early treatment can stop or slow the progression of mild symptoms to more severe illness. But obtaining early treatment can be difficult because of a nationwide shortage of mental health care professionals. In both rural and urban areas, mental health professionals—particularly those who can deliver evidence-based treatments, such as cognitive behavioral therapy—are difficult to come by. In New York City (NYC) alone, the Health Resources Services Administration designated 17 areas as mental health provider (MHP) shortage areas in 2019.

To fill gaps in the mental health care workforce and lower barriers to accessing mental health care, regional governments and coalitions have been exploring new strategies to address mental health care delivery. In one such effort that began in 2016, the Connections to Care (C2C) Collaborative in NYC built an innovative model of delivering mental health screening and evidence-based treatments through staff at community-based organizations (CBOs) that already serve low-income and at-risk populations. This report describes the C2C model and RAND Corporation’s evaluation of how it was implemented; whether it had the intended effect on mental health treatment, symptoms, and related outcomes; and how much it costs CBOs.

### The C2C Model

C2C sought to address inequality in access to mental health care and improve mental health and well-being by integrating mental health skills into the usual work of CBOs trusted and established in their NYC communities. To address access to mental health care in an environment with limited mental health workforce resources, the C2C model borrowed a concept of delivering



care under constrained resources from global health initiatives called “task-shifting” and applied it to low-income communities in NYC. Using the task-shifting concept in this manner had theoretical grounding but, before C2C, had not been implemented and evaluated in CBO settings. Both the C2C program and its evaluations of diverse participants, implementation, and cost are a first in mental health interventions and research.

At its core, the C2C program expands the mental health care workforce by pairing CBOs with MHP organizations to improve mental health and well-being by integrating mental health skills into CBO workflows. In C2C, trained and supervised lay (nonspecialist) CBO staff screen for mental health problems and deliver evidence-based treatments—“C2C skills”—including mental health first aid (MHFA), motivational interviewing (MI), and psychoeducation (PE). By integrating these skills into regular CBO programming and allowing CBOs to customize processes and procedures within the C2C framework, CBOs were able to deliver evidence-based, client-centered mental health care to participants. For clients with mild symptoms, CBO staff could deliver most C2C skills within typical client interactions, after participating in training, coaching, and supervision activities. But C2C was not meant to substitute for professional mental health care. For clients needing more intensive treatment, CBOs could facilitate a “warm handoff” referral to mental health professionals at their MHP partners, which were sometimes co-located with the CBO.

By situating the intervention in CBOs already working with the target populations, and setting up mutually beneficial relationships with MHPs, C2C could leverage existing relationships with clients to build the trust necessary to enable conversations about mental health and stressful experiences. Addressing mental health challenges among CBO clients could improve outcomes for existing CBO programs, as well. For instance, a CBO that focuses on job training could see greater success with its programming by using C2C to address underlying mental health issues that may be barriers to employment. Further, MHPs could benefit from CBOs’ cultural expertise to better serve their surrounding communities.

C2C is one initiative of ThriveNYC, an \$850 million commitment by the City of New York to address the mental health needs of New Yorkers. The C2C Collaborative, a \$30 million public-private partnership that includes the Mayor’s Fund to Advance NYC (Mayor’s Fund), the Mayor’s Office for Economic Opportunity (NYC Opportunity), the NYC Department of Health and Mental Hygiene (DOHMH), and federal and private donors, oversaw the design of C2C and its implementation. Over 5 years, the C2C Collaborative expected the program to reach up to 40,000 New Yorkers who are clients of the CBOs and in one of the three overlapping targeted population groups:

- youth/young adults ages 16 to 24 who are not in school and are not employed
- adults age 18 or older who are unemployed or underemployed
- parents/primary caregivers who are expecting or who have children up to the age of 4.

## *CBO and MHP Participants*

The C2C Collaborative began its initiative with a competitive process of selecting 15 CBOs that serve low-income and at-risk populations (e.g., through job training and employment, domestic violence shelters, homeless shelters, youth development, services for immigrants) to participate in the C2C program (Table S.1). CBOs that applied to participate were required to pair with an MHP that could help provide technical assistance in the form of coaching and supervision, as well as direct professional services to the CBO.

**Table S.1. Participating CBOs, by Type**

<b>CBO Type</b>	<b>CBOs</b>
Job training and employment	The HOPE Program Bedford-Stuyvesant Restoration Corporation Northern Manhattan Improvement Corporation STRIVE Center for Employment Opportunities
Youth development	The Door Red Hook Initiative Hetrick Martin Institute
Parent/caregiver-serving	Hudson Guild Sheltering Arms Committee for Hispanic Children and Families
Other	Safe Horizon CAMBA Voces Latinas Arab American Association of New York

Participating CBOs received half of their funding for C2C in years 1 through 3 from a federal grant from the Corporation for National and Community Service (CNCS) made to the Mayor's Fund, and they were required to match these funds with nonfederal grants. CNCS closed midway through the 5-year program; the DOHMH provided grants to CBOs in year 4. MHP partners were typically paid through a contract with the CBO.

### *Program Monitoring*

Within the C2C model, CBOs had the following six required implementation elements:

- establishment of a formal CBO-MHP relationship
- plans for staffing, training, and supervision
- engagement of specific client populations in C2C services
- integration of C2C into existing CBO programming
- establishment of a process for mental health referrals
- continuous quality improvement (CQI) of C2C.



To monitor progress on these elements and to measure changes over time, CBOs were required to submit data to the Mayor’s Fund on a regular basis, such as operational plans, administrative data on progress toward utilization and service targets (for instance, number of staff members trained, rates of “kept” referrals), screening data, and invoices of expenses for both staff labor and material goods. CBOs received technical assistance to implement CQI and to learn how to use data for organizational goal setting. Because implementation of C2C progressed beyond the startup phase, some CBOs became more comfortable with using their data on C2C skill delivery, for instance, to make decisions about staff or client offerings to facilitate improvement. For example, CBOs and MHPs carefully monitored data on rates of kept client referrals to MHPs in conjunction with qualitative feedback from staff and clients to inform adaptations to referral protocols. Such efforts were critical in improving rates of kept referrals over time.

CBOs and clients were also invited to participate in several surveys, focus groups, and (for some) key informant interviews to gauge the program’s implementation and impact at key time points of the evaluations. RAND used these quantitative and qualitative data to help inform progress updates to the CBOs and the C2C Collaborative during implementation and also to conduct the mixed-methods evaluations presented in this report.

## Evaluations

To measure the effects of the C2C program, the C2C Collaborative tasked RAND with conducting an evaluation of C2C in three parts: the implementation, impact, and cost of C2C. RAND used data submitted by the CBOs throughout the program and fielded surveys to CBO staff, leadership, and clients to gather information on experiences with the C2C program. RAND also conducted several focus groups and interviews with key stakeholders.

By studying the program’s implementation, impact, and costs, RAND sought to get a holistic picture of program outcomes from multiple perspectives, for instance, at the individual level from CBO staff and C2C client participants, at the organizational level among CBOs and MHPs, and at the systems level in terms of health care services utilization and access to care. Below we summarize the main objectives and findings of each evaluation.

### *Implementation*

The implementation evaluation sought to understand how CBOs implemented the C2C program within and across CBOs, whether participation in the program changed CBO staff knowledge, behaviors, and attitudes about mental health, and whether CBO clients’ access to mental health services changed as a result of C2C. It also examined the key facilitators and barriers to effective implementation. The primary research questions were:

- How were the C2C program strategies implemented?
- To what extent have the CBOs identified clients with mental health or substance use issues as a result of C2C implementation?

- Do CBO staff have improved knowledge of mental health and C2C modalities, as well as attitudes, and behaviors about mental health issues and services?
- What are the key facilitators of and barriers to effective implementation of C2C program strategies within and across CBO and MHP partnerships?

All 15 CBOs participating in C2C were included in the implementation evaluation. Data collection included: abstracting data from CBO operational plans; conducting three rounds of key informant interviews in 2017 ( $n = 82$ ), 2018 ( $n = 158$ ) and 2019 ( $n = 40$ ) with CBO leaders, MHP leaders, CBO frontline staff, and CBO clients; reviewing C2C model summaries; compiling data on key program services and outcomes, program performance against targets, and other aspects of program and contract management from CBO quarterly reports; and conducting three waves of annual staff surveys in 2017 ( $n = 140$ ), 2018 ( $n = 252$ ), and 2019 ( $n = 320$ ) to gain a broader view on program implementation from the perspective of CBO program staff who were trained in C2C skills and provided services to clients. For the quantitative data, we conducted univariate analyses (e.g., means, percentages, counts) to describe implementation measures and assess variability (e.g., range, standard deviations) in the metrics across CBOs and performed sub-analyses by CBO type. For qualitative data, we used a mixed-method software environment to conduct thematic analysis and identify recurring patterns, or themes, in the interview data.

From our analyses, we found that in years 1 and 2 of C2C implementation, the C2C Collaborative provided detailed implementation guidance and technical assistance activities to help support CBOs and MHPs in developing plans for C2C implementation. CBOs had many factors to consider in balancing how to implement the required components of C2C while also tailoring the C2C program to their particular settings and clientele. These included existing staffing structures, resources, organizational processes, and workflows. Adapting the C2C model to specific CBO settings required considerable upfront planning and consideration of site-specific staff and client cultural needs, available resources, and organizational processes.

In total, 14 of the 15 CBOs implemented the required components of C2C within their organizations and remained active participants in the C2C initiative through implementation year 4. One CBO discontinued the program at the end of year 3 due to persistent challenges with meeting programmatic requirements, which resulted in the funder terminating their participation in C2C. Between March 2016 and December 2019, CBOs and MHPs trained more than 1,700 CBO staff members and provided C2C services to more than 41,000 unique clients. A little more than 60 percent of all staff members at participating CBOs had been trained in at least one C2C skill by implementation year 4, with MHFA as the most commonly reported training. CBOs were quick to ramp up training and service delivery early on; these activities plateaued in year 2 and beyond, suggesting that initial C2C rollout took slightly over a year to achieve. Implementation of C2C also evolved over time, with CBOs/MHPs refining implementation strategies to address challenges and optimally align with staff, client, and organizational needs. Diligent efforts among CBOs and MHPs to improve referral processes ultimately led to very high rates of kept first appointments for clients referred to MHPs: rates surpassed 70 percent by year 3 and exceeded

80 percent in year 4 of implementation. Also, by year 4, all organizational leaders reported commitment to sustaining at least some elements of C2C into the future.

In many respects, C2C participation transformed CBO (and sometimes MHP) organizational cultures and approaches to client mental health. Through C2C, CBO staff and leadership experienced a cultural shift toward client mental health and adopted a “common language” with each other and with clients that was more conscious about mental health and well-being in general. The majority of CBO staff (77 percent) reported feeling that C2C training helped them address their clients’ mental health-related problems, and most (64 percent) felt satisfied with the continuing supervision they received to help with skill maintenance. Of the four C2C skills, CBO staff highlighted MI as the most effective tool to address client mental health needs and provide better services to clients.

Throughout implementation, CBO staff perceived community mental health stigma to be relatively high and thought it was a primary barrier to clients accepting referrals to seek mental health services outside CBOs. Other client barriers to accepting referrals included practical barriers (e.g., lacking the time, transportation, and childcare to see an off-site provider, inability to pay, or lack of insurance), previous negative experience with mental health services, and general discomfort with the idea of receiving mental health services. CBOs and MHPs worked collaboratively to develop solutions to minimize these client barriers, such as distributing metro cards to clients or adding MHP walk-in hours devoted to C2C clients.

Over time, CBOs and MHPs made adjustments to their organizational structures and policies to improve coordination surrounding clients’ mental health needs. The C2C model diffused both locally and outside the NYC area, such that CBO and MHP leaders reported sharing their experiences with C2C with staff members from other organizations outside the C2C network. CBOs shared best practices with each other, and many reported plans to extend the formal CBO-MHP relationship beyond the life of the C2C contract.

### *Impact*

The impact evaluation measured the effect of the C2C task-shifting approach on CBO clients’ access to and utilization of mental health care, on mental health symptoms, and on outcomes related to other indicators of well-being: employment, education, housing, and incarceration. The primary research questions were:

- Do C2C participants have greater reductions in barriers to mental health care and greater increases in utilization of mental health services relative to comparison group participants?
- Do C2C participants show greater positive improvement in depression, generalized anxiety, PTSD, alcohol use, substance use, and general psychological distress relative to comparison group participants?
- Do C2C participants show improved outcomes in the domains of employment, housing, education, and incarceration relative to comparison group participants?

The quasi-experimental evaluation design allowed us to examine the pooled effect of C2C across all treatment participants (i.e., C2C clients) compared with all comparison participants (clients of CBOs who did not participate in C2C). We also examined the effect of C2C on specific subgroups of participants, including the three C2C target populations (i.e., adults age 18 or older who are unemployed or underemployed, young adults ages 16 to 24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) and the two CBO service types with sufficient sample sizes (e.g., job training and employment programs and youth development programs). Not all C2C CBOs were included in this evaluation; two CBOs were excluded (one because it was not able to implement the program, and the other because its program model differed substantially than the others and was offered in a language that would have required extensive translation resources). Participants from the remaining 13 CBOs had to meet a minimum threshold for one of the five mental health issues to be eligible for the study. This evaluation design decision was made to focus the impact evaluation on the individuals for whom the C2C intervention was most likely to have a measurable effect. In addition, the impact evaluation included a matched comparison group—clients of CBOs similar to the C2C-participating CBOs—to measure the effect of C2C programming compared with usual CBO programming.

For the analyses for the primary research questions, we used baseline survey data collected as part of study enrollment ( $n = 1,838$ ) and follow-up client survey data collected at 6 months ( $n = 688$ ; 37 percent retention rate) and 12 months ( $n = 732$ ; 40 percent retention rate). In our analysis, we used propensity scores that estimate the probability that each individual received C2C (versus services as usual) based on their baseline characteristics to adjust for any differences between the C2C and comparison groups at baseline. We examined both differences within groups over time, comparing each participant retained at each follow-up (i.e., 6 or 12 months) with that participant's score at the baseline assessment; and (2) intervention effects over time using an intent-to-treat approach in which we compared all individuals in the C2C group with all those in the comparison group, regardless of the actual amount of C2C skills received, in both propensity score weighted models and doubly robust models.

We expected intervention effects to be small in size due to the characteristics of the intervention itself (i.e., less intensive than individual therapy, focus on a broad range of mental health symptoms and severity rather than only clinically significant symptoms), that it was being compared with “as usual” services, and that the sample was highly heterogeneous. These latter two factors commonly pose challenges to detecting significant group differences in intervention studies. That is, “treatment as usual” groups often perform just as well as the intervention group, even for interventions with demonstrated efficacy compared with no-treatment or waitlist control conditions. Further, interventions typically work better for certain individuals than for others—a phenomenon known as “treatment heterogeneity.” Recognizing this phenomenon, we also explored treatment heterogeneity by examining the effect of C2C on different subgroups of participants for each set of outcomes. Effects measured in this evaluation compared self-reported

responses from participants at baseline and at follow-up 6 and 12 months later. (In this report, we report the 12-month follow-up results, unless the two follow-up results were in conflict.)

### Access and Utilization

We first looked at barriers to mental health care in terms of logistical, attitudinal, and stigma barriers, and also changes in mental health care utilization, attributable to the C2C program. From baseline to follow-up, the C2C and comparison groups reported fewer logistical, attitudinal, and stigma barriers to mental health care, increased utilization of clinical outpatient care, and decreased utilization of inpatient and emergency care. When we examined the effect of C2C, we found that C2C did not result in greater improvement for C2C participants on measures of access to and utilization of mental health services compared with usual CBO services. This suggests that C2C had no effect on mental health care barriers or utilization overall. There are several alternative explanations to consider. For example, at the time of the C2C intervention, there were also concurrent mental health programs running in the city through the ThriveNYC Initiative, which may have made it difficult to detect intervention effects in our sample.

We also examined whether we could observe different effects of C2C among subgroups within the overall sample, namely among each of the three targeted C2C populations and among two of the CBO types for which we had enough data from participants (CBOs offering job training and employment services, and CBOs offering youth development programs). There was some evidence that C2C may have been more effective for some of these subgroups. Among youth and young adults, C2C appeared to have reduced attitudinal barriers to mental health care relative to the comparison group. Participants from youth development CBOs who received C2C used more outpatient mental health services than the youth development CBO participants in the comparison group. Among the parent and caregiver target population and the youth and young adult target population, emergency department use was lower in the C2C group relative to the comparison group. In addition, there was evidence that C2C reduced residential treatment use at job training and employment CBOs and among unemployed/underemployed adults and parents and caregivers. Though these effects were not observed across all subgroups, these findings show that an innovative task-shifting intervention can meet the needs of some populations that are often underserved and marginalized.

### Mental Health Symptoms

Next, we looked at the effect of the C2C program on mental health symptoms. Overall, C2C did not result in greater improvement for C2C participants on mental health symptoms of depression, generalized anxiety, posttraumatic stress disorder, alcohol use, other substance use (i.e., drug use), and general psychological distress, compared with usual CBO services. We did see high symptom levels at baseline and improvement over time for both groups. Across the board, the baseline prevalence of mental health issues in the study sample exceeded the prevalence rates from epidemiological studies of similar populations. From baseline to follow-up, both C2C

participants and those in the comparison group experienced statistically significant decreases in symptoms across all of the mental health conditions. At 12 months, C2C did not result in greater improvements in any of the mental health symptoms compared with usual CBO services. At 6 months, there was evidence that C2C may have been more effective in decreasing substance use symptoms, although the effect size was very small. Together, these findings suggest that C2C had no effect on mental health symptoms. Alternative explanations to consider include a natural recovery process or added mental health services at comparison CBOs.

Although C2C may not have had an effect on improving mental health symptoms in the overall sample, there was some evidence that C2C may have been more effective for certain subgroups, as with the access and utilization outcomes. Participants at job training and employment CBOs showed greater reductions in alcohol use (small effect size) in the C2C group relative to the comparison group. At youth development CBOs, participants' depressive symptoms decreased (small-to-medium effect size) more in the C2C group relative to the comparison group. Among the targeted population of youth and young adults, psychological distress decreased (small-to-medium effect size) more in the C2C group than comparison group.

#### Employment, Education, Housing, and Incarceration

Finally, we looked at C2C's effect on outcomes in the domains of employment, housing, education, and incarceration for those individuals receiving services from CBOs. From baseline to follow-up, both C2C participants and those in the comparison group reported more full or part-time employment, more weekly work hours, higher monthly pay, more stable housing, and more high school or general equivalency diploma completion. Across all of the employment, housing, education, and incarceration outcomes, there was one statistically significant intervention effect: at the 12-month follow-up, C2C participants experienced larger increases in weekly work hours relative to the comparison group (small effect size). Otherwise, the findings indicate that C2C did not have an effect on the other outcomes. Other explanations to consider include the positive effect of CBO programming outside the C2C skills, as well as concurrent ThriveNYC initiatives at the time of C2C implementation.

As with the previous analyses for the impact evaluation, there was evidence that C2C may have been more effective for certain subgroups. For those at job training and employment CBOs, C2C participants improved at a greater rate than comparison participants in weekly work hours increase (small-to-medium effect size) and monthly pay (small effect size). Weekly work hours also increased (very small effect size) more for C2C group than comparison group participants among the target population of adults 18 or older and for those at CBOs serving parents or caregivers (small effect size).

#### Cost

The cost evaluation sought to quantify the resources CBOs needed to both implement and maintain the C2C program, as well as the average cost per client. It also measured change in the



average cost per client over time. This evaluation factored in both labor and nonlabor costs as well as overhead and payments to vendors and consultants, including MHP partners. The primary research question was:

- What are the costs to CBOs associated with implementation of the C2C program, overall and average per program client?

To capture data on program-level resource information, we designed four data collection forms: a cost study section embedded in the implementation evaluation’s annual staff survey, a cost of labor survey, a staff compensation report, and a non-labor expenses report. We also reviewed quarterly CBO invoices and quarterly CBO quarterly reports. All 15 CBOs were included in the cost evaluation. Because of data availability, this analysis was limited to changes between year 2 and year 3 data. We conducted a main analysis to determine the costs associated with the C2C program, as well as three sensitivity analyses.

Overall, because CBOs started to implement the program, the number of CBO staff who received C2C training or were involved in other C2C activities increased by 49 percent from year 2 to year 3. In the same time period, the number of clients receiving C2C skills increased by 31 percent, up from 817 per CBO in year 2 to 1,066 in year 3. Due mostly to the increase in staff labor, the average annual cost per CBO rose about 18 percent, from \$437,546 in year 2 to \$514,142 in year 3. The average cost per C2C client served decreased from \$536 in year 2 to \$482 in year 3.

Nearly half of the resources used in the C2C program were not part of the planned budget. Because of the structure of the financial arrangement to fund C2C—a 50-percent grant through the Mayor’s Fund and DOHMH with matching arranged by CBOs to cover the other half of the planned budget—many CBOs had to cover the remaining costs for C2C out of their own funds.

Although we were not able to determine the marginal cost per client, defined as the increase in variable costs—costs that change when service volume increases—due to serving additional clients, we were able to see that several CBOs were beginning to move out of the startup phase after the second year of implementation. But not all CBOs progressed to program “maturity” in terms of cost on the same timeline. By year 3, only six of the 15 CBOs achieved increasing returns to scale, where the average cost per client declined as the program scaled up. With a longer time horizon, future evaluations would be able to provide more clarity on when the remaining CBOs were able to achieve increasing returns to scale.

## Future Considerations

To our knowledge, this is the first U.S.-based evaluation of a mental health task-shifting intervention on this scale. Overall, the results of the impact evaluation did not provide evidence of the effectiveness of the C2C model of task-shifting. We found no differences between the C2C group and the comparison group overall, although we did find some benefits of C2C for certain subpopulations and in certain settings. While the findings from the impact evaluation do not

provide evidence for broad scale-up of the C2C model of task-shifting, additional improvements in the design, targeting, and evaluation of C2C (or another task-shifting model) could demonstrate effectiveness in improving outcomes in future studies. From the implementation evaluation, we learned that implementing C2C required CBOs to balance many factors to tailor the program to their clientele, but most CBO staff and leaders noted a marked change in how they approached mental health with clients and among themselves, due to C2C. And the cost evaluation found that labor costs accounted for a substantial portion of overall costs, and that less than half of CBOs were able to achieve economies of scale sufficient to reduce the cost per client by year 3.

This evaluation has limitations, as noted, and is unable to answer every question about C2C's impact, implementation, and cost. Yet the positive feedback from CBO and MHP staff and leadership and the effects of C2C on certain subgroups within the impact evaluation—however small—demonstrate that CBOs are capable and well suited to integrate mental health supports into their usual services, with help from partnering MHPs. Over the course of the 5-year project, C2C brought mental health services to tens of thousands of low-income New Yorkers and continues to do so, adapting to the new reality of delivering these services remotely during the COVID-19 pandemic.

Together, the three evaluations underscore that mental health task-shifting in community-based organizations is feasible. Moreover, these evaluations can provide useful information to those interested in further refining how task-shifting is designed, targeted to different populations and settings, and studied. For those interested in building from our work, we outline seven recommendations stemming from our evaluation findings that might inform the design, implementation, and evaluation of future task-shifting efforts which are as follows:

1. Design the model with evidence-based content and alternative delivery modes (e.g., telehealth) to reduce barriers to mental health care.
2. Consider replacing or augmenting the original four skills that made up the C2C model (screening, MHFA, MI, PE) with other evidence-based strategies.
3. Examine the role of systemic barriers to implementation and sustainment of the model and other nontraditional mental health delivery models.
4. Invest resources in reducing barriers to care among youth and young adults.
5. Plan for at least an initial 1-year ramp-up period, and prepare for increasing costs over time until the program gets to scale.
6. Consider the population, setting, and outcomes when determining whether and how to implement the model.
7. Design future evaluations of the effectiveness of task-shifting models to account for individual- and site-level heterogeneity, and to examine mechanisms of change.

Together, these recommendations can help CBOs, MHPs, policymakers, funders, researchers, and communities because they consider further development of mental health task-shifting as a way to expand the mental health workforce and reach vulnerable, low-income communities with mental health supports.



## Acknowledgments

---

The authors would like to acknowledge several individuals without whom this study and research report would not have been possible. We thank Harold Pincus, Jeanne Ringel, Peter Hussey, Paul Koegel, Anita Chandra, and Jeffrey Wasserman for their advice and guidance on this report and throughout the project. We are grateful for the careful review of the document provided by Joshua Breslau, Mary Acri, Emmett Keeler, and Lynn Karoly, and for Lisa Turner’s excellent work shepherding the document through peer review. We thank Yamini Bhalla, Mary Gendron, and Steve Oshiro for their editorial assistance and for managing production of this report.

This work would not have been possible without the many New York City (NYC)–based data collection team members (especially Emily Hoch, Polina Kats-Kariyanakette, Robert Reynoso, and Massiel Ubilius Rivera) who worked unusual hours, at times traveling across all five NYC boroughs, to conduct study assessments. We are also indebted to RAND Corporation’s Survey Research Group for their persistence in following up with participants and completing telephone assessments.

Our colleagues at NYC Opportunity, NYC Department of Health and Mental Hygiene, and the Mayor’s Fund worked with us tirelessly to ensure the evaluation and findings were of the highest possible quality. In particular, this work could not have been completed without Kate Dempsey, Sinead Keegan, Brigit Beyea, Elise Tosatti, and Gary Belkin. Our colleagues at McSilver Institute for Poverty Policy and Research at the New York University Silver School of Social Work—especially Andy Cleek, Lydia Franco, and Priya Gopalan—provided outstanding technical assistance to the participating community-based organization (CBOs) and mental health providers (MHPs) as they implemented the C2C program. Funding for program oversight, evaluation, technical assistance and learning community activities was provided by private funders through the Mayor’s Fund including the Ford Foundation, Astoria Energy, LLC, The Marc Haas Foundation, NY Community Trust, the Marilyn J Simons Foundation, the Stavros Niarchos Foundation, The Chapman Perelman Foundation, SOMOS Community Partners, Allergan Foundation, Otsuka American Pharmaceutical, Wainwright Berger Philanthropic Fund, and others.

And finally, we would like to thank the clients, staff, and leadership at the CBOs and MHPs who participated in this project and who have carried on in their critical work to improve the well-being of vulnerable communities in NYC.

## Abbreviations

---

95% CI	95% confidence interval
AAANY	Arab American Association of New York
ALGEE	<i>Assess</i> for risk of suicide/harm <i>Listen</i> nonjudgmentally <i>Give</i> reassurance and information <i>Encourage</i> appropriate professional help <i>Encourage</i> self-help and other support strategies
AUDIT-10	Alcohol Use Disorder Identification Test–10
AUDIT-C	Alcohol Use Disorder Identification Test–Concise
BACEv2	Barriers to Access to Care Evaluation
BSRC	Bedford Stuyvesant Restoration Corporation
C2C	Connections to Care
CASES	Center for Alternative Sentencing and Employment Services
CBO	community-based organization
CBT	cognitive behavioral therapy
CC	clinical coordinator
CEO	Center for Employment Opportunities
CHCF	Committee for Hispanic Children and Families
CNCS	Corporation for National and Community Service
CPIC	Community Partners in Care
CQI	continuous quality improvement
C-SSRS	Columbia-Suicide Severity Rating Scale
DAST-10	Drug Abuse Screening Test–10
DOHMH	Department of Health and Mental Hygiene
DSM-5	Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
EBP	evidence-based practice
ECE	Early Childhood Education
ECEI	Early Care and Education Institute

GAD	generalized anxiety disorder
GAD-7	Generalized Anxiety Disorder 7-Item Scale
GED	general equivalency diploma
HIPAA	Health Insurance Portability and Accountability Act of 1996
HIV	human immunodeficiency virus
HMI	Hetrick-Martin Institute
K-6	Kessler 6
LCSW	licensed clinical social worker
LGBTQ	lesbian, gay, bisexual, transgender, and questioning
LMSW	licensed master social worker
LOA	Legal, Organizing, and Advocacy
MHFA	mental health first aid
MHP	mental health provider
MI	motivational interviewing
MSSI-SA	Modified Simple Screening Instrument for Substance Abuse
NAMI	National Alliance on Mental Illness
NMIC	Northern Manhattan Improvement Corporation
NYC	New York City
NYS	New York State
NYU McSilver	McSilver Institute for Poverty Policy and Research at the New York University Silver School of Social Work
OR	odds ratio
PC-PTSD	Primary Care PTSD Screen for DSM-5
PCL-5	PTSD Checklist for DSM-5
PHQ-8	Eight-item Patient Health Questionnaire
PHQ-9	Nine-item Patient Health Questionnaire
PTSD	posttraumatic stress disorder
PWS	participant wellness specialist
QI	quality improvement
RHI	Red Hook Initiative

RS	retention specialist
SHCC	Safe Horizon Counseling Center
SRG	Survey Research Group
SIF	Social Innovation Fund
SSM	supportive services manager
SSSW	Silberman School of Social Work
TC	Teacher's College
UHP	Urban Health Plan, Inc.
US	Union Settlement

# Part I. Introduction

---

The three chapters in this section provide an overview of the Connections to Care (C2C) program and the problems it tries to address. They provide background on what is known about mental health care in low-income populations and potential interventions to lower barriers to care, introduce the concept of task-shifting in the context of C2C, and provide detail on the logic behind C2C as a foundation to the detailed descriptions of the three C2C evaluations in subsequent sections.

Chapter 1 describes the prevalence of mental health problems in the United States, the consequences of letting those problems go unaddressed, and the difficulties in accessing mental health care in many parts of the country. It also describes the motivation for the C2C program.

Chapter 2 presents a review of the evidence based on interventions to address mental health problems among low-income, underserved populations such as those targeted by the C2C program. It also examines the evidence behind task-shifting, a central feature of the C2C program.

Chapter 3 provides more detail on how the C2C program was built and its main features. It also reviews the program's logic model and its expected outcomes, as well as the key research questions in the implementation, impact, and cost evaluations.

The sections and chapters that follow describe the methods and results for each evaluation. In Part II, three chapters report on the qualitative and quantitative findings from the implementation evaluation. In Part III, three chapters present findings from the impact evaluation. Part IV describes cost evaluation findings. A summary of overall conclusions and recommendations follows these groups of chapters. In addition, four appendices provide greater detail on how the C2C program was implemented at each community-based organization (CBO) site (Appendix A) and the methods and analytical approaches used for the implementation (Appendix B), impact (Appendix C), and cost (Appendix D) evaluations.

# 1. Introduction

---

*Lynsay Ayer*

Mental health problems are common in the United States (Kessler et al., 2012): Approximately one-fifth of the U.S. population experiences one, according to national survey estimates from 2017 (Substance Abuse and Mental Health Services Administration, 2018). Among young adults (ages 18–25), mental illness prevalence was even higher, at 25.8 percent, than for other adult age groups (Substance Abuse and Mental Health Services Administration, 2018), and mental health symptoms often continue into later adulthood as well (Essau et al., 2010).

Mental health problems disproportionately affect low-income communities (Chow, Jaffee, and Snowden, 2003; Duncan, Magnuson, and Votruba-Drzal, 2017), and racial/ethnic minorities are more likely to live in poverty in the United States (Elliott, 2016). Likely stemming from multiple disadvantages in U.S. society, low-income individuals, racial/ethnic minorities, and those with lower English language proficiency are least likely to have access to mental health services (Akincigil et al., 2012; Chow, Jaffee, and Snowden, 2003; Kataoka, Zhang, and Wells, 2002; Saloner and Cook, 2013; Sentell, Shumway, and Snowden, 2007), compared with other segments of the U.S. population.

## Consequences of Untreated Mental Health Problems

Mental health problems left unaddressed can lead to myriad negative consequences to the individual, family, and society. For example, depression is related to many different physical health problems (Stubbs et al., 2017), and mental illness in one or both members of a couple can contribute to marital dissolution and divorce (Butterworth and Rodgers, 2008). Globally, the burden of disability related to mental health disorders is substantial, accounting for as much as 32 percent of the years individuals live with a disability and 13 percent of disability-adjusted life years (a measure of the effect of disability on quantity and quality of life) (Vigo, Thornicroft, and Atun, 2016). Major depression is the second-largest cause of disability worldwide (Vos et al., 2015).

Untreated mental health problems (including substance misuse) can have far-reaching impacts. For example, individuals experiencing such problems may have trouble obtaining a job or achieving academic success, and they are more likely to be involved with the justice system (Watkins et al., 2004). When mental health symptoms become severe, those without access to mental health services often seek care from emergency rooms, a costly approach that often does not effectively address mental health problems (Ayangbayi et al., 2017). Left untreated, these problems can even be life threatening: Depression and other mental health problems are among

the most consistent predictors of suicide (Gournellis et al., 2018; Krysiniska and Lester, 2010), and drug and alcohol use are risk factors for accidental death and injury (Hingson and Howland, 1987; Olsson et al., 2016).

Together the consequences of untreated mental health disorders lead to societal costs estimated at nearly \$200 billion in lost earnings in the United States (Kessler et al., 2008). Thus, the unmet need for mental health treatment, overall and in underserved communities, represents a serious public health and societal problem.

## Access to Mental Health Care

Early detection and treatment of mental health problems, ideally before they become severe and chronic, is critical to slow or stop their progression and associated costs. Recent studies have demonstrated that proactive effort to screen for mental health problems is related to greater likelihood of mental health service utilization among those who have symptoms (Petrenko et al., 2011; Shippee et al., 2014). However, racial/ethnic minorities and individuals who are affected by poverty are less likely than their peers to receive mental health screening in clinical settings (Hahm et al., 2015). Mental health screenings can also be performed in nonclinical settings, such as CBOs, and offering screenings in these settings has the potential to reduce such disparities (Thomas and Staiger, 2012). Other populations at high risk for mental health problems, such as those who misuse substances, tend to receive mental health screenings at relatively low rates. With adequate training, substance use treatment centers can successfully implement mental health screening for youth and adults (Aitken et al., 2008; Lubman et al., 2008).

Once such problems have been identified, evidence-based interventions have generally been effective in treating a wide range of mental health problems, including depression, anxiety, and posttraumatic stress disorder (PTSD) (Bisson et al., 2007; Hofmann and Smits, 2008; Miranda et al., 2003; Roy-Byrne et al., 2010; Shear et al., 2005). However, the United States has been experiencing a critical shortage of mental health providers (MHPs). One in five U.S. counties had an unmet need for mental health professionals according to the most recent data publicly available (Thomas et al., 2009). For example, 96 percent of the nation's 3,140 counties do not have adequate access to psychiatric services (Thomas et al., 2009). As of November 2019, the Health Resources Services Administration (HRSA) had designated 17 areas in New York City (NYC) as MHP shortage areas (ThriveNYC, 2019).

Amid this country-wide shortage of mental health clinicians, not all specialists have access to the training and supervision needed to deliver evidence-based interventions (Pagoto et al., 2007). Consequently, regions throughout the nation and across all distributions of income have been exploring new delivery models, many of which leverage nonspecialist health workers such as peers (American Hospital Association, 2016; Kazdin, 2017; Kazdin and Rabbitt, 2013). These new delivery models are particularly relevant to low-income and racial/ethnic minority communities because of their elevated mental health risk and particularly limited access to care.

## Increasing Access to Mental Health Care Through C2C

In response to the need for greater access to mental health care in NYC’s low-income, underserved communities with provider shortages, the C2C Collaborative began a publicly and privately funded initiative to expand access to mental health services. C2C is one initiative of ThriveNYC, an \$850 million commitment by the City of New York to address the mental health needs of New Yorkers. The C2C Collaborative—the Mayor’s Fund to Advance NYC (Mayor’s Fund), the Mayor’s Office for Economic Opportunity (NYC Opportunity), and the NYC Department of Health and Mental Hygiene (DOHMH)—drew funding from the federal Social Innovation Fund (SIF) of the Corporation for National and Community Service (CNCS), the City of New York, and private donors to create the C2C program and support this evaluation.<sup>1</sup>

In 2016, the C2C Collaborative began implementing the C2C program, an innovative model of integrating mental health support into the work of CBOs that serve low-income and at-risk populations (e.g., through job training and employment, domestic violence shelters, homeless shelters, youth development, services for immigrants). The C2C program uses a “task-shifting” approach (described in more detail later) to maximize the capabilities of CBOs and MHPs to promote community mental health. It serves clients from the following three target populations of low-income New Yorkers:

- youth/young adults ages 16 to 24 who are not in school and are not employed
- adults age 18 or older who are unemployed or underemployed
- parents/primary caregivers who are expecting or who have children up to the age of 4.

The C2C program’s \$30 million public-private partnership was expected to reach up to 40,000 New Yorkers over a 5-year span through CBOs and MHPs. At the time of this writing, this goal has been surpassed, and CBOs are funded to continue the C2C program through February 2021. New York University’s (NYU) McSilver Institute for Poverty Policy and Research provided technical assistance to the CBOs and MHPs from 2016 through 2019. In addition to addressing immediate mental health needs, the C2C Collaborative and other stakeholders—including the NYC government—aim to determine whether the C2C program works as intended to remove barriers to mental health care and identify, assess, treat, and prevent mental health disorders among these populations.

---

<sup>1</sup> The SIF was a federal grant program of the Corporation for National and Community Service that received funding from 2010 to 2016. Using public and private resources to find and grow community-based nonprofits with evidence of results, SIF intermediaries received funding to award subgrants that focus on overcoming challenges in economic opportunity, healthy futures, and youth development. The Corporation for National and Community Service awarded an SIF intermediary award to the Mayor’s Fund in 2015 for use to administer the first 3 years of a 5-year subgrant program.

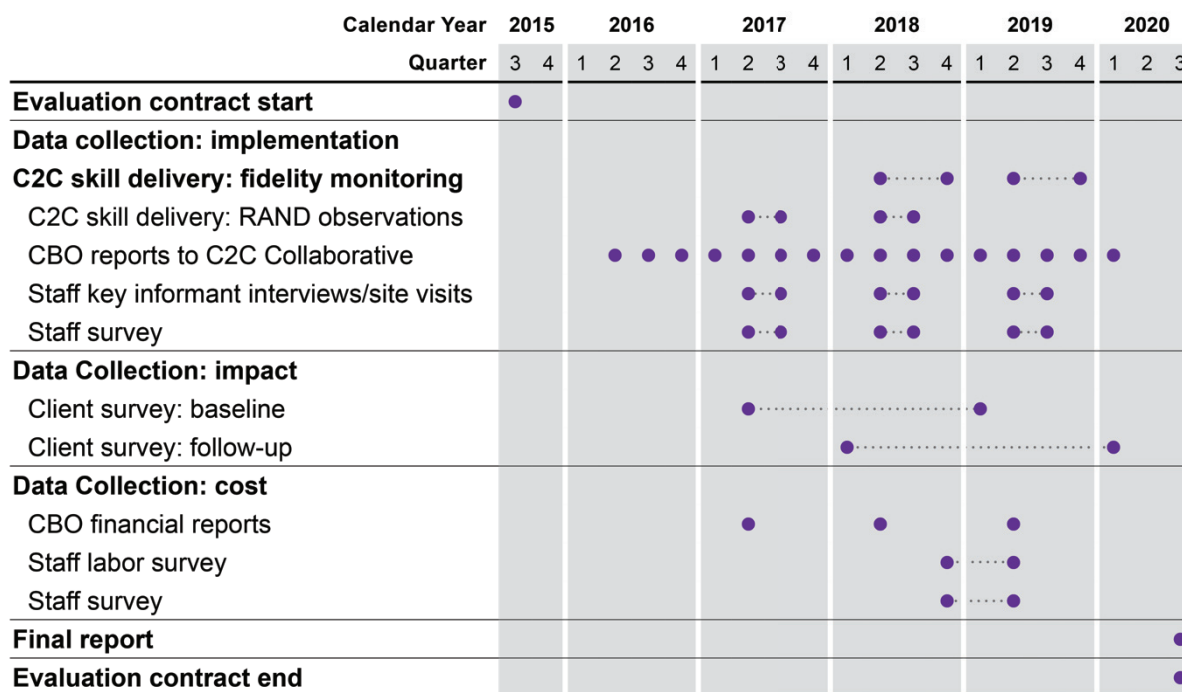


## Evaluating the C2C Program

In a previously published interim report, RAND Corporation summarized initial findings on the C2C program using data from its initial one and one-half years of implementation (Ayer et al., 2018). Further, in collaboration with DOHMH, RAND published a guide for CBOs interested in designing and implementing task-shifting (also called “task-sharing”) approaches similar to C2C in their own organizations (Stevens et al., 2020).

This final report summarizes the qualitative and quantitative findings in the three key domains of the C2C program evaluated by RAND: (1) its effect, (2) its implementation, and (3) its costs for CBOs. Figure 1.1 provides a high-level timeline of the start and end of key evaluation and data collection activities. A more detailed outline of C2C program implementation activities is included in Chapter 4 (Figure 4.1). As illustrated in Figure 1.1, all data collection was complete by the end of February 2020, before the COVID-19 pandemic and related policies (e.g., stay at home orders and closure of nonessential businesses) affected NYC.

**Figure 1.1. C2C Evaluation and Data Collection Timeline**



## 2. Background and Rationale for C2C

---

*Lynsay Ayer, Wing Yi Chan, and Michael Stephan Dunbar*

As described in the previous chapter, mental health problems affect about 20 percent of the U.S. population overall, with a disproportionate effect on low-income communities of color (Allen et al., 2014; Chow, Jaffee, and Snowden, 2003; Saloner and Cook, 2013). These communities also tend to be less likely to access mental health care, a problem worsened by national MHP shortages and limited access to high-quality, evidence-based care (Akincigil et al., 2012; Chow, Jaffee, and Snowden, 2003; Sentell, Shumway, and Snowden, 2007). Untreated mental health conditions confer risk for a range of consequences such as physical disability (Brenes et al., 2008; Penninx et al., 1999), substance misuse, involvement with the justice system, suicide, accidental injury or death, and lowered life expectancy (Chang et al., 2011). Therefore, interventions that increase engagement in mental health care, including early screening to detect problems before they become severe, could save both lives and money.

In this section, we review the literature on mental health service utilization in low-income populations, including the three populations targeted by C2C; barriers to mental health service utilization; and the use of the task-shifting model for mental health, which formed the basis for the C2C program. The studies cited in the sections below form the base of evidence supporting the approach used in the C2C model.

### Mental Health Service Utilization in Low-Income Populations

Poverty is consistently linked to poor mental health and adverse outcomes (Santiago, Kaltman, and Miranda, 2013). Individuals affected by poverty are more likely than those with higher incomes to experience chronic and acute stressors, including community violence, lack of community supports, economic and financial difficulties, and unstable housing, all of which increase the risk for mental health problems (Santiago, Kaltman, and Miranda, 2013). Despite this greater risk, most individuals living in low-income communities do not receive mental health care. A recent study analyzing nationally representative data from the National Health Interview Survey found that participants with lower incomes were 1.5 times more likely to have unmet mental health care needs than higher-income participants. In addition, those without health insurance coverage were almost four times more likely to report unmet mental health needs in comparison to those with private health insurance (Roll et al., 2013).

Unmet need for mental health services is prevalent in NYC. The city government estimated that less than 40 percent of New Yorkers report receiving needed mental health treatment (City of New York; Office of the Mayor, 2015). The national rate of unmet need for mental health treatment is similar. One study found that only about 41 percent of individuals who were

diagnosed with a mental health problem had received treatment in the past 12 months (Wang et al., 2005). Rates of mental health care utilization are even lower among historically underserved individuals, including racial/ethnic minority and other socioeconomically disadvantaged groups, which may contribute to or exacerbate mental health problems and other disparities, such as economic and educational inequalities (Wang et al., 2005).

Populations affected by poverty may be particularly vulnerable to mental health problems. Therefore, increased access to mental health care is especially important for these groups. The three target groups of the C2C program include some of these populations (under- and unemployed adults, out-of-school and out-of-work youth and young adults, and expectant parents and parents/caregivers of young children). The literature on the challenges unique to these three groups supports the need for their inclusion as the primary focus populations of the C2C program.

### *Under- and Unemployed Adults*

Unemployment is a risk factor for mental health problems (Cygan-Rehm, Kuehnle, and Oberfichtner, 2017; Milner, Page, and Lamontagne, 2014; Pharr et al., 2012; Strandh et al., 2014). For example, a meta-analysis found that mental health generally worsens after job loss and then improves after reemployment (Paul and Moser, 2009). Further, mental health problems make it more difficult to obtain employment, potentially leading to even worse mental health problems (Olesen et al., 2013; Terza, 2002). Yet mental health services are often out of reach for unemployed and underemployed adults (i.e., those who do not have enough paid work or work that makes full use of their skills). For instance, the typical structure of mental health services (e.g., weekly visits, weekday appointments) makes it difficult for those who have unpredictable hours, work on a shift schedule, or do not own a car to travel to mental health care (Anderson et al., 2017; Santiago, Kaltman, and Miranda, 2013).

### *Out-of-School and Out-of-Work Youth and Young Adults*

A study of a large British cohort found that about 60 percent of 18-year-olds who were not in employment, education, or training had already experienced a mental health problem, compared with 35 percent of their peers (Goldman-Mellor et al., 2016). Youth who have dropped out of high school are more likely to be depressed and to have attempted suicide than high school graduates (Liem, Lustig, and Dillon, 2010; Maynard, Salas-Wright, and Vaughn, 2015). In addition, out-of-school adolescents and young adults are less likely to have health insurance than their student counterparts (Cadigan, Lee, and Larimer, 2019).

### *Expectant Parents and Caregivers of Young Children*

Expectant parents and caregivers of young children are particularly vulnerable to depression during pregnancy and the postpartum period because of (for postpartum women) hormonal changes and (for all caregivers) the stressors associated with childbirth and child rearing

(Brummelte and Galea, 2010; Cunningham and Zayas, 2002). A prior history of mental health problems, lack of social support, and adverse life events also contribute to risk for mental health problems for caregivers (Biaggi et al., 2016; Milgrom et al., 2008). Expectant parents and caregivers with young children who have low incomes report higher rates of mental health problems—and are less likely to seek mental health treatment—than those with higher incomes (Lazear et al., 2008). Many note that a fear of losing custody of their children is a barrier to seeking care (Anderson et al., 2006). In addition, competing priorities such as childcare and their children’s mental health needs can add to the challenge of participating in their own mental health services (Anderson et al., 2006). The bidirectional relationship between maternal and child mental health makes providing mental health services to parents especially important, because better parental well-being is related to more positive mental and behavioral health in children (Kvalevaag et al., 2013; Zalewski et al., 2017).

## Barriers to Mental Health Care

There are many barriers to accessing mental health services. These barriers are often categorized into two groups: logistical or “concrete” and perceptual or stigma-related (Clement et al., 2012). Examples of logistical barriers include cost, lack of health insurance or inadequate insurance, limited availability of MHPs (e.g., due to a shortage of providers in a given region), lack of transportation, inflexible mental health services, and lack of culturally and/or linguistically appropriate care (Santiago, Kaltman, and Miranda, 2013). Some of these barriers (e.g., cost, lack of health insurance and transportation) disproportionately affect low-income communities. Mental health stigma refers to “the stigma and discrimination that individuals believe to be associated with receiving care for a mental health problem” (Clement et al., 2012). Stigma-related barriers include individuals’ concerns about the potential negative consequences associated with seeking treatment for a mental health problem. For example, someone in need of mental health care may avoid seeking it due to shame, embarrassment, or fear that others would find out about seeking treatment (Hadfield and Wittkowski, 2017; Lazear et al., 2008). C2C is designed to address both types of barriers.

## Mental Health Task-Shifting

To broaden access to mental health support and address many of the logistical and stigma-related barriers to mental health care, C2C implements a model of service delivery known as “task-shifting” or “task-sharing.”<sup>1</sup> In the context of mental health, task-shifting is a way of

---

<sup>1</sup> Some researchers, practitioners, and policymakers use the term “task-sharing” to reflect that tasks may remain shared between the specialist and lay providers. In this report, we use “task-shifting,” as it is the more commonly used term, but many of the C2C models implemented by CBOs and MHPs may be best described as task-sharing.

expanding the mental health workforce by training lay staff (i.e., staff who are not professional mental health workers) to deliver basic mental health screening and evidence-informed psychosocial intervention strategies (Chibanda et al., 2011; Govindarajan and Ramamurti, 2018; Huang et al., 2014; Legha et al., 2015). Under this model, mental health specialists (e.g., psychiatrists, psychologists, social workers) provide training, supervision, and fidelity monitoring for nonspecialists (e.g., community outreach and early childhood workers, teachers, employment specialists, shelter staff). Training nonspecialists to deliver mental health interventions through trusted CBOs already working within the community has the potential to increase mental health access among underserved populations. Task-shifting expands the mental health workforce and delivers mental health supports and interventions through organizations that are culturally competent, accessible, and lack the stigma associated with formal mental health settings. Evidence has shown that task-shifting enables referrals, detection of mental health issues, psychoeducation (PE), and follow-up care with positive outcomes for clients (Kakuma et al., 2011).

Integrating mental health support into community-based settings also has the potential to improve the usual services delivered by CBOs, as well as the overall health care system (Patel et al., 2013). For example, a CBO that focuses on job training and employment may find that clients' mental health and substance use issues are barriers to program participation and successful employment outcomes. When staff are able to identify and address clients' mental health concerns swiftly and effectively, CBOs may find that their clients are better able to participate in programs and ultimately better prepared for employment. With mental health supports delivered by nonspecialists, task-shifting could also improve the efficiency of the mental health care system, allowing mental health professionals to focus their time on delivering specialty care to those with the most intensive needs.

The concept of task-shifting emerged from global health initiatives that focused on disease prevention and treatment. Task-shifting has been adopted in mental health because of its ability to be scaled up to provide services to individuals with limited access to care as well as its adaptability to diverse cultures and local conditions (dos Santos et al., 2016; Kazdin and Rabbitt, 2013; Matsuzaka et al., 2017). Several factors have been hypothesized to increase the likelihood of success of mental health task-shifting interventions: (1) assessment and integration of local context into the intervention; (2) referral and care pathways that follow a protocol to address a mental health issue and achieve a specific health goal; (3) access to training, ongoing supervision, and decision supports that help lay workers know when to take action and which actions to take; (4) integration of quality improvement (QI) practices that allow for assessment and rapid improvement of care; and (5) planning for capacity building and sustainability (Belkin et al., 2011). The C2C initiative incorporates these elements and seeks to build on the current evidence of effective delivery of mental health interventions, as well as inform further use and implementation of the C2C model in NYC.

## *Four Skills for Nonspecialists*

Four skills—screening for detection of mental health conditions, mental health first aid (MHFA), motivational interviewing (MI), and PE—have been shown to be effective on a range of outcomes (e.g., substance use and misuse, depression symptoms) when delivered by trained lay people (Acri et al., 2014; Acri et al., 2015; Barrowclough et al., 2001; Cunningham et al., 2012; de Roten et al., 2013; Hohmna, Doran, and Koutsenok, 2009; Jensen et al., 2011; Kagee et al., 2013; Schwalbe, Oh, and Zweben, 2014; Smith et al., 2012; Wong, Collins, and Cerully, 2015). Other skills can also be effective, but C2C focused on these four skills for delivery by CBOs and MHPs (described further in Chapter 3). To date, this specific combination of skills has not yet been studied in the literature.

### Mental Health Screenings

Mental health screenings for common mental health and substance use and misuse issues are often used to determine the level and type of additional supports or services that a client needs. In low-income settings, there is emerging evidence that screenings for mental health issues—conducted by nonclinical staff who have undergone adequate training—result in population-level gains, including greater mental health services coverage, more effective use of health care staff and resources, and reductions in stigma (Kagee et al., 2013). This appears to be especially true when there is also a clear referral strategy in place for individuals who screen positive for common mental health issues (Kagee et al., 2013), as offered through C2C with the CBO-MHP partnerships (described in more detail in Chapter 3).

### Mental Health First Aid

MHFA was designed specifically for use by lay people and non-mental health specialists. The behavioral health problems covered in MHFA trainings include depression, anxiety, other psychiatric disorders (e.g., schizophrenia, eating disorders), and substance use disorders. The objective of MHFA training is to facilitate trainees' ability to identify and respond to clients' behavioral health problems. More specifically, MHFA training is intended to

- increase awareness of signs and symptoms of behavioral health problems, including mental health problems and substance use
- enhance active listening skills
- provide skills in immediate intervention, crisis response, and referrals to mental health services.

To support these skills, MHFA training also seeks to build trainees' mental health literacy (knowledge and vocabulary) and normalize and destigmatize mental health problems. MHFA has been found to be effective for improving trainees' knowledge and attitudes and for promoting helping behavior toward individuals with mental health disorders and/or symptoms (Wong, Collins, and Cerully, 2015). Several studies support the effectiveness of MHFA in improving recognition of mental health symptoms, knowledge of mental health support and treatment



resources, attitudes about social distance, and confidence in providing help by staff trained in MHFA (Wong, Collins, and Cerully, 2015).

### Motivational Interviewing

MI is a collaborative, person-centered method that aims to explore and resolve ambivalence about maintaining or changing unhealthy behaviors and increases motivation to facilitate behavior change (Miller and Rollnick, 2012). For example, rather than arguing with a client about whether their alcohol use is a problem, or telling a client that they need to take specific actions to change, in MI the therapist/interventionist would approach the client's ambivalence about changing their drinking in a nonjudgmental way, eliciting reasons to change and affirming the client's autonomy over decisions to change. Originally developed in the context of substance use treatment, multiple studies have demonstrated the effectiveness of MI in changing behaviors related to a variety of health and mental health issues (Lundahl and Burke, 2009). MI has been used effectively to facilitate behavior change in multiple medical and psychiatric conditions, including anxiety, depression, and PTSD (Burke, Arkowitz, and Menchola, 2003); comorbid psychiatric and substance use and misuse issues; and a wide range of other issues that affect well-being. For example, MI has been applied in education settings to improve a range of behaviors that include (but are not limited to) dropout rates, marijuana use, and obesity. MI has also been increasingly applied in corrections settings (Miller and Rollnick, 2013). There is moderate evidence to suggest that non-mental health professionals can be trained in MI and implement it with fidelity. Mental health and non-mental health professionals alike are most likely to develop MI skillfulness through opportunities for continued learning over time, especially coaching that includes individualized feedback based on observed practice (Miller and Rollnick, 2013; Schwalbe, Oh, and Zweben, 2014).

### Psychoeducation

PE integrates education and strengths-based approaches to empower people to improve their mental health and well-being (Donker et al., 2009). PE includes providing emotional support, accurate information about mental health issues and helping participants develop new tools and competencies to manage mental health conditions and other challenges in optimal ways. It can be delivered in group or individual settings, and it may target individuals affected by or at risk for mental health issues or their families. PE is a flexible mental health support that has shown potential utility and efficacy when incorporated into treatment programs for a range of mental health and related problems (e.g., severe mental illness, adjustment to medical diagnoses) (Lukens and McFarlane, 2004; Pekkala and Merinder, 2002). In addition, there is emerging evidence that lay providers can successfully deliver PE. Individuals in India diagnosed with schizophrenia who received PE from lay health workers combined with usual care showed increased adherence to medications after 12 months in comparison to participants in the usual care group (Chatterjee et al., 2014).

### *Other Nonspecialist Interventions*

International research in resource-limited settings also indicates that other mental health interventions delivered by nonspecialist lay workers can produce positive outcomes, such as decreased depression, reduced PTSD symptoms, decreased alcohol consumption, and reduced stigma (Bolton et al., 2003; van Ginneken et al., 2013). Further, studies suggest that because known lay staff are viewed as more credible and trustworthy than unfamiliar mental health professionals, engagement in mental health treatment is improved when these staff perform some tasks of care (Gopalan et al., 2010).

Other programs have applied mental health task-shifting to primary care medical settings (Patel et al., 2013). For example, lay staff provided depression screening and PE in primary care sites (a model referred to as “collaborative care”) in two underserved communities in Los Angeles (Chung et al., 2010). A randomized controlled trial found that men who received the collaborative depression care, including from nonclinical staff, reported better mental health and fewer hospital visits than those who received usual care (Mehta et al., 2017).



### 3. C2C Program and Logic Model

---

*Lynsay Ayer and Vivian L. Towe*

The C2C Collaborative designed the C2C program to lower barriers to mental health care among three low-income, underserved populations in NYC: under- and unemployed adults, out-of-school and out-of-work youth and young adults, and expectant parents and caregivers of young children. It also applied a task-shifting model to mental health care, so that lay staff at CBOs could provide some essential mental health skills in an environment of mental health care provider shortages. C2C designers thought that, as entities trusted by their surrounding communities and client populations, CBOs could be an ideal setting for delivering this mental health task-shifting intervention and may, in the process, improve their existing offerings by promoting mental health among their clients.

#### Program Overview

The C2C Collaborative chose four nonspecialist skills described in Chapter 2—mental health screening, MHFA, MI, and PE—to become the core mental health skills delivered by CBO staff in C2C. Although the C2C model requires that some combination of staff at each CBO receive training in all four skills, each CBO developed a customized plan for incorporating them into their existing services. CBO staff received training, ongoing coaching, and support from their MHP to implement these four skills, at a minimum, though CBOs could choose to implement additional skills if desired. Not every staff member was required to be trained in and deliver all four skills; the skills could be delivered by a combination of staff members as appropriate. Not all clients were expected to receive all four supports, and clients could receive a different mix of C2C skills in an order that best served their needs and the CBO’s implementation plan.

The C2C Collaborative understood that some clients would also need access to stepped, specialty mental health care, and that CBOs would need training, coaching, and supervision from mental health professional organizations (MHPs) to deliver C2C skills effectively. To facilitate this, C2C enabled and funded CBOs to partner with MHPs to develop and strengthen referral pathways to specialty care. (See “Building the Program” below for more on the selection process for CBOs and MHPs.)

In addition to adopting the four C2C skills, each CBO and its MHP were expected to develop and strengthen referral pathways from the CBO to the MHP for clients who request or agree to additional care. The CBO was expected to work with the MHP to ensure that clients receive services and to follow up with clients about appointments and their progress. Streamlining the referral process and ensuring warm handoffs to MHP providers who have training and licensure

to provide specialized clinical care is particularly important for low-income individuals in need of treatment, because they face numerous barriers to accessing quality care.

C2C was not intended to be a substitute for professional mental health services (e.g., psychological evaluation for diagnostic purposes; psychotherapy delivered by a clinical psychologist, licensed clinical social worker [LCSW], counselor, psychiatrist) or to be focused exclusively on those with clinically significant symptoms. Instead, the program is designed to meet the needs of people with mild or no symptoms with mental health promotion and prevention, and to increase the likelihood that people who are in need of clinical care will get it by preparing them for engagement and retention in such services (e.g., by reducing stigma and other barriers to care).

Ultimately, the C2C program is designed to address a wide range of unmet mental health needs, thus improving outcomes for individuals served. CBO staff can also apply the person-centered conversation skills and strategies they develop through their C2C training to improve the everyday, non-mental-health-related conversations with the clients they serve.

## Building the Program

The C2C Collaborative brought together many stakeholders and partners to achieve its goals of promoting the well-being and mental health of program participants by increasing client access to and improving CBO capacity for delivery of evidence-informed mental health supports. In fall 2015 and winter 2016, the C2C Collaborative used a competitive process to choose 15 CBOs operating throughout NYC to participate in the C2C program. The 15 CBOs each applied with an MHP organization licensed to deliver professional mental health services in NYC.

CBOs chose their MHP partners; they could partner with culturally responsive MHPs, or if that was not possible, CBOs could leverage their expertise in cultural responsiveness to build those skills among MHP staff. In most cases, CBOs contracted with a third-party MHP to provide training, technical assistance (often in the form of “coaching and supervision” of mental health support skills), and direct services to the CBO. In other cases, the CBO had an existing mental health clinic within its agency that was engaged as the MHP to provide services where they otherwise were not occurring within the CBO social service settings. A description of the specific way each CBO and MHP implemented the C2C program is provided in Appendix A.

The chosen CBOs, all of which are nonprofits, provide a wide range of services to their clients, including job training and employment, youth-oriented programming, immigration services, human immunodeficiency virus (HIV) testing, early childhood education, homeless shelters, and domestic violence interventions. Table 3.1 summarizes key characteristics of CBOs that participated in the C2C program.

**Table 3.1. Overview of CBOs Participating in the C2C Program**

<b>CBO</b>	<b>Borough(s)/ Geographical Area(s) Served</b>	<b>Brief Description of CBO Type</b>	<b>Example Services Provided by CBO</b>	<b>C2C Target Group(s)</b>
<b>Arab American Association of New York</b>	Brooklyn	Grassroots center situated in a storefront.	<ul style="list-style-type: none"> <li>• Adult education</li> <li>• Naturalization services</li> <li>• Immigration and legal services</li> <li>• Youth programming</li> <li>• General casework and domestic violence services</li> </ul>	Expectant and new mothers and parents of young children, out-of-school and out-of-work youth, and unemployed or underemployed low-income working individuals
<b>Bedford-Stuyvesant Restoration Corporation</b>	Bedford-Stuyvesant	Multiservice community development organization.	<ul style="list-style-type: none"> <li>• Financial education and economic self-sufficiency training</li> <li>• Family services</li> <li>• Arts and cultural programming</li> </ul>	Low-income underemployed and unemployed working individuals
<b>CAMBA</b>	East Elmhurst	Community-based social service agency. C2C was implemented in one of CAMBA's homeless shelters (The Landing).	<ul style="list-style-type: none"> <li>• Economic development services</li> <li>• Education and youth development services</li> <li>• Family support, health, housing, and legal services</li> </ul>	Expectant and new mothers and parents of young children
<b>Center for Employment Opportunities</b>	Citywide	Organization serving men and women returning home from incarceration.	<ul style="list-style-type: none"> <li>• Employment reentry and workforce training programs</li> </ul>	Expectant mothers and parents of children, out-of-school and out-of-work young adults
<b>Committee for Hispanic Children and Families</b>	Bronx	Facilitates youth development and afterschool programs to support early childhood educators in underserved communities.	<ul style="list-style-type: none"> <li>• Early childcare and education programs</li> <li>• Youth development programs</li> </ul>	Expectant mothers and parents of children and unemployed or underemployed low-income working-age adults
<b>Hetrick-Martin Institute</b>	Citywide	Provides lesbian, gay, bisexual, transgender, and questioning youth with the skills necessary for a productive transition into healthy adulthood.	<ul style="list-style-type: none"> <li>• Homeless outreach services</li> <li>• Health and wellness education</li> <li>• Job readiness</li> <li>• Academic enrichment; arts and cultural programming</li> </ul>	Out-of-school, out-of-work young adults, and unemployed or underemployed low-income working-age adults
<b>Hudson Guild</b>	Chelsea, Hell's Kitchen, Lincoln Square	Social service agency. C2C was implemented in Hudson Guild's early childhood education programs.	<ul style="list-style-type: none"> <li>• Early childhood education</li> <li>• Youth development and education</li> <li>• Public housing assistance</li> <li>• Community building and outreach services</li> </ul>	Expectant and new mothers and parents of children
<b>Northern Manhattan Improvement Corporation</b>	Washington Heights/Inwood/South Bronx	Community-based social services provider.	<ul style="list-style-type: none"> <li>• Adult education and workforce development programs</li> <li>• Legal services</li> <li>• General social services</li> <li>• Community organizing</li> </ul>	Out-of-school, out-of-work young adults ages

<b>CBO</b>	<b>Borough(s)/ Geographical Area(s) Served</b>	<b>Brief Description of CBO Type</b>	<b>Example Services Provided by CBO</b>	<b>C2C Target Group(s)</b>
<b>Red Hook Initiative</b>	Red Hook	Agency providing three youth programs and a community building program.	<ul style="list-style-type: none"> <li>• Intensive academic support</li> <li>• Job readiness and leadership training</li> <li>• College application assistance and college retention support</li> <li>• Youth and young adult development and wellness programming</li> </ul>	Out-of-school, out-of-work young adults
<b>Safe Horizon</b>	Citywide	Domestic violence shelter program.	<ul style="list-style-type: none"> <li>• 24-hour domestic violence hotline</li> <li>• Food and clothing assistance</li> <li>• Childcare and safety assistance</li> <li>• Financial support and housing assistance</li> </ul>	Expectant and new mothers and parents of children
<b>Sheltering Arms</b>	Queens, Bronx, Manhattan	Social service agency. C2C was implemented in Sheltering Arms' early childhood education programs.	<ul style="list-style-type: none"> <li>• Early childhood education and afterschool programs</li> <li>• Community school program</li> <li>• Programming in foster care/group homes</li> <li>• Family preservation, juvenile justice placement, and aftercare services</li> <li>• Services for developmentally disabled adults</li> </ul>	Expectant and new mothers and parents of children
<b>STRIVE</b>	East Harlem	Job training and employment agency.	<ul style="list-style-type: none"> <li>• Job training and placement services</li> <li>• Parenting programs</li> <li>• Economic stability workshop</li> <li>• Job placement services</li> </ul>	Unemployed or underemployed low-income working-age adults
<b>The Door</b>	Citywide	Multiservice youth development agency.	<ul style="list-style-type: none"> <li>• Career and education services</li> <li>• Adolescent health services</li> <li>• Legal services</li> <li>• Runaway and homeless youth services</li> <li>• Supportive housing</li> <li>• Arts and cultural programming</li> </ul>	Low-income young people and out-of-work young adults, as well as expectant mothers and parents of children and unemployed or underemployed low-income working-age adults
<b>The HOPE Program</b>	Brooklyn	Job training and employment agency.	<ul style="list-style-type: none"> <li>• Career and workforce readiness workshops</li> <li>• Adult education</li> <li>• General social services</li> </ul>	Unemployed or underemployed working-age adults
<b>Voces Latinas</b>	Queens	Program focused on HIV prevention and services for Latina women.	<ul style="list-style-type: none"> <li>• Adult educational workshops</li> <li>• Health education</li> <li>• Peer training</li> <li>• Economic empowerment services</li> <li>• Case coordination services</li> <li>• Domestic violence support groups</li> <li>• HIV testing</li> <li>• Community mobilization</li> </ul>	Unemployed or underemployed low-income working-age adults

Funding support for C2C implementation at CBOs was provided through multiple mechanisms. In the first 3 years of the 5-year project, half of the C2C funding came from a federal grant from CNCS to the Mayor's Fund. CBOs were required to raise matching nonfederal dollars for the other half of the funding they needed. Annual CBO budgets for C2C ranged from \$200,000 to \$450,000 depending on the amount requested and justified by each CBO. CBOs were required to submit quarterly progress reports and financial statements to the Mayor's Fund as part of their programmatic requirements. In the fourth year of implementation, the federal funding portion of the budget was replaced by support from NYC DOHMH. Programmatic reporting requirements remained the same throughout the 5 years.

## Logic Model

RAND and the C2C Collaborative developed the C2C logic model through an iterative process. Figure 3.1 presents this logic model, which connects inputs (C2C actors, such as funders, the C2C Collaborative, CBOs and their MHPs, and resources); C2C program strategies (mental health supports and referrals); outputs ("products" delivered by implementing C2C program strategies); and intended outcomes at the individual, program, and systems levels. The content of this logic model is consistent with both C2C-specific goals and current literature on best practices in implementing sustainable, evidence-based practices (EBPs) in community settings (Aarons, Hurlburt, and Horwitz, 2011; Scheirer and Dearing, 2011).

### *Inputs*

Inputs are all participants, community assets, and resources, including programs and policies, that can support program implementation or client access to mental health services. Consistent with current best practices on creating sustainable impacts on complex health challenges, C2C brings together a breadth of partners from multiple sectors, including those outside the health system (Erickson and Andrews, 2011). Collaboration from such a group of partners can lead to community-driven approaches to solving health challenges, the buy-in needed to sustain such changes, and the political will to enact policy changes that ultimately lead to wider and longer-lasting change (Towe et al., 2016). This multisectoral group of C2C partners supports a set of strategies to reach the desired C2C outcomes.

### *C2C Program Support Strategies*

C2C program strategies include a range of activities to promote the integration of new mental health skills and services into routine CBO work, including the four core C2C skills, as well as referral pathways between the CBO and MHP. C2C's core skills were selected from an array of possible approaches based on evidence of each to effect positive change on mental health outcomes and to be implemented by individuals without specialized (e.g., clinical) training in mental health care delivery. As the program matured, the C2C Collaborative encouraged

participating organizations to build on this initial set of skills through the addition of other context-driven skills or services that can be implemented by non-mental health specialists with the right supports.

Another key C2C strategy was the implementation of a systematic and ongoing QI process to assess and continually enhance outcomes for program participants (Hunter et al., 2009). Although participating organizations entered the program with varying levels of experience implementing QI strategies, the C2C Collaborative provided technical assistance on key components, including setting program goals and targets; systematically collecting and reviewing data to gauge progress; interpreting program data; and using data to make targeted, informed choices about program changes or enhancements.

### *C2C Outcome*

As illustrated in Figure 3.1, C2C implementation was expected to produce outcomes at the staff, participant, organization, and system levels. Many, but not all, outcomes, were investigated in the C2C evaluation.

At the CBO staff level, C2C was expected to

- improve knowledge and attitudes related to mental health (e.g., stigma)
- improve knowledge and confidence to address mental health issues
- increase use of new C2C skills with CBO participants
- improve staff well-being and retention
- facilitate the use of QI methods to focus and improve the effect of the incorporated skills and methods, and to further expand on them.

At the participant level, C2C aimed to demonstrate that implementing C2C program strategies into CBO workflows can

- improve participants' knowledge and attitudes about mental health issues
- improve engagement in and use of CBO services
- increase engagement in and use of mental health services, when needed
- improve mental health outcomes and general functioning of participants
- increase participants' ability to achieve other targeted program-specific outcomes in areas such as education, housing stability, and employment.

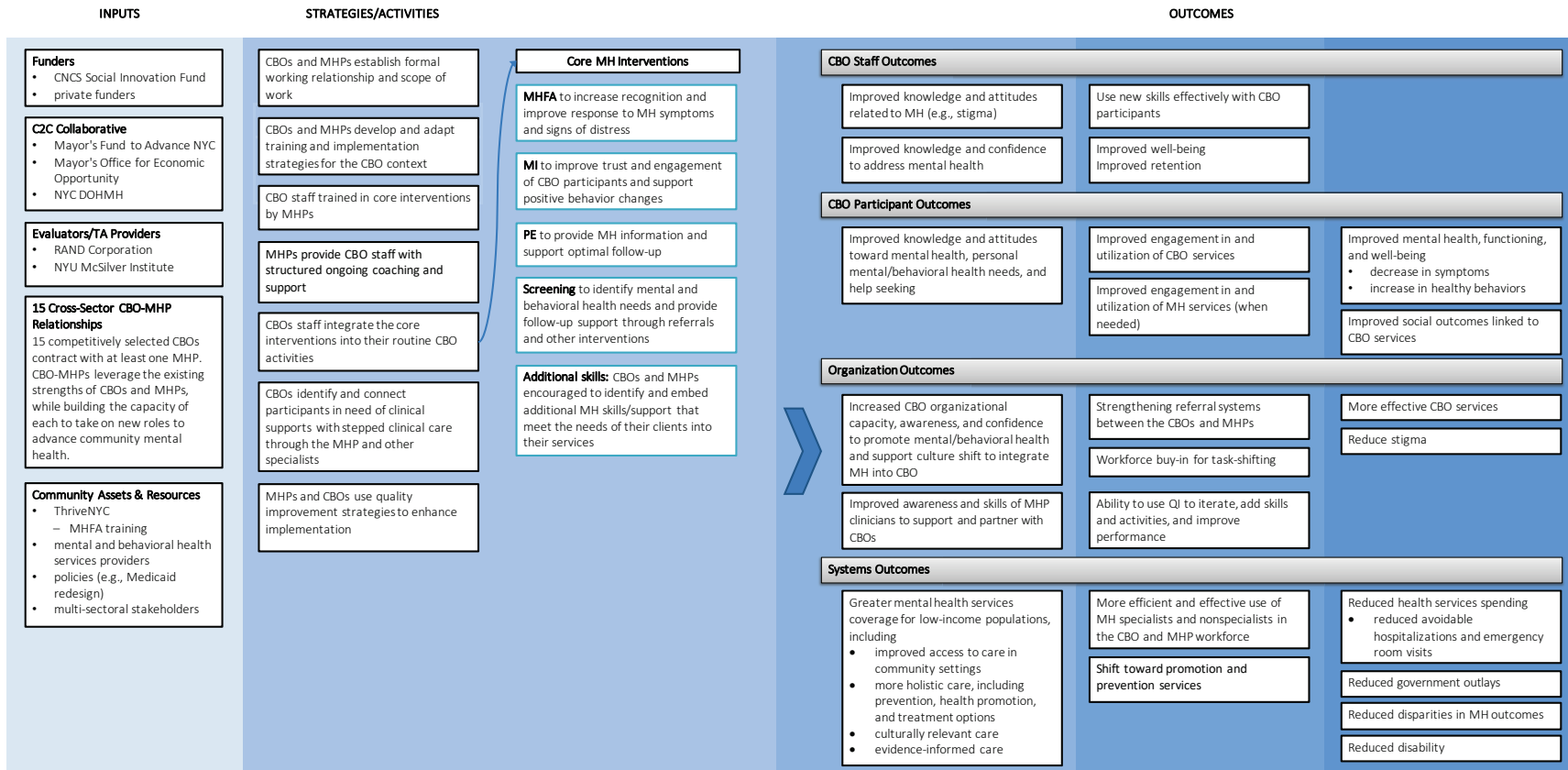
At the organizational level, C2C was expected to

- increase capacity, awareness, and confidence to promote mental health care and support an organizational culture shift to integrate mental health awareness
- improve awareness and skills of MHP clinicians to support and partner with CBOs
- strengthen referral systems between CBOs and MHPs
- improve buy-in (at both CBOs and MHPs) for task-shifting
- improve ability to use QI techniques
- provide more effective general CBO services
- reduce stigma.

Systems-level outcomes of C2C were expected to include

- greater mental health services coverage for low-income populations
- more efficient and effective use of mental health specialists and nonspecialists in MHPs and CBOs
- shift in focus toward promotion and prevention services
- increased presence of MHPs in communities and an increase in MHPs partnering with CBOs to meet needs
- increased capacity of the mental health workforce to provide culturally competent care
- reduced health services spending and government outlays
- reduced mental health disparities
- reduced disability.

Figure 3.1. C2C Program Logic Model



SOURCE: Adapted from Ayer et al., 2018, Figure 1.2.



## C2C Evaluation

The C2C evaluation sought to understand how the C2C program can promote mental health, prevent mental health issues from developing or worsening, and improve mental health outcomes overall. For long-term changes to occur, several early and intermediate steps needed happen first. The early phase of C2C focused on providing staff at CBOs with the four core mental health skills. Under the task-shifting framework, staff used these skills to identify their clients' unmet mental health needs. As CBO staff became more adept at using these C2C skills, (with supervision and coaching provided by the MHP or other CBO staff with these capabilities), they would in theory be able to address many of their clients' mental health needs and ease introductions when referring to MHPs for clients with more serious issues. The MHP remains connected with the CBO during implementation through continued promotion of task-shifting, ongoing coaching, monitoring, and support.

In this section, we summarize the confirmatory and exploratory research questions that test the expectations outlined in the logic model. The overall C2C evaluation is divided into three evaluations that assess the implementation, impact, and cost of the C2C program. Each evaluation is covered in detail in Parts II to IV, respectively. Confirmatory research questions are the primary, hypothesis-driven questions, whereas exploratory questions are secondary and tertiary questions or those where there is little scientific basis for the formation of clear hypotheses.

### *Implementation Evaluation*

The goals of the C2C implementation evaluation were to examine (1) how C2C was implemented within and across CBOs; (2) whether CBO staff exhibit improved knowledge, behaviors, and attitudes about mental health issues and services; (3) how C2C implementation changes CBO client access to mental health services; and (4) facilitators of and barriers to C2C implementation.

The primary and secondary implementation evaluation research questions are displayed in Table 3.2.

**Table 3.2 Implementation Evaluation Research Questions**

<b>Primary</b>	<b>Secondary</b>
How were the C2C program strategies implemented? (Chapters 4 and 5)	What components of the C2C program strategies were implemented, how were they implemented, and to what extent? What was the role of the MHP in terms of training and supporting the CBO to implement C2C program strategies over time?
To what extent have the CBOs identified clients with mental health or substance use issues as a result of C2C implementation? (Chapter 5)	To what extent have the CBOs referred clients to mental health services as a result of C2C implementation? To what extent have C2C clients who screened positive for mental health or substance use/misuse issues received mental health services from the MHP and/or the C2C modalities beyond screening (i.e., PE, MI, or MHFA)?

Primary	Secondary
Do CBO staff have improved knowledge of mental health and C2C modalities, as well as attitudes, and behaviors about mental health issues and services? (Chapter 6)	
What are the key facilitators of and barriers to effective implementation of C2C program strategies within and across CBO and MHP partnerships? (Chapters 5 and 6)	How have the CBOs reduced barriers (e.g., perceptual and logistical barriers) to clients' access to and utilization of mental health services?
	What are the key facilitators of and barriers to CBO engagement of clients in C2C program strategies within and across CBOs?
	How have CBOs used continuous QI (CQI) as part of C2C program implementation?
	What are the best practices learned from sites demonstrating effective implementation with regard to key objectives (e.g., CQI, identification of client mental health or substance use/misuse issues, client engagement in C2C program strategies, and working with MHPs to optimize task-shifting)?

### *Impact Evaluation*

The overarching goal of the C2C impact evaluation was to examine the effect of C2C's task-shifting approach of integrating mental health skills and support into the work of CBOs on participants' access to and utilization of mental health care, mental health and functioning, and non-mental health outcomes targeted by the programs and services offered by the CBOs (e.g., employment, education, housing, incarceration). The primary inclusion criterion for CBO clients participating in the impact study was meeting a low symptom threshold for one or more of the following common mental health conditions: depression, anxiety, PTSD, alcohol misuse, or drug misuse. The impact evaluation focused on these conditions because these are the most common issues among the target populations, the CBOs identified these as the most relevant for their specific target populations, and they are the conditions for which CBOs were screening clients as part of C2C.

There are two key reasons that minimum symptom threshold was an inclusion criterion. First, this criterion is consistent with the intention of C2C, because the program focuses on increasing access to mental health care for those with or at high risk for a mental health condition. Having symptoms of a mental health condition is evidence that the individual is in this higher risk group. Second, it is unlikely that individuals with no mental health symptoms would exhibit any detectable change (i.e., measurable impact) in mental health symptoms or service utilization. Thus, the impact study focuses on individuals who met a minimum threshold for a common mental health condition. The primary and secondary impact evaluation research questions are shown in Table 3.3.

For all primary research questions, we expected C2C participants to show greater improvement in outcomes relative to the comparison group at the 6- and 12-month follow-up assessments. However, we anticipated that intervention effects would be small in size for a few

**Table 3.3. Impact Evaluation Research Questions**

Primary	Secondary
Do C2C participants have greater reductions in barriers to mental health care and greater increases in utilization of mental health services relative to comparison group participants? (Chapter 7)	Does program impact on barriers and utilization vary between subpopulations (e.g., underemployed or unemployed adults, unemployed/disconnected youth, caregivers of children ages 0–4) or CBO service types (e.g., job training and employment program, youth development program)?
Do C2C participants show greater positive improvement in depression, generalized anxiety, PTSD, alcohol use, substance use, and general psychological distress relative to comparison group participants? (Chapter 8)	Does program impact on mental health symptoms vary between subpopulations (e.g., underemployed or unemployed adults, unemployed/disconnected youth, caregivers of children ages 0–4) or CBO service types (e.g., job training and employment program, youth development program)?
Do C2C participants show improved outcomes in the domains of employment, housing, education, and incarceration relative to comparison group participants? (Chapter 9)	Does program impact on employment, housing, education, and incarceration vary between subpopulations (e.g., underemployed or unemployed adults, unemployed/disconnected youth, caregivers of children ages 0–4) or CBO service types (e.g., job training and employment program, youth development program)?

reasons. First, by design, the intervention is not a long-term or intensive intervention like individual therapy—so we would not expect C2C alone to show effects on mental health symptoms similar to formal mental health treatment, for example. In addition, C2C was available to CBO clients regardless of their initial symptom levels, and the evaluation did not require a clinically significant level of symptoms; it is more difficult to detect an improvement in symptoms when the starting point is low. Further, the evaluation compared C2C to “as usual” services in a heterogeneous population—two factors known to pose challenges to detecting significant group differences in intervention studies (Kazdin, 2015; Kravitz, Duan, and Braslow, 2004; Varadhan and Seeger, 2013). In other words, “treatment as usual” very often performs just as well as evidence-based mental health interventions, even when those interventions have demonstrated efficacy in studies when compared with no-treatment or to waitlist control conditions (Kazdin, 2015); and interventions typically work better for certain individuals than for others—a phenomenon known as “treatment heterogeneity” (Kravitz, Duan, and Braslow, 2004; Varadhan and Seeger, 2013). The secondary research questions in Table 3.3 allowed us to explore treatment heterogeneity more carefully by examining the effect of C2C on different subgroups of participants for each set of outcomes.

### *Cost Evaluation*

The goal of the C2C cost evaluation was to quantify the resources required to implement and maintain the program, overall and average per program client. We defined C2C program client as any CBO client who received at least one C2C skill from staff: screening, MHFA, MI, or PE. The program cost analysis results, when combined with the program’s economic impacts, can inform government agencies regarding whether to continue investing in C2C and expand it to

other CBOs. CBOs thinking about implementing C2C may also find these results helpful as they weigh the program’s costs and determine how to financially support the model. Table 3.4 shows the cost evaluation research question.

**Table 3.4. Cost Evaluation Research Questions**

Primary	Secondary
What are the costs to CBOs associated with implementation of the C2C program, overall and average per program client?	How did the average cost of serving a client change over time?

*Contribution to the Literature*

Findings from the C2C evaluation will add to the existing evidence related to mental health task-shifting and its effect on outcomes for low-income populations. It will also provide information on implementation best practices, costs, and potential impacts for CBOs, policymakers, and others wishing to replicate C2C. In the future, findings from C2C may help to inform a variety of models intended to expand the mental health workforce and increase access to mental health services for high-risk and underserved communities.

## References

- Aarons, G. A., M. Hurlburt, and S.M. Horwitz, “Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors,” *Administration and Policy in Mental Health*, 38(1), 2011, pp. 4–23.
- Acri, M., S. Frank, S.S. Olin, G. Burton, J. L. Ball, J. Weaver, and K. E. Hoagwood, “Examining the Feasibility and Acceptability of a Screening and Outreach Model Developed for a Peer Workforce,” *Journal of Child and Family Studies*, 24(2), 2015, pp. 341–350.
- Acri, M., S. S. Olin, G. Burton, R. J. Herman, and K. E. Hoagwood, “Innovations in the Identification and Referral of Mothers at Risk for Depression: Development of a Peer-to-Peer Model,” *Journal of Child and Family Studies*, 23(5), 2014, pp. 837–843.
- Aitken, C., D. Wain, D. I. Lubman, L. Hides, and M. Hellard, “Mental Health Screening Among Injecting Drug Users Outside Treatment Settings: Implications for Research and Health Services,” *Mental Health and Substance Use*, 1(2), 2008, pp. 99–103.
- Akincigil, A., Olfson, M., Siegel, M., Zurlo, K. A., Walkup, J. T., and S. Crystal, “Racial and Ethnic Disparities in Depression Care in Community-Dwelling Elderly in the United States,” *American Journal of Public Health*, 102(2), 2012, pp. 319–328.
- Allen, J., R. Balfour, R. Bell, and M. Marmot, “Social Determinants of Mental Health,” *International Review of Psychiatry*, 26(4), 2014, pp. 392–407.
- American Hospital Association, “The State of the Behavioral Health Workforce: A Literature Review,” 2016.  
[http://www.hpoe.org/Reports-HPOE/2016/aha\\_Behavioral\\_FINAL.pdf](http://www.hpoe.org/Reports-HPOE/2016/aha_Behavioral_FINAL.pdf)
- Anderson, C. M., C. S. Robins, C. G. Greeno, H. Cahalane, V. C. Copeland, and R. M. Andrews, “Why Lower Income Mothers Do Not Engage with the Formal Mental Health Care System: Perceived Barriers to Care,” *Qualitative Health Research*, 16(7), 2006, pp. 926–943.
- Anderson, J. K., E. Howarth, M. Vainre, P. B. Jones, and A. Humphrey, “A Scoping Literature Review of Service-Level Barriers for Access and Engagement with Mental Health Services for Children and Young People,” *Children and Youth Services Review*, 77, 2017, pp. 164–176.
- Ayangbayi, T., A. Okunade, M. Karakus, and T. Nianogo, “Characteristics of Hospital Emergency Room Visits for Mental and Substance Use Disorders,” *Psychiatric Services*, 68(4), 2017, pp. 408–410.
- Ayer, L., M. S. Dunbar, M. Martineau, C. Stevens, D. Schultz, W. Y. Chan, M. Abbott, R. Weir, H. H. Liu, D. Siconolfi, and V. L. Towe, *Evaluation of the Connections to Care (C2C) Initiative: Interim Report*, Santa Monica, Calif.: RAND Corporation, RR-2497-MFANYC, 2018.  
[https://www.rand.org/pubs/research\\_reports/RR2497.html](https://www.rand.org/pubs/research_reports/RR2497.html)

- Barrowclough, C., G. Haddock, N. Tarrier, S. W. Lewis, J. Moring, R. O'Brien, N. Schofield, J. McGovern, "Randomized Controlled Trial of Motivational Interviewing, Cognitive Behavior Therapy, and Family Intervention for Patients with Comorbid Schizophrenia and Substance Use Disorders," *American Journal of Psychiatry*, 158(10), 2001, pp. 1706–1713.
- Belkin, G. S., J. Unutzer, R. C. Kessler, H. Verdeli, G. J. Raviola, K. Sachs, C. Oswald, E. Eustache, "Scaling up for the "Bottom Billion": "5 x 5" Implementation of Community Mental Health Care in Low-Income Regions," *Psychiatric Services*, 62(12), 2011, pp. 1494–1502.
- Biaggi, A., S. Conroy, S. Pawlby, and C. M. Pariante, "Identifying the Women at Risk of Antenatal Anxiety and Depression: A systematic Review," *Journal of Affective Disorders*, 191, 2016, pp. 62–77.
- Bisson, J. I., A. Ehlers, R. Matthews, S. Pilling, D. Richards, and S. Turner, "Psychological Treatments for Chronic Post-Traumatic Stress Disorder: Systematic Review and Meta-Analysis," *British Journal of Psychiatry*, 190, 2007, pp. 97–104.
- Bolton, P., J. Bass, R. Neugebauer, H. Verdeli, K. F. Clougherty, P. Wickramaratne, L. Speelman, L. Ndogoni, and M. Weissman, "Group Interpersonal Psychotherapy for Depression in Rural Uganda: A Randomized Controlled Trial," *JAMA*, 289(23), 2003, pp. 3117–3124.
- Brenes, G. A., Penninx, B. W., Judd, P. H., Rockwell, E., Sewell, D. D., and J. L. Wetherell, "Anxiety, Depression and Disability Across the Lifespan," *Aging Mental Health*, 12(1), 2008, pp. 158–163.
- Brummelte, S., and L. A. M. Galea, "Depression During Pregnancy and Postpartum: Contribution of Stress and Ovarian Hormones," *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 34(5), 2010, pp. 766–776.
- Burke, B. L., H. Arkowitz, and M. Menchola, "The Efficacy of Motivational Interviewing: A Meta-Analysis of Controlled Clinical Trials," *Journal of Consulting Clinical Psychology*, 71(5), 2003, pp. 843–861.
- Butterworth, P., and B. Rodgers, "Mental Health Problems and Marital Disruption: Is It the Combination of Husbands and Wives' Mental Health Problems That Predicts Later Divorce?," *Social Psychiatry and Psychiatric Epidemiology*, 43(9), 2008, pp. 758–763.
- Cadigan, J. M., C. M. Lee, and M. E. Larimer, "Young Adult Mental Health: A Prospective Examination of Service Utilization, Perceived Unmet Service Needs, Attitudes, and Barriers to Service Use," *Prevention Science*, 20(3), 2019, pp. 366–376.

- Chang, C. K., R. D. Hayes, G. Perera, M. T. M. Broadbent, A. C. Fernandes, W. E. Lee, M. Hotopf, and R. Stewart, "Life Expectancy at Birth for People with Serious Mental Illness from a Secondary Mental Health Care Case Register in London, UK," *American Journal of Epidemiology*, 173, 2011, pp. S311–S311.
- Chatterjee, S., S. Naik, S. John, H. Dabholkar, M. Balaji, M. Koschorke, M. Varghese, T. Rangaswamy, H. A. Weiss, P. Williams, P. McCrone, V. Patel, G. Thornicroft, "Effectiveness of a Community-Based Intervention for People with Schizophrenia and Their Caregivers in India (COPSI): A Randomized Controlled Trial," *The Lancet*, 383(9926), 2014, pp. 1385–1394.
- Chibanda, D., P. Mesu, L. Kajawu, F. Cowan, R. Araya, and M. A. Abas, "Problem-Solving Therapy for Depression and Common Mental Disorders in Zimbabwe: Piloting a Task-Shifting Primary Mental Health Care Intervention in a Population with a High Prevalence of People Living with HIV," *BMC Public Health*, 11, 2011, p. 828.
- Chow, J. C., K. Jaffee, and L. Snowden, "Racial/Ethnic Disparities in the Use of Mental Health Services in Poverty Areas," *American Journal of Public Health*, 93(5), 2003, pp. 792–797.
- Chung, B., L. Jones, E. L. Dixon, J. Miranda, K. Wells, and Council Community Partners in Care Steering, "Using a Community Partnered Participatory Research Approach to Implement a Randomized Controlled Trial: Planning Community Partners in Care," *Journal of Health Care for the Poor and Underserved*, 21(3), 2010, pp. 780–795.
- City of New York, Office of the Mayor, *Report: Understanding New York City's Mental Health Challenge*, press release, New York, NY, 2015. As of September 9, 2020: [https://www1.nyc.gov/assets/home/downloads/pdf/press-releases/2015/thriveNYC\\_white\\_paper.pdf](https://www1.nyc.gov/assets/home/downloads/pdf/press-releases/2015/thriveNYC_white_paper.pdf)
- Clement, S., E. Brohan, D. Jeffery, C. Henderson, S. L. Hatch, and G. Thornicroft, "Development and Psychometric Properties the Barriers to Access to Care Evaluation Scale (BACE) Related to People with Mental Ill Health," *BMC Psychiatry*, 12, 2012, p. 36.
- Cunningham, M., and L. H. Zayas, "Reducing Depression in Pregnancy: Designing Multimodal Interventions. *Social Work*, 47(2), 2002, pp. 114–123.
- Cunningham, R. M., S. T. Chermack, M. A. Zimmerman, J. T. Shope, C. R. Bingham, F. C. Blow, and M. A. Walton, "Brief Motivational Interviewing Intervention for Peer Violence and Alcohol Use in Teens: One-Year Follow-Up," *Pediatrics*, 129(6), 2012, pp. 1083–1090.
- Cygan-Rehm, K., D. Kuehnle, and M. Oberfichtner, "Bounding the Causal Effect of Unemployment on Mental Health: Nonparametric Evidence from Four Countries," *Health Economics*, 26(12), 2017, pp. 1844–1861.



- De Roten, Y., G. Zimmermann, D. Ortega, and J. N. Despland, “Meta-Analysis of the Effects of MI Training on Clinicians’ Behavior. *Journal of Substance Abuse Treatment*, 45(2), 2013, pp. 155–162.
- Donker, T., K. M. Griffiths, P. Cuijpers, and H. Christensen, “Psychoeducation for Depression, Anxiety and Psychological Distress: A Meta-Analysis. *BMC Medicine*, 7, 2009, p. 79.
- Dos Santos, P. F., M. L. Wainberg, J. M. Caldas-de-Almeida, B. Saraceno, and J. D. Mari, “Overview of the Mental Health System in Mozambique: Addressing the Treatment Gap with a Task-Shifting Strategy in Primary Care,” *International Journal of Mental Health Systems*, 10, 2016, p. 1.
- Duncan, G. J., Magnuson, K., and E. Votruba-Drzal, “Moving Beyond Correlations in Assessing the Consequences of Poverty,” *Annual Review of Psychology*, 68, 2017, pp. 41–434.
- Elliott, D. (2016). Two American experiences: The racial divide of poverty.  
<https://www.urban.org/urban-wire/two-american-experiences-racial-divide-poverty>
- Erickson, D., and N. Andrews, “Partnerships Among Community Development, Public Health, and Health Care Could Improve the Well-Being of Low-Income People,” *Health Affairs*, 30(11), 2011, pp. 2056–2063.
- Essau, C. A., P. M. Lewinsohn, J. R. Seeley, and S. Sasagawa, “Gender Differences in the Developmental Course of Depression,” *Journal of Affective Disorders*, 127(1–3), 2010, pp. 185–190.
- Goldman-Mellor, S., A. Caspi, L. Arseneault, N. Ajala, A. Ambler, A. Danese, H. Fisher, A. Hucker, C. Odgers, T. Williams, C. Wong, T. E. Moffitt, “Committed to Work but Vulnerable: Self-Perceptions and Mental Health in NEET 18-Year Olds from a Contemporary British Cohort,” *Journal of Child Psychology and Psychiatry*, 57(2), 2016, pp. 196–203.
- Gopalan, G., L. Goldstein, K. Klingenstein, C. Sicher, C. Blake, and M. M. McKay, “Engaging Families into Child Mental Health Treatment: Updates and Special Considerations,” *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 19(3), 2010, pp. 182–196.
- Gournellis, R., K. Tournikioti, G. Touloumi, C. Thomadakis, P. G. Michalopoulou, C. Christodoulou, A. Papadopoulou, and A. Douzenis, “Psychotic (Delusional) Depression and Suicidal Attempts: A Systematic Review and Meta-Analysis,” *Acta Psychiatrica Scandinavica*, 137(1), 2018, pp. 18–29.
- Govindarajan, V., and R. Ramamurti, “Task Shifting Could Help Lower Costs in U.S. Health Care,” *Harvard Business Review*.  
[https://hbr.org/2018/07/task-shifting-could-help-lower-costs-in-u-s-health-care?utm\\_medium=social&utm\\_source=twitter&utm\\_campaign=hbr](https://hbr.org/2018/07/task-shifting-could-help-lower-costs-in-u-s-health-care?utm_medium=social&utm_source=twitter&utm_campaign=hbr)

- Hadfield, H., and A. Wittkowski, "Women's Experiences of Seeking and Receiving Psychological and Psychosocial Interventions for Postpartum Depression: A Systematic Review and Thematic Synthesis of the Qualitative Literature," *Journal of Midwifery & Women's Health*, 62(6), 2017, pp. 723–736.
- Hahm, H. C., B. Cook, A. Ault-Brutus, and M. Alegria, "Intersection of Race-Ethnicity and Gender in Depression Care: Screening, Access, and Minimally Adequate Treatment," *Psychiatric Services*, 66(3), 2015, pp. 258–264.
- Hingson, R., and J. Howland, "Alcohol as a Risk Factor for Injury or Death Resulting from Accidental Falls: A Review of the Literature," *Journal of Studies on Alcohol and Drugs*, 48(3), 1987, pp. 212–219.
- Hofmann, S. G., and J. A. Smits, "Cognitive-Behavioral Therapy for Adult Anxiety Disorders: A Meta-Analysis of Randomized Placebo-Controlled Trials," *Journal of Clinical Psychiatry*, 69(4), 2008, pp. 621–632.
- Hohmna, M., N. Doran, and I. Koutsenok, "Motivational Interviewing Training for Juvenile Correctional Staff in California: One Year Initial Outcomes," *Journal of Offender Rehabilitation*, 48(7), 2009, pp. 635–648.
- Huang, K. Y., J. Nakigudde, E. Calzada, M. J. Boivin, G. Ogedegbe, and L. M. Brotman, "Implementing an Early Childhood School-Based Mental Health Promotion Intervention in Low-Resource Ugandan Schools: Study Protocol for a Cluster Randomized Controlled Trial," *Trials*, 15, 2014, p. 471.
- Hunter, S. B., M. Chinman, P. Ebener, P. Imm, A. Wandersman, and G. W. Ryan, "Technical Assistance as a Prevention Capacity-Building Tool: A Demonstration Using the Getting to Outcomes I Framework," *Health Education & Behavior* 36(5), 2009, pp. 810–828.
- Jensen, C. D., C. C. Cushing, B. S. Aylward, J. T. Craig, D. M. Sorell, and R. G. Steele, "Effectiveness of Motivational Interviewing Interventions for Adolescent Substance Use Behavior Change: A Meta-Analytic Review," *Journal of Consulting and Clinical Psychology*, 79(4), 2011, pp. 433–440.
- Kagee, A., A. C. Tsai, C. Lund, and M. Tomlinson, "Screening for Common Mental Disorders in Low Resource Settings: Reasons for Caution and a Way Forward," *International Health*, 5(1), 2013, pp. 11–14.
- Kakuma, R., H. Minas, N. van Ginneken, M. R. Dal Poz, K. Desiraju, J. E. Morris, S. Saxena, and R. M. Scheffler, "Human Resources for Mental Health Care: Current Situation and Strategies for Action," *The Lancet*, 378(9803), 2011, pp. 1654–1663.

- Kataoka, S. H., L. Zhang, and K. B. Wells, "Unmet Need for Mental Health Care Among U.S. Children: Variation by Ethnicity and Insurance Status," *American Journal of Psychiatry*, 159(9), 2002, pp. 1548–1555.
- Kazdin, A. E., "Treatment as Usual and Routine Care in Research and Clinical Practice," *Clinical Psychology Review*, 42, 2015, pp. 168–178.
- Kazdin, A. E. (2017). Addressing the treatment gap: A key challenge for extending evidence-based psychosocial interventions. *Behavior Research and Therapy*, 88, 7–18.
- Kazdin, A. E., and S. Rabbitt, "Novel Models for Delivering Mental Health Services and Reducing the Burdens of Mental Illness," *Clinical Psychological Science*, 1(2), 2013, pp. 170–191.
- Kessler, R. C., M. Petukhova, N. A. Sampson, A. M. Zaslavsky, and H. U. Wittchen, "Twelve-Month and Lifetime Prevalence and Lifetime Morbid Risk of Anxiety and Mood Disorders in the United States," *International Journal of Methods in Psychiatric Research*, 21(3), 2012, pp. 169–184.
- Kessler, R. C., S. Heeringa, M. D. Lakoma, M. Petukhova, A. E. Rupp, M. Schoenbaum, P. S. Wang, and A. M. Zaslavsky, "Individual and Societal Effects of Mental Disorders on Earnings in the United States: Results from the National Comorbidity Survey Replication," *American Journal of Psychiatry*, 165(6), 2008, pp. 703–711.
- Kravitz, R. L., N. Duan, and J. Braslow, "Evidence-Based Medicine, Heterogeneity of Treatment Effects, and the Trouble with Averages," *Milbank Quarterly*, 82(4), 2004, pp. 661–687.
- Krysinska, K., and D. Lester, "Post-Traumatic Stress Disorder and Suicide Risk: A Systematic Review," *Archives of Suicide Research*, 14(1), 2010, pp. 1–23.
- Kvalevaag, A. L., P. G. Ramchandani, O. Hove, J. Assmus, M. Eberhard-Gran, and E. Biringer, "Paternal Mental Health and Socioemotional and Behavioral Development in Their Children," *Pediatrics*, 131(2), 2013, pp. e463–e469.
- Lazear, K. J., S. A. Pires, M. R. Isaacs, P. Chaulk, and L. Huang, "Depression Among Low-Income Women of Color: Qualitative Findings from Cross-Cultural Focus Groups," *Journal of Immigrant and Minority Health*, 10(2), 2008, pp. 127–133.
- Legha, R., E. Eustache, T. Therosme, K. Boyd, F. Reginald, G. Hilaire, S. Daimyo, G. Jerome, H. Verdeli, and G. Raviola, "Taskshifting: Translating Theory into Practice to Build a Community Based Mental Health Care System in Rural Haiti," *Intervention*, 13(3), 2015, pp. 248–267.

- Liem, J. H., K. Lustig, and C. Dillon, "Depressive Symptoms and Life Satisfaction Among Emerging Adults: A Comparison of High School Dropouts and Graduates," *Journal of Adult Development*, 17(1), 2010, pp. 33–43.
- Lubman, D. I., L. Hides, A. Scaffidi, K. Elkins, M. Stevens, and R. Marks, "Implementing Mental Health Screening Within a Youth Alcohol and Other Drug Service," *Mental Health and Substance Use*, 1(3), 2008, pp. 254–261.
- Lukens, E., and W. R. McFarlane, "Psychoeducation as Evidence-Based Practice: Considerations for Practice, Research, and Policy," *Brief Treatment and Crisis Intervention*, 4(3), 2004, pp. 205–225.
- Lundahl, B., and B. L. Burke, "The Effectiveness and Applicability of Motivational Interviewing: A Practice-Friendly Review of Four Meta-Analyses," *Journal of Clinical Psychology*, 65(11), 2009, pp. 1232–1245.
- Matsuzaka, C. T., M. Wainberg, A. N. Pala, E. V. Hoffmann, B. M. Coimbra, R. F. Braga, A. C. Sweetland, and M. F. Mello, "Task Shifting Interpersonal Counseling for Depression: A Pragmatic Randomized Controlled Trial in Primary Care," *BMC Psychiatry*, 17, 2017, p. 225.
- Maynard, B. R., C. P. Salas-Wright, and M. G. Vaughn, "High School Dropouts in Emerging Adulthood: Substance Use, Mental Health Problems, and Crime," *Community Mental Health Journal*, 51(3), 2015, pp. 289–299.
- Mehta, P., A. Brown, B. Chung, F. Jones, L. Tang, J. Gilmore, J. Miranda, and K. Wells, "Community Partners in Care: 6-Month Outcomes of Two Quality Improvement Depression Care Interventions in Male Participants," *Ethnicity & Disease*, 27(3), 2017, pp. 223–232.
- Milgrom, J., A. W. Gemmill, J. L. Bilszta, B. Hayes, B. Barnett, J. Brooks, J. Ericksen, D. Ellwood, and A. Buist, "Antenatal Risk Factors for Postnatal Depression: A Large Prospective Study," *Journal of Affective Disorders*, Vol. 108, No. 1–2, 2008, pp. 147–157.
- Miller, W. R., and S. Rollnick, *Motivational Interviewing: Helping People Change*, New York, NY: The Guilford Press, 2013.
- Milner, A., Page, A., and A.D. Lamontagne, "Cause and Effect in Studies on Unemployment, Mental Health and Suicide: A Meta-Analytic and Conceptual Review," *Psychological Medicine*, Vol. 44, No. 5, 2014, pp. 909.
- Miranda, J., J. Y. Chung, B. L. Green, J. Krupnick, J. Siddique, D. A. Revicki, and T. Belin, "Treating Depression in Predominantly Low-Income Young Minority Women: A Randomized Controlled Trial," *JAMA*, Vol. 290, No. 1, 2003, pp. 57–65.

- Olesen, S. C., Butterworth, P., Leach, L. S., Kelaher, M., and J. Pirkis, "Mental Health Affects Future Employment as Job Loss Affects Mental Health: Findings from a Longitudinal Population Study," *BMC Psychiatry*, Vol. 13, No. 1, 2013, p. 144.
- Olsson, M. O., L. Bradvik, A. Ojehagen, and A. Hakansson, "Risk Factors for Unnatural Death: Fatal Accidental Intoxication, Undetermined Intent and Suicide: Register Follow-up in a Criminal Justice Population with Substance Use Problems," *Drug and Alcohol Dependence*, Vol. 162, 2016, pp. 176–181.
- Pagoto, S. L., B. Spring, E. J. Coups, S. Mulvaney, M. F. Coutu, and G. Ozakinci, "Barriers and Facilitators of Evidence-Based Practice Perceived by Behavioral Science Health Professionals," *Journal of Clinical Psychology*, Vol. 63, No. 7, 2007, pp. 695–705.
- Patel, V., G. S. Belkin, A. Chockalingam, J. Cooper, S. Saxena, and J. Unutzer. (2013). Grand challenges: Integrating mental health services into priority health care platforms. *PLOS Medicine*, Vol. 10, No. 5), e1001448.
- Paul, K. I., and K. Moser, "Unemployment Impairs Mental Health: Meta-Analyses," *Journal of Vocational Behavior*, Vol. 74, No. 3, 2009, pp. 264–282.
- Pekkala, E., and L. Merinder, "Psychoeducation for Schizophrenia," *Cochrane Database of Systemic Reviews* (2), 2002, CD002831.
- Penninx, B. W. J. H., S. Leveille, L. Ferrucci, J. T. M. van Eijk, and J. M. Guralnik, "Exploring the Effect of Depression on Physical Disability: Longitudinal Evidence from the Established Populations for Epidemiologic Studies of the Elderly," *American Journal of Public Health*, Vol. 89, No. 9, 1999, pp. 1346–1352.
- Petrenko, C. L., S. E. Culhane, E. F. Garrido, and H. N. Taussig, "Do Youth in Out-of-Home Care Receive Recommended Mental Health and Educational Services Following Screening Evaluations?," *Child and Youth Services Review*, Vol. 33, No. 10, 2011, pp. 1911–1918.
- Pharr, J. R., Moonie, S., and T. J. Bungum, "The Impact of Unemployment on Mental and Physical Health, Access to Health Care and Health Risk Behaviors," *ISRN Public Health*, 2012.
- Roll, J. M., J. Kennedy, M. Tran, and D. Howell, "Disparities in Unmet Need for Mental Health Services in the United States, 1997–2010," *Psychiatric Services*, Vol. 64, No. 1), 2013, pp. 80–82.
- Roy-Byrne, P., M. G. Craske, G. Sullivan, R. D. Rose, M. J. Edlund, A. J. Lang, A. Bystritsky, S. S. Welch, D. A. Chavira, D. Golinelli, L. Campbell-Sills, C. D. Sherbourne, and M. B. Stein, "Delivery of Evidence-Based Treatment for Multiple Anxiety Disorders in Primary Care: A Randomized Controlled Rrial," *JAMA*, Vol. 303, No. 19, 2010, pp. 1921–1928.

- Saloner, B., and B. L. Cook, "Blacks and Hispanics Are Less Likely Than Whites to Complete Addiction Treatment, Largely Due to Socioeconomic Factors," *Health Affairs*, Vol. 32, No. 1, 2013, pp. 135–145.
- Santiago, C. D., S. Kaltman, and J. Miranda, "Poverty and Mental Health: How Do Low-Income Adults and Children Fare in Psychotherapy?," *Journal of Clinical Psychology*, Vol. 69, No. 2, 2013, pp. 115–126.
- Scheirer, M. A., and J. W. Dearing, "An Agenda for Research on the Sustainability of Public Health Programs," *American Journal of Public Health*, Vol. 101, No. 11, 2011, pp. 2059–2067.
- Schwalbe, C. S., H. Y. Oh, and A. Zweben, "Sustaining Motivational Interviewing: A Meta-Analysis of Training Studies," *Addiction*, Vol. 109, No. 8, 2014, pp. 1287–1294.
- Sentell, T., M. Shumway, and L. Snowden, "Access to Mental Health Treatment by English Language Proficiency and Race/Ethnicity," *Journal of General Internal Medicine*, Vol. 22, No. 2, 2007, pp. 289–293.
- Shear, K., E. Frank, P. R. Houck, and C. F. Reynolds, 3rd, "Treatment of Complicated Grief: A Randomized Controlled Trial," *JAMA*, Vol. 293, No. 21, 2005, pp. 2601–2608.
- Shippee, N. D., B. H. Rosen, K. B. Angstman, M. E. Fuentes, R. S. DeJesus, S. M. Bruce, and M. D. Williams, "Baseline Screening Tools as Indicators for Symptom Outcomes and Health Services Utilization in a Collaborative Care Model for Depression in Primary Care: A Practice-Based Observational Study," *General Hospital Psychiatry*, Vol. 36, No. 6, 2014, pp. 563–569.
- Smith, J. L., K. M. Carpenter, P. C. Amrhein, A. C. Brooks, D. Levin, E. A. Schreiber, L. A. Travaglini, M. C. Hu, and E. V. Nunes, "Training Substance Abuse Clinicians in Motivational Interviewing Using Live Supervision via Teleconferencing," *Journal of Consulting Clinical Psychology*, Vol. 80, No. 3, 2012, pp. 450–464.
- Stevens, C., E. Tosatti, L. Ayer, D. Barnes-Proby, G. Belkin, S. Lieff, and M. Martineau. *Helpers in Plain Sight: A Guide to Implementing Mental Health Task Sharing in Community-Based Organizations*. Santa Monica, Calif.: RAND Corporation, TL-317-MFANYC, 2020. <https://www.rand.org/pubs/tools/TL317.html>
- Strandh, M., A. Winefield, K. Nilsson, and A. Hammarström, "Unemployment and Mental Health Scarring During the Life Course," *European Journal of Public Health*, Vol. 24, No. 3, 2014, pp. 440–445.
- Stubbs, B., D. Vancampfort, N. Veronese, K. G. Kahl, A. J. Mitchell, P. Y. Lin, P. T. Tseng, J. Mugisha, M. Solmi, A. F. Carvalho, and A. Koyanagi, "Depression and Physical Health Multimorbidity: Primary Data and Country-Wide Meta-Analysis of Population Data from 190,593 People Across 43 Low- and Middle-Income Countries," *Psychological Medicine*, Vol. 47, No. 12, 2017, pp. 2107–2117.



- Substance Abuse and Mental Health Services Administration. “Key Substance Use and Mental Health Indicators in the United States: Results from the 2017 National Survey on Drug Use and Health,” 2018.  
<https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHFFR2017/NSDUHFFR2017.pdf>
- Terza, J. V., “Alcohol Abuse and Employment: A Second Look,” *Journal of Applied Economics*, Vol. 17, No. 4, 2002, pp. 393–404.
- Thomas, A. C., and P. K. Staiger, “Introducing Mental Health and Substance Use Screening into a Community-Based Health Service in Australia: Usefulness and Implications for Service Change,” *Health & Social Care in the Community*, Vol. 20, No. 6, 2012, pp. 635–644.
- Thomas, K. C., A. R. Ellis, T. R. Konrad, C. E. Holzer, and J. P. Morrissey, “County-Level Estimates of Mental Health Professional Shortage in the United States,” *Psychiatric Services*, Vol. 60, No. 10, 2009, pp. 1323–1328.
- ThriveNYC. (2019). “Connections to Care: Mental Health Integration in Community-Based Organizations.  
<https://thrivenyc.cityofnewyork.us/program/connections-to-care-mental-health-integration-in-community-based-organizations>
- Towe, V. L., L. Leviton, A. Chandra, J. C. Sloan, M. Tait, and T. Orleans, “Cross-Sector Collaborations and Partnerships: Essential Ingredients to Help Shape Health and Well-Being,” *Health Affairs*, Vol. 35, No. 11, 2016, pp. 1964–1969.
- Van Ginneken, N., P. Tharyan, S. Lewin, G. N. Rao, S. M. Meera, J. Pian, S. Chandrashekar, and V. Patel, “Non-Specialist Health Worker Interventions for the Care of Mental, Neurological and Substance-Abuse Disorders in Low- and Middle-Income Countries,” *Cochrane Database of Systemic Reviews*, Vol. 11, 2013, CD009149.
- Varadhan, R., and J. D. Seeger, “Estimation and Reporting of Heterogeneity of Treatment Effects,” in Velentgas P, Dreyer NA, Nourjah P, et al., editors, *Developing a Protocol for Observational Comparative Effectiveness Research: User’s Guide*. Rockville, MD: Agency for Healthcare Research and Quality (US); Chapter 3, 2013.
- Vigo, D., G. Thornicroft, and R. Atun, “Estimating the True Global Burden of Mental Illness,” *Lancet Psychiatry*, Vol. 3, No. 7, 2016, pp. 602–602.
- Vos, T., R. M. Barber, B. Bell, A. Bertozzi-Villa, S. Biryukov, I. Bolliger, et al., “Global, Regional, and National Incidence, Prevalence, and Years Lived with Disability for 301 Acute and Chronic Diseases and Injuries in 188 Countries, 1990–2013: A Systematic Analysis for the Global Burden of Disease Study 2013,” *The Lancet*, Vol. 386, No. 9995, 2015, pp. 743–800.



- Wang, P. S., M. Lane, M. Olfson, H. A. Pincus, K. B. Wells, and R. C. Kessler, “Twelve-Month Use of Mental Health Services in the United States: Results from the National Comorbidity Survey Replication,” *Archives of General Psychiatry*, Vol. 62, No. 6, 2005, pp. 629–640.
- Watkins, K. E., S. B. Hunter, S. L. Wenzel, W. Tu, S. M. Paddock, A. Griffin, and P. Ebener, “Prevalence and Characteristics of Clients with Co-Occurring Disorders in Outpatient Substance Abuse Treatment,” *American Journal of Drug and Alcohol Abuse*, Vol. 30, No. 4, 2004, pp. 749–764.
- Wong, E. C., R. L. Collins, and J. L. Cerully, *Reviewing the Evidence Base for Mental Health First Aid: Is There Support for Its Use with Key Target Populations in California?* Santa Monica, CA: RAND Corporation, RR-972-CMHSA, 2015.  
[https://www.rand.org/pubs/research\\_reports/RR972.html](https://www.rand.org/pubs/research_reports/RR972.html)
- Zalewski, M., S. H. Goodman, P. M. Cole, and K. A. McLaughlin, “Clinical Considerations When Treating Adults Who Are Parents,” *Clinical Psychology*, Vol. 24, No. 4, 2017, pp. 370–388.

## Part II. Implementation

---

The goals of the C2C implementation evaluation were to examine how C2C was implemented and whether C2C implementation changed CBO staff ability to address mental health issues and CBO client access to mental health services.

Chapter 4 introduces the required components of the C2C program and the four phases of program implementation. It examines how CBOs and MHPs undertook planning, preparation, and decisions for early-stage implementation of C2C, using qualitative data from CBO and MHP leaders and staff and operational plans during the first two implementation phases, Exploration and Adoption Decision/Preparation.

Chapter 5 continues examination of CBO-MHP decisionmaking for their C2C programs, and how individual programs evolved over time as organizations gained experience with integrating C2C into their workflows. This chapter focuses on the second two phases of implementation, termed Active Implementation and Sustainment.

Chapter 6 focuses on understanding C2C's capacity to transform CBOs, MHPs, and the community's attitudes, behaviors, and culture surrounding mental health during the Active Implementation and Sustainment phases of C2C implementation.

Appendix B provides further detail on the methods used for the implementation evaluation, including the primary data collection from key informants and focus groups with CBO and MHP leadership and staff, as well as CBO clients participating in C2C, the annual staff surveys, and the CBO quarterly reports.

## 4. Adaptation of C2C at Community-Based Organizations in Early-Stage Implementation

---

*Michael Stephan Dunbar, Dana Schultz, Dionne Barnes-Proby, Michele Abbott, Clare Stevens, and Vivian L. Towe*

### Key Findings

- On the launch of C2C, CBOs and MHPs were initially given limited implementation guidance and were expected to develop their own implementation plans to adapt the C2C model to a specific CBO setting.
- In response to requests for clarity and additional support from CBOs/MHPs and observed challenges with respect to early implementation of some program components (e.g., MI training; continuous coaching, and supervision), the C2C Collaborative provided more detailed implementation guidance, trainings, and technical assistance activities to help support CBOs and MHPs develop plans for implementing C2C. Revised year 2 implementation guidance and training opportunities to address gaps in capacity (e.g., for MI) were seen as instrumental for developing and refining early implementation plans and building capacity to implement the C2C model.
- CBOs and MHPs considered factors such as existing staffing structures, resources, organizational processes, and workflows when developing plans and implementing required C2C components in CBO settings.
- Adapting the C2C model to specific CBO settings requires considerable upfront planning and consideration of site-specific staff and client needs (e.g., CBO and MHP capacity to train and supervise staff members in C2C skills, number of clients served, types of behavioral health problems experienced by clients), available resources, and organizational processes/workflows during early implementation.

## Introduction

In this chapter, we describe specific considerations, challenges, and facilitators for tailoring C2C to fit the needs and culture of individual CBO settings, from the perspective of CBO and MHP leaders. We first review the required components of C2C and then describe the implementation process framework that guided our approach to assessing how CBOs adapted and modified C2C.

### *Required Components of C2C*

As described in Part 1, C2C involves integrating four core C2C skills into existing CBO programming: mental health screening, MHFA, MI, and PE. CBOs also develop and strengthen the pathways to clinical care (e.g., through their MHP partner) according to individual client needs, and CBOs may use other evidence-based skills in addition to the four core skills. In addition, C2C calls on both CBOs and MHPs to assume new roles that capitalize on their strengths and capabilities to increase capacity for and reduce barriers to providing mental health services. A close working relationship between these partnered entities is essential for ensuring the effectiveness of C2C: the MHP advises and trains CBO staff on effective, evidence-informed interventions, whereas the CBO tailors the implementation of those interventions to its own context. MHPs become not only service providers but also teachers who share their expertise and experience. CBO staff leverage trusted relationships with community members to deliver a range of mental health care supports as part of the everyday work they already do, making care more accessible.

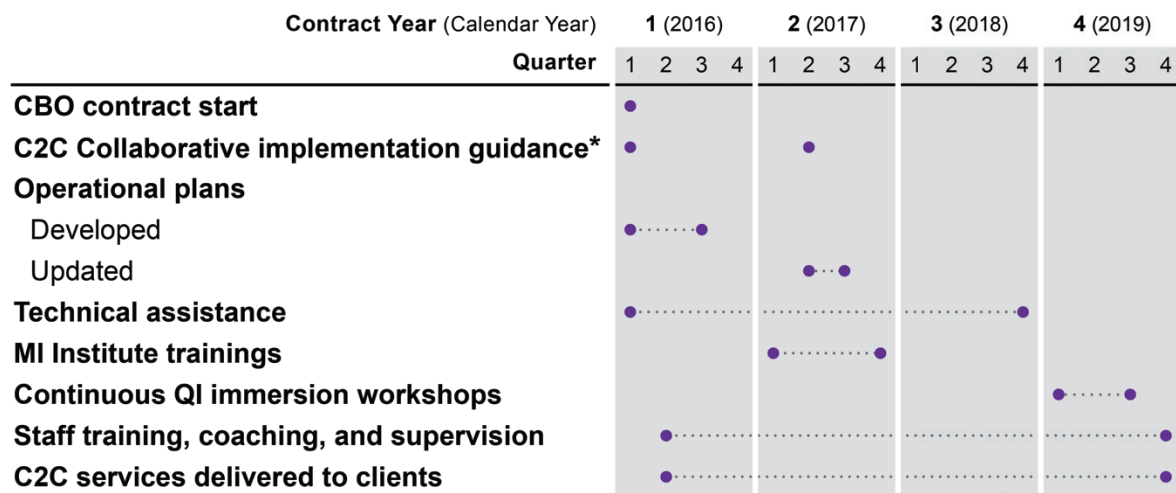
To build an intervention that operates through nonclinical settings, C2C integrated delivery of mental health skills into the programming of 15 social service CBOs located throughout NYC. As part of the C2C program, each CBO was asked to meet certain implementation requirements (Table 4.1).

**Table 4.1. Required Components of C2C Program**

<b>Requirement</b>	<b>Description</b>
Establishing a formal CBO-MHP relationship	All CBOs designated and contracted with MHP partners to directly assist in implementation of C2C program.
Staffing, training, and supervision	CBOs and MHPs determined which staff members would fulfill specific roles in the C2C program, and how CBO staff would be trained and supervised in the delivery of C2C services.
Engaging specific client populations in C2C services	CBOs and MHPs specified which CBO client populations would receive C2C services (e.g., all clients served by the CBO, clients who engaged in specific types of CBO programming, etc.).
Integrating C2C into existing CBO programming	CBOs and MHPs integrated C2C services into their “regular” CBO services and workflows (see Chapter 1).
Establishing a process for mental health referrals	CBOs and MHPs outlined specific referral procedures for linking CBO clients with mental health needs to more intensive clinical services.
Continuous quality improvement	CBOs and MHPs collected and reviewed programmatic data to meet program targets and iteratively refine implementation of C2C services over time.

All CBOs worked with MHPs to develop implementation plans that laid out how they would approach and enact these requirements during the implementation process. By design, the program allowed CBOs a great deal of flexibility in site-specific implementation. Each CBO had the latitude to navigate their relationship with an MHP, set up culturally relevant training and coaching, ramp-up staff readiness, and deliver the C2C skills to clients in a way that made sense for their CBO. Along with this latitude, CBOs were given limited specifications for the C2C model through the original Request for Proposals and additional implementation guidance distributed after C2C implementation began. The Collaborative provided more detailed guidance in year 2 to address programmatic requirements for which CBOs/MHPs had requested more clarity (e.g., PE curricula) and areas in which there was an observed need to improve implementation quality (e.g., continuous coaching and supervision). Further, all CBOs and MHPs received technical support in developing their operational plans—detailed documents that outlined specific plans for C2C staffing structure, training and supervision of CBO staff members, and how C2C would be enacted within the CBO setting—that required review and approval by the C2C Collaborative on-site implementation team. The C2C technical assistance team provided help from the beginning of the project through the third year of implementation to support CBOs to both meet the requirements and adapt C2C when necessary and appropriate. Key implementation events for C2C are summarized in Figure 4.1.

**Figure 4.1. Key C2C Program Implementation Events from 2016 Through 2019**



\* Updated implementation guidance in year 2 included clarifications on delivery of curriculum-based psychoeducation, minimum screening requirements, minimum coaching and supervision requirements, care coordination, and soliciting client and staff feedback on program delivery.

### *Implementation Process Framework*

To understand how CBOs adapted the C2C model and inform the design of the implementation study, we turned to an implementation process framework. The process of

implementing new evidence-based mental health services within community organizations can be described in terms of four broad phases, summarized in Figure 4.2 (Aarons, Hurlburt, and Horwitz, 2011). According to Aarons, Hurlburt, and Horwitz, 2011, the first phase, “Exploration,” is characterized by identifying some need, challenge, or approach that could be improved or addressed. The next phase is “Adoption Decision/Preparation,” in which organizations plan and prepare for implementing change (i.e., the C2C program), including how they intend to implement specific program components. The third phase is “Active Implementation,” in which organizations enact program strategies, monitor program metrics, consider various factors affecting implementation, and iteratively refine implementation approaches. Over time, organizations may transition from Active Implementation to “Sustainment,” in which program components become established and are integral to the organization’s workflow. For C2C, there is an iterative process where learning from early implementation resulted in adjustments to plans that were then implemented.

**Figure 4.2. Conceptual Model of C2C Program Implementation Phases in CBO Settings**



SOURCE: Adapted from Aarons, Hurlburt, and Horwitz, 2011.

Within each phase, myriad contextual factors operating at external (e.g., sociopolitical context, policy environment) and internal levels (e.g., organizational characteristics such as size, leadership orientation, and organizational climate) affect decisionmaking for how specific program strategies will be implemented. Transitions between these phases are not necessarily

linear or fixed; movement into a new phase, such as Active Implementation, does not necessarily mark the “completion” of activities conducted in the Exploration or Adoption Decision/Preparation phases. Over time, organizations may move back and forth throughout these phases because they enact different program components, iterate on specific approaches, and engage in continuous quality improvement (CQI) practices.

This chapter focuses on how the CBOs and MHPs handled the first two phases of C2C implementation (Exploration and Adoption Decision/Preparation), with an emphasis on factors that influenced how CBOs developed and refined plans for implementing the required C2C components within diverse CBO settings. As described elsewhere (Ayer et al., 2018), CBOs and MHPs conducted these processes in implementation years 1 and 2. Here we examine how CBOs and MHPs undertook planning, preparation, and decisions for early-stage implementation of C2C, using qualitative data from CBO and MHP leaders and staff and operational plans during these first two phases.

### *Research Questions*

For the primary research question regarding how C2C program strategies were implemented, and the key facilitators of and barriers to effective implementation of C2C program strategies within and across CBO and MHP partnerships, we assessed factors that influenced CBOs’ and MHPs’ decisionmaking regarding the six key required components of C2C described in Table 2.1. We broke this question into six parts corresponding to these components to better understand how C2C strategies could meet the needs of specific CBO settings, staff, and clients.

- How did CBOs and MHPs
  - establish a formal CBO-MHP relationship
  - plan for staffing, training, and supervision
  - plan to engage specific client populations in C2C services
  - plan to integrate C2C into existing CBO programming
  - plan to establish a process for mental health referrals
  - plan for CQI of C2C?

### **Methods**

This section summarizes the data sources and analysis approach for our examination of how CBOs and MHPs approached the first two phases of C2C implementation (Exploration and Adoption Decision/Preparation phases of the Aarons model of the implementation process), including the factors that influenced the planning and early implementation of C2C. See Appendix B for complete details.

### *Data Sources*

Data on the Exploration and Adoption Decision/Preparation stages of C2C were drawn from the following data sources.



## Operational Plans

CBOs submitted initial operational plans in their first year of funding (year 1) which were subject to multiple rounds of review and required final approval from the C2C Collaborative prior to initiating implementation of the C2C program at the CBO. In the second year of funding (year 2), after the C2C Collaborative distributed updated implementation guidance, CBOs submitted updated operational plans, which detailed any changes in implementation plans (e.g., based on experiences with the program in year 1 and updated implementation guidance.) (Note: The C2C Collaborative engaged in routine monitoring/program oversight activities to ensure that CBOs met implementation targets and adhered to operational plans. Although CBOs were contractually required to participate in some evaluation activities, RAND data collection efforts for the independent evaluation were separate from the program monitoring activities led by the C2C Collaborative.)

From these operational plans for each CBO, the RAND research team abstracted data (e.g., staffing and supervision structure, CBO and MHP roles, integration of C2C skills into existing programming vs. stand-alone C2C service episodes, number and types of staff to be trained, types of PE curricula used), organized information by C2C implementation component, and identified themes related to key implementation decision points.

## Key Informant Interviews

During the summers of 2017 to 2019, RAND conducted key informant interviews with CBO leaders (e.g., executive directors of CBOs and C2C program directors), MHP leaders (e.g., clinical directors and counselors), CBO frontline staff (e.g., staff trained in and providing C2C skills to CBO clients), and CBO clients (e.g., people who received C2C skills) to collect qualitative data on program implementation (Table 4.2). The current chapter focuses on information collected during 2017 and 2018, which assessed key informant experiences during the Exploration and Adoption Decision/Preparation phases of implementation.

**Table 4.2. Number of Key Informants Interviewed by Year and Type of Informant**

<b>Year</b>	<b>CBO Leaders</b>	<b>MHP Leaders</b>	<b>CBO Frontline Staff</b>	<b>CBO Clients</b>
2017	35	29	80	38
2018	36	26	61	35
2019	24	16	–	–
Total	95	71	141	73

Interviews in 2017 and 2018 were conducted in person, whereas those in 2019 were conducted over the phone. RAND worked with CBO leaders to identify and invite key informants to participate in interviews each year. In 2019, phone interviews were held with

CBO and MHP leadership mainly to assess any changes in the implementation model since the previous round of data collection and to obtain specific information on program sustainment and QI practices.

The RAND research team developed interview protocols to address key evaluation questions. The interview protocols covered a range of topics, including overall program implementation, intervention fidelity, attitudes toward and experiences with C2C, job satisfaction, collaboration with partners, and implementation barriers and facilitators. Different interview protocols were developed for CBO leaders, MHP leaders, CBO staff, and CBO clients. Below are examples of questions included in each protocol (see Appendix B for more detailed descriptions).

- CBO leaders:
  - How has C2C changed how your organization approaches client mental health or substance use issues?
  - Could you talk about ways in which the program has changed over the course of the past year?
- MHP leaders:
  - What has been difficult about implementing the C2C program, if anything?
  - What is your (MHP) role in supporting CBO staff in delivering each of the C2C modalities?
- CBO staff:
  - How has the C2C program changed the way that your organization serves clients?
  - What has your experience been with supervisors overseeing your delivery of C2C modalities to clients?
- CBO clients:
  - Have you been offered any (mental health and wellness odds ratio [OR] C2C services)? What specific types of services have you been offered?
  - Could you tell me a little bit more about some of your reasons for accepting or not accepting some of the services that you were offered?

### C2C Model Summaries

CBO leadership provided documentation on specific components of their C2C model in year 4 of the implementation process, in the form of operational plans and quarterly narrative summaries. From these, the RAND research team abstracted the data and constructed narrative summaries and tables that describe C2C model components for each CBO. CBO leaders were asked to review and modify these, as needed. Appendix A presents the final version of these summaries.

In addition, the research team reviewed documentation from technical assistance efforts (e.g., webinar presentation materials, notes from conference calls, handouts) provided to CBOs and MHPs over the course of the implementation process to identify common challenges encountered by CBOs in implementing required components of the C2C model in their settings.

## *Analysis and Synthesis of Findings*

For the analyses presented in this chapter, we organized information from all of the data sources described above into categories defined by the six key components of the C2C model and implementation guidance provided by the C2C Collaborative. We organized data by category into spreadsheets, prioritizing data abstracted from operational plans, to identify key themes across CBOs for each of the categories. The team then reviewed and incorporated information from CBO-specific model summaries (Appendix A) to help contextualize differences in adaptation of model components across CBOs. We then integrated data from key informant interviews and technical assistance to compile site-specific considerations and variability in approaches to adapting the C2C model within settings.

## **Results**

Although CBOs were permitted and encouraged to tailor C2C to meet the needs of their organization, staff, and clients, all were subject to the same basic requirements of the C2C model. For each of the six requirements (Table 4.1), we describe the different approaches CBOs and MHPs considered when planning how they would implement these required components, factors that influenced planning and decisionmaking, and challenges faced in determining how to meet that requirement during the early stages of implementation (Exploration and Adoption Decision/Preparation phases of C2C). Chapters 5 and 6 provide details on later implementation of these requirements and changes made over the full course of implementation (Active Implementation and Sustainment phases of C2C).

### *Primary Research Question 1, Part 1: How Did CBOs and MHPs Establish a Formal CBO-MHP Relationship?*

A foundational requirement of the C2C model was that each CBO partner with an MHP to implement C2C. This requirement was grounded in the concept that, by establishing a formal linkage, CBOs and MHPs could capitalize on their respective capabilities and areas of expertise to help reduce barriers to providing mental health services. For example, CBOs could benefit from the mental health expertise of MHPs to better address client mental health needs in the community; MHPs could learn about client and community needs and establish a stronger presence within communities. CBOs considered what types of MHPs they needed as partners and how to operationalize those partnerships while still honoring the individual priorities of their organizations. Below, we outline key factors that affected how CBOs approached this requirement, including MHP characteristics and capabilities, structuring roles and responsibilities, and client data sharing.

## MHP Characteristics and Capabilities

Approximately half of CBOs (47 percent;  $n = 7$ ) selected MHPs with whom they had a preexisting working relationship or organizational affiliation (e.g., MHP and CBO were part of the same “parent” organization). The remaining eight CBOs forged new relationships with MHPs.

**Training, coaching, and supervision.** All CBOs shared the responsibility of training and supporting CBO staff in delivering C2C skills with the MHPs. For CBOs, the decision to take a larger role in training, coaching, and supervision was often motivated by CBOs’ interest in sustainability of the activities. CBOs recognized that they would ultimately be responsible for training, coaching, and supervision, so they strove to adopt an active role early in implementation.

From the beginning, MHPs typically had limited capacity to provide day-to-day coaching, supervision, and other activities (e.g., administrative oversight, coordination of trainings) to support the implementation of C2C components in the CBO setting. For example, as detailed below and in subsequent chapters, many MHPs did not initially plan to maintain a regular (e.g., daily) on-site presence within the CBO. In addition, many MHPs did not have expertise to train and supervise CBO staff in one or more of the C2C skills (e.g., MI). As such, all CBOs had to assume some responsibility for coordinating and implementing trainings and coaching and supervising their staff. Over time, many CBO-MHP partnerships increased their original estimates of MHP staff time needed for coaching and supervision (see Chapter 5).

**Staff capacity.** To address capacity from the outset, all MHPs made sure some of their staff had protected time to see referred C2C clients or set up processes to ensure that C2C clients could be seen in a timely fashion. CBOs also partnered with MHPs with specialized skills to meet the needs of their clients. For example, several CBOs needed MHPs with the ability to provide services in languages other than English, whereas others needed MHPs with expertise working with adolescents and young adults. Some CBOs discovered unanticipated needs later in implementation, such as acute services to directly address trauma or substance misuse (discussed in Chapter 5).

**Accessibility of services.** In partnering with the MHP, CBOs also considered a myriad of factors related to accessibility, including geographic proximity, hours of operation (e.g., whether the MHP offered weekend or evening hours to accommodate working clients), linguistic/cultural competency, and out-of-pocket costs for MHP services (e.g., whether the MHP would be willing to offer services at a reduced cost or on a sliding scale). Where possible, CBOs opted to have MHPs on-site to support staff in the form of case consultations and structured individual and/or group supervision sessions. Over time, as CBOs discovered that proximity was a primary driver of accessibility, many arranged for additional on-site MHP presence to increase client engagement during the Active Implementation and Sustainment phases of implementation (discussed in Chapters 5 and 6).

**Adaptability.** Despite careful planning, many CBOs recognized that they could not anticipate all of their MHP needs up front and began to seek more flexible arrangements during

early implementation. Some asked their MHP for flexibility regarding intake procedures, scheduling, and/or policies regarding missed appointments. As one CBO leader reported,

Our . . . [clients] understand that if they miss an appointment, they might have to wait, and so we had to negotiate with our MHP to let them know we understood their policy but that we wanted to make sure our clients were able to be seen more quickly and they were able to accommodate us, but . . . [we had] to negotiate with the systems and schedules.

Other CBOs found that their original MHP could not be flexible in the ways needed to make C2C successful, so CBOs found new MHPs or partnered with multiple providers to meet their needs. For example, some CBOs opted to have one MHP provide training and supervision services whereas one or more additional MHPs served as referral sources for clients in need of more intensive services.

### Structuring Roles and Responsibilities

**Coordination.** For all partnerships, both the CBO and MHP designated a lead staff member who was responsible for internal coordination at their own organization and external coordination with their partner. Designating one lead at each organization streamlined communication and made it easier for both partners to identify whom to talk to when troubleshooting initial challenges and/or determining who was responsible for which tasks. Lead staff also served as primary contacts to the C2C Collaborative and technical assistance providers. A majority of CBOs (87 percent;  $n = 13$ ) reported having a minimum of one CBO staff member with specialty mental health training present on-site at the CBO on at least some days during early implementation. CBOs and MHPs also had to work closely to determine who should be responsible for what tasks, including the division of labor for training, coaching, and supervising CBO staff on the core skills, and who would provide overall management and oversight of the partnership and C2C implementation more generally.

**Communication.** During early implementation, most of the communication between CBOs and MHPs focused on clarifying roles, responsibilities, and specific details of program implementation. Partners used meetings for program planning, protocol development, and training plans. Aside from regularly scheduled in-person or phone meetings, CBOs and MHPs found it particularly helpful to set up methods and points of contact for ad hoc communication on urgent matters. As C2C implementation progressed, communication centered on other aspects of implementation such as how to ensure high-quality service delivery. CBOs and MHPs discussed staff comfort and competency in delivery of C2C skills and enhancement of skills through training, coaching, and supervision. CBOs and MHPs also used regular meetings to review data and identify gaps in service delivery, address challenges related to CBO and MHP capacity, and troubleshoot referrals.

**Integration of workflows.** Overall, one of the greatest challenges facing CBOs—particularly for those choosing to have MHP staff on-site at the CBO—was how to integrate MHPs into

their culture and workflows. For example, some partnerships discussed challenges related to insufficient communication between the parties, which negatively affected program planning and implementation. One MHP described their experience with their CBO:

It's sometimes bumpy with the communication because we have conflicting priorities. A clinic has certain priorities. [The CBO] has certain priorities. C2C has certain priorities. So sometimes it's like, "how are we going to do this so that we can satisfy all of our programmatic requirements and responsibilities?" But we figured it out, and I think we are stronger and more connected [as a result].

From the outset, frequency of MHP presence was primarily determined by MHP availability and C2C funds, and CBOs had to develop workflows that addressed client needs on days when MHPs were not on-site. Critical to these partnerships was flexibility and adaptability to the other organization's needs and cultures.

#### Client Data Sharing

From the beginning, both CBOs and MHPs focused on how to securely share client information. MHPs in particular needed to adhere to Health Insurance Portability and Accountability Act of 1996 (HIPAA) regulations to protect private patient health information. MHPs had to articulate what they could and could not share, and together the partnerships would come to an agreement about the types of information they could share with the appropriate protections and client consent in place. At a minimum, most partnerships developed information sharing or release forms and related procedures that allowed CBOs to share screening data with MHPs, and MHPs to share information with CBOs about client appointments kept or missed. One MHP discussed their data sharing protocol and how they worked to ensure the confidentiality of clients:

I wouldn't say [data sharing] is an issue. I would say it's more of a topic of discussion. Family workers [at the CBO] are not bound by confidentiality but understand why therapists can't share certain information. So, we really keep it limited to attendance, engagement with the clinic, compliance with treatment and if there is a crisis that supersedes confidentiality in any setting. So, once we had a clear definition of what types of information would be shared in a case conference, I think that helped.

#### *Primary Research Question 1, Part 2: How Did CBOs and MHPs Plan for Staffing, Training, and Supervision?*

All partnerships were required to develop a staffing plan that outlined how C2C would be staffed by the CBO and the MHP, specified the types of program staff to be trained in each C2C core skill, and included plans for supervising CBO staff in the core skills. Below, we summarize how the partnerships approached staffing, training, and supervision and describe some of the challenges that arose.



## Staffing

In operational plans, CBOs and MHPs were required to specify which staff members would occupy key leadership roles and to detail the expected contributions from other CBO and MHP staff (e.g., direct care staff to deliver C2C, support for data collection and reporting, senior team members to supervise and support CBO and MHP staff members). From the outset, CBOs needed to determine whether they had existing program staff with the requisite skills to fulfill C2C roles, such as the CBO C2C lead or other C2C management roles, or whether they needed to hire new personnel. In some cases, CBOs could use existing staff with some mental health experience or training already (e.g., job developers, shelter case managers, early child education family workers). In addition, a few CBOs leveraged graduate student interns from local social work and psychology programs to extend skills delivery beyond that of existing nonclinical staff. Depending on the CBO, graduate students could be integrated in every phase of implementation from intake/screening to making referrals to the MHP without major cost implications.

CBOs also needed to consider whether they had resources to support a full-time, dedicated C2C coordinator at the CBO and a designated intake coordinator at the MHP. C2C coordinators had a range of responsibilities, including ensuring staff participation in initial and ongoing C2C training, tracking program implementation and client engagement, managing relations and communication with the MHP, and providing or facilitating coaching and supervision. All CBOs and MHPs specified designated coordinator/leadership roles for both the CBO and MHP side of the partnership in their operational plans. One CBO leader described how clear designation of coordinating positions or “point persons” at both the CBO and MHP were critical to successful implementation:

Having someone designated specifically as our C2C coordinator and someone specifically as the designated intake person at the counseling center being the main connections has allowed much more fluid communication. From the MHP side, they really like getting to know more about the shelter and our clients, so it has provided them more context on our clients too, whereas before the C2C program, there wasn't as much of an interface between the counseling center and our agency. It just feels like there is more communication around the clients' referrals and whether or not they followed up.

Some CBO staff initially voiced that they were uncomfortable, ill equipped, or reticent to adopt C2C, or otherwise indicated that C2C program requirements were not “in their job description” or “perceived this as extra work.” As discussed in more detail in Chapter 5, some staff members specifically expressed discomfort surrounding program elements such as mental health screening due to concerns about their ability to discuss and help clients with problems such as suicidal ideation. CBOs worked with staff to help them see the value of implementing C2C skills with their clients and learn efficient strategies for utilizing these skills. Many CBOs strived for seamless integration of C2C into existing programming and helped staff recognize



that C2C skills were already reflected in their current practice with clients. One MHP lead illustrated this point by saying:

I think getting people to understand what C2C was about and not looking at it as one additional thing to do and helping them to connect it to the work they were already doing, making the work meaningful and showing them how that can be done– I feel like that made a difference.

### Training of CBO Staff

**Training plans.** MHPs were asked to develop a training plan in collaboration with CBO leads and to establish benchmarks to indicate when CBO staff had attained the requisite knowledge to deliver core C2C skills. As C2C was launching, it was thought that MHPs would be primarily responsible for all training of CBO staff in C2C skills, but in practice not all MHPs could fulfill those duties, particularly with respect to MI. Only three CBOs employed providers with intermediate to advanced MI skills and had capacity to provide MI trainings at the start of the project. Recognizing these training gaps, the C2C Collaborative encouraged CBO staff to participate in free MHFA trainings (including “train the trainer” courses) delivered by the NYC DOHMH during the first year of implementation (note: DOHMH-sponsored MHFA trainings were independent of C2C and were available prior to the launch of the C2C initiative). In addition, the C2C Collaborative convened specialists in MI to provide a free, in-depth training referred to as the MI Institute (see the interim report for a more in-depth description of these additional resources) (Ayer et al., 2018).

To minimize staff and client perceptions of C2C as an additional and separate practice and to ensure sustainability, CBOs sought to integrate C2C skills training into the existing professional development structure during early implementation. Further, training plans also evolved to include program monitoring activities and service delivery. For example, because CBOs modified existing program forms or systems to incorporate new C2C skills (e.g., intake forms included a checkbox to indicate whether screening was completed, or case management fields in client management systems included options for C2C skills), staff were trained to use these options to capture C2C implementation.

As implementation progressed, certain CBO staff received training to become trainers, and all CBOs revised their training plans to enhance precision and efficiency in training and skill delivery choices. These refinements were made in response to a better understanding about CBO staff roles and workflows. For example, for some CBOs, it made more sense to assign a smaller group of staff to deliver curriculum-based PE to clients and/or make referrals.

**Training CBO staff members.** Each CBO aimed to train all participating C2C staff members in at least one C2C skill and train at least some client-facing staff members in multiple C2C skills to prepare them to address the range of client needs or situations that might arise. However, training on screening was often limited to staff who handled intakes (when many CBO protocols specified screenings take place). See Chapter 5 for a more comprehensive description of C2C staff training, including number of staff trained in specific C2C skills.

**Training content and processes.** Training content included information related to implementing each C2C skill with a focus on EBP requirements (e.g., 8 hours of MI training), as well as the process for making referrals to the MHP or other providers. Training formats included role-play, didactic strategies, scenarios/vignettes, interactive games, case studies, brain storming sessions, and worksheets. Though staff were also trained on when they should use their new skills, CBO staff were often uncertain about the settings and scenarios in which to use their new skills during early implementation (note: this was anticipated and was part of the rationale for requiring ongoing coaching in the C2C model).

**Ongoing training.** CBOs planned to provide booster trainings to deepen or expand staff skills to meet staff and client needs. During early implementation, CBOs determined whether and what types of booster training modules were necessary through ongoing supervision and staff feedback. For example, CBOs held supplementary trainings on topics including suicide risk assessment and crisis intervention, trauma-informed care, and mindfulness-based stress reduction. CBOs also balanced the need for both service delivery and training, because too much training time could reduce opportunities to deliver other services and could be perceived as overly burdensome to staff. In addition, CBOs sought to ensure that ongoing training aligned with client needs. Staff at one CBO felt the trainings were too ambiguous and did not relate directly to staff ability to respond to the needs of the clients, so the CBO spent time researching and revising training to address these concerns. Another CBO conducted internal training satisfaction surveys to assess staff views of the trainings and address areas of concern.

As implementation progressed, CBOs provided training sessions for newly hired staff, which sometimes proved challenging if a formal training session was not immediately available. Newly hired staff in these cases had to rely on their coworkers to bring them up to speed until they were able to participate in a more formal C2C training session (see Chapters 5 and 6 for more details surrounding challenges and facilitators of training).

## Supervision

CBO-MHP partnerships were given specific guidance for required coaching and supervision activities in year 2 of the implementation process. Prior to this guidance, not many CBOs were consistently carrying out coaching and supervision programs. The requirement included

- At least once per quarter, CBO staff who had (a) been trained in one of the C2C skills and (b) used that skill in their work had to receive a coaching session. The coaching session was intended to help the staff further develop their use of this skill, ideally by having the supervisor directly observe the staff member using that skill and then providing feedback.
- At least twice per quarter, all CBO staff implementing one or more C2C skills were required to participate in a supervision session that included reflective supervision

activities that focus on eliciting and processing staff members' experiences, thoughts, and feelings surrounding use of C2C skills with clients.<sup>1</sup>

- At least twice per year, CBO staff implementing C2C were required to complete a self-assessment of their own knowledge, skills, and practice related to C2C.

In addition, MHP staff were expected to monitor implementation to ensure CBO staff received high-quality coaching and supervision. MHP staff were required to provide coaching and lead supervision activities with CBO staff unless the partnership designated other qualified supervisors to perform those tasks (e.g., trained CBO staff, qualified individuals from other MHP organizations). MHP staff could train and supervise CBO supervisors to perform new coaching and supervision tasks. As a part of continuous coaching and supervision, MHP staff were also tasked with choosing or developing self-assessment tools for CBO staff.

Overall, partnerships took many different approaches to fulfilling these requirements. Because CBO staff needs shifted, most coaching and supervision programs evolved to include case consultation, individual and group reflective supervision, one-on-one coaching, and audio recording and review. One common approach to coaching and supervision involved group meetings in which CBO and MHP staff shared client progress and MHP staff provided consultation to CBO staff.

Other adjustments that occurred over time included

- finding a balance between individual support and group sessions to match the amount of time MHP staff could dedicate to coaching and supervision
- training CBO staff who were highly skilled in C2C to perform some coaching duties to provide more feedback and practice opportunities, allow for more peer-to-peer learning, and free up MHP time to develop customized supervision activities
- allowing coaching and supervision to be provided over the phone to eliminate the need for travel time and increase the number of consultations from MHP staff
- seeking additional resources (e.g., through consulting arrangements with other clinical providers) to provide CBO staff with the ongoing feedback needed to attain C2C skill mastery.

Partnerships took a very individualized approach to fidelity monitoring, depending on who was supervising CBO staff (i.e., MHP or trained CBO supervisors), the time supervisors had on-site at the CBO, and the supervisors' familiarity and comfort with CBO clients and staff. Partnerships had to carefully consider not only CBO staff but also client comfort and preferences. For example, CBO staff shared that some clients did not feel comfortable being observed by a third party while discussing mental health concerns with CBO staff. Since direct

---

<sup>1</sup> Zero to Three, a nonprofit organization focused on early development and well-being, provides an overview of reflective supervision principles and links to additional resources (see Zero to Three, Three building blocks of reflective supervision, webpage, 2016).

observation of CBO staff delivering C2C skills was not feasible, many CBOs adopted role-play to assess fidelity.

Initially, fidelity monitoring was not highly structured, primarily involving periodic supervisor check-ins without a standard protocol. Although some CBOs were interested in developing quantitative assessments, they did not have the expertise or resources to follow through on this. To address these challenges, as well as requests from CBOs and MHPs for support in cultivating more robust and standardized fidelity monitoring practices, the C2C Collaborative shared a standard fidelity monitoring tool among the partnerships in implementation year 2. The tool, developed by RAND and the McSilver Institute for Poverty Policy and Research at the New York University Silver School of Social Work (NYU McSilver) Institute, asked supervisors to rate their confidence in staff delivery of C2C skills and competency in each of the four C2C skills. For MI and MHFA, supervisors also completed a checklist to document whether CBO staff used all the core components of those skills during a direct observation or role-play. Although a majority of CBOs reported using the tool as part of required supervisory practices, actual documentation and tracking of fidelity monitoring varied widely across CBOs. Because C2C became more integrated and operational plans were solidified, some CBOs expanded the type of staff who delivered C2C skills. As C2C expanded, it was increasingly challenging for supervisors to find the time and resources to conduct individual fidelity monitoring with every staff member on a regular basis.

### *Primary Research Question 1, Part 3: How Did CBOs and MHPs Plan to Engage Specific Client Populations in C2C Services?*

CBOs were expected to serve one or more of the following vulnerable populations, as described in Part 1 (e.g., young adults between the ages of 16 and 24 who are not in school and are not employed, unemployed or underemployed adults age 18 or older, and parents/caregivers who are expecting or who have children 4 years of age or younger).

In planning to reach these populations, CBOs made other, more nuanced decisions about whom to target based on the clients they served and programs they offered. For example, many CBOs focused on clients who resided in high-poverty areas or in public housing, received public assistance, had not completed high school or obtained a general equivalency diploma (GED), were unemployed, or were considered high-risk populations (e.g., formerly incarcerated individuals, runaway and homeless youth, survivors of violence or trauma) because those were the clients seeking their services. In addition, some CBOs (40 percent;  $n = 6$ ) focused C2C service delivery on clients for whom they felt mental health issues might be a barrier to achieving the intended program outcomes, such as completing a GED. Other CBOs (60 percent;  $n = 9$ ) opted to deliver some C2C skills organization wide to all clients because (as reported by CBO staff) they believed that C2C would benefit all staff/clients in the CBO and/or because staff and programs were intertwined, so serving only a subset was not feasible.

### *Primary Research Question 1, Part 4: How Did CBOs and MHPs Plan to Integrate C2C into Existing CBO Programming?*

All CBOs were required to implement the four core C2C skills and establish a process for referring clients to the MHP, when needed, to ensure a smooth transition to more intensive mental health care. In practice, CBOs faced a number of decisions regarding how to best integrate delivery of specific C2C skills into existing staffing structures and workflows. CBOs varied with respect to whether C2C skills were typically delivered in “stand-alone” sessions (i.e., apart from typical CBO programming) or integrated into existing CBO services (see Table 4.3, which shows ultimate decisions [as of July 2019] surrounding how CBOs integrated C2C skills into programming). This distinction had implications for the extent to which implementing new C2C skills required additional resources (e.g., staffing, time, physical space) and/or modifications to existing workflows within the CBO.

**Table 4.3. CBOs with Integrated and Stand-Alone Delivery of C2C Skills**

<b>Skill</b>	<b>Integrated<sup>a</sup> Percentage (n)</b>	<b>Stand-Alone Percentage (n)</b>
Screening	87 (13)	13 (2)
MHFA	100 (15)	0 (0)
MI	93 (14)	7 (1)
PE	60 (9)	40 (6)

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019.

<sup>a</sup> Skills delivered both as integrated and stand-alone are counted within “integrated.”

#### Screening

Screening was viewed as a foundational component of all C2C programs, playing a key role in determining client mental health needs.

**Screening tools.** Program requirements indicated that all CBOs screen for depression, anxiety, and drug and alcohol use. Within these requirements, CBOs had the freedom to select the tools that best fit their program needs. When available, CBOs were required to use standard language translations of validated screening tools so that every participant was screened with the same version of the tool. In selecting tools, CBOs often relied on the expertise of their MHPs. For example, if MHP staff were already trained and experienced in using and interpreting certain screening tools (e.g., the nine-item Patient Health Questionnaire [PHQ-9] for depression), the CBO often chose to adopt and train staff in those same tools. In doing so, CBOs were able to simultaneously draw on MHP expertise and make a warm handoff referral from the CBO to the MHP go more smoothly. Screening tools and processes are described in more detail in Chapter 5 of the report.

**Mode of screening.** CBOs also had to make decisions surrounding the manner and mode of screenings, such as whether they should be administered one-on-one or in a group setting, whether clients would complete the screening tools themselves (i.e., by completing a self-report form alone) or during an interview with a trained staff member, and whether to administer

screenings on a computer or paper. Because of limited time, one CBO specifically chose to screen clients in groups to ensure they could maximize their reach while still ensuring a confidential experience. Other CBOs chose to do one-on-one screenings and had to find private spaces for CBO staff to conduct them. One CBO initially asked clients to self-administer the screenings but noticed lower-than-expected numbers of positive screens. Many CBOs opted for screening on paper. Although computer-based administration had the benefits of automatic scoring and easy transfer of scores to the CBO's data management system, this option proved to be cost prohibitive for most.

**Screening capacity.** CBOs also had to assess staff capacity for screenings. Over time, CBOs with more limited capacity found ways to expand screening by using staff adept at screening as a resource to train and coach other staff or obtaining additional financial/staffing resources for screening activities.

**Integrating screening into workflows.** To reach more clients and quickly identify mental health needs, many CBOs decided to integrate screenings into their workflows by screening all clients as a part of intake into the programs where C2C was being implemented. During implementation, other CBOs learned that intake was not the optimal time for screening after staff reported that some clients felt overwhelmed by the intake paperwork or uncomfortable discussing mental health needs before having an established relationship with intake staff. In response, some CBOs shifted screening to a later point in their program workflows, allowing for conversations about mental health to stand alone and for staff and clients to have time to build rapport. For some CBOs, the decision on when to screen was an ongoing challenge, and they had to try many different options before finding the right balance between timing, staff capacity, and client needs.

**Screening thresholds.** CBOs and MHPs worked together and solicited guidance from the C2C technical assistance providers (NYU McSilver)—and consulted guidance/manuals associated with validated screening tools—to determine the thresholds, or cut points, for screening scores that would prompt staff to offer a referral. Across CBOs, there was variation in the specific actions triggered by the threshold level. For example, although all CBOs adopted standard clinical cutoffs for severe symptoms, some chose to offer referrals even when screeners indicated moderate or mild symptoms. CBOs often used screening scores as one of several data points to determine when to offer a referral (e.g., a client may have only indicated mild symptoms on a screening tool but voiced more severe concerns in a follow-up conversation with staff and were therefore offered a referral).

**Sharing screening results.** CBOs and MHPs also had to decide how to share screening results with clients. When screenings were delivered in a one-on-one manner and, in some cases in group settings, it was often possible for CBO staff to discuss screening results with participants immediately (as recommended). For group screenings, one CBO reviewed results in the days after the screening and then discussed results with clients individually on a staggered basis, beginning with clients who reported the most severe symptoms. Ensuring staff were comfortable



having follow-up conversations with clients was an ongoing area of focus and training for CBOs. Although many nonclinical CBO staff felt comfortable asking clients questions about their mental health, they were less comfortable about sharing results and managing client responses, which could be emotionally intense. To help staff, CBOs developed clear protocols that walked staff through how to describe screening results and discuss next steps with clients based on their scores. They also offered opportunities for CBO staff to shadow MHP staff sharing results with clients, and many arranged for on-call clinicians to discuss particularly difficult situations with CBO staff on demand. Because CBO staff became adept in other C2C skills such as PE and MI, they also used those skills when delivering screening results.

**Rescreening.** Over time, some CBOs saw the need and opportunity to offer client rescreens. For clients whose first screen indicated problematic symptoms, rescreening offered the opportunity to determine if these symptoms had lessened and by how much. If symptoms were not improving, staff could have conversations with clients about additional options that might be a better fit for their needs. For clients who did not initially screen positive, rescreening offered the opportunity to monitor mental health symptoms and offer help if new needs arose. Whether and how a CBO chose to rescreen was influenced by staff capacity, CBO workflow, and client participation in programming (e.g., in some programs, clients were only engaged with the CBO for a short time, making rescreening difficult or impossible), among many other factors. As described in Chapter 5, the C2C Collaborative encouraged all programs to consider rescreening clients and fielded a pilot rescreening initiative in year 4 of implementation.

## Psychoeducation

C2C guidance specified a number of PE requirements. CBOs and MHPs would need to

- choose empirically supported, curriculum-based PE protocols aligned with client needs
- regularly review the needs of clients (e.g., by directly asking clients or staff who worked with clients regularly, or through review of C2C data already being collected, such as screening data)
- use data on client needs to identify and then implement PE programs that could address those needs
- work closely with MHPs to identify appropriate PE resources tailored to client needs and develop plans for implementing the PE curriculum within the CBO setting.

Given these requirements, CBOs and MHPs worked closely with the technical assistance team to select appropriate PE curricula to best align with CBO workflow and client needs (e.g., most common mental health issues, priority concerns for clients and the community, empirically supported programs for use in target populations). As described by one CBO leader, technical assistance was instrumental in selecting appropriate PE materials that were adherent to C2C requirements prior to implementation,

We are working with the technical assistance team to look at particular models in existence to know what we can use for psychoeducation . . . Since this “evidence-



based” requirement came [in Year 2], we became a little confused about how to go about finding the appropriate evidence-based curriculum that we could use . . . Then we can talk about how to implement this in a structured way, but we are trying to figure out what is an acceptable way of providing psychoeducation that doesn’t reinvent the wheel.

Examples of specific PE programs used by CBOs to address issues such as stress management, alcohol and other drug use, and trauma are described in Appendix A. CBOs typically chose to provide clients with PE in a range of settings (e.g., individual or group), using multiple formats (e.g., verbal, written), and with varying frequency (e.g., one-time, biweekly). For example, many CBOs provided PE in an individual setting to help clients understand screening results along with information about the mental health conditions, how to recognize and manage symptoms, and resources available to support symptom management and improvement (including referral and treatment options). In these cases, verbal PE was often accompanied by written materials clients could take with them and share with family, friends, or support networks. CBOs also offered PE in group settings to help maximize efficiency of delivery. Some CBOs with long-term client involvement (e.g., residential programs, adult education programs) chose to offer these PE groups weekly or biweekly over the course of months. Other CBOs with more limited time with clients offered one-time group sessions. Some CBOs integrated PE courses into their regular programming as a way to provide all clients with some basic information about mental health and mental health disorders. Others offered sessions as an option that clients could choose whether to attend.

### Mental Health First Aid

The C2C implementation guidance for MHFA acknowledged that its delivery involves multiple behaviors (e.g., identifying people experiencing a mental health crisis or distress, assessing risk of suicide or harm, listening nonjudgmentally, giving reassurance and information, encouraging appropriate professional help, and encouraging self-help and other support strategies) that can be applied differently in various situations. This presented challenges for identifying when MHFA might have been delivered. In recognition of this, year 2 guidance from the C2C Collaborative specified that CBOs were *not* required to track the number of program participants who received MHFA or the total number of MHFA sessions delivered to CBO clients.

Given the emphasis of MHFA training on enhancing mental health knowledge (e.g., awareness of effective treatments, recognition of signs and symptoms of mental health problems, strategies for helping individuals with acute mental health problems), CBOs indicated that they viewed MHFA skills as “general” or foundational skills that CBO staff members could infuse into a wide range of client interactions for existing CBO services, as opposed to being delivered in stand-alone episodes. CBOs often explicitly considered how MHFA skills interacted with other C2C program components and how they might be used to help facilitate implementation of other C2C skills and program strategies (e.g., screening or client referrals). For example, CBOs

often chose to incorporate the MHFA “ALGEE” action plan (*Assess* for risk of suicide/harm; *Listen* nonjudgmentally; *Give* reassurance and information; *Encourage* appropriate professional help; *Encourage* self-help and other support strategies) into protocols for crisis management and referrals to more intensive mental health services. In addition, CBOs often used MHFA to supplement screenings to help determine client needs and level of risk, in lieu of or despite screening results.

### Motivational Interviewing

MI is a specific set of counseling skills that allow CBO staff members to be supportive in conversations with clients, resolve ambivalence about unhealthy behaviors, and help support positive behavior change. The C2C Collaborative guidance explicitly acknowledged that MI skills may be applied in a wide range of client interactions and encouraged CBOs to integrate MI practices into their daily work. As with MHFA, starting in year 2, CBOs were no longer required to report on the total number of participants who received MI, or the total number of MI sessions delivered because MI was being delivered as part of regular client interactions and not as a stand-alone.

Nearly all CBOs (93 percent;  $n = 14$ ) reported integrating MI into existing CBO services rather than implementing MI in stand-alone sessions. CBOs had many choices for determining when MI could be useful for staff and clients and how to best deliver these skills with quality in the CBO setting. For most CBOs, these decisions were complicated by the fact that most MHPs had limited expertise in MI implementation, training, and supervision. As a result, many CBOs and MHPs used the C2C Collaborative’s MI Institute to help support decisions regarding the integration of MI skills within CBO settings. MI was often explicitly described in operational plans as a tool for helping to build client motivation to engage in C2C programming (e.g., screening) and accept referrals. Because CBOs became more familiar with MI during early implementation, CBOs described using MI to help change behavior, overcome challenges, encourage engagement in programming, build rapport, problem solve, and gain a better understanding of clients. MI was also helpful in discussing screening results with clients to help them navigate ambivalence about the findings and the handoff to the MHP. Moreover, many CBOs emphasized the nonjudgmental, collaborative approach to client interaction and support and respect for client autonomy—frequently discussed by leaders as the spirit of MI—as being infused into all client interactions.

### *Primary Research Question 1, Part 5: How Did CBOs and MHPs Plan to Establish a Process for Mental Health Referrals?*

Connecting clients who wanted or needed a referral to more intensive mental health treatment (e.g., outpatient mental health treatment at an MHP or another clinical provider) was a critical component of the C2C model. All CBO-MHP partnerships were tasked with establishing

processes to identify clients who may benefit from more intensive services, as well as when and how to offer referrals to mental health treatment. Specific requirements included

- offering referrals to clinical care for C2C clients whose screening results suggested a need for more intensive mental health treatment, as well as all C2C clients who requested one, regardless of their screening outcome (this latter point was clarified in the C2C year 2 implementation guidance)
- offering C2C clients a choice of clinical care providers, and identifying additional clinical care providers to meet needs an MHP could not address
- achieving a performance target, namely that at least 70 percent of clients who received a referral to mental health services would complete the referral (i.e., attend at least one session).

All CBO-MHP partnerships developed referral protocols, which specified the kind of referral to make depending on symptom level and the process for making referrals. Referral practices and associated barriers and facilitators to making referrals, as well as changes over the course of Active Implementation, are described in more detail in Chapters 5 and 6.

**Referrals for symptoms above the threshold.** As noted earlier, all clients with severe symptoms were required to be offered a referral. CBOs worked with their MHPs to make decisions about how to refer individuals in crisis (e.g., clients who exhibit crisis behavior or express thoughts or intentions of self-harm or suicide). Depending on MHP capacity and proximity, as well as the severity of the situation, CBOs developed processes to make immediate referrals to an MHP provider in a crisis situation or used crisis lines and/or referrals to immediate inpatient care in cases of emergency.

**Referrals for subthreshold symptoms.** CBOs took a much more individualized approach to deciding what actions to take if clients reported subthreshold symptoms on screening tools (e.g., mild or moderate depressive symptoms) or in instances when clients declined to complete screening. Decisions about what to offer these clients were based on a range of factors, including MHP capacity to accept referrals, CBO staff comfort level providing ongoing monitoring for clients, and types of follow-up services CBO staff could offer.

**Staff making referrals.** Some CBOs chose to centralize the referral process, designating one or two staff to be trained in making and tracking referrals. Other CBOs trained all staff who administered screenings in referral protocols. Typically, staff making referrals were responsible for explaining what to expect from MHP services (i.e., both process and potential benefits), discussing individual preferences with the client, and determining whether the MHP was a good fit for the client. In cases where the MHP could not provide appropriate services for the client, or the client preferred not to access services from the MHP, CBO staff offered alternative options and connected clients to those services.

**Warm handoffs.** CBOs received technical assistance in setting up processes for offering a referral to clinical care, including how to develop and implement a warm handoff approach in which CBO staff, MHP staff, and CBO clients all actively participated in the process of initiating clinical care. For most CBOs, this warm handoff process changed over time because they became

more familiar with how to describe the referral process to clients (including what to expect from MHP services) and what challenges clients faced in completing referrals. For CBOs with on-site MHPs or CBO staff members with specialty mental health training, a warm handoff often involved initiating a face-to-face connection between the client and the provider. Some CBOs without an on-site MHP also took this approach, even accompanying clients to the MHP clinic. Warm handoffs were also made via phone call by CBO staff on behalf of the CBO client, often with the client present and participating in the referral and scheduling conversation. Warm handoffs and referrals are discussed in more detail in Chapters 5 and 6.

**MHP point of contact.** Some MHPs designated a single point of contact to receive C2C referrals. These MHP staff were familiar with C2C and any specific protocols in place for C2C referrals (e.g., flexible scheduling, follow-up communication with CBOs, etc.). Other CBOs made arrangements with their MHP to have clients complete initial MHP intake paperwork on-site at the CBO before attending their first appointment off-site, thus imparting to clients a level of familiarity with MHP staff and protocols before visiting the MHP clinic. One MHP reported strategies they had developed with their CBO partner to streamline the referral process and to reduce barriers for clients to complete the referral,

We have one psychologist here at [MHP] who does all of the [CBO] referrals. Their referrals can cut the lines so to speak. They can jump to the front of the line. They get seen very quickly. [CBO] is in communication so that there's no middle person involved other than the one who has to collect insurance information and demographic information. We design paperwork that facilitates that, and it gets either scanned and emailed or faxed. But the fact that we have someone who's dedicated to the [CBO] referrals, I think, makes the biggest difference.

**Monitoring referral outcomes.** Some CBO protocols included very specific guidance on first appointment timing (e.g., within 48 hours of referral offer), whereas others found the need to offer more flexibility, indicating the first appointment should occur as soon as possible, given MHP capacity. Once the initial connection to clinical care was made, CBOs and MHPs co-monitored client referral outcomes. Referral protocols specified the follow-up steps both CBO and MHP staff would take to support successful client engagement in treatment. Many referral protocols specified that the MHP would reach out to the client if they missed an appointment and/or, with consent, the MHP would notify the CBO of the missed appointment so CBO staff could reach out to the client. CBOs and MHPs had to navigate individual privacy laws (HIPAA) and preferences when establishing follow-up steps, especially regarding information sharing between CBO and MHP.

### *Primary Research Question 1, Part 6: How Did CBOs and MHPs Plan for Continuous Quality Improvement of C2C?*

All CBOs were required to collect data about service delivery and solicit feedback from clients and staff about C2C implementation. CBOs were encouraged to use these data to

continuously monitor program performance, understand the impact services had on clients, and make changes to improve service delivery with the ultimate goal of improving individual client outcomes.

### Data Management Systems

CBOs received specific guidance on what types of quantitative data (e.g., on service outputs, client referrals) should be collected as part of the C2C initiative. One of the initial decisions CBOs had to make was how to best collect required quantitative data so that information could easily be compiled and reviewed. CBOs had to consider several trade-offs around data system cost, efficiency, and functionality. Many CBOs had existing data management systems to track programmatic outcomes (e.g., Salesforce, ClientTrack) and chose to add C2C-specific data elements to these existing systems. However, many existing data systems did not come with off-the-shelf data collection modules that fit C2C needs. Although some CBOs had staffing capacity to make their own changes and build new data tracking modules, other CBOs had to rely on outside developers for this task. Even with internal expertise to customize data systems, many CBOs found that limited software capacity led to tracking and storing at least some information (e.g., staff and client feedback) outside their main data management system. Another important consideration when selecting or modifying a data system was protecting sensitive client information. To do this, many CBOs decided to limit permissions to view or edit certain data (e.g., screening results, referrals to MHPs) to a small number of staff members who interacted regularly with clients or oversaw specific programs.

### Data Collection Processes

CBOs had to make decisions about how and when data would be collected and entered into their system. Although asking staff to directly input data into the system during or immediately after a client interaction might allow for the most accurate capture of information, this was not realistic in the workflow of many CBOs. Instead, some CBOs created paper forms that staff could use to check off or quickly summarize client interactions which would later be transferred into the system either by the person who completed the form or by a designated data entry person. A few CBOs were able to collect screening data on tablets that fed directly into the data management system. Most CBOs implemented a hybrid approach, in which some data were centrally entered (e.g., the CBO or MHP lead entered information about staff training, coaching, and supervision) while CBO staff tracked C2C skill delivery.

Another important aspect of data collection was staff training on the data collection processes. Many staff were accustomed to entering information through case notes (where important information on service delivery and/or referral could get buried), whereas others had no experience entering information into a data management system. As a result, CBOs needed to train staff on the new data entry fields and processes. To ensure data quality, many CBOs found the need to institute regular data audits in which C2C leads or data management staff reviewed

data entry and followed up with staff who were not entering data appropriately. To ensure more complete data entry, some CBOs made specific data fields mandatory, such that staff could not advance in the system until the fields were completed. Because staff across CBOs expressed concern and frustration at the additional time that C2C data tracking required, many CBOs began regularly sharing performance metrics with staff to increase buy-in, demonstrate the effect of data collection efforts, and engage in QI efforts. Some CBOs dedicated a portion of staff meetings to reviewing C2C reports to celebrate successes in C2C skill delivery and to ask staff for feedback. This type of information sharing served the dual purpose of creating staff buy-in for the data collection process and generating practical solutions to identified challenges.

### Monitoring Program Performance

CBOs were required to use data to monitor progress toward targets such as number of staff members trained, number of clients receiving C2C skills, and number of referrals to MHPs. Only one target related to client referrals was standardized across all CBOs: 70 percent of clients attending a first appointment (“kept referral rate”) following referral to MHPs. Other targets were intended for sites to customize, such that CBOs and MHPs decided on and proposed numerical targets for approval by the C2C Collaborative. Target numbers varied widely depending on site-specific factors such as CBO size, client service structure and workflow, and target population. For example, the target number of new C2C clients that CBOs planned to serve in implementation year 1 ranged from 37 to 1,382. Over time, many of the annual site-specific targets were revised to reflect changes in implementation plans and CBO experiences. Beyond quantitative data on these targets, CBOs leveraged a wide array of formal (e.g., client ratings of PE programming, staff ratings of C2C trainings) and informal feedback (e.g., input from CBO staff at meetings) to identify areas of focus and guide efforts to improve implementation of C2C components.

In-house expertise with modifying data systems was particularly useful for creating highly customized reports to allow CBOs to maximize the utility of data they had collected. CBOs had to make important decisions about how to present data in a format that supported decisionmaking. Initially, CBOs focused on creating data reports that would allow them to meet reporting requirements and gain a basic understanding of what C2C implementation looked like. As implementation progressed, however, most CBOs found the need to customize reports to include sufficient detail on where service gaps might be occurring (e.g., whether service delivery varied widely by CBO program or individual staff member). This underscores the importance of CBO data management and analysis capacity to support the implementation of C2C.

CBOs had different approaches to using the data to drive decisions about ongoing implementation. In the early stages of implementation, most CBOs used the data to monitor the extent to which C2C was being carried out as planned (e.g., the number of clients being reached by C2C, which services were being delivered and with what frequency, and whether training was occurring as planned). Typically, the CBO lead reviewed these data at least quarterly. Many CBOs



also shared some of their aggregated data in meetings with the MHP. In particular, CBOs found that sharing data on client screenings, referrals, and referral completions, as well as staff training and supervision, helped the partnership as a whole to understand if it was reaching targets and to jumpstart discussions on any improvements that might be needed. Moreover, efforts to collect and review qualitative data from staff and clients were helpful in contextualizing and making sense of quantitative programmatic data. This emphasizes the importance of supplementing quantitative data collection efforts with qualitative feedback to help guide data interpretation and support decisionmaking.

Because CBOs collected more data and gained confidence in interpreting it, they began to expand how they used it and with whom they shared it. Some CBOs used screening data to make decisions about the kinds of PE workshops to offer. For example, one CBO found that many clients reported both past trauma and problematic alcohol use, so they implemented PE to address these two issues. Other CBOs gathered more than just C2C-required data to understand a problem and develop effective solutions. For example, one CBO with low rates of referral completion invited clients to participate in focus groups, interviews, or short surveys to better understand the challenges they faced to attending appointments.

#### Continuous Quality Improvement Technical Assistance

Overall, CBOs varied widely with respect to existing resources to conduct rigorous CQI in the early stages of the implementation process. Because most found it challenging to determine the best process for structured CQI, all CBOs were given the opportunity to participate in a technical assistance program to support specific CQI projects during year 3. The C2C Collaborative sponsored two rounds of CQI workshops, which were led by an expert in the *Getting To Outcomes* (GTO<sup>®</sup>)<sup>2</sup> model for supporting quality implementation and improvement for prevention programming. For the first round, four CBOs that were more advanced in their CQI knowledge/practices and data collection capacity were invited to participate. For the second round, all remaining CBOs were invited to participate. Eight CBOs elected to participate in this program, which consisted of structured workshops designed to support them in the development and implementation of a Plan-Do-Study-Act (PDSA)<sup>3</sup> approach to data-driven decisionmaking and CQI. The technical assistance support provided a set of structured activities to advance CBO capacity to identify areas of need, test changes to improve outcomes, develop process and outcome indicators to track impact, and make data-driven decisions. Participating CBOs varied widely with respect to existing CQI activities and areas of focus. As part of participation in this technical assistance program, each CBO formed a CQI team made up of CBO, and in some cases

---

<sup>2</sup> RAND Health Care, *Getting to Outcomes® Improving Community-Based Prevention: A Toolkit to Help Communities Implement and Evaluate Their Prevention Programs*, undated.

<sup>3</sup> Agency for Healthcare Research and Quality, *Health Literacy Universal Precautions Toolkit, 2nd Edition: Plan-Do-Study-Act (PDSA) Directions and Examples*, undated.



MHP, staff and leadership. The team reviewed C2C and programmatic data to understand whether they were meeting their service delivery objectives and whether their services were having the desired effect on clients. Based on this data review, each of the CQI teams selected one area for improvement, developed and tested a change to service delivery, and collected process and outcome data to understand the effect of the change. All CBOs successfully completed their site-specific CQI projects.

## Discussion

Our assessment of how CBOs handled the first two phases of C2C implementation focused on the factors that influenced how CBOs developed and refined their plans. From CBO and MHP leaders, we learned that screening and PE (e.g., when, how, and to which clients screening/PE required is delivered) required extensive time and effort early on to optimally match screening tools with PE curricula, meet population needs, and integrate these skills into existing CBO workflows. Technical assistance and detailed program guidance surrounding these C2C skills—provided in year 2 of implementation—helped to ease the burden associated with implementation of screening and PE. CBOs that consider implementing these components of the C2C model should devote considerable upfront time to assess site-specific client needs, available resources, and organizational processes/workflows prior to implementing screening and PE. With respect to funders, efforts to provide expert guidance to help CBOs and MHPs match screening and PE materials to client needs and technical assistance to help CBOs consider how to best integrate these skills into existing workflows earlier in the implementation process may help to mitigate these problems and expedite implementation of C2C. In contrast, MI and MHFA, which have more standardized training content, were seen as being more readily “infused” into existing workflows. However, particularly in the case of MI, limited capacity of MHPs to train and supervise staff members was a challenge in the early stages of the implementation process. This underscores the importance of ensuring appropriate resources to support MI training and supervision capacity prior to implementing the C2C model.

We also learned about the importance of addressing the interrelatedness and interdependence of the different C2C components. Consistent with the multicomponent design of the C2C model, decisions regarding one component (e.g., screening) required consideration of how a given approach (e.g., group screenings) might affect implementation of other components (e.g., referral processes). Some decisions related to one requirement, such as selection of an MHP, are likely to have a cascading effect on decisions made for multiple other components. Implementation of any new EBP within service settings requires careful consideration of a variety of inner and outer contextual factors spanning multiple levels to ensure adequate planning and facilitate successful implementation (e.g., individual, organizational, community, system) (Aarons, Hurlburt, and Horwitz, 2011; Institute of Medicine, 2007). Similarly, decisions regarding data collection and data systems can significantly affect capacity to monitor outcomes and engage in targeted QI activities (Bakken, 2001; Institute of Medicine, 2007). More complex interventions involving

multiple components, such as C2C, may necessarily require careful attention to how different intervention components operate and interact with each other as well as with different contextual factors. Because decisions regarding C2C components are interrelated, CBOs should create detailed operational plans for implementing and monitoring all program components prior to enacting the C2C model. In addition, investments in early-stage technical assistance to assist CBOs in developing and refining operational plans (e.g., providing clear guidance on how selected strategies can or should be adapted to the CBO setting; drafting clear protocols and site-specific practices for implementing each C2C skill) may be helpful in ensuring that organizations are well prepared to successfully implement all program components on launch and that plans align with known best practices. Future efforts to provide such guidance to CBOs throughout the Adoption/Decision and Preparation phases could help to mitigate challenges with adapting program components to diverse CBO settings and may be useful in avoiding delays in Active Implementation of the C2C model.

CBOs viewed technical assistance and clear implementation guidance as instrumental to helping to develop and refine plans for adapting the C2C model to unique CBO settings. Lack of clarity in program guidance and additional needs for technical assistance in some domains (e.g., continuous coaching and supervision, selection of PE curricula) observed during year 1 of the implementation process were corrected in year 2. The technical assistance and support offered through the C2C Collaborative, combined with the emphasis on site-specific adaptations inherent to the C2C model, address critical implementation barriers identified in past research on the implementation of EBPs in CBOs. In their systemic review of evidence on barriers and facilitators to EBP implementation in “third sector” organizations (which include CBOs), Bach-Mortensen, Lange, and Montgomery (2018) described challenges surrounding adaptation of EBPs to specific settings or populations as a significant theme. The authors specifically recommended clear guidelines and technical assistance surrounding how to adapt interventions and upfront investments to ensure appropriate program infrastructure and capability to implement EBPs on the part of organizations. Findings from this evaluation support these recommendations and suggest that future efforts to extend or replicate the C2C model in other CBO settings would benefit from robust support structures to aid in site-specific program adaptation and investment in early-stage planning during the Exploration and Adoption Decision/Preparation phases to help ensure that CBOs have the capability to implement all components of the C2C model. In addition, the development of detailed CQI plans and careful assessment of data system requirements prior to Active Implementation may help CBOs and MHPs to organize and clarify decisionmaking processes and provide a strong foundation for QI during the Active Implementation and Sustainment phases of implementing the C2C model.

As with the implementation of any new program or EBP (see Aarons, Hurlburt, and Horwitz, 2011), implementing the C2C model may reveal critical insights that could alter decisionmaking regarding how to best implement C2C components in a given CBO. Moreover, inner and outer contextual factors and other circumstances that influence decisionmaking may change over time, requiring CBOs to alter initial plans. Use of routine stakeholder feedback (e.g., client, staff,

community), program data, and structured continuous QI practices throughout the implementation process can improve program flexibility and lead to more efficient and appropriate decisions regarding how to refine plans and adapt C2C components to best meet the needs of CBOs, clients, and other stakeholders as programs evolve.

## Limitations

It is important to consider this evaluation's limitations when interpreting these findings. As described in the methods and noted throughout this report, data come from a mix of sources, including CBOs' operational plans and key informant interviews that were conducted at a time when CBOs were in the early stages of the implementation process when implementation plans were still evolving. Data were also synthesized to address key themes surrounding how organizations approached plans for implementing the C2C model, and CBOs implementation plans changed over time (see Chapters 5 and 6). As such, the findings described here may not capture the full breadth of planning and decisionmaking that CBOs undertook during the C2C initiative. Other CBOs seeking to adopt the C2C model may encounter additional challenges or confront unique considerations when planning to enact and adapt the C2C model components within their organization.

## Summary

In this chapter, we reviewed the six required components of the C2C model and presented an array of critical factors that CBOs and MHPs considered when initially deciding how to implement C2C within CBO settings during the first two phases of C2C implementation (Exploration and Adoption Decision/Preparation). To implement the required components, CBOs and MHPs considered the needs of their client populations and existing organizational processes and workflow as well as C2C Collaborative's detailed implementation guidance, training, and technical assistance. Clear implementation requirements for individual components of the C2C model, strong CBO-MHP linkages, and adaptive responses from CBOs and MHPs were critical to successful early implementation of C2C requirements across diverse CBO settings. Need for additional implementation guidance and technical assistance in implementation year 1 (e.g., with respect to requirements for PE curricula and continuous coaching and supervision), as well as limited capacity for MHPs to train and supervise CBO staff members in MI, contributed to early challenges in adapting the C2C model to CBO settings. However, updates to program guidance and enhanced technical assistance in implementation year 2 helped CBOs navigate challenges and iteratively refine aspects of the C2C model and set the stage for successful implementation of different C2C program components in the later phases. Nearly all (14 of 15) CBOs implemented the required components of C2C within their organizations and remained active participants through the duration of C2C implementation. In subsequent chapters, we describe how CBOs and MHPs implemented the C2C model in practice and how program components evolved over the course of the Active Implementation and Sustainment phases of the implementation process.

## References

- Aarons, G. A., M. Hurlburt, and S. M. Horwitz, “Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors,” *Administration and Policy in Mental Health*, Vol. 38, No. 1, 2011, pp. 4–23.
- Agency for Healthcare Research and Quality, *Health Literacy Universal Precautions Toolkit, 2nd Edition: Plan-Do-Study-Act (PDSA) Directions and Examples*, undated. As of September 9, 2020:  
<https://www.ahrq.gov/health-literacy/quality-resources/tools/literacy-toolkit/healthlittoolkit2-tool2b.html>
- Ayer, L., M. S. Dunbar, M. Martineau, C. Stevens, D. Schultz, W. Y. Chan, M. Abbott, R. Weir, H. H. Liu, D. Siconolfi, and V. L. Towe, *Evaluation of the Connections to Care (C2C) Initiative: Interim Report*, Santa Monica, Calif.: RAND Corporation, RR-2497-MFANYC, 2018. As of February 4, 2020:  
[https://www.rand.org/pubs/research\\_reports/RR2497.html](https://www.rand.org/pubs/research_reports/RR2497.html)
- Bach-Mortensen, A. M., Lange, B. C., and P. Montgomery, “Barriers and Facilitators to Implementing Evidence-Based Interventions Among Third Sector Organisations: A Systematic Review,” *Implementation Science*, Vol. 13, No. 1, 2018, p. 103.
- Bakken, S., “An Informatics Infrastructure Is Essential for Evidence-Based Practice,” *Journal of the American Medical Informatics Association*, Vol. 8, No. 3, 2001, pp. 199–201.
- Institute of Medicine, *The State of Quality Improvement and Implementation Research: Expert Views*, Washington, D.C.: The National Academies Press, 2007.
- RAND Health Care, *Getting to Outcomes® Improving Community-Based Prevention: A Toolkit to Help Communities Implement and Evaluate Their Prevention Programs*, undated. As of September 9, 2020:  
<https://www.rand.org/health-care/projects/getting-to-outcomes.html>

## 5. Evolution of C2C Implementation

---

*Michael Stephan Dunbar, Dana Schultz, Vivian L. Towe, Wing Yi Chan, and Michele Abbott*

### Key Findings

- By implementation year 4, 14 of 15 CBOs had implemented the required components of C2C within their organizations and remained active participants in the C2C initiative.
- From March 2016 through December 2019, CBOs and MHPs trained more than 1,700 CBO staff members and provided C2C services to more than 41,000 unique clients.
- Slightly more than 60 percent of all staff members at participating CBOs had been trained in at least one C2C skill by implementation year 4, with MHFA as the most commonly reported training.
- Training and service delivery metrics showed steep increases early on, followed by stabilization into year 2 and beyond, which suggests that ramp-up of training and initial rollout of C2C skills in CBO settings took slightly more than a year to achieve. Coaching and supervision for CBO staff members increased considerably from year 2 to 3, following clarifying guidance in year 2 for coaching/supervision requirements.
- CBOs successfully incorporated C2C skills into CBO workflows and refined implementation strategies in response to site-specific factors (e.g., client flow through established CBO programs), staff feedback, and community needs.
- CBOs and MHPs worked diligently to improve referral processes and these efforts led to very high rates of kept first appointments for clients referred to MHPs: rates surpassed 70 percent by year 3 and exceeded 80 percent in year 4 of implementation.
- By year 4, organizational leaders reported a commitment to sustaining some elements of C2C into the future.

## Introduction

As described in Chapter 4, the process of adopting and implementing C2C in CBO contexts can be described in terms of four broad phases: Exploration, Adoption Decision/Preparation, Active Implementation, and Sustainment (Aarons, Hurlburt, and Horwitz, 2011). Chapter 4 focused on the first two phases for C2C, during which CBOs were expected to work collaboratively with their selected MHPs to develop and enact plans for integrating C2C services and other required components of the C2C model (e.g., establishing referral mechanisms) within each CBO setting. This chapter focuses on changes in implementation of C2C during the Active Implementation phase, spanning 4 years of program implementation, and progression into the Sustainment phase (year 4 of C2C).

During Active Implementation, organizations put implementation plans into practice and iteratively refined program components to move toward stable, sustainable processes. Consistent with the emphasis in C2C Collaborative guidelines on site-specific adaptations of the C2C model to meet the unique needs of each CBO/community setting, CBOs varied considerably in the ways that they implemented the C2C model. These variations manifested in timelines for initiating specific requirements (e.g., training for specific core mental health skills, such as PE or MI; continuous coaching and supervision of CBO staff) and specific modifications to components of their site-specific C2C programs during the Active Implementation phase. Variations in timelines for initiating specific parts of the C2C model may also reflect program management challenges, capacity constraints within CBO-MHP partnerships (e.g., capacity to train and supervise MI), and gaps in guidance and technical assistance in the early stages of implementation (see Chapter 4).

In this chapter, we present aggregate findings and common themes across CBOs and, where appropriate, describe differences in relation to key CBO characteristics (organization size and type), rather than comparing and contrasting individual CBOs. Specifically, it focuses on the ways that C2C training, coaching, and supervision evolved over time; how CBO-MHP partnerships addressed referral barriers; how partnerships modified practices to address sustainability issues; and how C2C was delivered in practice.

### *Research Questions*

For the primary research questions related to how C2C program strategies were implemented and key facilitators of and barriers to effective implementation of C2C program strategies within and across CBO and MHP partnerships, we used both quantitative and qualitative data sources to explore

1. how CBOs and MHPs provided training, coaching, and supervision to support staff in implementing C2C
2. how C2C services were provided to clients.

For the primary research question related to the extent to which CBOs identified clients with mental health or substance use issues as a result of C2C implementation, and the key facilitators

of and barriers to effective implementation of C2C program strategies within and across CBO and MHP partnerships, we used using both quantitative and qualitative data sources to explore

1. how CBOs and MHPs altered processes for client mental health referrals and improved referral completion rates
2. how CBOs and MHPs adapted to accommodate and sustain the C2C program.

## Methods

This section summarizes the data sources and analysis approach for our examination of how C2C implementation changed over time during the Active Implementation and Sustainment phases of the Aarons model of the implementation process. See Appendix B for complete details.

### *Data Sources*

Data on the Active Implementation and Sustainment stages of C2C were drawn from the following data sources. Site visits and calls were also conducted; these are described in Appendix B.

### Key Informant Interviews

As detailed in Chapter 4 of this report, RAND conducted key informant interviews with CBO leaders (e.g., CBO executive directors and C2C program directors), MHP leaders (e.g., clinical directors and counselors), CBO frontline staff (e.g., staff trained in and providing C2C skills to CBO clients), and CBO clients (e.g., people who received C2C skills). These interviews took place during the summers of 2017 to 2019 with the purpose of collecting qualitative data on program implementation (see Table 4.2 for information on the number of people interviewed, by informant type, in each year). This chapter focuses on information collected during 2018 and 2019, which assessed key informant experiences during the Active Implementation and Sustainment phases of implementation. Interviews in 2018 occurred in person, whereas interviews in 2019 were conducted over the phone.

### CBO Quarterly Reports

All CBOs provided to the Mayor's Fund aggregate quarterly data on the clients they served and C2C services they delivered. Data used for this final report came from years 1 through 4 of program implementation (March 2016–July 2019) and included information on key program services and outcomes, program performance against targets, and other aspects of program and contract management.

### Annual Staff Survey

RAND conducted the three waves of annual staff surveys in the summers (May–September) of 2017 to 2019 to gain a broader view on program implementation from the perspective of CBO program staff who were trained in C2C skills and provided services to clients. CBO staff who



had ever received training in any of the four core mental health skills and who were still actively working at the CBO with a valid email address were eligible to participate. A total of 140 CBO staff members responded to the 2017 survey (34 percent of response rate). Results from the first wave of the survey (2017) were reported in the interim evaluation report (Ayer et al., 2018). A total of 252 staff members completed surveys in wave 2 (52 percent of response rate), and a total of 320 staff members completed surveys in wave 3 (50 percent of response rate).

Staff surveys covered topics such as staff experiences with C2C training and service delivery, confidence in one's ability to administer C2C skills, knowledge about mental health issues, organizational climate, perceptions of the C2C program within the CBO (e.g., organizational support for the C2C mission, communication), and staff use of specific resources and strategies during client interactions. Valid, reliable existing measures were used when available to assess key constructs of interest. When existing measures were not available, RAND worked with the C2C Collaborative to develop novel assessment items. Appendix B presents a comprehensive description of survey content.

### C2C Model Summaries

As described in Chapter 4, the RAND research team developed narrative summaries and tables describing the specific components of each CBO's C2C model. CBO leaders reviewed and edited the summaries for accuracy, as needed. Appendix A presents the final version of these summaries.

### *Analysis and Synthesis of Findings*

For the analyses presented in this chapter, we categorized CBOs into the following broad categories, based on the main types of services provided by the CBO: job training and employment ( $n = 5$ ); youth development ( $n = 3$ ); parent/caregiver-serving (i.e., organizations that serve parents and caregivers of young children) ( $n = 3$ );<sup>1</sup> and other ( $n = 4$ ) (Table 5.1).

For the quantitative data, we conducted univariate analyses (e.g., means, percentages, counts) using SAS version 9.4 and Excel to describe implementation measures, including frequency and type of C2C training and coaching, delivery of C2C skills to clients, and staff behaviors toward clients with mental health issues. We also assessed variability (e.g., range, standard deviations) in the metrics across CBOs and performed subanalyses by CBO type.

For qualitative data, we used a mixed-method software environment (Dedoose) to conduct thematic analysis and identify recurring patterns, or themes, in the interview data. A team of four coders, all of whom participated in interview data collection, engaged in iterative rounds of data analysis to inform the development of a hierarchical code tree consisting of key themes. These coders held frequent coding reconciliation meetings to establish a robust shared sense of how the code tree represented the data and to ensure that coding was consistent.

---

<sup>1</sup> One parent/caregiver-serving was not able to implement the program and the funder terminated their participation in C2C at the end of implementation year 3.

**Table 5.1. CBOs by Type**

<b>CBO Type</b>	<b>CBOs</b>
Job training and employment	The HOPE Program Bedford-Stuyvesant Restoration Corporation Northern Manhattan Improvement Corporation STRIVE Center for Employment Opportunities
Youth development	The Door Red Hook Initiative Hetrick-Martin Institute
Parent/caregiver-serving	Hudson Guild Sheltering Arms Committee for Hispanic Children and Families
Other	Safe Horizon CAMBA Voces Latinas Arab American Association of New York

The research team then reviewed and organized quantitative and qualitative data into categories based on key evaluation questions. We then reviewed and integrated findings from CBO model summaries and other data sources to help contextualize site-specific considerations and variability across CBOs.

Because of the variability with which CBOs implemented and altered site-specific C2C program components, we present aggregate findings over time and summarize common themes across CBOs rather than comparing and contrasting individual CBOs. For key implementation metrics for training, coaching/supervision, and C2C service provision, we present descriptive statistics (e.g., range, standard deviation). Where relevant, we describe differences across CBOs in relation to program size and main CBO service type to help illustrate how and where the process for implementing C2C varied or did not.

## Results

In this section, we summarize the refinements made throughout the Active Implementation and Sustainment phases and describe how CBOs varied with respect to the type, timing, extent of—and reasons for—modifications to components of their C2C programs. We focus on how training, coaching, and supervision supported implementation, how C2C services were delivered, how referral processes evolved, and how sustainability was addressed.

Consistent with the conceptual model outlined in Aarons, Hurlburt, and Horwitz (2011) and described in Chapter 4, CBOs’ experiences with implementing C2C led them to change and refine many of their procedures over time. Many CBOs modified approaches to training CBO staff members (e.g., by incorporating role-plays and concrete examples of staff/client interactions)

in C2C to ensure that trainings aligned with staff and client experiences. In addition, CBOs and MHPs iteratively refined referral processes (e.g., by modifying MHP scheduling practices to expand available hours, by conducting portions of the intake process on site at the MHP to reduce burden for referred clients) to address common barriers to accessing clinical care. Some of these changes were intended to improve client outcomes, whereas others were made to improve procedural logistics and efficiencies and to make C2C easier to navigate overall. The most significant areas of focus for almost all CBOs were making referrals to the MHP, increasing the rate of client visits with the MHP, and ongoing engagement in mental health care.

Overall, 14 of 15 CBOs implemented all of the required components of the C2C program outlined in Chapter 4. After continued program issues in its first 3 years, the performance of one provider did not meet the program performance criteria for continuation funding beyond year 3. They never reached implementation of all required components, and the funder ended their participation in C2C after year 3. Where appropriate, we include data from this CBO in aggregate results for implementation years 1–3; we also note instances in which data from this CBO was excluded and how overall patterns of findings may or may not be affected by inclusion of these data. The 14 CBOs that continued to participate in C2C delivered, at minimum, all four core C2C mental health skills to CBO clients over the course of all phases of implementation. CBOs varied considerably with respect to timelines for initiating specific activities, how they implemented specific components, and the types of challenges that CBOs experienced when bringing operational plans into action within the CBO setting.

### *Question 1. How Did CBOs and MHPs Provide Training, Coaching, and Supervision to Support Staff in Implementing C2C?*

During early implementation, CBOs and MHPs selected and designed training materials, and they worked together to implement C2C training for CBO staff members, coaching and supervision activities, and monitor how staff members delivered C2C skills to clients. This section describes how these activities progressed during the later phases of implementation.

#### Training

Given their relative expertise in delivering mental health services to clients, MHPs typically assumed a lead role in overseeing development of training protocols and materials and led C2C trainings in the early stages of program rollout. Some MHPs shared that C2C training required more time and effort than anticipated, which meant that they did not have enough time or resources to provide optimal support to CBO staff.

In looking at who provided the C2C trainings during the first 3 years of implementation, the ratio of MHP- to CBO-provided training hours varied over time.

- Year 1: CBOs reported an average of 42.2 hours of training from MHP providers (median: 30; range: 0–168) and 26.6 hours of C2C training provided by CBO staff (median: 12; range: 0–79), for a ratio of 1.6.

- Year 2: CBOs and MHPs spent roughly equivalent numbers of hours on training CBO staff with an average of 24.9 hours from MHP providers (median: 15; range: 0–168) and 21.1 hours from CBO staff (median: 6.5; range: 0–109), for a ratio of 1.2.
- Year 3: CBOs received an average of 39.2 hours of training from MHP providers (median: 24; range: 0–154) and 27.1 hours from CBO staff (median: 17; range: 0–93), for a ratio of 1.5.

Overall amounts of training may have dropped off somewhat in year 2 due to a focus on building up coaching and supervision processes following clarifications in implementation guidance for continuous coaching and supervision and updated operational plans (see Chapter 4). In year 4, when operational plans had been finalized and CBOs were well into the Active Implementation phase of C2C, most CBO leaders reported that both CBO and MHP staff members contributed to training delivery for each of the four C2C skills (Table 5.2).

**Table 5.2. Distribution of Training Provided During Year 4 (2019)**

	<b>CBO Provided Training</b>	<b>MHP Provided Training</b>	<b>Both CBO and MHP Provided Training</b>	<b>Training Provided by Non-MHP External Partner</b>
Screening	3	4	7	0
MHFA	3	6	4	5
MI	3	4	6	9 <sup>a</sup>
PE	3	7	4	4

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019.

NOTE: Categories are not mutually exclusive; as such, not all results sum to the total number of CBOs ( $n = 14$ ).

For CBOs that undertook some or all training responsibilities, early decisions to implement training “in house” were driven by a number of factors, including limited MHP trainer availability and development of CBO trainer expertise. For example, one CBO leader in the early stages of the implementation process (summer 2017) reported,

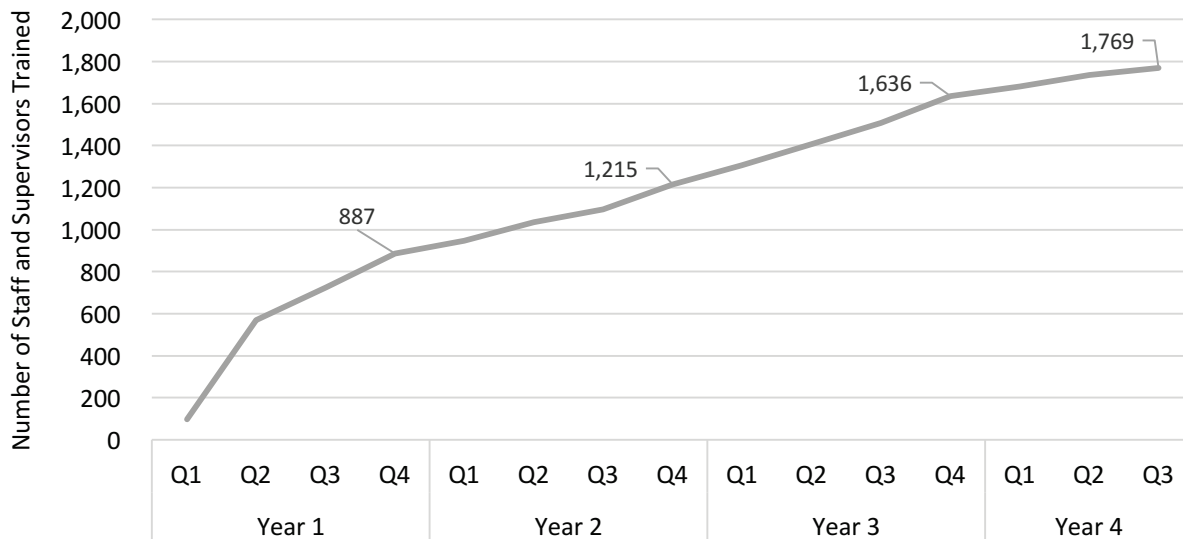
I mean the [MHP], they really developed our psychoeducation [training] . . . but because they were limited to being here only once a week, I had to make sure I was also trained in all this material. So that’s why the bulk of training fell on us since [MHP] was only here once a week.

In later stages of implementation, CBOs reported that building up in-house training capacity allowed for more effective resource utilization and greater independence with regard to when and where trainings occurred, which supported flexibility and contributed to sustainability of C2C trainings. This change was particularly notable in the case of MI training. As one MHP leader reported,

When we started the MI Institute at [CBO], we didn’t have to travel anywhere, we could kind of use our own internal resources to train ourselves. We have had staff turnover, so folks who were in the MI Institute left, then we filled the spots with who haven’t had any MI training . . . Using our MI trainers and MI supervisors to retrain new staff to kind of [enhanced] the sustainability.

**Staff training, overall and by C2C skill.** As of December 2019, a total of 1,769 CBO staff members and supervisors had received training in C2C skills. The number of staff members trained increased most rapidly during the first year of implementation, after which the number of trainees showed relatively stable, linear increases across time (Figure 5.1). Over the course of implementation, an average of 117.7 staff members were trained per CBO (median: 88; range: 31–371).

**Figure 5.1. CBO Staff and Supervisors Trained in C2C Skills**



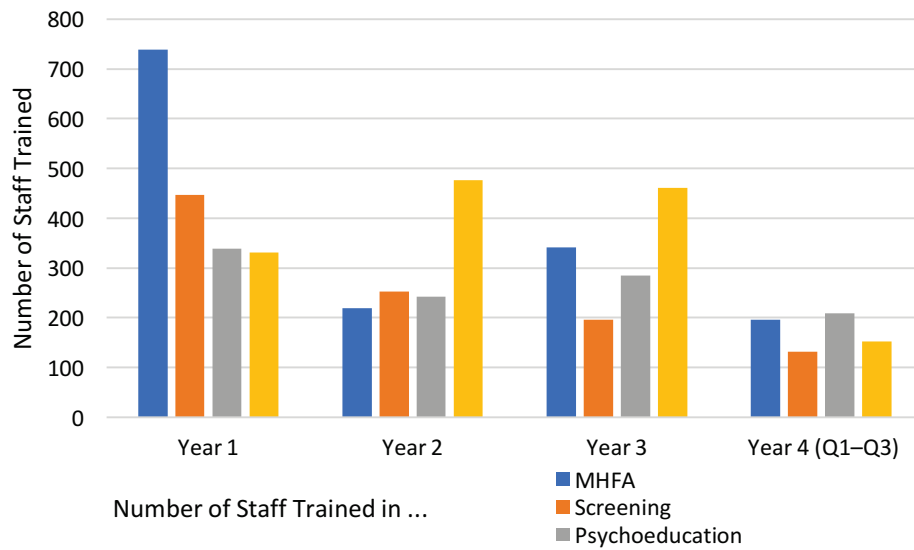
SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

As noted earlier, the first year of implementation coincided with the availability of C2C Collaborative-sponsored MHFA trainings, which allowed for a large number of CBO staff members to be trained in a short period of time with minimal effect on CBO or MHP resources. Further, MHFA was seen by many CBOs and MHPs as foundational for introducing CBO staff members to basic mental health concepts; this was viewed as particularly important for those staff members who may have had little formal education or training in mental health. As a result, of the four C2C skills, MHFA was the most common skill in which CBO staff members were trained in year 1 (Figure 5.2). Following year 1, there was a shift toward emphasizing training in other C2C skills—in particular, MI.

As implementation progressed, most trained staff reported having been trained in more than one C2C skill (Figure 5.3). Overall, the proportion of staff trained in all four core C2C skills rose from 31 percent in year 2 to nearly half (48 percent) in year 4.

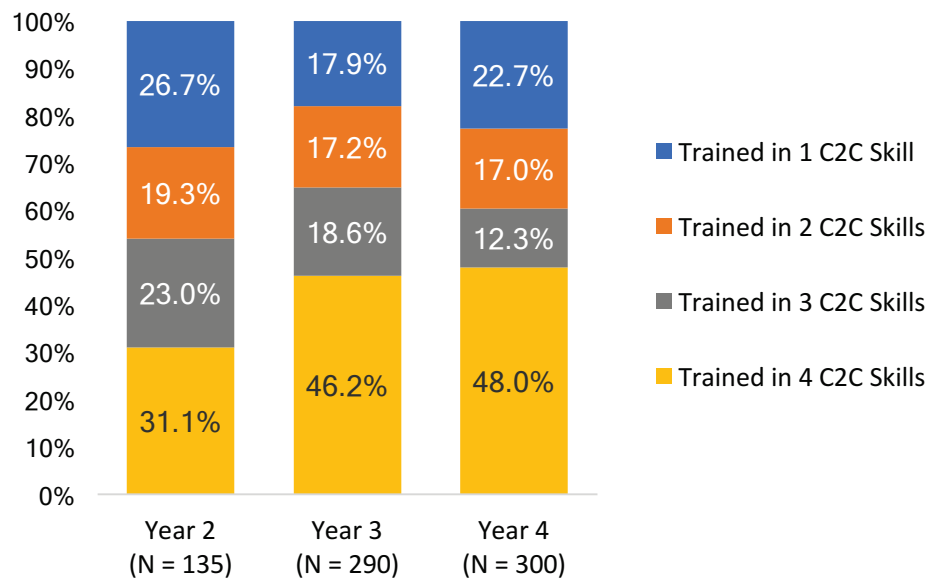
Further, the penetration of C2C training within the CBO—or percentage of all staff members within a CBO who had received training in a C2C skill—was considerable (Figure 5.4). In early implementation, CBOs typically focused on training a smaller set of core staff, but over time they

**Figure 5.2. CBO Staff Trained by C2C Skills**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.  
 NOTE: Individual staff may have been trained in more than one modality per quarter.

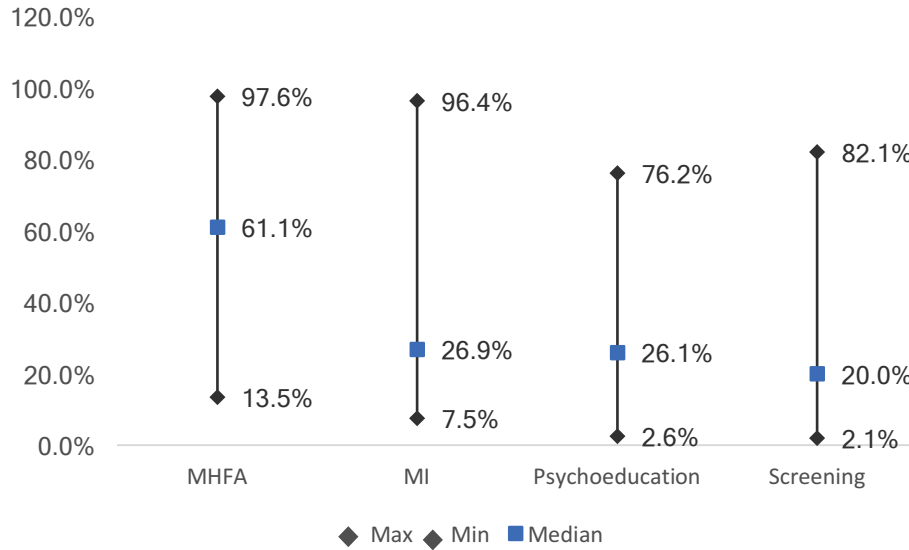
**Figure 5.3. C2C Skills Trainings Received by CBO Staff**



SOURCE: Data from CBO staff survey, summer 2017 to 2019.

broadened training availability to include a larger number of staff. By year 4, the time at which CBOs had by and large attained “steady-state” implementation, on average nearly 60 percent of staff members within CBOs had received training in at least one C2C skill, with MHFA being the most common skill. However, there was considerable variability in penetration of C2C trainings across CBOs and with respect to specific C2C skills.

**Figure 5.4. CBO Staff Trained in Each C2C Skill (Year 4)**



SOURCE: Data from quarterly CBO reports provided to RAND staff, 2019 (year 4).

**Training approach.** CBOs continued to vary training approaches by the specific C2C skill throughout implementation. For example, nearly all CBOs ( $n = 14$ ) trained a subset of staff members in screening and PE but provided MHFA to a broader range of staff members. This approach is consistent with the manner in which most CBOs integrated the different C2C skills into existing programming. CBOs that incorporated screening into intake procedures typically opted to train only individuals who conducted those activities in the course of their typical CBO responsibilities (e.g., intake specialists). Similarly, because PE was often integrated into existing CBO programming or delivered in conjunction with screening, most CBOs opted to train only a subset of staff members in PE. For example, PE groups targeting specific skills or behaviors were often delivered as part of CBO programming that included adult education classes, career development classes, support groups for young people, and support groups for parents. However, at least one organization chose to train a larger segment of staff members (all direct service staff) in PE to ensure that staff members who had direct client interactions could deliver this C2C skill (see Appendix A). In contrast, MHFA skills were viewed as more foundational, generalized skills that could be implemented in a wide range of client interactions. In the context of C2C, MI was typically described as being “infused” into all elements of CBO client work. As such, many CBOs ( $n = 6$  for MI;  $n = 13$  for MHFA) opted to train a broader set of staff members in these C2C skills beginning in years 2 and 3. For example, as described by one CBO leader,

I’ve noticed from year 2, it’s heavily focused on implementation [as opposed to program development in year 1], and motivational interviewing as well has had a big impact on that. We have a huge MI initiative at [CBO], which just kind of gets everyone across the board, and we opened it up to the [whole] organization. . . .



So, it kind of really expanded our C2C services in year 2 going into year 3, which was huge for us.

In addition to training CBO staff members, one CBO also reported training some clients in C2C skills, specifically MHFA and MI, to better equip them in peer support roles within the CBO. Most clients who participated in C2C skills trainings were highly engaged and acted in peer support roles. C2C trainings were seen as a means of augmenting these clients' capacity to serve in these peer support roles within the CBO. As described by one CBO staff member,

We have not only trained all of our program staff in youth MHFA but we adapted the youth mental health first aid curriculum and trained youth members, who are our peer leaders' They're part of an internship [program], and they're seen as the leadership amongst the youth membership community. I actually trained a cohort of young people in mental health first aid, and that was really, really cool.

Such efforts went above and beyond the requirements of the C2C initiative and represented changes from the ways in which many CBOs had originally envisioned providing skills trainings.

#### *Additional Skill Training*

Although not explicitly required to do so, many CBOs incorporated additional content or skill trainings into their C2C programs that went beyond the four core C2C skills. Specifically, several CBOs incorporated content related to trauma-informed care, which aligned with a shift over the course of C2C implementation toward increased screenings for traumatic experiences and PTSD. Other CBOs incorporated additional trainings in and integrated its principles into PE content. Such additions were seen as beneficial for both staff trainees and clients. In response to CBO staff members' concerns and discomfort with the prospect of discussing suicide prevention with clients, at least one CBO reported incorporating crisis management and suicide prevent screenings into their existing C2C skills trainings (typically PE and screening). As described by one CBO leader during summer 2017,

We are going to introduce a suicide training. We have to. Based on the conversations that staff have expressed discomfort. A large part of the discomfort with the screening has been around the question of [suicide ideation].

Some CBOs, based on their experiences conducting C2C trainings and feedback obtained from staff members and clients, identified specific content gaps and adapted training plans and protocols accordingly to meet the needs of their CBOs and their clients.

#### *Staff Buy-In and Tailoring C2C Trainings*

As detailed in the interim evaluation report, trainings for specific skills varied considerably with respect to protocols, content, and degree of standardization across CBOs (Ayer et al., 2018). For example, MHFA trainings follow a standard curriculum that focuses on imparting mental health knowledge and specific steps for managing mental health crisis situations. In contrast, training and materials for administering screenings were heavily tailored to CBO staff needs and existing workflow. Because of this variability, CBOs and MHPs collaborated closely and iterated

extensively on training processes to ensure trainings for the core screening skill were appropriate for the CBO setting.

Because CBOs gained experience with C2C, they devoted resources to ensuring that trainings aligned with the needs of CBO staff members and addressed how to apply the skills directly to client interactions. To this end, many CBOs and MHPs reported taking steps to ensure that trainings were interactive (vs. purely didactic) and addressed real-world CBO situations. Strategies such as role-plays and breakout discussions continued to be incorporated into trainings to concretely demonstrate the application of specific skills to real-life scenarios that trainees had encountered. As one MHP leader reported,

[We ask trainees] to pick an example, work through for themselves with a modality [C2C skill] they might use and then employ it [in role plays] when we went to those break out groups and then at the end we had them [CBO staff] complete just a brief evaluation survey, on the other side of that worksheet that mostly it was like, what was this training like for you? Did it feel helpful enrolled into your work? What modality feels the most relevant to what you do on a consistent basis? How much did you learn today given what you already learned previously and how can we support you? How can we support you moving forward and how can we adapt these changes to suit your needs?

Incorporating examples from CBO staff members also helped them feel more connected to trainings and related the training content to their day-to-day experiences with clients. As described by one CBO leader,

Well, we encourage staff to bring real life scenarios . . . The staff members feel more empowered, more invested, and their takeaways for them are more meaningful.

Trainers also took time to connect with CBO staff trainees and to explicitly link training materials to on-the-job challenges. As reported by one MHP trainer,

In the beginning, I was really focusing on MI skills and are you really understanding the MI concepts. And I began to see the glazed, dazed over look. And I was like, “oh, okay. I have to really, really take it slow just like we’re asking them to with clients.” And so now it’s really organic in the sense of sometimes it’s really focused on self-care. How has your week been going? What have you been dealing with? And then I try my best to identify, help them see how what’s up for them is connected to the themes that we’ve been talking about, secondary post-traumatic stress, ambiguous loss and grief, and the trainings that we’ve had.

CBO and MHP trainers also regularly solicited feedback from CBO staff trainees surrounding efficacy and relevancy of training. As reported by one CBO leader, refining the approach to delivering C2C trainings was an iterative process that involved both formal and informal feedback from trainees:

I’m really always trying to evolve and try new things based on the feedback that I get from [trainees]. Whether it’s verbal or I do the [feedback] surveys at the end, [we’re] trying to incorporate that.

Other CBO leaders described efforts to continuously improve C2C skills trainings by soliciting written feedback and conducting focus groups with trainees to ensure that trainings met their needs. For example, when discussing efforts to refine trainings, one CBO leader reported,

We knew we wanted to do an exit survey and we started to roll it out and then we have modified it. We wrote questions and we realized, “oh this question actually isn’t giving us the answer that we’re looking for.” We modified that. We wanted to do staff focus groups, to really understand.

One CBO leader reflected on how efforts to incorporate staff experiences into C2C trainings helped underscore how of C2C applied to staff members’ day-to-day work:

I think [training is] pretty well received. . . . One thing we always want to do is try to relate the context to something experiential and touch on something that’s happened that week or concern the staff has been talking about to make it more easily applied. So it’s in everyone’s best interest to be there.

Over time, efforts to ensure that C2C skills trainings were appropriately tailored to the CBO helped align with staff and client needs in diverse CBO environments.

#### *Staff Discomfort with Addressing Serious Mental Health Issues*

As described in the C2C interim evaluation report (Ayer et al., 2018), many CBOs experienced challenges with trainings in the early stages of implementation, such as concerns regarding additional workload. Some of these concerns lessened over time because CBO staff members recognized improvements in their client interactions after the trainings. As reported by one CBO leader,

What is the main reason staff are resistant? Really it’s because they feel it’s additional work. Where we are now, people understand it’s a training opportunity and a personal development opportunity to engage better with clients and to solicit more information from clients to help them better. Everybody understands that now.

However, some challenges persisted throughout implementation. For example, many CBOs identified ongoing staff members discomfort with addressing mental health concerns with clients, particularly with issues of suicide and serious mental illness. As reported by one CBO staff member,

I’m still not comfortable going through the suicide prevention and the depression and anxiety check list. And the reason why I’m not comfortable it’s not because of those terminology but because I’m afraid I’ll make a mistake. I’m afraid I’ll trigger the client even more. So, I would prefer to do away with that checklist and having the social worker handle that and not me. I just feel like I don’t have the degree in social work or mental health, I’m not licensed, and I just don’t feel comfortable doing that. The mental health first aid and motivational interviewing, I’m comfortable. But the suicide prevention I’m not and I would prefer when we refer the client and we talk to the client about services and if they’re willing and if they sign a consent form and all that stuff, and just refer them to the social worker.

Although such challenges were routinely endorsed with respect to *initial* trainings for CBO staff members, providing follow-up trainings and ongoing support for C2C staff trainees paid dividends in improving staff members' comfort and confidence in delivering C2C skills over time.

#### *Staff Turnover and Other Organizational Issues*

Some CBO leaders specifically reported challenges related to frequent staff turnover, which led to interruptions in training and a need to hold additional trainings for newly hired staff. As described by one CBO leader,

Once we have people trained, we have a hard time keeping it going because we have high turnover. So, we are working on how to keep the quality going with the staff turnover.

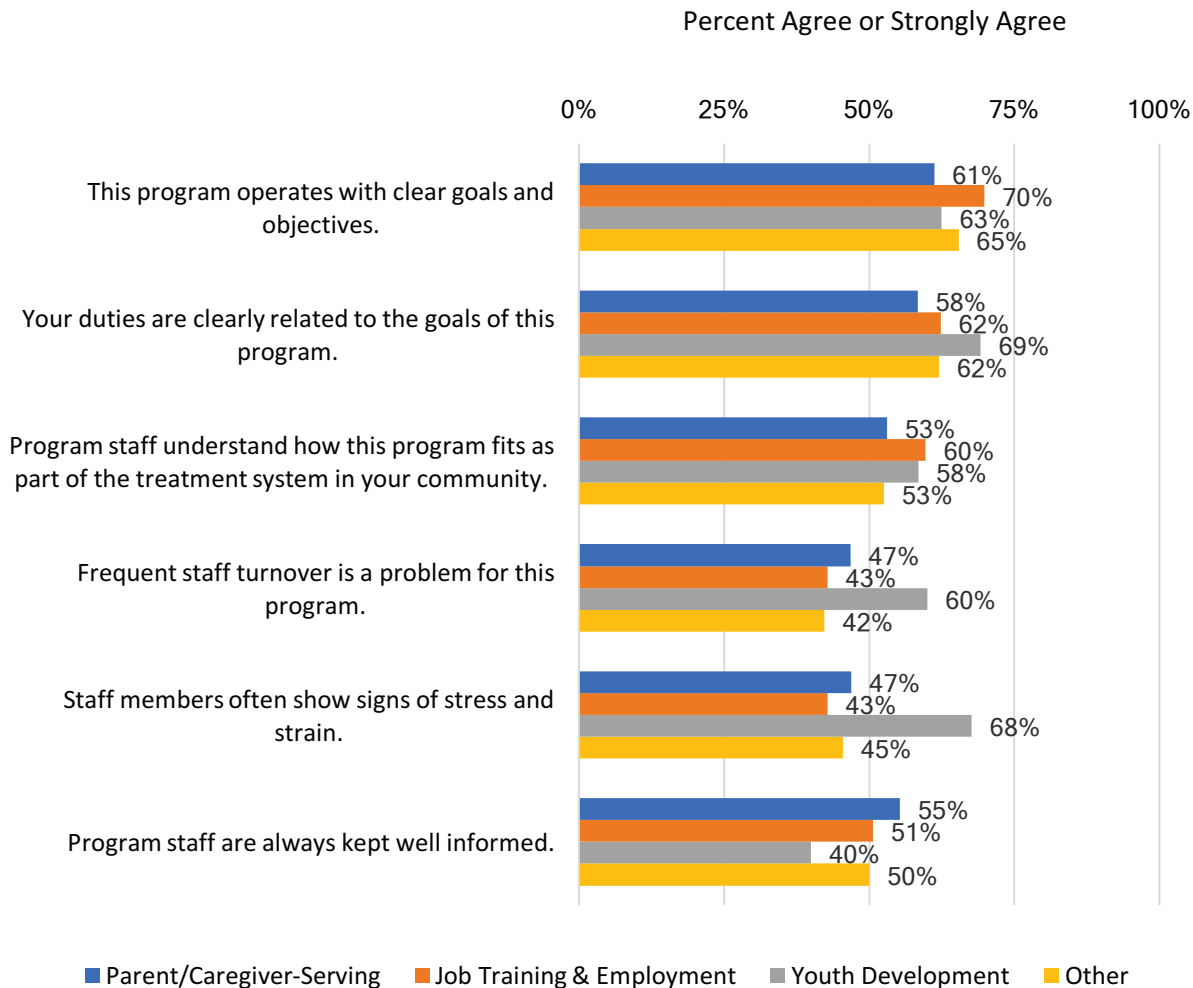
Similar concerns were echoed by other CBO leaders, who viewed extant challenges with turnover and the ongoing need to train new hires in C2C as a persistent “big lift” throughout the Active Implementation stage. For example, one CBO leader said,

We also have at any given time, which is not unheard of at all in the social service world, a 30 to 40 percent turnover rate . . . . So you are not just training people, it wasn't just the first year and we got everybody through the training, we are now in year 3 and we are still training new staff that are coming on board so I think that there is this big lift in the beginning to get everybody trained, but there is always going to be that turnover.

Starting in implementation year 3, all CBOs began reporting on departures of C2C staff members. Although totals varied by quarter, the percentage of C2C staff member departures relative to all C2C staff members was fairly low, averaging approximately 6 percent (range: 1–13 percent). Despite this, more than 40 percent of CBO staff perceived staff turnover to be a problem in years 2 through 4 of implementation. Generally, CBO leadership did not attribute turnover challenges directly to C2C; rather, turnover was seen as a preexisting and perennial challenge in some CBOs. However, efforts to shift training capacity “in house” were seen as helpful in ensuring continuity and sustainability of C2C to allow CBOs to deal with such challenges over the course of implementation.

Along with turnover, CBO staff reported organizational readiness challenges such as communication issues and staff burnout. CBO staff perceptions of C2C implementation varied by CBO type. Overall, staff from youth development organizations reported experiencing more challenges and stressors than staff from parent/caregiver-serving and job training and employment organizations. For example, among staff at youth development CBOs, 60 percent agreed that frequent staff turnover was a problem and 68 percent agreed that staff members often show signs of stress and strain (Figure 5.5). These percentages for staff at youth development CBOs are much higher than the combined average rates of other CBO types. Although CBO staff reported some staff-related challenges, most reported that the goals of C2C were clearly communicated and they understood how C2C fits within their work. More than 60 percent of all staff survey respondents agreed that C2C operated with clear goals and objectives.

**Figure 5.5. Perceptions of C2C Program Functioning by CBO Type**



SOURCE: Data from CBO staff survey, summer 2017 to 2019.

### Coaching and Supervision

CBOs and MHPs continued to devote considerable resources to ensuring that, once trained, CBO staff members had appropriate support to use new C2C skills effectively with clients. During implementation, some CBO staff members expressed a desire for more extensive follow-up coaching and supervision to aid them in delivering high-quality mental health support to clients, including additional booster sessions to help reinforce knowledge and skills:

I think if there was more contact and more practice, I would feel better about it but, I think even once again, it's hard because we are so busy all of the time and of course it would be beneficial to have more trainings, more booster sessions, more refreshers.

I thought the trainings themselves were good. But as I complain with all training, if they are a one-day training or two-hour trainings, a few weeks later it

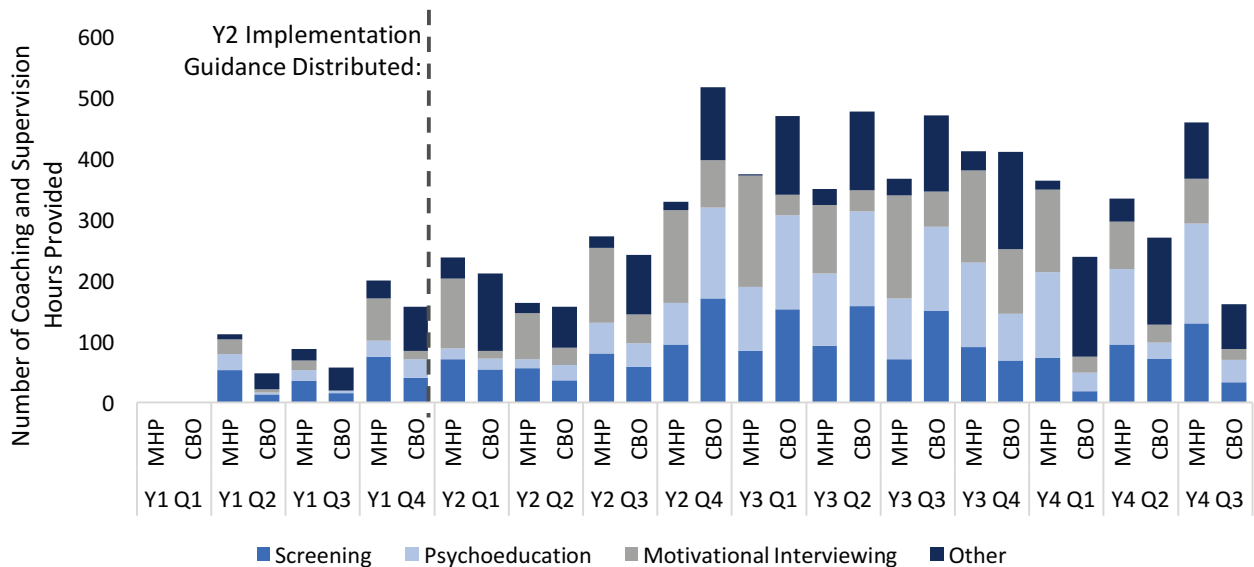
may not be firmly planted in my head because there's not an easy way to follow up and practice these things.

The material is good to go back to review. But I really feel that booster courses would keep us on our toes.

I think I need a follow-up training on the screenings, but that's just myself. I think there are a lot of people who aren't comfortable with it.

In response to such feedback, as well as the updated guidance from the C2C Collaborative surrounding coaching and supervision, many CBOs and MHPs dramatically expanded their delivery of follow-up supports to staff. In year 2, both the quantity (i.e., number of hours) and frequency of coaching and supervision increased substantially (Figure 5.6). Similar to the initial C2C skills training, MHPs provided most of the coaching and supervision in the early stages of implementation (i.e., years 1 and 2). However, as plans solidified, and CBO supervisors accrued more experience and expertise in C2C skills training, CBO staff members took on a more substantial role in coaching and supervision activities, essentially matching MHPs by the end of year 2 and into year 3. In year 4, overall CBO coaching and supervision hours decreased again relative to the hours provided by MHPs. This may be attributable to a range of factors, including streamlining of coaching and supervision practices and increased emphasis on more intensive fidelity monitoring practices in years 3 and 4, which involved more intensive input (and time) from MHP clinical supervisors.

**Figure 5.6. Coaching and Supervision Hours by Core C2C Skill**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

NOTE: "Other" includes coaching and supervision for MHFA and any other C2C topics or skills (e.g., trauma-informed care) outside screening, PE, or MI.

### *Early Challenges and Improvements*

MHPs described several early challenges to providing coaching and supervision. One challenge concerned an apparent lack of buy-in from CBO leadership. Because CBO staff were not supervised by MHPs as part of their regular CBO employment, MHPs had to rely on CBO leadership to encourage and compel CBO staff to attend coaching and supervision sessions. MHPs shared that CBO staff did not attend these sessions because they were not mandatory, were not valued by CBO management, and their importance was not clearly communicated. As one MHP explained in 2017,

They [CBO staff] don't really get clear communication from their supervisors or the leadership that they needed to be there. So, they don't really think they need to go, and they do get overwhelmed. You know, it's very demanding work. There are a number of unexpected events that happen regularly, and they find it very difficult to keep a schedule.

Some CBO staff viewed C2C as additional work, which meant that coaching and supervision sessions were simply another task added to their workload. In discussing challenges with CBO staff engagement in coaching and supervision sessions, one MHP said,

It's hard to get into mental health. They [CBO staff] have to have buy-in and interest and investment in learning more and it's a lot of added work.

Relatedly, some CBO staff missed coaching and supervision because they felt overworked or viewed the nature of their work as incompatible with structured meetings. Other CBO staff needed to respond to unexpected events during their workday, making a highly structured approach infeasible. For MHPs, concerns like these meant that they had to be flexible with their approach by having individual sessions or group sessions depending on the circumstance or using unstructured encounters to provide coaching and supervision. Some MHPs also provided incentives such as food and metro cards to encourage staff to attend coaching and supervision. When asked about their experience with coaching and supervision, one MHP reported,

I think the nature of working at [CBO] is that things happen on an unscheduled basis. So, then it's very hard to plan out even though it's an hour before your group you have no idea what is going to be going on that day . . . And it's hard for [CBO staff], it's a cultural shift almost for us to say you have a meeting and why don't you go to it?

In implementation year 2, clarifying guidance issued by the C2C Collaborative outlined specific requirements for continuous coaching and supervision of CBO staff members (see Chapter 4). This updated guidance, in conjunction with targeted technical assistance, led to an increased emphasis on mitigating challenges to meet quarterly coaching and supervision targets in years 2 to 4 of implementation. By the first quarter of year 4, CBOs reported providing quarterly coaching and supervision to 101 percent of the targeted number of staff supervisees on average (range: 54–161 percent) with most CBOs meeting or exceeding the coaching and



supervision targets. Although ten CBOs exceeded their coaching and supervision targets in the first quarter of year 4, four CBOs did not reach coaching and supervision targets in this quarter.

#### *CBO Staff Buy-In over Time*

Even with the challenges described above, CBO staff buy-in to the C2C program improved over the course of implementation. CBO staff increasingly felt empowered by their ability to help clients with mental health issues and attributed this to their C2C coaching and supervision. One CBO leader reported,

[Staff members] feel more self-actualized. From my perspective, as someone who runs a program, you want staff who feel better about what they're doing. I like to know they're feeling fulfilled. I've observed the family workers feel much more fulfilled. I think it's brought up chances to ask meaningful questions.

Another CBO leader described the importance of empowering CBO staff through coaching and supervision, because they were the ones with the most direct and trusting client relationships that would afford the opportunity to address client mental health issues:

I think that it's been about empowering staff because they really are the ones who are meeting and speaking to participants every single day . . . So, providing them with the proper tools to have conversations with participants, I think that's been a key component to engage participants into services.

CBO staff buy-in improved when staff members felt supported by their coworkers and supervisors to perform C2C-related tasks. One CBO leader reported their approach to messaging C2C training as a time for staff to build teamwork:

Staff training during lunch works well since our staff doesn't have common break times, that was a good time to get them all and it feels good and supportive. C2C has been a lot for staff, so we had to shorten some of those trainings, the idea of having lunch together supports that, it is not common here that we have opportunities to sit back and connect with our peers.

Similarly, CBO leaders reported that C2C coaching and supervision allowed for ongoing, in-depth discussions about staff members' challenges with C2C, and opportunities to further address mental health stigma. One CBO leader stated,

I think one of the things that we found helpful is just providing space for staff to be able to talk about the struggles that they're sitting with, and saying, 'this is not my job to do this.' And being able to talk about where that clinical line is . . . reassuring them of the supports that are around them, and being really clear and saying, 'we want you to have this knowledge and we want you to have these tools because even though you haven't had full clinical training there are tools that you can begin to use that are very helpful in providing mental health supports to young people.' And the more adults in our organization that have those tools, the more well-supported you feel and less stigmatized the idea of talking about mental health issues is.

As with initial C2C trainings, supervisors incorporated real-world experiences from staff members to maximize the perceived benefit and relevance of C2C skills coaching and supervision for staff members. For example, one CBO leader reported,

They weren't getting the support that they needed either in terms of in-depth support around difficult situations with clients nor being helped from a self-care perspective and helping them understand everything from helping them have a trauma frame, helping them have a culturally informed frame, helping them even understand why we're thinking about mental health beyond, "oh yeah, that's a good idea." But like really the specificities of each case. And then helping them integrate that into thinking about how does this affect me, and what am I bringing to the process: that reflective piece.

### Fidelity Monitoring

During coaching and supervision sessions, supervisors implemented a range of strategies to ensure that CBO staff members were delivering C2C skills to clients as intended and consistent with best practice. These strategies included direct observation (when possible), modeling of best-practice skills delivery, and role-plays in which CBO staff members demonstrated use of C2C skills with a supervisor based on an actual or plausible real-life scenario. Throughout implementation, the use of specific fidelity monitoring strategies varied depending on factors such as the CBO environment, the nature of programming (e.g., whether services were typically delivered in one-on-one vs. group settings), and supervisor/supervisee availability. One MHP supervisor said,

Unfortunately, I don't get an opportunity to see the staff in action just because I'm in a different building and, also, they're not always here with their clients. Through the roleplaying and through the coaching in terms of us meeting and them talking about some of the challenges that they are having, that's how I'm starting to gauge on some of the skills. Also, we just had our first coaching session for all of them so with time I'll be able to gauge in terms of how they're using some of the stuff and how they are able to integrate the process within how they do things overall, so with time I'll have a better understanding.

Moreover, some CBOs began to integrate aspects of C2C fidelity monitoring into other dimensions of existing CBO supervisory practices for non-C2C skills (i.e., for standard CBO job performance supervision). As described by one CBO leader,

[MHP] is supervising and coaching on implementation of C2C modalities but we [CBO] are also trying to integrate MI compliant supervision for all of our managers and also asking them to assume some responsibility as a minimum checking in with their staff members to just kind of reinforce and trigger a memory of using those modalities in their interactions with clients.

### *Differing Approaches and Varying Degrees of Quality*

Although recognizing the value of fidelity monitoring, partnerships took a very individualized approach depending on who was supervising CBO staff (e.g., MHP or trained CBO supervisor), the time supervisors had on-site at the CBO, and their familiarity and comfort with CBO clients

and staff. For most CBOs, fidelity monitoring processes grew and strengthened over time because their focus shifted from training staff to ensuring high-quality implementation of C2C skills.

Before beginning to monitor fidelity, C2C leaders at the CBO and MHP first had to normalize the process with CBO staff. This included helping staff understand that fidelity monitoring was intended to support skill development, assess the strengths in individual staff practice, and identify concrete strategies to improve their skills. Because this type of feedback was new for many CBO staff, C2C supervisors needed time to build trust and develop ways to deliver and help staff members process this kind of feedback.

In determining approaches to fidelity monitoring, partnerships also had to carefully consider both CBO staff and client comfort and preferences. Implementation guidance specified that fidelity monitoring would ideally involve direct observation of CBO staff interacting with clients and delivering C2C skills. However, there are many situations where having a stranger (i.e., the MHP or CBO supervisor) in a sensitive CBO staff-client conversation could negatively affect the client. To circumvent this challenge, supervisors routinely observed trained CBO staff members in a role-play with each other (i.e., with one acting as the client and the other as the service provider) and offered observational feedback. Supervisors also routinely engaged in modeling C2C skills in the context of role-plays with staff trainees to demonstrate use of C2C skills with fidelity.

Over the first 3 years of C2C implementation, CBOs encountered significant challenges with developing and implementing plans for monitoring and quantifying fidelity of C2C skill delivery. One MHP leader discussed the importance of fidelity monitoring and described concerns with the rollout and maintenance of fidelity monitoring procedures at the CBO:

I think fidelity is going to be, over time, the most challenging thing. When people, of course, get comfortable in a skill set, they make it their own. Right, which is a good thing. [But] we also do want to maintain the fidelity. So, I think, we'll just have to keep doing supervisions and overseeing people working and making sure that they are keeping to the fidelity. I think that will definitely be an ongoing effort. Especially as more staff comes on and we have to make sure that they are maintaining fidelity.

In response to these challenges, and requests from CBOs and MHPs for support in cultivating more robust and standardized fidelity monitoring practices, the C2C Collaborative shared a standard fidelity monitoring tool, developed in partnership with RAND, to collect quantitative assessments of staff that could be compiled and tracked at each CBO. Rating forms were designed to be completed based on direct observations of staff members delivering C2C skills to clients.

Although a majority of CBOs reported utilizing this or other tools as part of required supervisory practices, documentation and tracking of fidelity monitoring information (to allow supervisors or evaluators to review improvements over time) was inconsistent and data quality varied widely across CBOs. Key challenges contributing to this inconsistency included, among other factors, variability in approaches to supervision practices (e.g., use of role-play vs. in-person observation), lack of opportunity for direct observation of skills in the context of CBO

workflows (e.g., due to the unpredictable timing of staff-client interactions), staff turnover, and differences across CBOs with respect to the number and types of supervisors tasked with monitoring fidelity to particular C2C skills. Further, collecting consistent fidelity data was difficult when staff turnover was high, and CBOs had to focus on training staff instead of monitoring staff progress and use of C2C skills.

Variation in supervision practices across CBOs was another challenge to collecting uniform fidelity data. For example, one CBO had a single MHP supervisor who was charged with monitoring fidelity for all four core C2C skills for all staff members while the remaining 13 CBOs divided supervisory responsibilities for all C2C skills across two or more supervisors. In this latter group, CBOs varied with respect to which types of C2C skills (e.g., PE, MI) individual supervisors were charged with overseeing. As such, although CBOs reported increased utilization of more standardized fidelity monitoring tools over time, comparison of fidelity across CBOs was not possible.

### *Question 2: How Were C2C Services Provided to Clients?*

The protocols that CBOs used for deciding when and with whom to deliver the core C2C skills evolved over time, and these changes were highly specific to the individual CBO setting. Screening and PE were delivered as distinct activities, with some variation across CBOs. The screening tools that many CBOs chose at the beginning of the project changed over time based on staff and leadership perceptions of their clients' evolving needs. Screening procedures also changed due to observed inefficiencies in practice, client feedback, or lack of client uptake. PE was implemented differently across CBOs in terms of content, timing, and settings. Some CBOs used PE as a way to introduce the C2C program to clients, whereas others offered more formal workshops on topics such as stress management, relationship issues, and harm reduction for people using drugs or alcohol. Some CBOs changed their PE topics and delivery mechanisms over time by routinely collecting and reviewing feedback from clients, but not all CBOs did so.

As described earlier, the implementation of MHFA and MI involved infusing these skills into all client interactions rather than discrete episodes of service delivery. With MHFA, some CBO protocols specified applying MHFA to clients perceived to be in a crisis situation and emphasized the importance of training staff to recognize mental distress. Most CBOs did not report major changes to MHFA protocols over time. CBOs and MHPs had significant challenges with implementing MI trainings in the early stages of program implementation, which led to the creation of the C2C MI Institute in implementation year 2 and delayed the initiation of MI delivery to clients. Following the rollout of MI trainings, most CBOs described MI as being "infused" into virtually all client interactions rather than being delivered in discrete service episodes (see Chapter 4).

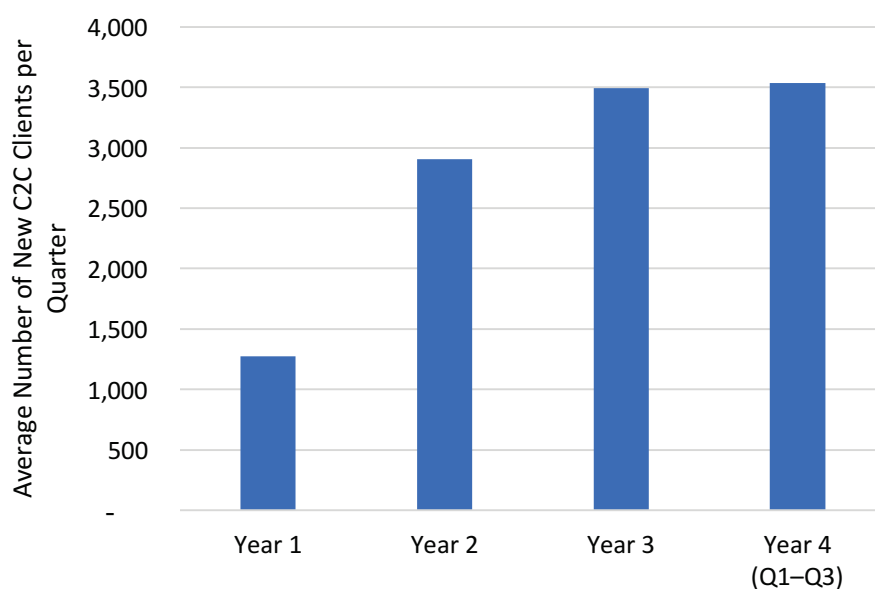
This section first focuses on overall C2C skill delivery and then on implementation of screening and PE as distinct activities. A detailed summary of each CBO's unique approach to C2C program implementation, as of year 4 of the C2C initiative, is provided in Appendix A.

## Overall C2C Skill Delivery

From March 2016 through December 2019, CBOs provided C2C services to more than 41,000 unique clients. The number of new clients receiving C2C services increased dramatically from the end of year 1 (March 2017) to the end of year 4, quarter 3 (December 2019), rising from 5,100 to 41,294 clients served through the C2C initiative. Across all CBOs, the average proportion of the eligible pool of CBO clients receiving at least one C2C skill also increased from 34 percent in year 1, quarter 4 (range: 3–100 percent) to 72 percent in year 4, quarter 3 (range: 12–100 percent). (Figure 5.10 shows the quarterly trend in this proportion across the full period of program implementation.)

The actual number of clients served in year 1 fell slightly below the target of 8,662. This is consistent with feedback from CBO and MHP leaders that organizations placed considerable emphasis on developing and refining training and service delivery protocols in year 1 prior to rolling out C2C services to clients. In year 2, when most sites had established robust training and support programs for CBO staff members who delivered C2C skills to clients, CBOs met the target number of participants served, and the number of clients who received C2C services in year 3 exceeded the target of 11,011. Across the full project period, approximately 2,751 clients were served with at least one C2C skill per CBO (median: 2,327), with the number of clients served ranging from 296 to 8,067 across CBOs. The average number of new C2C clients served per quarter also increased over time (Figure 5.7). By year 3, CBOs served about 3,500 new C2C clients each quarter.

**Figure 5.7. New C2C Program Clients Served per Quarter, by Year**

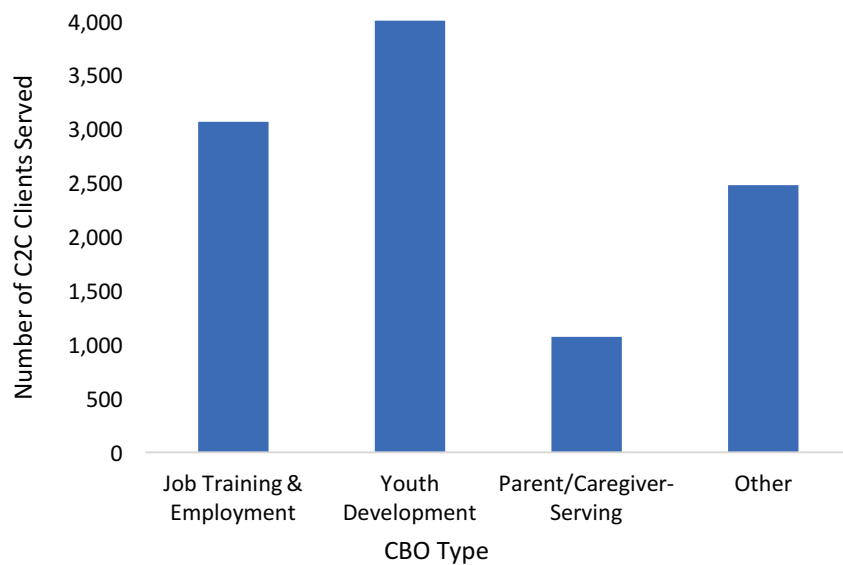


SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

The average number of C2C clients served per CBO (e.g., clients that received at least one C2C skill) during implementation varied by CBO type (Figure 5.8). On average, the five CBOs focused on job training and employment served 3,067 clients per CBO (median: 2,748; range: 1,495–5,644), whereas the three youth development CBOs served an average of 4,270 clients per CBO (range: 710–8,067), the three parent/caregiver-serving CBOs served an average of 1,071 clients per CBO (range: 296–2,327), and the four other CBOs served an average of 2,477 clients per CBO (range: 802–4,268).

The lower average number clients served by parent/caregiver-serving CBOs compared with the other CBO types may be attributable to a number of factors. First, one of the three parent/caregiver-serving CBOs was discontinued from participation in the C2C initiative by the funder at the end of year 3. As described earlier, the CBO’s inability to implement the program was due to a range of factors that affected service delivery capacity and, in turn, resulted in lower numbers of clients served at this site over implementation years 1 through 3. However, this outlier does not appear to fully explain the observed pattern of findings; after excluding data from this CBO, the pattern persists with parent/caregiver-serving CBOs, averaging 1,459 clients per CBO. Another potential factor is that parent/caregiver-serving CBOs tended to enroll families in CBO services to capacity during a brief window each year (e.g., in summer/fall) and did not enroll again until the next year. Moreover, it was common for the same families to enroll in CBO services each year, which created limited opportunities to enroll new C2C clients from year to year (note: this was reflected in CBOs’ annual programmatic targets for new C2C clients). This is in stark contrast to other types of CBOs, for which enrollment in CBO services occurred on more of a rolling basis.

**Figure 5.8. Average C2C Program Clients Served per CBO, by CBO Type**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.



This pattern may also be related to the extent to which a CBO’s C2C target population was directly engaged with CBO activities, which varied by CBO type. Parent/caregiver-serving CBOs often provided more direct services to children (e.g., preschool, day care, or afterschool programs) than to parents/caregivers; as such, the parents/caregivers of young children, who were the C2C target populations, were not necessarily directly engaged in CBO programming themselves. Although the parent/caregiver-serving CBOs offered some types of services for parents (e.g., skills trainings and educational courses; social activities), parents/caregivers varied with respect to the level of engagement and the frequency of contacts with CBO staff. In contrast, most other CBOs aimed to provide services to CBO clients who were directly engaged in CBO services, which may have increased opportunities for C2C service provision. As such, parent/caregiver-serving organizations aimed to serve fewer C2C clients per year compared with other organizations, as shown in Table 5.3. These organizations also reduced their site-specific annual targets for number of C2C clients served from year 1 to year 2 and beyond, whereas other types of organizations showed stable or increasing targets for annual number of new clients served over the course of the implementation process.

**Table 5.3. Annual New C2C Client Targets, by Year and CBO Type**

<b>CBO Type</b>	<b>Y1 (Mean [Min, Max])</b>	<b>Y2 (Mean [Min, Max])</b>	<b>Y3 (Mean [Min, Max])</b>	<b>Y4 (Mean [Min, Max])</b>
Job training and employment	809 (500–1,500)	815 (500–1,500)	833 (575–1,500)	833 (577–1,500)
Youth development	817 (200–1,250)	817 (200–1,250)	1,233 (200–2,000)	1,233 (200–2,000)
Parent/caregiver-serving	289 (250–317)	176 (150–209)	218 (150–334)	235 (120–350)
Other	325 (100–600)	350 (100–600)	613 (150–1,500)	613 (100–1,500)

SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

NOTE: Years 1 through 3 include data from 15 CBOs; year 4 includes data from 14 CBOs.

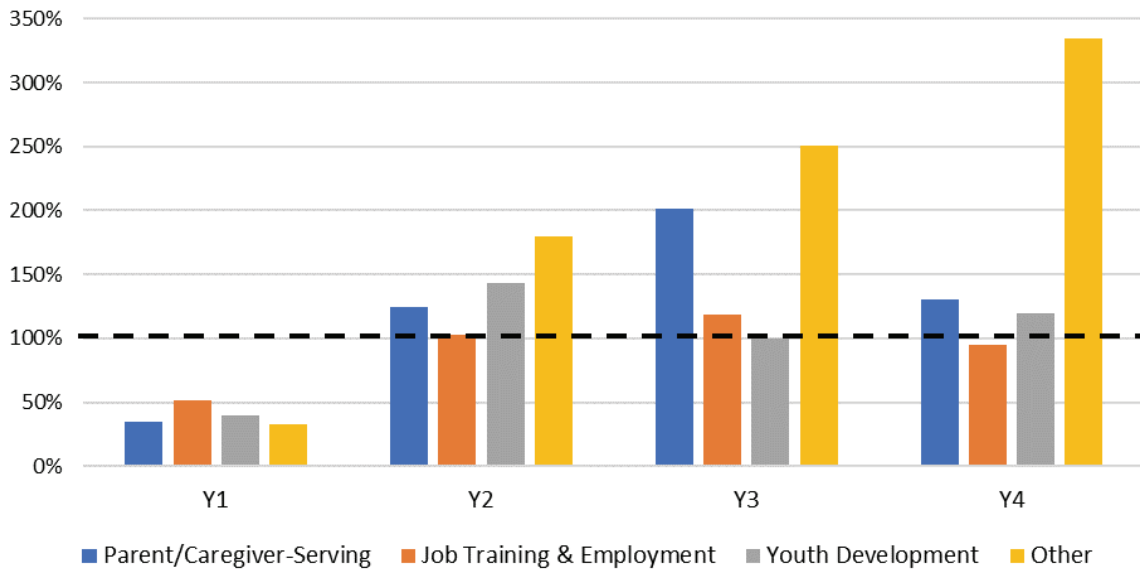
Relative to their site-specific program targets, on average, all types of CBOs fell below their anticipated targets in implementation year 1. As implementation progressed, all CBO types came close to or exceeded their targets the average number of clients served (see Figure 5.9). This suggests that, with experience and a better understanding of how CBO services would be provided to clients in practices, organizations were largely successful in achieving their programmatic goals with respect to number of clients served, regardless of CBO service type.

#### *C2C Service Delivery Stabilization*

Across all CBOs, the percentage of CBO clients eligible to receive C2C services who received C2C services each quarter stabilized in year 2 and remained fairly steady through later stages of implementation (Figure 5.10). This suggests that it takes about 1 year to establish the core components of C2C leading to routine skill delivery, which is consistent with stabilization



**Figure 5.9. Average Percent of Annual New Client Targets Met per CBO, by CBO Type**

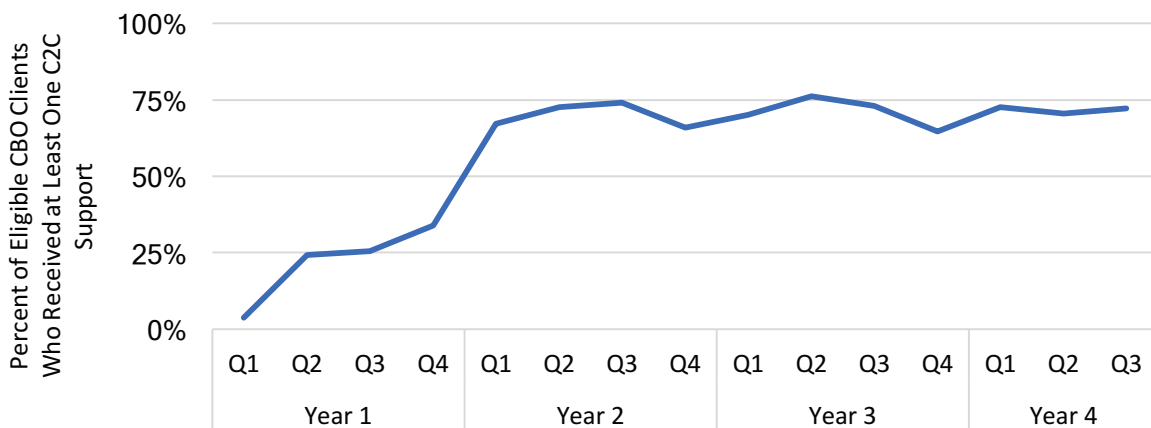


SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.  
 NOTE: Years 1 through 3 include data from 15 CBOs; year 4 includes data from 14 CBOs. Figure shows average of program-specific percentages within each CBO type.

of training and service delivery protocols and efforts to integrate C2C services into existing CBO programming and workflows early in implementation.

At the end of year 4 quarter 3, job training and employment CBOs provided at least one C2C skill to an average of 71 percent of total CBO clients (range: 12–100 percent), youth development CBOs provided C2C skills to an average of 86 percent of total CBO clients (range: 59–100 percent), parent/caregiver-serving CBOs an average of 62 percent (range: 24–100 percent), and other CBOs an average of 96 percent (range: 85–100 percent).

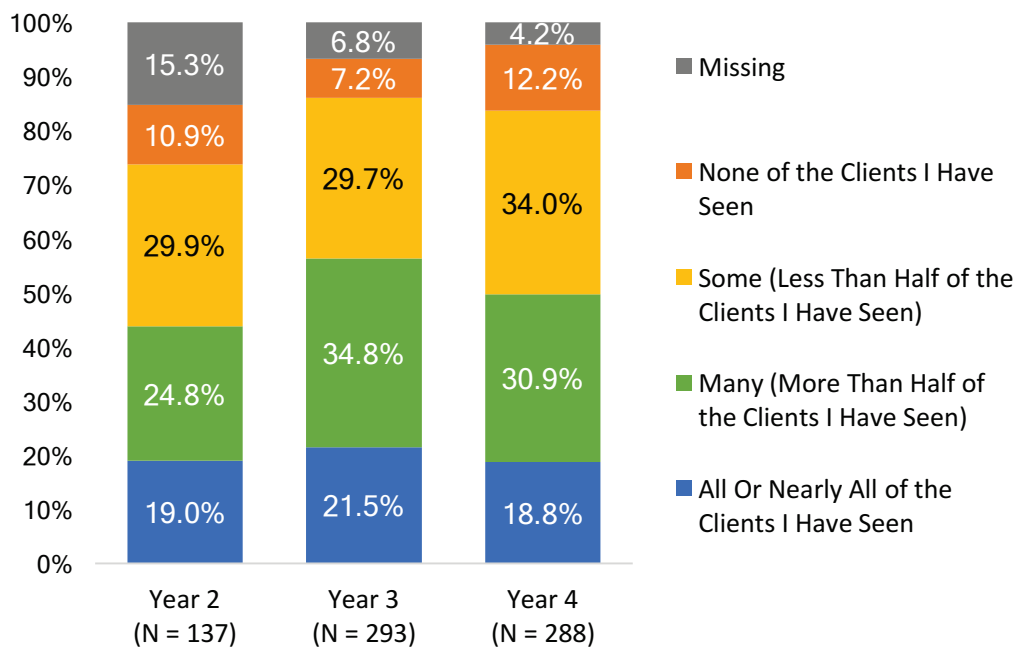
**Figure 5.10. Eligible CBO Clients Who Received at Least One C2C Skill**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

Among staff members trained in C2C, most reported using C2C with more than half of their clients across the three survey waves (Figure 5.11). In implementation year 2, slightly more than one-tenth of trainees (11 percent) reported never using C2C skills with clients with this percentage declining to about 7 percent in year 3 and rising to 12 percent in year 4.

**Figure 5.11. Use of C2C Skills by CBO Program Staff**



SOURCE: Data from CBO staff survey, summer 2017 to 2019.

*Skill Delivery by Nonspecialist CBO Staff*

Over time, most sites relied primarily on nonspecialist, or lay, CBO staff to deliver C2C skills to clients (Table 5.4). However, some CBOs (27 percent;  $n = 4$ ) indicated that screening and PE were delivered by someone other than CBO lay staff. Although these CBOs varied in the size and types of services delivered, they were similar with respect to having CBO staff members

**Table 5.4. Delivery of Specific C2C Skills by Lay Staff**

C2C Skill	Delivered by CBO Lay Staff Percentage (n)
Screening	73 (11)
MHFA	100 (15)
MI	100 (15)
PE	73 (11)

SOURCE: Data from CBO model summaries provided to RAND staff by CBO leaders, July 2019.

with specialized mental health training embedded within the CBO setting prior to implementing C2C. Thus, although all CBOs leveraged lay staff to deliver some C2C skills to clients, the extent to which specific C2C skills were task-shifted away from staff with specialized mental health trainings and onto lay staff varied.

This lack of task-shifting for screening and PE at some CBOs was attributable in part to challenges surrounding integration of C2C skills into existing CBO workflows. As described by a leader from one CBO that relied on counseling staff (LCSWs) rather than lay staff to conduct screening,

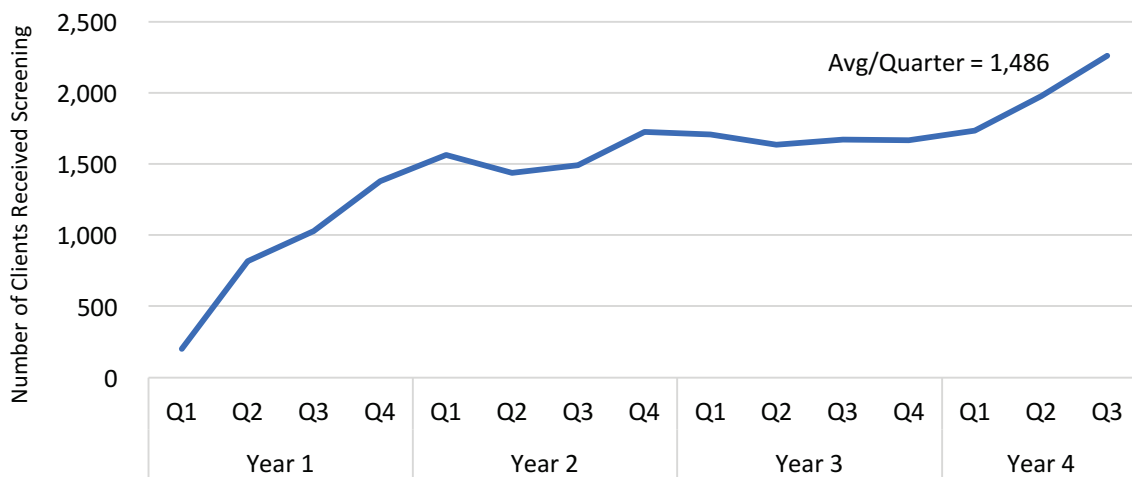
So when we initially thought that all staff members would have time to do screenings within their work, and all the task shifting would happen in reality, we realized that that wasn't something that was actually compatible with, you know to staff work burdens and things like that and we were going to have to rely much more strongly on referrals to our social workers, to our MHP rather than staff doing screenings themselves.

Although lay staff members received training in screening, the CBO relied primarily on clinical staff to deliver this particular skill to clients. This suggests that although lay staff may have been trained in certain C2C skills, not all lay staff trainees routinely utilized these skills with CBO clients.

### Screening

CBOs ramped up screenings considerably over the course of year 1 (Figure 5.12). At the end of year 1, CBOs screened an average of 228 clients per CBO (median: 96; range: 5–1,442). CBOs screened an average of 414 clients in year 2 (median: 207; range: 24–1,656), 445 in year 3 (median: 248; range: 20–1,583), and 436 in the first three quarters of year 4 (median: 26; range: 48–1,967). By the end of year 2, the average number of client screenings per quarter had largely

**Figure 5.12. Clients Screened for Mental Health Symptoms per Quarter**

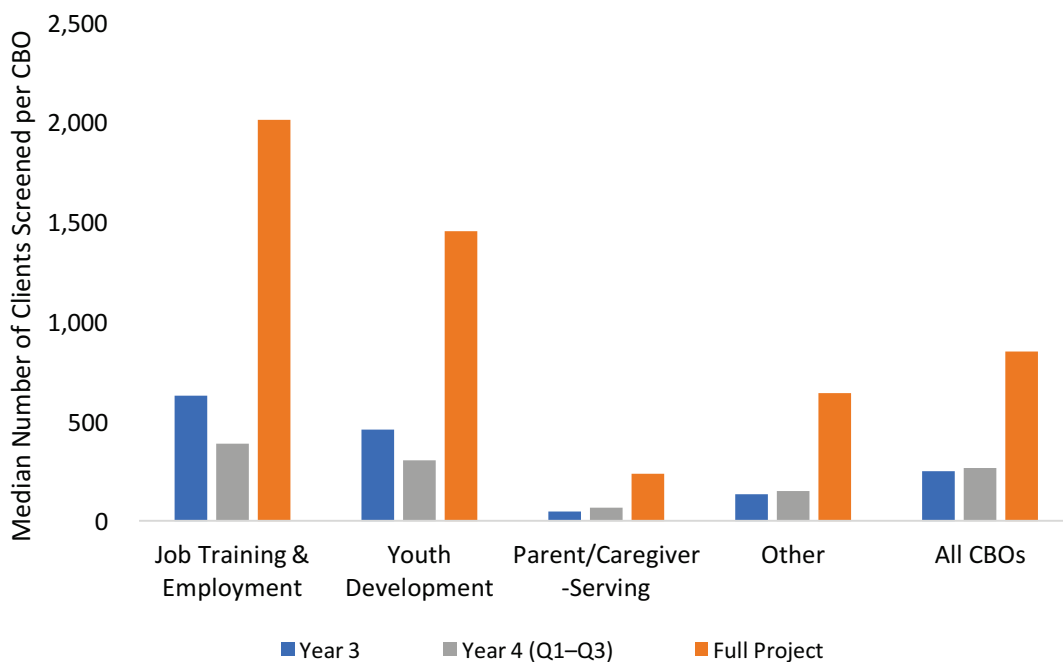


SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

stabilized, with more than 1,300 clients being screened per quarter. By December 2019, CBOs were screening more than 1,600 clients per quarter and had screened a cumulative total of 22,284 clients.

At the CBO level, the number of clients screened varied in relation to CBO type (Figure 5.13). By year 4, when CBOs had fully implemented C2C screenings, the three parent/caregiver-serving CBOs screened an average of 237 clients (range: 177–295), compared with the average of 2,432 clients screened by the five job training and employment CBOs (median: 2,010; range: 919–5,718), 2,290 clients screened by the three youth development CBOs (range: 286–5,129), and 637 clients screened by the four CBOs in the other category (median: 641; range: 416–851).

**Figure 5.13. Clients Screened per CBO, by CBO Type**



SOURCE: Data from quarterly CBO reports provided to RAND staff, year 3, March 2016 to December 2019.

CBOs also varied with respect to the proportion of C2C clients (i.e., individuals who received any C2C service) who were administered screening, which was particularly evident in later implementation years after CBOs had rolled out all four core C2C skills. As shown in Table 5.5, job training and employment organizations screened a majority (more than 70 percent) of clients who received any C2C service. In contrast, on average, less than one-third of C2C clients in parent/caregiver-serving organizations received screening by year 4 of implementation.

**Table 5.5. Percent of Clients Who Received Any C2C Skill That Received at Least a Screening, by CBO Type and Project Year**

<b>CBO Type</b>	<b>Y1 (%)</b>	<b>Y2 (%)</b>	<b>Y3 (%)</b>	<b>Y4 (%)</b>	<b>Total (%)</b>
Job training and employment	81	84	80	71	79
Youth development	45	48	51	65	54
Parent/caregiver-serving	77	13	8	28	18
Other	46	22	18	33	26
<i>Total</i>	67	53	48	56	54

SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

The lower screening rates for parent/caregiver-serving CBOs may be due to differences in the nature and frequency with which the clients engaged with CBO staff and their programming generally. By and large, encounters between clients at parent/caregiver-serving CBOs and CBO staff members were typically brief and occurred during transitional periods (e.g., picking up a child from the CBO). As such, parent/caregiver-serving CBOs may have had systematically fewer (and/or shorter duration) contacts between CBO/MHP staff and the CBO target population, and thus fewer opportunities to provide screening, compared with other types of CBOs. For example, as reported by one staff member, juggling both child and parent concerns in the context of providing C2C services was a challenge:

The time, you know, with us to do [screenings], both her and the family worker to do it is just not conducive . . . by the time you get back to parents to follow up, they don't want to come in, they're busy.

In addition, parental expectations surrounding the nature of interactions with CBO staff and the focus of the CBO on child well-being may reduce some parents' willingness to accept a screening from CBO/MHP staff and/or may heighten discomfort with introducing screening materials on the part of CBO staff. As reported by some CBO staff members,

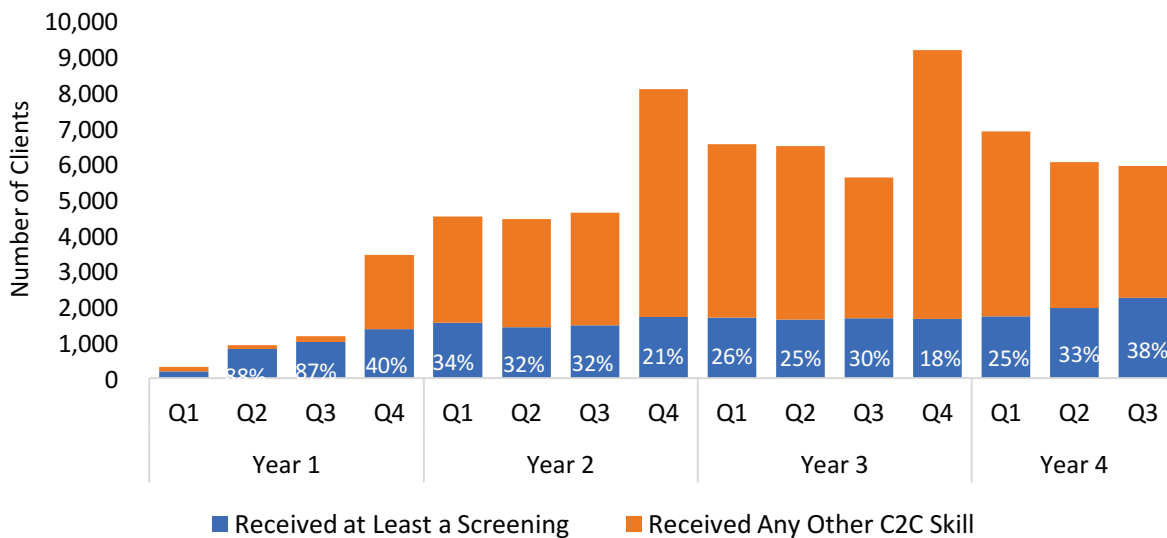
Where parents are expecting this to just be an educational setting. "I want to enroll my child. I want to pick up, I wanna drop off." And so being able to successfully crossover that line and invite them into share personal information. I think that's been challenging . . . the initial resistance that some parents might.

There have been people who've declined screening due to concerns about confidentiality and privacy and scheduling. It's [also] been challenging like I mentioned to screen two caregivers, even one. People are here to pick up and drop off and don't have time to sit and be screened.

Most CBOs viewed implementation of formal screenings for mental health issues as foundational to the C2C program, with many prioritizing implementation of this core C2C skill in year 1. This was attributable to a number of factors, including the critical role of screening results in client referral processes, as well as the perception among CBO and MHP leaders that screening was a concrete, well-defined skill that could be readily incorporated into existing CBO

workflows. Screening was the most commonly reported C2C skill delivered to clients in the first year of implementation based on quarterly report data (Figure 5.14). By the end of year 2, most CBOs began providing all four core C2C skills to clients. By year 4, screening accounted for about one-quarter of all C2C skills provided to CBO clients.

**Figure 5.14. Screenings and Other C2C Services Delivered to CBO Clients**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

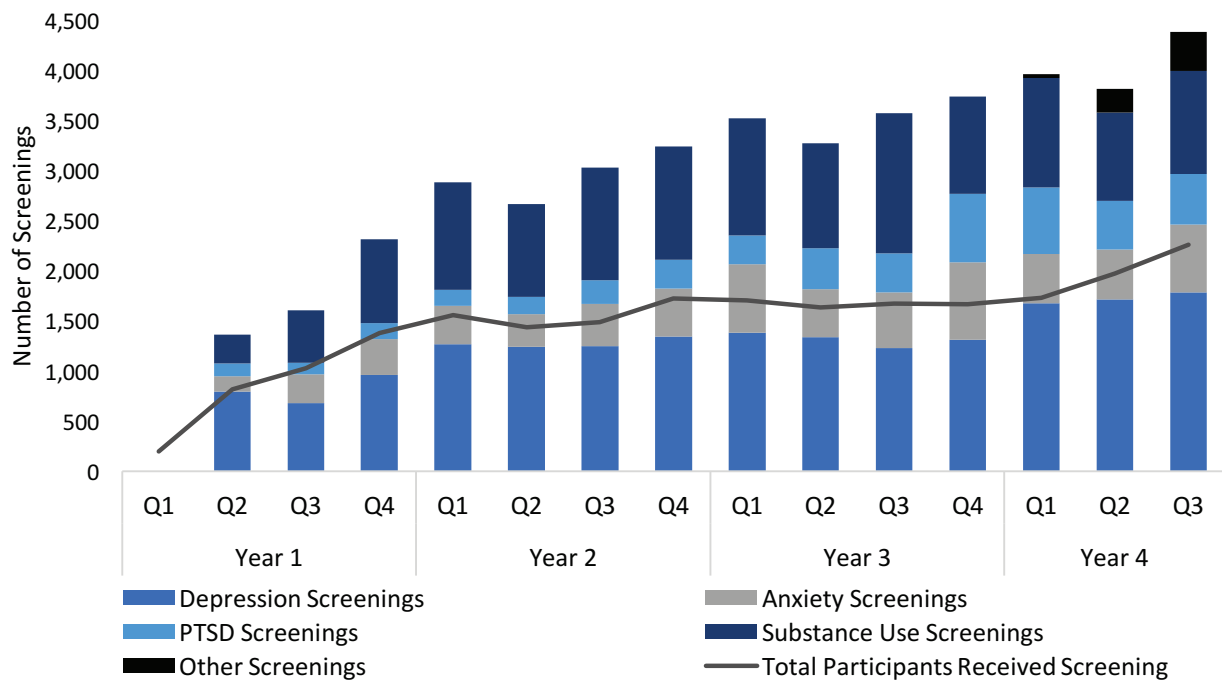
*Screening Approach over Time*

As C2C implementation progressed, some CBOs modified their use of specific screening tools to better align with clients’ needs. In the early stages of implementation, depression was the most common condition assessed by CBO screening and remained so for the duration of implementation; however, by year 4 of C2C implementation, the types of screenings provided to CBO clients became increasingly diverse (Figure 5.15). For example, many CBOs ( $n = 8$ ) began to incorporate screenings for PTSD in later stages of implementation.

CBOs also evolved with respect to the ways in which screenings were integrated into regular CBO services and workflows. For example, as reported by CBO and MHP leaders, many CBO staff members reported resistance to administering screenings to clients due to concerns about interfering with client relationship-building. This was a particularly notable concern because the CBO staff-client trust was seen as foundational to the successful implementation of the C2C initiative. As reported by one CBO leader,

Despite the fact that we’ve trained all the program staff in screening, nobody seems to want to try to administer one. They just feel maybe as awkward as I do sometimes. Where it’s like this piece of paper that kind of interjects itself into the discussion . . . they scream because it just seems like you are interrupting a really nice flow. And I’ve certainly felt that way too.

**Figure 5.15. Number of Screenings for Mental Health Symptoms, Overall and by Type**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

Similarly, a number of CBO leaders voiced concerns about the effect of integrating screening into intake procedures on underreporting of symptoms, particularly when screenings were offered prior to the formation of a strong bond with the CBO. As reported by one CBO leader,

The screenings are not as positive in that people are not indicating that they have these mental health conditions and because we're not referring as many people as I had targeted. So now we're rescreening at certain milestones to see if that yields more openness. Our current practice is to do it only at intake and our thought is that they might not be as open. . . . But that has been a surprise to me because I thought at this point things would bump up significantly with referrals.

These sentiments were also echoed by CBO staff members:

I feel like initially many clients may not be willing as soon as you do the assessment but then a few weeks or months later they come back and say that they talked to the social worker and now they are ready. And I think that in our first initial meeting, they are not always forthcoming with what's going on, so I think it is good that the screeners are done at that point with the family assessment then along the line they might want to seek the services.

Consequently, some CBOs modified the ways in which screening materials were integrated into standard client flow within the CBO system by delaying implementation of screenings to a point at which clients had developed a stronger relationship with CBO staff members and/or by implementing less intensive, informal prescreening questions early on and following up later



with full screening batteries once an individual had sufficiently integrated into CBO services. As described by one CBO leader,

I think at the beginning of year 2, we decided [to] use the pre-screen more as a conversational tool to better engage clients. I think that has helped us to increase the enrollment for Connections to Care in addition to also further engaging of staff and shifting from initial training to more coaching and supervision has also helped to get staff more comfortable with starting a conversation, asking certain questions that they normally are not used to asking.

### *Rescreening*

During year 4, the C2C Collaborative introduced a pilot rescreening initiative that required CBOs to systematically rescreen C2C clients for depression and anxiety. CBOs rolled out the pilot rescreening effort on a phased schedule, based on their readiness, and received customized technical assistance for this pilot. CBO and MHP leaders shared their perceptions of rescreening at the beginning stages of this pilot process during the final site visit. Additional details on the pilot rescreening process, including preliminary outcomes, are reported by the C2C Collaborative elsewhere.

One CBO opted to incorporate rescreening protocols during the earlier stages of the implementation process (i.e., years 1 and 2) after feedback from MHPs and considerations related to typical client flow and retention in CBO programming. As described by this CBO leader of a job training and employment CBO,

And then one of the things that [MHP] is working on in terms of coaching is with our [staff member who administers screenings]. We were advising her to administer screens when needed but now we want her to do a rescreen around that first paycheck. It's a couple weeks after getting their jobs. That will bring with it new job feelings and if you're in recovery, how will you navigate? And then maybe after 90 days of employment, do another screen.

Those CBOs not already conducting rescreens expressed concerns about feasibility at the outset of the pilot for reasons such as differences in client flow through standard CBO programming and the nature and duration of client engagement in CBO services. In some instances, CBOs implemented structured multisession programming (e.g., training programs with classes spread across several weeks or months) that included systematic follow-up contacts, which would lend themselves to periodic rescreening. As reported by one CBO leader,

My thinking right now is that we would continue to do our individual screenings, for the most part, their individual screenings in week 3, then in the final week of work wellness class, which would be maybe five weeks later, in our last class, I would just do the rescreen as a group. But I don't know if that's too soon. . . Then we are moving to a five-week model. We're piloting that, so I will have to get creative about how we are going to make that work and capture those rescreens.

For CBOs that had repeated, structured contacts with clients, rescreening was typically viewed as an opportunity to further engage with clients on mental health issues in a structured

way and to break down stigma surrounding mental health issues over the course of a client's progression through CBO programming. One MHP reported,

We call it [rescreening] emotional check-in week. We've done it more in a larger campaign kind of way...focused on alcohol and substance use. It generates nice conversations between CBO staff and young people and it sometimes rises to the level of pulling in counseling staff for a warm handoff kind of referral. I feel like we will keep doing it in that way because it's an awareness building thing, and I think it does a lot to reduce stigma and create relationship opportunities between youth and staff.

In other instances, client engagement with the CBO had a more limited timescale with minimal follow-up, which made the prospect of rescreening clients less feasible. For example, one CBO leader described that the sporadic and variable nature of client contacts with the CBOs made rescreening clients a challenge if not impossible in the context of their C2C programs:

It's extremely difficult to rescreen clients who—let's just say they came for immigration assistance. We help them out, we refer them somewhere. . . . I don't see it working for the majority of clients who commonly leave at times and then may come back a year later. But how can we do it on a timely basis that's structured if it's not one on one? Even for the women's groups or young women's groups, they are not the same. . . . Rescreening works for individual clients that a social worker has. But in like community-wise. . . . I don't think that's possible.

Thus, factors such as CBO workflow and the extent to which clients engaged in repeated interactions with CBO staff members were seen as critical considerations in determining whether and how rescreening procedures could be effectively implemented in CBO settings.

### Psychoeducation

Starting in year 2, CBOs were asked to implement evidence-based PE. Some CBOs and MHP partners discussed some initial challenges related to identifying an evidence-based curriculum. For example, CBOs and MHPs that served non-English-speaking and/or racial/ethnic minority clients shared that it was difficult to find evidence-based curriculum available in multiple languages (e.g., Spanish, Arabic) or culturally relevant to their clients. Further, some CBOs and MHPs felt that they did not have the time or resources to identify, assess fit, and select an appropriate curriculum. Although CBOs and MHPs largely understood the importance of finding a curriculum that met their needs, some felt burdened by the decision and preferred receiving a list of approved curricula to choose from. One CBO leader reported their experience:

Since this "evidence-based requirement" came in, we became a little confused about how to go about finding the appropriate evidence-based curriculum that we could use . . . for psychoeducation we were, like, you were telling our little underbudgeted organization to find the evidence-based model?

One MHP reported similar feedback:

In regard to the psychoeducation component of the model, it is a little too burdensome on the MHP. . . . To ask us to research it and find them and come up with them on our [own] I personally think it is too burdensome, I don't have time to do that and then adapt them to our setting and implement it, I just don't have the time to research models that may not even exist.

In response to these concerns, the C2C Collaborative provided extensive guidance and technical assistance to assist CBOs and MHPs in identifying appropriate PE curricula. For example, the Collaborative engaged CBOs and MHPs in one-on-one technical assistance calls and provided an online resource bank to help guide decisionmaking. When deciding on the type of PE, many CBOs decided to use materials that met the specific needs of their clients instead of general mental health knowledge curricula. For example, all parent/caregiver-serving CBOs decided to use PE curricula that focused on parenting and parental wellness (e.g., multiple structured sessions focused on parenting skills, parent-child communication, and conflict resolution). Parents could also learn about self-care and mental well-being during these sessions. In contrast, the CBOs that served survivors and homeless and/or lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth delivered trauma-focused PE curriculum because of the significant level of trauma experienced by their clients. Finally, some job training and employment CBOs delivered stress reduction and coping-skills workshops in a group setting. Specific PE curricula implemented by CBOs are described in detail in Appendix A.

Regardless of the type of PE, most CBOs and MHPs indicated that PE was successful at reducing stigma, normalizing mental health illnesses, enhancing coping skills, and increasing acceptance of mental health services among clients. After attending PE workshops, CBO staff shared that some clients seemed more comfortable discussing mental health issues with CBO staff, requested more PE materials, and came back to the CBO specifically to attend stress management workshops. The group discussion and learning format that many CBOs used appeared to be effective for many clients since hearing about other people's experience provided some comfort and clients were able to share resources with each other. As one CBO leader reported,

Because we've implemented it [psychoeducation] in working with the youth, working with seniors, and also working with just the general population. People feel a lot more comfortable when they are in a group setting. It's less intimidating, and it normalizes the things they are dealing with. They also build connections with others.

Other CBO leaders reported that they chose to provide PE with clients before screening because it was perceived as being useful in educating individuals about mental health problems, destigmatizing mental health services, and obtaining more accurate reporting from clients. As one CBO leader explained,

We do psychoeducation before we do screening – we think that this helps destigmatize mental health services before they are screened. We heard that this was a barrier during our coaching and supervision meeting, so now we do psychoeducation before just to normalize what the clients will be receiving.

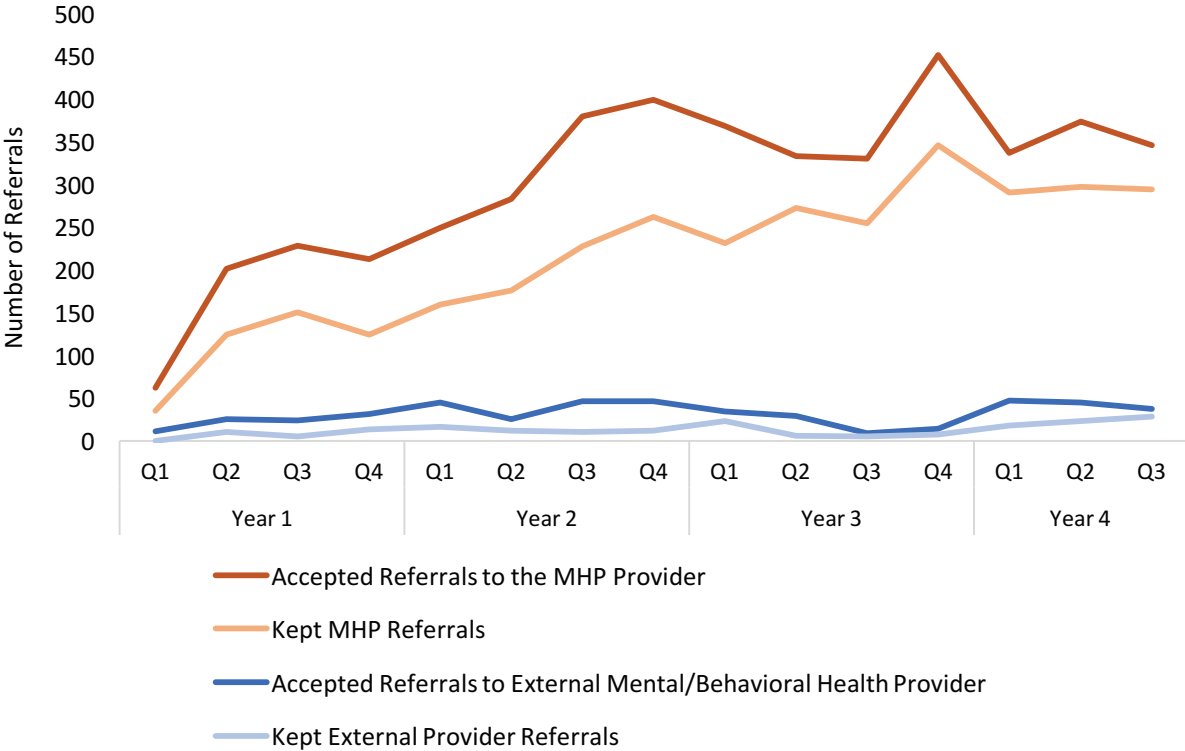
**Question 3: How Did CBOs and MHPs Alter Processes for Client Mental Health Referrals and Improve Referral Completion Rates?**

All CBOs set up referral mechanisms during the early phases, many of which were altered over time to address lower-than-anticipated rates of referred clients completing a visit with an MHP. In this section, we describe the ways CBOs and MHPs revised their referral processes and referral tracking efforts to address the specific client barriers identified by staff and increase referrals during the Active Implementation and Sustainment phases. A more detailed description of CBO and MHP efforts to address referral barriers and modify approaches to care coordination throughout implementation follows in Chapter 6.

**Streamlining and Solidifying the Process**

Through December of 2019, CBOs reported 5,019 client referrals to mental health treatment, 4,551 to the MHPs, and 468 to external mental or behavioral health providers. These represent formal referrals that were accepted by CBO clients and documented in CBO reporting systems, and may not capture the full scope of mental health referrals that CBO staff offered to CBO clients. CBOs collectively averaged 335 referrals per quarter, with the peak referrals reaching more than 450 per quarter (Figure 5.16). Cumulatively, each CBO made an average of

**Figure 5.16. Client Accepted Referrals and Kept Referrals by Type**

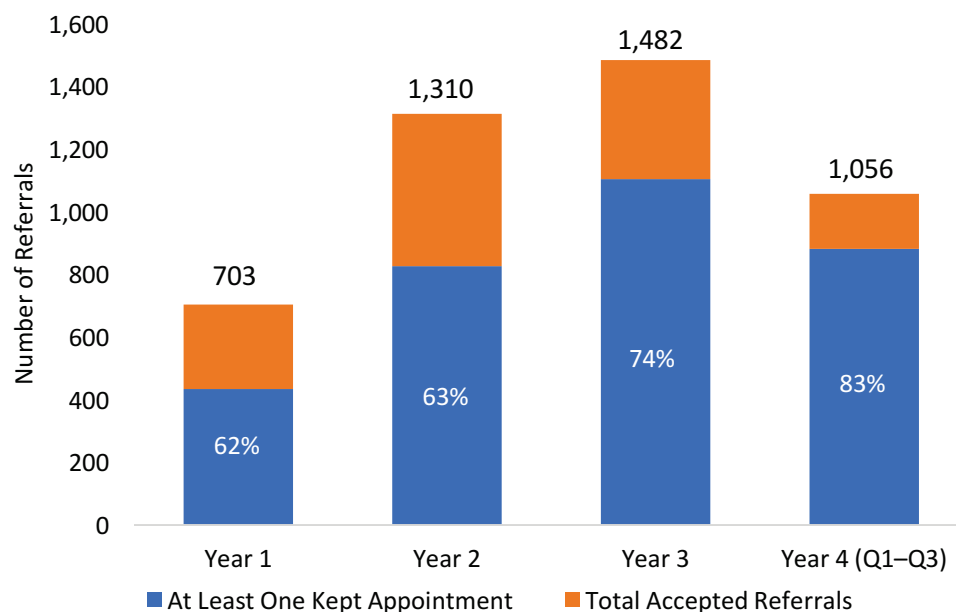


SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

357 accepted referrals through December 2019 (median: 186; range: 55–1,241). At some CBOs, existing (pre-C2C) referral processes lacked specificity on how to determine who needed mental health treatment and who would make this determination. Over time, through C2C, these consistency issues were addressed with better protocols, more decision support from leadership, and technical assistance that helped CBOs simplify and clarify the referral process. For example, referral protocols were updated to more clearly tie referrals to screening results by specifying score ranges for screeners and explicit steps to take based on scores or providing more detail by assigning specific CBO staff to coordinate referrals and make sure counselors contact clients within 24 hours of a referral.

CBOs reported on the number of referrals made as well as the number of referrals that resulted in a completed appointment based on attendance data provided by MHPs or external providers. The referral completion rate, defined as attending at least one clinic appointment following a referral, for both MHPs and external MHPs (i.e., clinical providers who did not formally partner with CBOs as part of C2C) generally increased over time particularly for MHPs (Figures 5.16 and 5.17). For year 3, nearly three quarters (74 percent) of referrals to MHPs resulted in a kept appointment, exceeding the target of 70 percent. For the first three quarters of year 4, 83 percent of referrals to MHPs resulted in a kept appointment. This increase was anticipated given the formal relationship established between CBOs and MHPs and the emphasis on streamlining referral pathways in the C2C model.

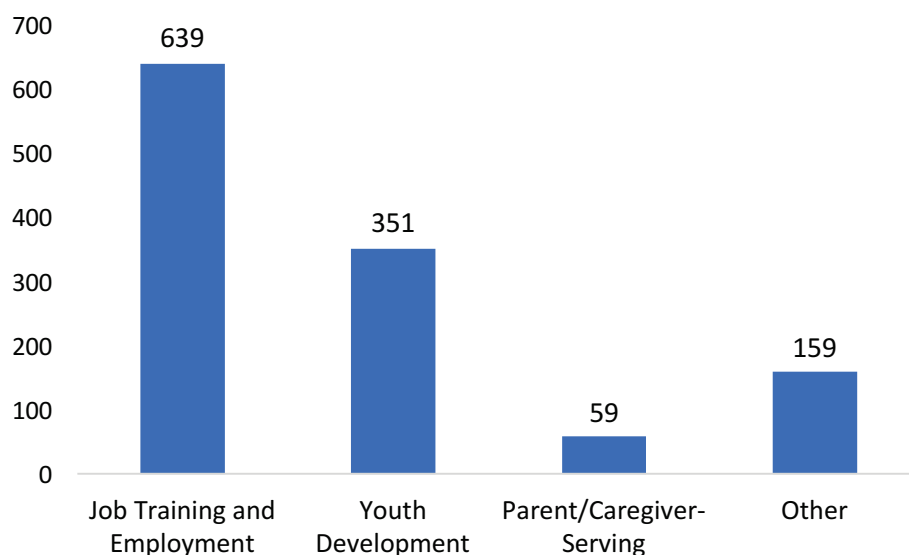
**Figure 5.17. Percentage of Kept Referrals to MHPs**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

Notably, percentages of kept referrals ranged from 11 to 97 percent across individual CBOs. The number of clients referred also varied substantially by CBO type (Figure 5.18). Five job training and employment CBOs referred an average of 639 clients (median: 639; range: 114–1,241), and three youth development CBOs referred an average of 341 clients (range: 103–555). Three parent/caregiver-serving CBOs referred many fewer clients with an average of 59 clients (range: 55–63), as did the four other CBOs type with an average of 159 clients (median: 160; range: 112–203).

**Figure 5.18. Client Referrals by CBO Type**



SOURCE: Data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

This pattern of variation across CBO type aligns with findings for client screening discussed above and may be attributable to factors such as lower screening rates at parent/caregiver-serving CBOs, likely leading to lower referral rates. As one CBO staff member reported,

The way it's designed is that the families will get as much in-house as possible. So, referrals are difficult for our families to embrace. They would much rather do whatever needs to be done in-house . . . . And really the identified client would be the child. And so "I'm only here because of my child. So, if a child is safe and well in my perspective, then I don't really understand why I would need to go out and get services." So that's something that we struggle with a little bit.

In contrast, the comparatively high number of referrals observed among job training and employment CBOs may be attributable to a range of factors. First, several of these CBOs had one or more on-site MHP counselors, which allowed for efficient "warm handoffs" from CBO staff to MHP counselors. These organizations also tended to have clear, standardized screening and referral protocols and coaching/supervision practices, which may have led to more consistent

referral practices. In addition, these CBOs tended to engage clients in more structured and intensive programming that involved repeated direct contacts between clients and different CBO staff members (e.g., trainers/educators, case managers, etc.). The more frequent contact may have facilitated development of stronger staff-client relationships, increased opportunities for making referrals, and motivated clients to pursue treatment if needed. Moreover, clients engaged with the job training and employment CBOs may have pursued treatment for reasons related to obtaining employment, such as addressing mental health symptoms that could interfere with job performance, which may have increased openness to accepting referrals.

### Referral Tracking Procedures

As noted in Chapter 4, many CBOs used case conferences during supervision to monitor client progress and coach CBO staff. During the case conferences, CBO staff and leaders would meet with the MHP to share updates and discuss how to improve service delivery. As implementation progressed, CBOs followed up with efforts such as having CBO staff checking in with the MHP about client visits or using a data system to track client mental health progress. CBO leaders reported some examples:

When [a client] is referred for services, they are contacted within two weeks by the therapist. After the first two weeks, the therapist is contacted once a month for three months and we have a folder for each center that says the screening date and we are doing a screening three months after the first to see if there is a change in their [clients'] emotional wellness.

We track across the board: when did the screening take place, what modalities have been applied, outcomes of screening, is person being referred to MHP, who is MHP, date of appointment, did they [clients] show up to appointment. So, the site coordinator, with the aid of customer service staff, follows up with the MHP regardless of who it is on a regular basis to see if the client showed up.

Not all CBOs started out with data systems to track and monitor client progress, but some made significant improvement in later years of implementation. For example, one CBO leader reported,

So comparing ourselves with some of the other sites, seeing the infrastructure that was already developed . . . and also having a robust database and information structures, those were all things that we really had to scale up quite quickly and didn't necessarily have enough support with our typical system to be able to do so because they were so unique to our organization.

When I first came to [CBO] six years ago there was no . . . the data system set for tracking services to young people and youth attendance, participation, and outcomes was really just a . . . we were relying on government issued data systems through our government grant, but nothing proprietary that was really customizable to the work that we were doing. It's been a long road but –and we're not at the end– but we've been in a process of moving our system to Salesforce.



Other CBOs had existing data system capacity from the outset enabling them to set up a referral tracking system more readily, which helped to streamline and automate client referral and follow-up processes. As one CBO leader reported,

We have also improved our system. Staff fill out a [form] in Salesforce that sends, it's called logging a need, that's our language. You log a need like the kid needs an eval or needs medication management. Then that pushes to the psychiatrist, the member navigator, and the director of counseling. Then they start coordinating to get the appointment and to get the young person there. I feel like all that stuff has improved.

#### *Question 4: How Did CBOs and MHPs Adapt to Accommodate and Sustain the C2C Program?*

Because capacity building is such a critical component of ensuring long-term success of mental health task-shifting interventions (Belkin et al., 2011), CBOs and MHPs also addressed plans for sustainability of C2C programming within the CBO setting. In the interim evaluation report, we described the process of C2C integration into existing CBO programming; that is, how C2C operationally became a routine part of CBO and MHP staff roles and responsibilities that can be carried out independently of direct funding (Ayer et al., 2018). Within CBOs, the successful integration of C2C into their operations, programming, and staff approaches to clients depended on factors such as workflows, training, and staff and leadership buy-in. In this section, we highlight ways in which CBOs created an environment that encouraged the sustainable integration of C2C and provide evidence on its effectiveness.

#### **Commitment to Sustaining Components of C2C**

Much of the first several years of C2C implementation were focused on building foundational processes, such as integrating screening and other C2C skills into existing CBO procedures, coaching and supervising CBO staff, and establishing referral protocols. However, CBOs also directed efforts toward ensuring that their staff understood the lasting nature of C2C programming and the need to adopt it holistically. For example, one CBO used a written agreement to encourage staff to commit to and maintain C2C programming:

[The CBO coordinator] created a C2C agreement that all staff who are working with students . . . understood what participation in the [C2C program] and with the wellness team would look like, so they are aware of all their responsibilities. Then, individual directors on other teams are able to build in elements of that agreement into staff annual goals. I think that's key to making it not just seem like something new that you have to do on top of your work, but core to your daily practice.

Another CBO used incentives to encourage staff to practice and deliver the C2C skills, while CBOs began expanding C2C to other parts of the CBO once they saw the effect on both staff and clients. For example, one CBO leader reported,

Our big change . . . is we are expanding [C2C services to other into CBO programs and client populations]. We originally started in the education and

career services population and then we noticed other departments, mainly the domestic violence department, and also the legal department which has immigration and also eviction prevention services, other staff members really wanting the support that C2C provides, in terms of case conceptualization, the vicarious trauma trainings, the continued coaching and supervision. Other staff in the agency wanting the same continued coaching. Also, the clients needing some form of extra support and some kind of counseling. It doesn't feel right to clients leave the building without saying, we have C2C here.

## Quality Improvement

CBOs were on a spectrum with regard to their capabilities to implement QI processes, but over time all CBOs changed practices in an effort to strengthen implementation. For example, some CBOs were able to set up formal data-driven processes for measuring progress toward specific goals (e.g., number of clients receiving specific C2C services; number of referrals made to MHPs and external providers) early in the implementation process by leveraging existing data systems and integrating C2C metrics into QI practices that were already in place within the CBO. Early QI efforts were often tied to contract-specific targets and were used to help develop and refine service delivery processes in years 1 and 2. Because CBOs became more comfortable with the nuts and bolts of C2C implementation, they began revisiting the decisions about program structure and responsibilities, more closely monitoring their indicators of progress, and refining their approach to move the needle on those indicators.

After CBOs had established stable training, supervision, and service delivery processes, many began to utilize program data and specific metrics to monitor service delivery and identify areas for improvement. All CBOs used program data to inform choices around service delivery, training, and supervision. For example, as described by one CBO lead,

We did a quality improvement project where we tried to align the client's schedule with meetings their job coaches, job developer, retention specialist on the day that the mental health provider was here. We have been attempting to change scheduling so that it's more convenient for the individual when they come here on the same day to meet with the mental health provider and the community-based organization staff member that they came to see.

In addition to the CQI Immersion Workshop, some CBOs participated in highly structured PDSA cycles supported by technical assistance and peer learning during year 3 of implementation. Through these PDSA cycles, teams not only tested changes to service delivery but also tracked specific metrics to understand the effect of the change. Overall, CBOs varied with respect to their specific areas of focus for QI depending on site-specific priorities and client flow. For example, one CBO reported,

It's through the CQI implementation that we did with RAND. We identified the need to implement support through one of our program tracks, through the hard skills portion. We designed a peer support group to occur with the clients to provide them with a little bit of additional support through their transition from

the soft skills portion to the hard skills portion and then getting them ready to move towards employment.

Overall, these efforts helped to reinforce the importance of providing structured QI support to CBOs to help ensure iterative, purposeful improvements to specific components of site-specific C2C programs, which can increase their effectiveness and longevity in the CBO setting.

### Financial Choices

There was a mix of perspectives on whether CBOs would be able to maintain C2C service delivery after current funding ends. In implementation year 4, some CBO leaders reported that they were considering obtaining external funds to help sustain ongoing implementation of C2C, and many shared that they were thinking carefully about what activities they could keep and which they could not without dedicated funding support. For example, one CBO leader described thoughts surrounding potential changes to staffing and roles that would allow C2C to continue:

I think also as far as financial sustainability, we are also looking about bringing on an LMSW . . . this added capacity and added staff person . . . . Over time, that might not be sustainable because at some point, the grant will end, and we still want to continue to provide these services. So we are also revisiting the job description of the staff here, so meaning that if you bring on an LMSW, it means that person might also have to do benefits screenings and enrollments, which is currently now done by our research coordinators who are not LMSWs, or they might have to do intake.

Another CBO leader wanted to change how they presented their CBO and obtained external funding to focus mainly on the integration of mental health into their services:

We've been pushing to shift our approach to fundraising to be about the [C2C] model, which is about the integration of mental health services with every other programmatic track and the service of the whole youth and one stop shop. I hope that what that means is that the funding for the program as a whole that there will be more sustainability because it won't be siloed.

Another CBO leader acknowledged that funding constraints would likely prevent them from sustaining all elements of C2C moving forward, although they expressed interest in retaining some components of the C2C model. One C2C leader reported,

So, we did a financial analysis of the components we would want to keep and what that would cost. We wouldn't be able to keep everything. We probably would . . . keep the screenings and the psychoeducation. The relationship with our clinic we could easily continue.

Another CBO reported efforts to actively seek funding to support continuation of the C2C program into the future:

We secured one substantial multi-year grant, that will help transition the operation of C2C, and we are working on a number of others . . . we don't have it all nailed down yet, but we do have some sort of promising pieces in place.

Overall, funding constraints for CBOs, which traditionally operate with very austere budgets to deliver a wide range of non-C2C services to clients, were seen as a major barrier to sustaining all elements of the C2C model after funding for the C2C initiative ends. Despite this, most CBOs expressed intentions to retain some elements of the C2C model moving forward, and many had begun to seek out alternative sources of funding to sustain the C2C program into the future.

## Discussion

In this chapter, we reviewed in detail information about the extent to which CBOs implemented C2C and highlighted differences in implementation by CBO type and overall changes over time.

### *Training, Coaching, and Supervision*

During the first 2 years of implementation, there was a ramp-up period during which CBO-MHP partnerships focused on preparatory activities, refining plans, and implementing initial C2C trainings. Nearly all CBOs reported early challenges with staff buy-in when initially implementing C2C trainings, which are consistent with findings from prior studies examining novel implementation of EBPs (Kimber, Barwick, and Fearing, 2012). However, ongoing efforts to maximize the relevancy and perceived value of C2C trainings helped to mitigate these challenges over time. For CBOs considering future adoption of the C2C model, early efforts to tailor trainings and maximize the extent to which the C2C program aligns with staff members needs and the organization's mission (Bach-Mortensen, Lange, and Montgomery, 2018) may be useful in cultivating staff buy-in and ramping up program capacity.

Following the initial rollout of C2C trainings, CBOs and MHPs began to implement routine coaching and supervision of CBO staff to support implementation of C2C skills in practice. Coaching and supervision ramped up considerably during implementation year 2, following clarifications in implementation guidance from the C2C Collaborative surrounding coaching and supervision requirements. In addition, increases in coaching and supervision provided by CBO staff in years 2 through 4 may reflect efforts to ensure in-house sustainability of C2C programming within CBOs. However, monitoring CBO staff members' fidelity to implementing C2C skills was a persistent challenge for CBO and MHP supervisors. Technical assistance efforts surrounding fidelity monitoring (e.g., providing a fidelity checklist) were seen as helpful in moving toward a standardized approach to routinely assess fidelity during supervision sessions. But because organizations varied widely in terms of staffing structures and their approaches to implementing

C2C skills in the CBO setting, CBOs and MHPs approached fidelity monitoring in different ways, which led to challenges with collecting and reported fidelity metrics in a standardized way. In addition, supervisors experienced significant challenges (e.g., due to the ad hoc nature of skills delivery in the CBO setting; MHP scheduling limitations) with routinely observing CBO staff members delivering C2C skills to clients in action. Monitoring and ensuring fidelity associated with implementation of EBPs has been identified as a key implementation barrier in previous studies (Bach-Mortensen, Lange, and Montgomery, 2018), and efforts to clearly identify core intervention components and competencies for both practitioners and supervisors are recognized as critical factors in ensuring intervention fidelity (Gearing et al., 2011). Yet, ensuring fidelity can be particularly challenging when attempting to adapt intervention components to meet the unique needs of a specific setting or target population (e.g., Kegeles et al., 2015). For programs that are designed to be adapted to diverse CBO settings, like C2C, extensive technical assistance surrounding fidelity monitoring—combined with clear guidelines surrounding core program components and fidelity assessment practices—may be critical to ensure that CBOs have both the capacity and capability to implement program components (Bach-Mortensen, Lange, and Montgomery, 2018). As such, to ensure that the model components are implemented with fidelity, as intended, efforts to replicate C2C at other CBOs in the future would benefit from technical assistance and clear guidelines that specifically address how organizations should develop and tailor fidelity monitoring plans.

Nearly all CBOs reported some degree of concern and/or pushback from their staff during initial implementation. Yet, CBOs and MHPs invested considerable time and effort into responding to their staff members' confusion and concerns about training. The CBO-MHP partnerships involved CBO staff in these efforts to improve training content and processes to optimize trainings and follow-up support for CBO staff members. Overall, CBOs recognized the value of investing in training, coaching, and supervision, because it led to more staff buy-in and commitment to using C2C skills in practice. These factors are consistent with several key facilitators observed in prior studies examining implementation of EBPs in CBOs, such as organizational support/prioritization and flexibility surrounding program implementation and efforts to align program implementation with the mission of the organization (Bach-Mortensen, Lange, and Montgomery, 2018). For CBOs seeking to adopt the C2C model in the future, such efforts to incorporate staff feedback may be critical for expediting improvements to training processes and ensuring that the C2C model is optimally aligned with staff needs and workflow.

### *C2C Service Provision to Clients*

Routine reporting by CBOs captured the scope and scale of C2C in reaching New Yorkers. Overall, C2C reached more than 41,000 unique clients and more than 5,000 referrals to more intensive mental health treatment were made. Most C2C services provided to these clients were delivered by nonspecialist CBO staff members. Integrating and scaling up new evidence-based mental health practices in community settings often requires a multiphased approach to build

partnerships, infrastructure, and capacity (e.g., Grant, Simmons, and Davey, 2018; Saldana and Chamberlain, 2012); and the time required to launch new evidence-based services can vary widely, depending on a range of factors including existing organizational infrastructure, organizational readiness, and intervention complexity (Hurlburt et al., 2014). The numbers of clients served by C2C suggest clear inflection points and steeper increasing curves early on, followed by stabilization during the Active Implementation phase. The number of new clients who received CBO services rose dramatically during years 1 and 2, and the average number of clients served each quarter began to stabilize in year 2 and beyond. By December 2019, CBOs were screening well more than 1,600 clients per quarter and had screened a cumulative total of more than 22,000 clients. This suggests that, on average, the ramp-up of training and staff development in C2C skills—that is, building up organizational capacity to transition to Active Implementation of the C2C model (Aarons, Hurlburt, and Horwitz, 2011; Bach-Mortensen, Lange, and Montgomery, 2018)—took slightly over a year to achieve.

CBOs devoted considerable resources toward integrating C2C skills into “typical” CBO workflows and iteratively refined these implementation approaches over the Active Implementation and Sustainment phases to best meet the needs of CBO clients and staff members. CBOs varied with respect to how they implemented the core C2C skills in practice, and some components carried unique challenges—and benefits—with respect to implementation in a given CBO setting. Careful consideration of workflow and the target client population may be critical for setting programmatic goals and assessing and refining implementation of C2C in different types of service settings. For example, parent/caregiver-serving CBOs showed systematically lower output with respect to service delivery and referrals compared with other CBO types. However, parent/caregiver-serving CBOs that remained in C2C through implementation year 4 were successful in achieving site-specific service delivery targets in implementation years 2 through 4 (e.g., number of total C2C clients served); this was attributable in part to careful consideration of CBO client/family volume and enrollment windows when determining annual service targets, which were lower than those for CBOs that enrolled new clients on a rolling basis. Similarly, client flow and engagement with CBO programming over time was seen as a critical consideration for whether and how efforts to rescreen C2C clients were implemented in the rescreening pilot. This is consistent with findings from past studies, which have identified client/community factors related to engagement and retention as key barriers to implementation of EBPs in nonclinical settings (Bach-Mortensen, Lange, and Montgomery, 2018). As a whole, these findings suggest that careful attention to client engagement in CBO services is a critical factor for determining how best to implement specific components of the C2C model in a given CBO setting.

### *Mental Health Referrals and Referral Completion Rates*

Improving linkages to clinical services for clients with needs for more intensive mental health treatment was a major focus of C2C. Through December 2019, CBOs referred more than



5,000 clients to mental health treatment. CBOs and MHPs experienced many challenges related to client referrals to more intensive mental health treatment, including but not limited to client stigma and practical barriers such as scheduling challenges and provider availability. CBOs and MHPs worked diligently to overcome these challenges and streamline referral pathways with referrals nearly doubling in year 2 and continuing to rise over subsequent years. Efforts to institute clear, standardized referral protocols and increasing capacity for MHPs to accept “warm handoff” referrals on-site appeared to be instrumental in driving these improvements. Completion rates for referrals to MHPs surpassed the C2C program’s overall target goal of 70 percent in year 3 and exceeded 80 percent in year 4.

Given the uniqueness of the C2C task-shifting model and the range of CBO contexts for C2C implementation, it is difficult to find established benchmarks for assessing the extent to which C2C referral rates compare with rates observed in similar studies. However, there is an extensive literature examining attendance and referral completion rates for clinical mental health services in a range of settings. For example, multiple studies examining attendance rates (i.e., attending a first appointment following referral to clinical services) for outpatient behavioral services have found initial attendance rates below 60 percent (Gallucci, Swartz, and Hackerman, 2005; Orne and Boswell, 1991; Sparr, Moffitt, and Ward, 1993; Zivin et al., 2009). One study by Alvidrez and colleagues (2009) examined a small community sample of Black adults ( $n = 42$ ) in San Francisco who had been referred to outpatient mental health treatment. This study tested the effect of a culturally informed PE intervention (i.e., a psychoeducational booklet about stigma based on experiences of Black mental health consumers) versus general information about mental health treatment on participants’ attitudes toward and subsequent entry into outpatient mental health treatment. Although the report had limited power to detect effects of the intervention (compared with a control group that received only general information), approximately 74 percent of participants attended treatment within 3 months, which was higher than rates observed among individuals receiving no materials in the previous year (59 percent). This is comparable to rates observed for C2C.

Other approaches to streamlining referral pathways to mental health treatment, such as the integration of mental health treatment into primary care settings, have found referral completion rates of around 81 percent (Auxier et al., 2012). This is particularly notable because the average rates of referrals to MHPs that resulted in a kept appointment in years 3 and 4 of C2C implementation approached or exceeded those observed in studies of integrated primary care clinics, which typically provide on-site mental health specialty services and often accommodate same-day appointments (Auxier et al., 2012). These C2C rates of kept referrals are also in line with previous reports from “best practice” mental health service providers in NYC, which indicate that use of extensive outreach and client engagement practices can lead to 70 to 80 percent of clients attending an initially scheduled session (Smith et al., 2010). Although comparisons to C2C should be made with caution, given considerable differences in settings, model components, and populations, this suggests that CBOs were successful with respect to enhancing referral



pathways through the C2C initiative. In the context of high rates of unmet treatment need observed among the general NYC population, with less than 40 percent of adults with mental health problems accessing appropriate treatment, rates of kept referrals to MHPs in years 3 and 4 represent a considerable achievement.

### *Adaptations to Accommodate and Sustain the C2C Program*

Overall, organizational leaders reported a strong commitment to ensuring that key changes brought about by C2C would persist within their organizations. Over the course of Active Implementation, the focus was on QI efforts because it was increasingly important in driving iterative improvements to specific components of site-specific C2C programs. These activities helped CBOs to assess and optimize the effectiveness of specific elements of C2C programming, which in turn helped CBOs to identify whether and how aspects of the C2C initiative could be sustained in the CBO setting in the future. As they moved into the Sustainment phase, some CBOs had begun to explore how specific elements of C2C could be financially supported following the end of the C2C contract period.

Upfront investments of time, effort, and perhaps funding are to be expected to establish partner relationships, referral mechanisms, etc. (e.g., Aarons, Hurlburt, and Horwitz, 2011; Bach-Mortensen, Lange, and Montgomery, 2018; Saldana and Chamberlain, 2012). But it may be difficult to fund and sustain, for example, an on-site mental health counselor indefinitely, unless CBOs are already co-located with an MHP. Many of these program components were seen as having high value for staff and clients, and a number of CBO and MHP leaders expressed optimism that elements of C2C would have a lasting effect on their organizational cultures, practices, and ways in which they served their communities. The subsequent chapter (Chapter 6) provides a detailed description of how CBOs and MHPs underwent cultural changes through participating in the C2C initiative.

### **Limitations**

As described in Chapter 4, it is important to consider this evaluation's limitations. These data come from a mix of quantitative and qualitative sources, including staff surveys and key informant interviews that were conducted over 1 year prior to this report. Readers should also note that the site visit and staff and client survey data are all based on self-report, and that the data come from a subsample of individuals who volunteered to participate in those portions of the evaluation. In addition, the implementation processes, challenges, and successes described as of implementation year 4 are based on information from the 14 CBOs that are currently participating in the program. Although some of the lessons learned may be generalizable to other organizations, some implementation experiences likely are unique, hinging on individual CBO characteristics, the current policy and funding environment, and the novelty of the C2C program. Other CBOs

seeking to replicate the C2C model in the future may encounter additional challenges (or successes) that are specific to their organizations and the communities they serve.

## Summary

During the first 2 years of implementation, there was a ramp-up period during which CBO-MHP partnerships focused on preparatory activities, refining plans, and implementing initial C2C trainings. Nearly all CBOs reported early challenges with staff buy-in when initially implementing C2C trainings, but ongoing efforts to maximize the relevancy and perceived value of C2C trainings helped to mitigate these challenges over time. Through December 2019, C2C reached more than 41,000 unique clients, and CBOs successfully integrated the core C2C skills—screening, MHFA, MI, and PE—into existing CBO programming. In addition, CBOs made more than 5,000 referrals to more intensive mental health treatment. As implementation progressed, CBOs and MHPs made efforts to address referral barriers and streamline and solidify referral pathways between CBOs and MHPs. By year 4, rates of kept referrals exceeded 80 percent. Toward the end of implementation year 4, CBO leaders were in the early stages of considering future plans for C2C program sustainability and described challenges—and opportunities—for carrying C2C program elements forward into 2020 and beyond.

## References

- Aarons, G. A., M. Hurlburt, and S. M. Horwitz, "Advancing a Conceptual Model of Evidence-Based Practice Implementation in Public Service Sectors," *Administration and Policy in Mental Health*, Vol. 38, No. 1, 2011, pp. 4–23.
- Alvidrez, J., L. R. Snowden, S. M. Rao, and A. Boccellari, "Psychoeducation to Address Stigma in Black Adults Referred for Mental Health Treatment: A Randomized Pilot Study," *Community Mental Health Journal*, Vol. 45, 2009, pp. 127–136.
- Auxier, A., C. Runyan, D. Mullin, T. Mendenhall, J. Young, and R. Kessler, "Behavioral Health Referrals and Treatment Initiation Rates in Integrated Primary Care: A Collaborative Care Research Network Study," *Translational Behavioral Medicine*, Vol. 2, No. 3, 2012, pp. 337–344.
- Ayer, L., M. S. Dunbar, M. Martineau, C. Stevens, D. Schultz, W. Y. Chan, M. Abbott, R. Weir, H. H. Liu, D. Siconolfi, and V. L. Towe, *Evaluation of the Connections to Care (C2C) Initiative: Interim Report*, Santa Monica, Calif.: RAND Corporation, RR-2497-MFANYC, 2018. As of February 4, 2020:  
[https://www.rand.org/pubs/research\\_reports/RR2497.html](https://www.rand.org/pubs/research_reports/RR2497.html)
- Bach-Mortensen, A. M., B. C. Lange, and P. Montgomery, "Barriers and Facilitators to Implementing Evidence-Based Interventions Among Third Sector Organisations: A Systematic Review," *Implementation Science*, Vol. 13, No. 1, 2018, p. 103.
- Belkin, G. S., J. Unutzer, R. C. Kessler, H. Verdelli, G. J. Raviola, K. Sachs, C. Oswald, and E. Eustache, "Scaling Up for the 'Bottom Billion': '5 x 5' Implementation of Community Mental Health Care in Low-Income Regions," *Psychiatric Services*, Vol. 62, No. 12, 2011, pp. 1494–1502.
- Gallucci, G., W. Swartz, and F. Hackerman, "Impact of the Wait for an Initial Appointment on the Rate of Kept Appointments at a Mental Health Center," *Psychiatric Services*, Vol. 56, 2005, pp. 344–346.
- Gearing, R. E., N. El-Bassel, A. Ghesquier, S. Baldwin, J. Gillies, and E. Ngeow, "Major Ingredients of Fidelity: A Review and Scientific Guide to Improving Quality of Intervention Research Implementation," *Clinical Psychology Review*, Vol. 31, 2011, pp. 79–88.
- Grant, K. L., M. B. Simmons, and C. G. Davey, "Three Nontraditional Approaches to Improving the Capacity, Accessibility, and Quality of Mental Health Services: An Overview," *Psychiatric Services*, Vol. 69, No. 5, 2018, pp. 508–516.
- Hurlburt, M., G. A. Aarons, D. Fettes, C. Willging, L. Gunderson, and M. J. Chaffin, "Interagency Collaborative Team Model for Capacity Building to Scale-Up Evidence-Based Practice," *Children and Youth Services Review*, Vol. 39, 2014, pp. 160–168.

- Kegeles, S. M., G. Rebchook, S. Tebbetts, and E. Arnold, "Facilitators and Barriers to Effective Scale-Up of an Evidence-Based Multilevel HIV Prevention Intervention," *Implementation Science*, Vol. 10, 2015, p. 50.
- Kimber, M., M. Barwick, and G. Fearing, "Becoming an Evidence-Based Service Provider: Staff Perceptions and Experiences of Organizational Change," *Journal of Behavioral Health Services Research*, Vol. 39, 2012, pp. 314–332.
- Orme, D. R., and D. Boswell, "The Pre-Intake Drop-Out at a Community Mental Health Center," *Community Mental Health Journal*, Vol. 27, 1991, pp. 375–379.
- Saldana, L., and P. Chamberlain, "Supporting Implementation: The Role of Community Development Teams to Build Infrastructure," *American Journal of Community Psychology*, Vol. 50, No. 4, 2012, pp. 334–346.
- Smith, T. E., J. Burgos, V. Dexter, J. Norcott, S. V. Pappas, E. Shuman, A. Appel, M. E. Harrison, I. R. Nossel, S. M. Essock, "Best Practices for Improving Engagement of Clients in Clinic Care," *Psychiatric Services*, Vol. 61, 2010, pp. 343–345.
- Sparr, L. F., M. C. Moffitt, and M. F. Ward, "Missed Psychiatric Appointments: Who Returns and Who Stays Away," *American Journal of Psychiatry*, Vol. 150, 1993, pp. 801–805.
- Zivin, K., P. N. Pfeiffer, R. J. McCammon, J. S. Kavanagh, H. Walters, D. E. Welsh, D. J. Difranco, M. M. Brown, and M. Valenstein, "'No-Shows': Who Fails to Follow Up with Initial Behavioral Health Treatment?" *American Journal of Managed Care*, Vol. 15, 2009, pp. 105–112.

## 6. How C2C Transformed Organizational Culture and Approaches to Client Care Coordination

---

*Michael Stephan Dunbar, Dana Schultz, Wing Yi Chan, Michele Abbott, and Vivian L. Towe*

### Key Findings

- CBOs underwent a cultural shift with respect to orientations toward client mental health, as evidenced by observations about how CBO staff and leadership adopted a “common language” with each other and clients who were more conscious about mental health and well-being in general.
- Seventy-seven percent of CBO staff reported feeling like C2C training helped them address their clients’ mental health–related problems, and 64 percent felt satisfied with the continuing supervision they received to maintain their C2C skills.
- Of the four C2C skills, MI was highlighted as the most effective tool to address clients’ mental health needs and provide better services to clients.
- CBO staff perceived community mental health stigma to be relatively high over the course of implementation, and it was thought to be a primary barrier to clients accepting referrals to seek mental health services outside CBOs.
- Other client barriers to accepting referrals included practical barriers (e.g., lacking the time, transportation, and childcare to see an off-site provider, inability to pay or lack of insurance), previous negative experience with mental health services, and general discomfort with the idea of receiving mental health services.
- CBOs and MHPs worked collaboratively to develop solutions to minimize these client barriers, such as giving metro cards to clients or MHPs adding walk-in hours for C2C clients specifically.
- Over time, CBOs and MHPs made adjustments to their organizational structures and policies to improve coordination surrounding clients’ mental health needs.
- In terms of C2C diffusion, CBOs shared best practices with each other and many reported plans to extend the formal CBO-MHP relationship beyond the life of the C2C contract.

## Introduction

In addition to increasing access to mental health care, C2C was also designed to transform the culture and approach to providing mental health services. Through engagement with C2C, CBOs, MHPs, and community members worked collaboratively to learn about mental health and change their attitudes toward mental health care. Together, CBO-MHP partnerships identified clients' needs, selected and adapted interventions, and shared both learning and QI approaches. Staff from both types of organizations were also challenged through training and practice to confront or evolve their attitudes toward mental health issues (e.g., mental health stigma), the way mental health services are typically delivered, and who delivers them. The hope was that C2C's efforts would begin influencing community well-being more broadly, first by the diffusion of knowledge about mental health by trained CBO lay staff, who are often highly engaged in the communities they serve, and then through the potential downstream effects of CBO clients who have benefited from C2C serving as supporters or resources for families and neighbors on where to get mental health support.

In this report, we conceptualize the process of adopting and implementing C2C program strategies in CBO contexts in terms of four broad phases, based on the conceptual model outline by Aarons, Hurlburt, and Horwitz (2011) (see Chapter 4). The current chapter focuses on understanding C2C's capacity to transform CBOs, MHPs, and the community's attitudes, behaviors, and culture surrounding mental health during the Active Implementation and Sustainment phases of C2C implementation.

First, we share findings on how C2C may have changed CBOs' and MHPs' approaches to providing care to clients with mental health needs. Next, we describe the organizational changes in referral and care coordination that CBOs and MHPs implemented to improve clients' access to care. Finally, we explore the broader diffusion of C2C model in the city and beyond.

### *Research Questions*

For the primary research question related to how CBO staff improved knowledge of mental health and C2C skills, as well as attitudes, and behaviors about mental health issues and services, we explored the following specific research question using both quantitative and qualitative data sources:

1. How did C2C affect the role of mental health in addressing CBO clients' needs and achieving CBO goals?

For the primary research questions related to the extent to which CBOs identified clients with mental health or substance use/misuse issues and key facilitators of and barriers to effective implementation of C2C program strategies (specifically linkages to clinical care), we explored the following specific questions using both quantitative and qualitative data sources:

1. How did C2C address community- and individual-level barriers to using more intensive clinical mental health care?

2. How did C2C affect CBO and MHP approaches to client care coordination and referrals?
3. How did C2C facilitate partnerships among CBOs within and outside the C2C network?

## Methods

This section summarizes the data sources and analysis approach for our examination of how C2C transformed CBOs, MHPs, and the community's attitudes, behaviors, and culture surrounding mental health during the Active Implementation and Sustainment phases of the Aarons model of the implementation process.

### *Data Sources*

Data on the Active Implementation and Sustainment stages of C2C are drawn from the following data sources. For a more comprehensive description of data sources, please see Chapters 4 and 5, and Appendix B.

### *Key Informant Interviews*

As described in Chapter 4 of this report, RAND conducted key informant interviews with CBO leaders (e.g., CBO executive directors and C2C program directors), MHP leaders (e.g., clinical directors and counselors), CBO frontline staff (e.g., staff trained in and providing C2C skills to CBO clients), and CBO clients (e.g., people who received C2C skills) during the summers of 2017 to 2019 to collect qualitative data on program implementation (Table 4.2). The current chapter focuses on information collected during 2018 and 2019, which assessed key informant experiences during the Active Implementation and Sustainment phases of implementation.

### *CBO Quarterly Reports*

As described in Chapter 5, all CBOs provided aggregate quarterly data to the Mayor's Fund on the clients they served and C2C services they delivered. Data used for this final report came from years 1 through 4 of program implementation (March 2016–July 2019).

### *Annual Staff Survey*

As described in Chapter 5, RAND conducted the three waves of annual staff surveys in the summers (May–September) of 2017 to 2019 to gain a broader view on program implementation from the perspective of CBO program staff who were trained in C2C skills and provided services to clients. Staff surveys covered topics such as staff experiences with C2C training and service delivery, confidence in their ability to administer C2C skills, knowledge about mental health issues, organizational climate, perceptions of the C2C program within the organization (e.g., organizational support for the C2C mission; communication), and staff use of specific resources



and strategies during client interactions. A comprehensive description of survey content is presented in Appendix B.

### C2C Model Summaries

As described in Chapter 4, the RAND research team developed narrative summaries and tables describing the specific components of each CBO's C2C model (Appendix A). CBO leaders reviewed and edited the summaries for accuracy, as needed.

### *Analysis and Synthesis of Findings*

For these analyses, we integrated the quantitative and qualitative findings throughout the chapter. As in Chapter 5, we also categorized CBOs into the following broad categories or types for analytic purposes, based on the main types of services provided by the CBO: job training and employment ( $n = 5$ ), youth development ( $n = 3$ ), parent/caregiver-serving (i.e., organizations that serve parents and caregivers of young children) ( $n = 3$ ),<sup>1</sup> and other ( $n = 4$ ) (Table 5.1).

Similar to the approach described in Chapter 5 of this report, the research team then reviewed and integrated quantitative and qualitative data to identify key themes and cross-site variability with respect to shifts in organizational culture and approach to client care coordination among CBOs and MHPs. We then reviewed and integrated findings from CBO model summaries and other data sources to help contextualize site-specific considerations and variability across CBOs.

## Results

Although CBO-MHP partnerships faced numerous challenges throughout these phases of implementation, the primary actors, the CBOs and MHPs, appeared to change their orientation toward mental health needs and care through their engagement with C2C. Whether as a trainer, a service provider, or a recipient of C2C services, experiences with C2C seemingly changed the mindsets and behaviors of those involved, bringing about a culture shift in the way people conducted their day-to-day work over time and altering the way in which these organizations worked together to address clients' needs.

### *Question 1: How Did C2C Affect the Role of Mental Health in Addressing CBO Clients' Needs and Achieving CBO Goals?*

During C2C's early implementation, many CBO staff expressed concerns about C2C implementation, specifically task-shifting, in part because C2C was seen as an effort that would require staff members to provide additional services and supports to clients in a different way

---

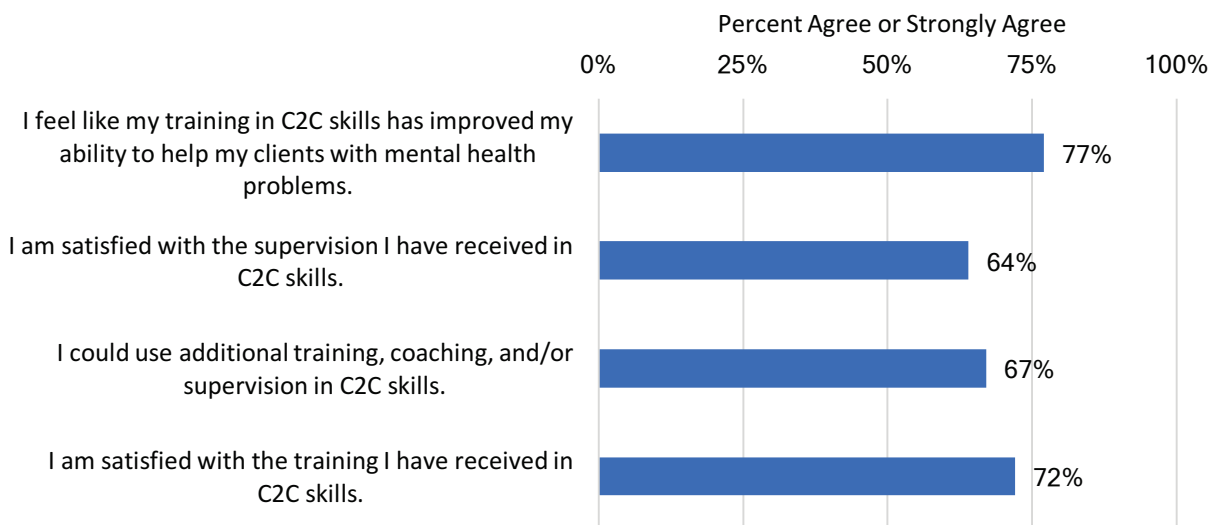
<sup>1</sup> One parent/caregiver-serving CBO was not able to implement the program and the funder terminated their participation in C2C at the end of implementation year 3.

(Ayer et al., 2018). Some of these concerns involved not knowing enough about mental health conditions and treatment options, feeling anxious about engaging with clients on a topic that was potentially stigmatizing and/or uncomfortable, or feeling overwhelmed by the idea of taking on additional responsibilities, including the time for training and delivering new skills in addition to existing tasks. CBO leaders, with the help of the MHP, other external resources, and feedback from staff about their concerns, were able to guide the CBOs toward a more comfortable and positive orientation to C2C, which eventually meant fuller integration of C2C into everyday practice. In this section, we describe how C2C moved CBOs toward an acknowledgment that addressing mental health was integral to the overall approach to providing CBO services and helping clients achieve their goals.

### Training, Coaching, and Supervision

Training, supervision, and coaching in the four core C2C mental health skills was a critical part of C2C that—over time—CBO staff came to see as valuable instead of burdensome. This was evidenced by staff expressing interest in receiving even more training and coaching and supervision (67 percent) and feeling like the training improved their ability to work with clients (77 percent) during year 4 (Figure 6.1).

**Figure 6.1. CBO Staff Satisfaction with C2C Training (Year 4)**



SOURCE: Data from CBO staff survey, summer 2019.

As described in Chapter 5, over the course of implementation, most CBO staff members received training in more than one C2C mental health skill. By implementation year 4, nearly half of trainees (48 percent) reported being trained in all four core C2C skills. The intention of the training was to equip CBO staff with a more extensive “toolbox” that increased their capacity

and comfort level with handling a wide array of client mental health concerns. One CBO staff member described how they used different C2C skills to help clients:

With every client, it can be a mixture. If the client comes in angry, screaming that “nobody is helping me,” I know [CBO’s psychoeducation program focused on trauma-informed care]. Or, they might come in hyperemotional and crying so I know MHFA. Or, they might come in and seem like everything is ok but when we are really speaking about it they talk about the symptoms they are feeling like not eating or not sleeping, then I know that I need to use psychoeducation. So, I think it is knowing what the client is presenting in this way and having this toolbox to meet the client where they are and knowing how to respond in every situation.

C2C coaching and supervision also helped CBO staff learn to assess clients’ mental health concerns and make informed decisions about referring clients to receive additional support and services. CBO staff reported that consistent and supportive supervision sessions created an environment in which they felt comfortable asking questions and seeking advice. As such, CBO staff often used their regular supervision sessions to seek consultation from MHPs or their CBO supervisors. At some CBOs, MHP providers were on-site ( $n = 9$  on-site full-time;  $n = 5$  on-site part-time), which made consultation easier. For example, one CBO leader reported,

And also, another thing that I’ve watched with staff is being able to know when they’re over their head. And being comfortable with that. Being comfortable enough to now say, because they have developed these skills, but they also have a support team. There’s someone else there on that site.

As implementation progressed, MHPs described how working closely with CBO staff through C2C had helped to reconceptualize the role of lay staff in addressing client mental health needs through task-shifting. As described by one MHP leader,

I think the fact that it’s so comprehensive and everyone is involved, and it’s really a team effort, is what makes it so successful. . . . I’ll tell you, in the beginning, I struggled with the task-shifting idea. Because I was like, I went to grad school and I got a license and I did all this training . . . and what do you mean – you want other people to do my job? But now, here we are a year later and it’s like, oh yeah, this really does work. So, I think that, that’s been terrifically successful.

### Staff Buy-In

Starting in year 2 of implementation, CBO staff buy-in began to improve considerably after CBO staff overcame concerns about delivering C2C services because of the stigma associated with mental health. Training in the four C2C skills appears to have helped CBO staff develop a better understanding about how mental health issues could affect client progress toward CBO-specific program goals. With more confidence in their C2C skills, instead of feeling frustrated or internalizing their clients’ lack of progress in their program, CBO staff used their skills to identify and address their clients’ mental health issues. CBO staff also began to apply C2C core skills in their regular work with their clients with a growing recognition that C2C skills “made

their job easier.” CBO leaders commented on how CBO staff began to recognize the need to provide mental health services to clients as their engagement in C2C deepened. Specifically, one CBO leader said,

For me, I would say [the biggest change has been] task-shifting and allowing everyone to realize that you don’t have to have an LMSW or LCSW to provide crisis intervention or to help clients who are in need of mental health first aid, you understand? A lot of clients are not saying, “I want to see a therapist right now.” A lot of clients are saying, “Can you help me?” How can we use the tools that we have, the training that we have to help clients in immediate crisis? . . . That also goes towards supporting the staff. A lot of times staff just need to feel empowered and feel as though they are able to meet the clients’ needs.

Another CBO leader described a “tipping point” for C2C as implementation entered its second year, such that as staff members became more familiar with C2C skills, they recognized its utility for working with clients. This leader stated,

[In] year 2, the staff really evolved. It felt like a changing or tipping point, turning of the tides, where people were like, “Okay, is this going to be an additional task in year 1?” By year 2 it was like, “I see that there’s a need. This fits.”

A CBO staff member described their own experience of learning how to better navigate client interactions more effectively as a result of C2C:

It’s been for me, like a light. Like turning on a light in a dark room. It opened my eyes and allowed me to better understand the individuals I work with and understand when they really need assistance and what kind they might need. And not just for our clients we work with but for myself. It allows me when I’m frustrated dealing with a person, to evaluate how I handle myself and I know if it’s time to remove myself.

Equally important was how CBO staff saw the positive effect of C2C on their clients. CBO staff relayed how they had observed improvements in clients’ successful use of CBO services after beginning to address their mental health needs. As described by one CBO leader, witnessing clients thrive after engaging in mental health treatment provided powerful examples of positive impacts:

At this stage, I think the staff has bought into it. I think they’ve seen the positive impact in that we have several [clients] who’ve been engaged in mental health treatment for over a year and they’ve seen the positive impact it’s had on the [client] and the family.

One CBO leader specifically discussed how their organization leveraged program data to help visualize the connection between engagement in C2C mental health–related services and client successes. Routinely sharing this data with CBO staff helped greatly in cultivating staff buy-in for C2C. As one CBO leader reported,

To be honest, once we started data sharing, I think that’s when staff buy-in became really. . . it grew exponentially, because now they have this tangible

thing that they can see, ‘Okay, this is how this person is being affected, this is the result of this.’ I think that really gave them a sense of . . . That was necessary, and that they really needed to address these things [mental health concerns].

C2C also helped empower staff by providing a structured manner in which to directly confront and lessen the effect of some of the logistical, financial, and emotional barriers to receiving mental health care. These barriers were a persistent source of frustration for some CBO staff who felt like past attempts to link clients in need to mental health services were often stymied by “bigger picture” factors beyond their control. When CBO staff began to recognize the strength of C2C skills and how these skills helped meet the needs of their clients, they became more invested in C2C and more willing to deliver C2C. As reported by one staff member,

C2C has been very helpful because especially anything that has to do with mental health, it’s very delicate, it’s very fragile. A lot of people are nervous to go through that journey on their own. And having a team to kind of support you and kind of walk you through it, have those conversations with you and kind of just check in. And really, that doesn’t happen anywhere else. If you go look for mental health services, there’s no one checking in and saying, how was it? And that’s what C2C has, I think, really been successful at.

#### *CBO Leadership Buy-In and Messaging*

CBO leadership buy-in and active participation in C2C was an important facilitator to encouraging staff buy-in to the program. When CBO leaders and management teams actively participated in C2C training and meetings, CBO staff were more likely to participate and perceive participation as important. One MHP reported the involvement of one CBO director:

[CBO director] also wants to find ways to implement MI at the executive level so we’re going to meet to talk about some of the challenges she’s having and how we can think of ideas for her to address certain issues. And I feel like it’s also great for staff to see that their director isn’t above it. She’s asking for this, she’s [in] meetings, she’s in the trainings, she does the role-playing with us. Sometimes if the frontline staff are not seeing the higher level of executive engaged, they are not going to necessarily buy-in, but since everybody is on the same level it just makes it easier for them to feel more motivated.

In addition to active participation, messaging from CBO leadership was also important. CBO staff appeared to be more invested in C2C services when CBO leaders emphasized the significance of client mental health to the mission of the CBO. Some CBO leaders consistently communicated to their staff that supporting clients’ mental health was a critical component of their programming. When asked about facilitators to C2C implementation, one MHP said,

They [CBO leadership] really think mental health is very important to fuse into the culture at [CBO] and they’ve seen the value of it. I think everybody is onboard with the importance of this project. That’s everyone from the management down to the staff.

In contrast, when CBO leadership was not supportive or consistent in their approach to C2C, staff felt confused and C2C implementation suffered. One MHP reported their experience working with CBO leaders who were not supportive of C2C:

One of the [organization leaders] never really seemed to understand C2C, nor committed to it . . . Would state that she was supportive of it, but never came to any of the group coaching sessions, left psychoeducation training early, often interacted with clients [in a manner] that is the complete opposite of MI, doesn't encourage supervisors to move the initiative forward. One staff said to me, "All this stuff sounds good, but you know this is a joke because you say this when we come to meet, but then when I leave here, when [this individual] calls me and she doesn't care about what you suggest or your recommendations, so what am I supposed to do?" I think that says everything.

### Motivational Interviewing

Across CBOs, CBO staff embraced MI as a particularly useful tool in working with clients, suggesting that its use will continue into the future. Of the four C2C skills, CBO staff highlighted MI as the most effective tool to address client mental health needs and provide better services. In particular, the "MI spirit" and nonjudgmental, client-centered approach resonated deeply with many CBO staff members who consistently shared feedback about the positive effect of MI on their interactions with clients throughout all 4 years of implementation. As described by one CBO staff member,

It started to become second nature for me to use MI, for me to think about mental health when we are sitting in a circle talking about safety and I think it's definitely changed the way the organization responds to crisis and also the way that we deal with clients one-on-one.

Several CBO leaders and staff members described how using nonjudgmental language and setting realistic expectations supported their work with clients. Further, MI was seen as particularly helpful for providing the primary programmatic services and facilitating client progress toward specific goals. One CBO leader reported how staff members applied MI skills while working with clients to resolve their housing issues:

[S]taff worked with a family with very unrealistic expectations about what kind of housing they should be given – this was a hard family to work with but staff really applied what they learned at C2C training to talk things through with the family and I am not sure the family would have taken the apartment they did had the staff not been trained and taught to talk to the family the way they did. I think mostly the MI skills played a key role in how our staff could use the language and the approach that took the client through this process rather than them just becoming frustrated and not wanting to help the family if the family wasn't willing to compromise.

Over time, and through ongoing training, coaching, and supervision, MI provided an organizing framework or "shared language" through which CBO staff members could view client interactions and discuss client progress within CBO programming more generally. All

14 CBOs that continued with the C2C program through year 4 described MI as being integrated and infused into nearly all interactions with clients. For example, one CBO leader reported,

I'd say with MI, we are developing a shared language around and through our programming. It comes up in common conversations now, it is becoming a part of us—people that have gone through the training—and something we often refer to. People go through continuous coaching on MI, and that is something we've been able to establish better, so now there is more depth and it is better established.

#### Cultural Shift in Mental Health Approach and Service Delivery

As implementation progressed, multiple CBO leaders and staff identified changes to the way in which the CBO conceptualized the role of mental health in their overall programmatic service delivery. For example, CBO staff began to use a different language that was much more conscious about mental health and well-being in general. One CBO leader described the importance of MHFA trainings in driving a more standardized approach for how staff addressed client mental health issues:

[MHFA] is a way of being. Staff implements those steps a lot. They were already doing it, but it was enhanced and now they have the language for it.

Another CBO leader echoed the way in which C2C more generally had helped to establish a common language for how staff and clients talked about mental health within the CBO setting, stating,

I think we kind of like had to change our language...it's almost like learning a new language, like trying to make that shift happen consistently, when I'm working especially around a young person talking about goals and change. I've tried to make it almost ingrained into what I do and how I speak.

These changes went beyond how CBO staff spoke to clients to encompass interactions across all levels of the organization. As described by another CBO leader,

I think [C2C has] been transformative and has really pushed the envelope in regards to us understanding where our clients are at and what service they need, what support they need, and then what lens are we actually looking at that, right? It's kind of like really integrated itself, not just in client engagement but in the way also that we are engaging with each other, top down, even in supervision meetings.

A different CBO leader expanded on this concept, noting how MI training specifically resulted in more global changes in approaches to staff management within the CBO setting:

I think that training the staff on MI has been extremely rewarding for them not only on how they address their clients . . . but also in the way that we manage people. Like I think about managing folks in a compassionate way using MI so then our managers are also using MI structures to manage other frontline staff. So it's not just a way how we handle clients, it's a way that we handle ourselves internally with each other and like the strategies of supervising and managing.

Cultural changes in the CBO environment related to mental health also had apparent benefits for CBO staff. For example, the opportunity to deliver C2C skills helped some CBO staff



unlearn prior negative perceptions of mental health and apply their new knowledge to their own mental health status. CBO leaders and staff discussed trauma exposure frequently and found that C2C training helped them to understand their own trauma history (in addition to their clients') and acknowledge the consequences of experiencing trauma. One MHP leader described their perception of how training had a positive effect on CBO staff:

With the trainings there is a change in how they learn to see clients' trauma, or their own trauma histories . . . . The training challenges their own trauma history . . . staff have approached trainers and told them that the training has had a profound effect.

C2C also empowered staff members with critical knowledge and coping skills to more effectively navigate challenges and stressors associated with their day-to-day work with clients. For example, staff learned skills to better serve clients with mental health issues without feeling overwhelmed. One staff reported the benefits of C2C training:

When I did the vicarious trauma training, it was very eye opening because I had worked at another domestic violence shelter before this for five years but I didn't know what vicarious trauma was and I didn't know I was at the verge of a burnout and so recognizing all those things and how that impacted my work life and my home life, and trying to separate it and take care of myself, that way I don't impact my personal life.

Many CBOs also placed an emphasis on self-care during supervision. In addition to discussing client progress, CBO supervisors asked staff to reflect on their work and the effect of their work on their mental health. Some implemented self-care activities such as meditation and yoga as a result of the C2C initiative.

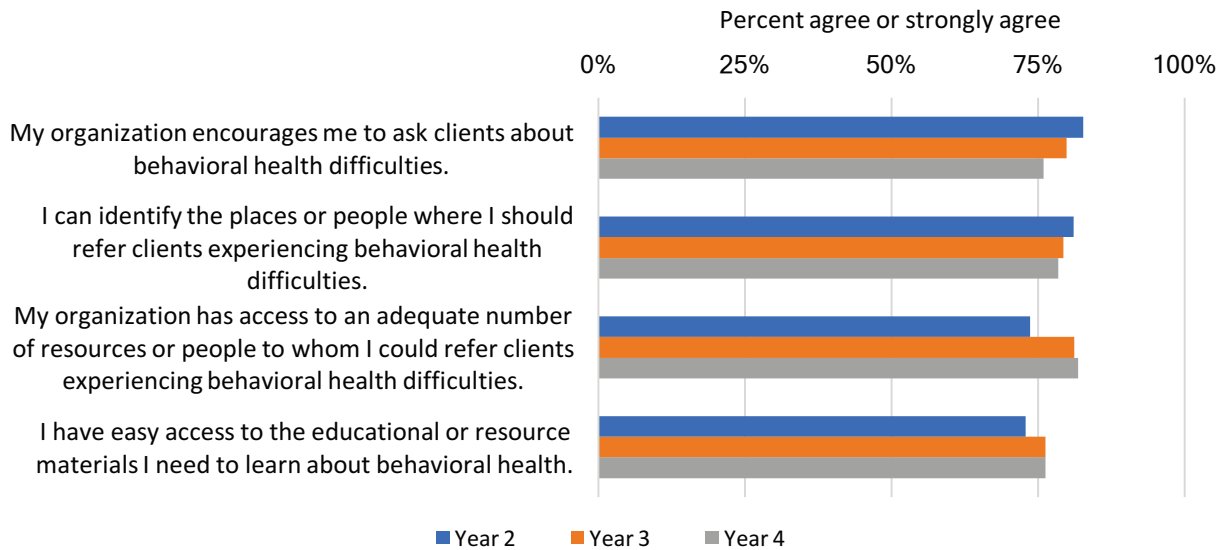
### Organizational Support to Address Client Mental Health Needs

When asked about organizational support for addressing client mental health needs, CBO staff overwhelmingly endorsed that they had access to the educational or resource materials that they or their client needed (Figure 6.2). Moreover, this was evident from the early stages of implementation (year 2) and remained high throughout implementation. For example, more than 70 percent of CBO staff respondents agreed with all statements about organizational support for addressing client mental health during each wave of the survey.

### Reorientation of Client Perspectives on Mental Health and Well-Being

C2C's role in introducing clients to information about mental health and well-being was perceived as critical to clients' willingness to engage with C2C. CBO leaders viewed the integration of C2C into CBO workflows as a way to help destigmatize mental health by facilitating more open and constructive conversations about mental health across staff and clients. Some C2C components, such as PE, were seen as particularly helpful in breaking down mental health stigma among clients. For example, curricula that oriented clients to symptoms of

**Figure 6.2. Organizational Support for Addressing Client Mental Health**



SOURCE: Data from CBO staff survey, summer 2017 (year 2), 2018 (year 3), and 2019 (year 4).

common mental health conditions such as depression, trauma, and anxiety were perceived to help normalize mental health symptoms and provide clients—and staff—with a common language to discuss mental health and well-being. One CBO leader reported observations of these changes,

I feel like part of the mission or the goal was to destigmatize and normalize and I'm starting to feel like there's more normalization, at least within the population here at [CBO], which hopefully it will continue with our mission of destigmatizing mental health and the need for services.

Indeed, CBO clients reported having a new understanding of mental health and mental health services, which they attributed to C2C, especially PE. In learning about mental health symptoms and treatment for mental health problems, some clients described feeling less isolated with their mental health issues after learning that others shared similar challenges. Some became aware of their own symptoms. One client reported,

Sometimes you don't even know [you are] dealing with suffering from anxieties. I didn't know I was suffering from anxieties either until I took this [stress reduction course]...Check! Check! Check! I actually check, checked more. I know I'm worried, but I didn't associate that as being anxious and anxieties and all that.

Providing information about mental health was also seen as helpful in increasing some clients' willingness to seek treatment. For example, some CBO clients agreed to seek help because they wanted to have better relationships with their family and provide better care to their children. Other CBO clients shared that they learned how to communicate with their children

more effectively from their counselors. CBO clients also shared how they went to parenting classes delivered as part of C2C or counseling with their children and/or their spouse. When asked about their motivation to start counseling, one client reported,

I refused first because of my situation, I thought, “I don’t want to discuss it, I want to leave it behind and not think about it” but my daughter she was having bad dreams and couldn’t sleep she was having nightmares so I went with her and it is started to help her and we all go together now because it’s a family thing but we each have our own therapist.

Delivering PE in a nonjudgmental, client-affirming style—consistent with MI—appeared to make PE content resonate more deeply with clients. As described by one client, who participated in a group PE program that included a module on signs and symptoms of depression,

She also lets you know that it’s okay not to be embarrassed about what you’re suffering from. Because a lot of people feel like they don’t need to get help because people will call them crazy. That’s major because a lot of times you can get to a point where you can harm yourself because you’re stuck. A lot of people don’t understand what depression can cause. They don’t recognize the signs and a lot of people don’t understand why they suffer from depression like that. It’s really good because she breaks everything down and takes the time to explain it to you. She really takes the time out to let the class know it’s okay.

CBO clients reported on positive experiences with the C2C program and specifically highlighted the critical role that CBO staff members played in shaping favorable impressions toward C2C. As reported by one client,

They met me down where I was . . . and helped me build my confidence . . . deal mentally with my emotions and what was going on at home and in my personal life. And then they referred me to counseling, so I feel like this is great—and the people are awesome!

### *Question 2: How Did C2C Address Community- and Individual-Level Barriers to Using More Intensive Clinical Mental Health Care?*

Despite CBO and MHP efforts to reduce barriers and facilitate access to mental health services, some challenges persisted throughout implementation. In this section, we describe how C2C worked to address different types of barriers to engaging with more intensive mental health treatment. As described in Chapter 7, the impact study examined the effectiveness of C2C in reducing individual-level barriers to mental health care.

#### **Community Mental Health Stigma**

Although C2C helped to destigmatize mental health among CBO staff and clients, staff perceived mental health stigma to be relatively high in the community over the course of implementation and an ongoing barrier to receiving mental health services outside of CBOs.

CBO staff members provided ratings of community stigma surrounding mental health on the Social Distance Scale (Link, 1989) (see Appendix B) in all three staff surveys.<sup>2</sup> For this scale, items were summed and averaged to generate a total score with scores (range: 1–6) with higher scores indicating greater perceived community acceptance of individuals with mental health conditions. The mean score in year 4 of implementation was significantly higher than year 2 ( $p < .001$ ), suggesting a slight improvement in perceptions of community attitudes over time. However, direct comparisons across the survey waves are not possible because the same respondents were not followed over time; any differences across waves should be interpreted with caution.

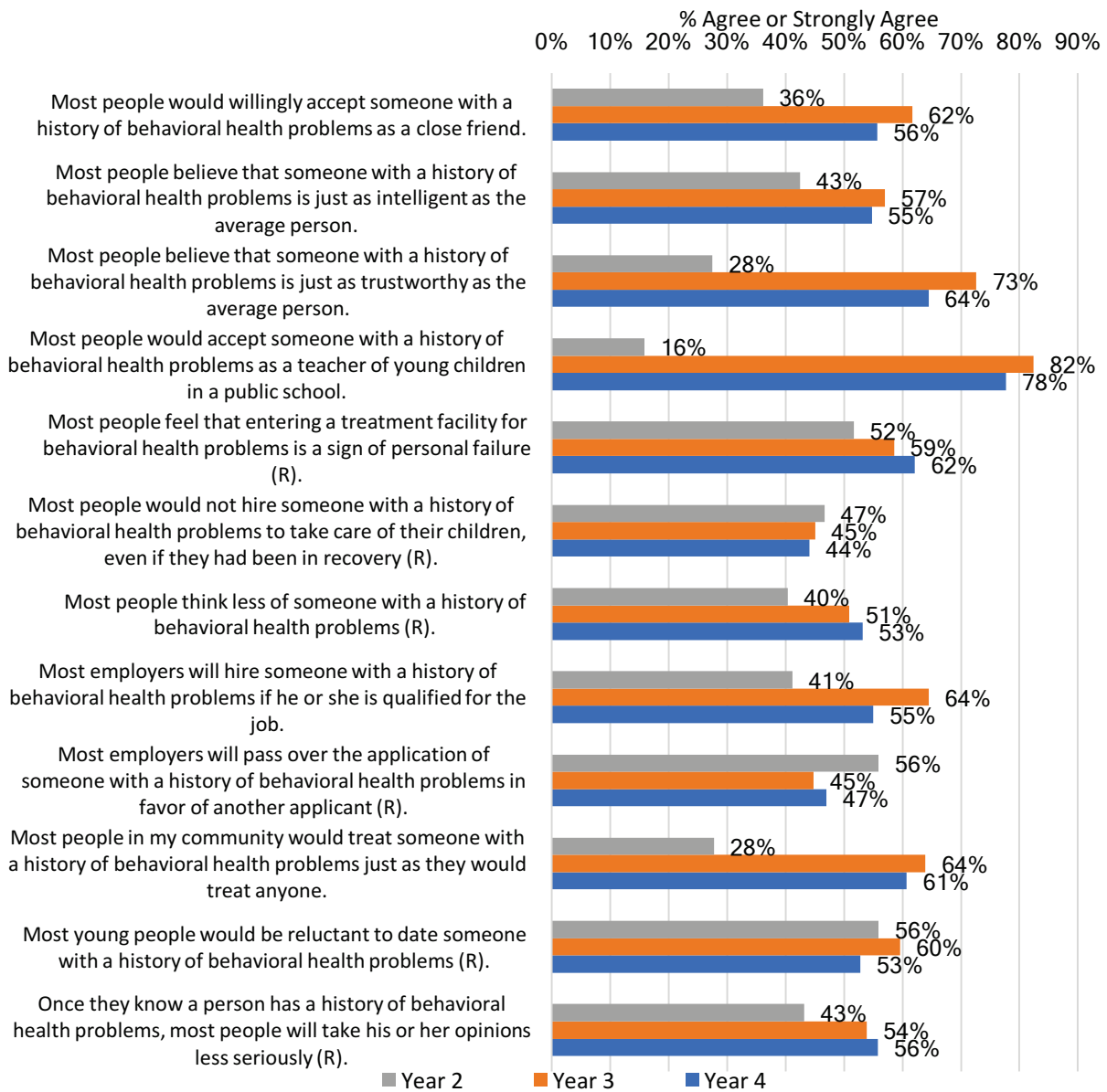
In addition, perceptions of community stigma remained relatively high throughout implementation (Figure 6.3). Approximately half of CBO staff respondents in years 3 and 4 agreed with the statement “Most people think less of someone with a history of behavioral health problems,” suggesting that negative views on mental health persisted in the community. However, there was some indication of progress in community perceptions, with the percentage of respondents who agreed with the statement “Most people would accept someone with a history of behavioral health problems as a teacher of young children in a public school” increasing from 16 percent in year 2 to around 80 percent in years 3 and 4. One possible driver of item-level differences over time is that the year 2 survey occurred at a time when many CBOs had just begun to implement C2C skills trainings. By implementation 3, CBOs had ramped up both training and implementation of all four C2C mental health skills, most notably PE, which may have had an effect on staff members’ attitudes. As noted above, any difference over time should be interpreted with caution because the same respondents were not followed over time.

As shared by CBO staff on the wave 3 survey (fielded summer 2019), community stigma surrounding mental health was viewed as a significant challenge with respect to referrals to more intensive mental health treatment. Nearly two-thirds (65 percent) of CBO staff believed that clients declined referrals because of concerns about what their friends, family, and community would think of them if they found out about their use of mental health treatment (Figure 6.4). Between 33 and 56 percent of staff endorsed other barriers, including high cost, lack of insurance coverage, logistical issues (e.g., transportation, scheduling appointments, etc.), and mistrust of the mental health treatment system.

---

<sup>2</sup> Twelve stigma survey questions were adapted from the devaluation-discrimination measures to assess the extent to which respondents believe that most people will devalue or discriminate against a person with a history of mental health treatment. Items were answered with a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). Six items were reverse scored.

**Figure 6.3. Staff Perceptions of Community Mental Health Stigma by Wave**

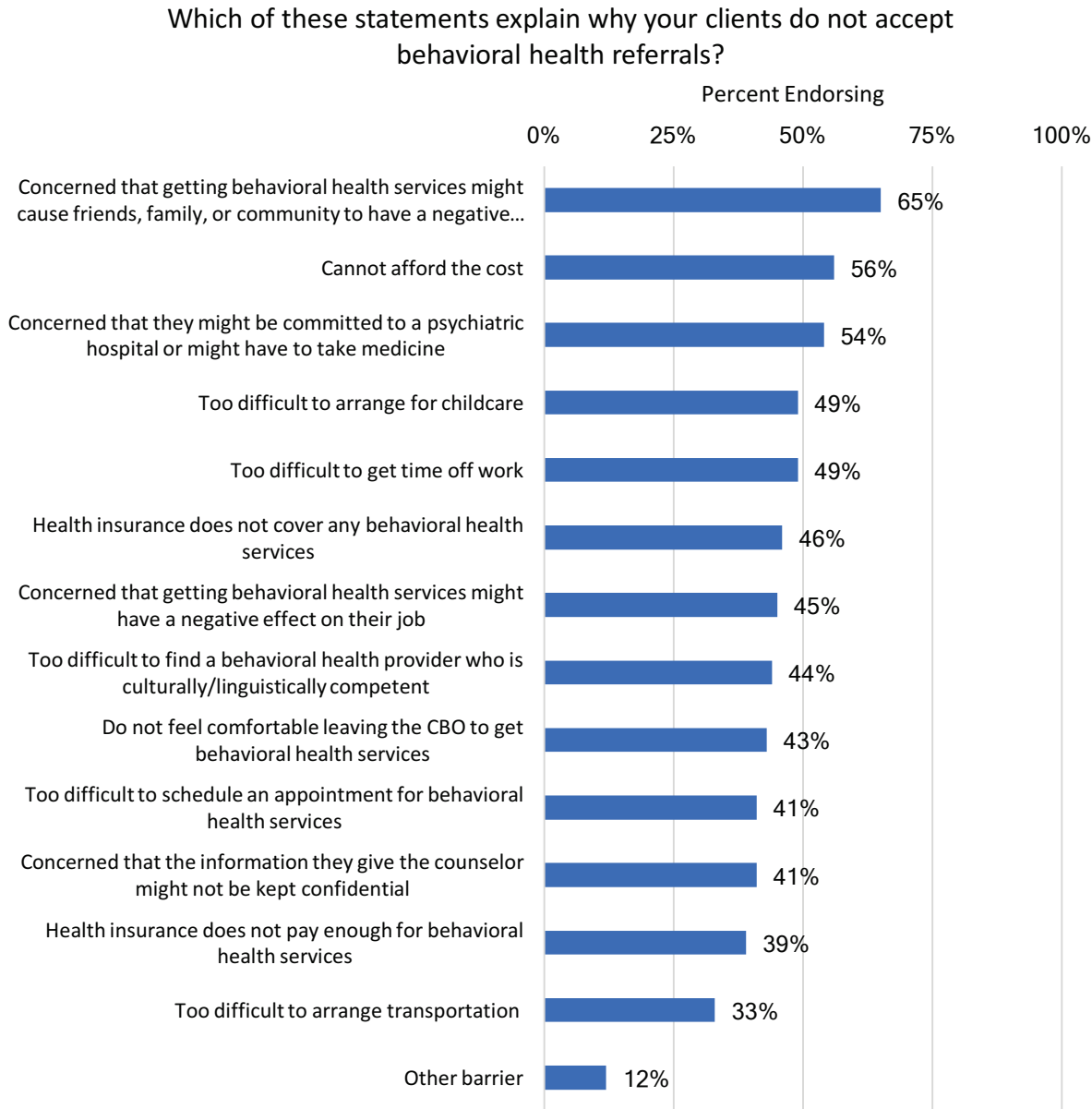


SOURCE: Data from CBO staff survey, summer 2017 (wave 1), 2018 (wave 2), and 2019 (wave 3).  
 NOTE: R = item is reverse scored during measure construction.

Community mental health stigma was also viewed as particularly pervasive and challenging for clients who came from specific communities and/or subgroups, such as first-generation immigrants. For example, as described by one CBO staff member,

That’s the other layer, which is the stigma within our communities . . . We’re dealing with people who are just directly coming here. So, I think that’s just layers and layers of complex cases we have, so I think the referral process is difficult; I think that’s the biggest barrier – for folks to come and actually see a social worker. People are just not really used to mental health services. That’s just not in their vocab.

**Figure 6.4. Staff Perception of Why Clients Decline Mental Health Referrals**



SOURCE: Data from CBO staff survey, summer 2019.

This highlights the importance of widespread novel, culturally informed efforts to address mental health stigma more broadly within communities, particularly those in which mental health problems and/or stigma are subject to high levels of social disapproval, in helping to reduce barriers to mental health service utilization and maximize the potential effects of efforts like C2C. However, preexisting mental health stigma was not seen as a significant barrier to service use for *all* client populations. As described by some CBO staff members, there was a

sense that some clients, specifically young people in some CBO settings, were more open to discussing mental health concerns than C2C program leaders had anticipated. One CBO leader reported,

Young adults who are coming in who don't really have that stigma attached to it, and they're open to these kinds of services, which surprised us when they started to say, 'Yeah, sure, I could use someone to help, because I know I have some anger issues.' So, I think that I'm just going to say it's a millennial thing, maybe, but they're starting to become a little bit more aware of it, so we can see how on that side, when the stigma doesn't exist, kind of coming in they're more open to those resources.

### Client Barriers to Completing Referrals

Both CBOs and their clients reported ongoing barriers related to following through with referrals to mental health services. These CBO-reported barriers to scheduling and attending an appointment with the MHP after the referral included practical barriers (e.g., lacking the time, transportation, and childcare to see an off-site provider, inability to pay or lack of insurance), previous negative experience with mental health services, and general discomfort with and insufficient education about mental health care. When asked about their experiences with counseling at MHPs, clients also discussed a number of practical barriers such as lack of childcare and scheduling conflicts. These barriers made it difficult to start and to continue counseling. As one client reported,

I actually was supposed to have mental health services as well. I was supposed to have them last year, but I got a job and it didn't work out. And I tried to get in the beginning of this year, same thing, I wanted something that was after work. And it seemed the person that I had felt like it was an imposition, like I was keeping her from living her life.

Another client reported on the difficulties associated with seeking treatment as a parent with limited childcare options:

I take myself and my kids and when I go sometimes it's hard for me to talk because I'm with my kids and I'm too busy parenting to have a full in-depth conversation with them. It is hard to take care of my kids while I am trying to have the session.

Some clients described a hesitation to receive counseling services because of previous negative experiences. For example, a client might not trust MHP staff based on issues with previous counselors violating confidentiality. Further, CBO and MHP staff sometimes reinforced the clients' negative perception of mental health care. For example, some clients shared that scheduling appointments was difficult because—in their past experiences—other (non-C2C) MHPs were nonresponsive, and that during appointments MHPs were not considerate or compassionate about the multiple demands in their life. However, some clients viewed the



services at CBOs and MHPs as different, describing their trust of CBO and MHP staff and comfort level receiving care. A client described this experience:

I had therapy before, but it was from the government. And the majority of the staff—from the receptionist to all of them, they are cold people, they don't even treat you like a person. I prefer to come here because they never treat you that way.

In addition, CBO staff found that some clients appeared to be uncomfortable with counseling because of insufficient knowledge about mental illnesses and mental health care. For example, clients from some cultural backgrounds had a different understanding about mental health in which they attributed mental illnesses to personal weaknesses or religious causes, which further reduced clients' willingness or comfort with seeking mental health treatment (e.g., from a counselor or psychiatrist). Further, CBOs shared that some clients did not think that mental health services would be effective for them because of limited knowledge about mental health care. CBO staff also reported that clients were intimidated by mental health services because they were not familiar with psychotherapy and were worried that MHPs would require them to take medication.

CBOs and MHPs often worked collaboratively to develop solutions to minimize some of the logistical and other barriers. For example, CBOs gave metro cards to clients who needed to use public transportation to get to the MHP. Some CBOs secured additional funding to help pay for clients' mental health services, and some MHPs changed the structure of their services to meet the needs of the clients. For example, some MHPs added walk-in hours for C2C clients specifically.

### *Question 3: How Did C2C Affect CBO and MHP Approaches to Client Care Coordination and Referrals?*

Care coordination is a practice in which the specific needs of a client and the services planned for and received by the client are communicated across multiple service providers (Berry et al., 2013; Brophy et al., 2014). Each participating provider is typically assigned a specific role in a client's care and asked to report on their activities to the other providers on a routine basis. In this section, we describe the ways that CBOs and MHPs implemented care coordination for C2C clients, challenges that arose, and whether and how they were addressed. We also discuss the ways CBOs and MHPs changed their referral processes to increase clients' access to mental health services.

#### **On-Site Counselors and Warm Handoffs**

One of the most significant changes adopted by some CBO-MHP partnerships to increase referral completion rates was bringing MHP counselors on-site at CBOs. Partnerships also increased the frequency of on-site presence of MHP and CBO staff counselors (i.e., individuals with formal mental health training) over time after observing high need among clients and attrition when the counselor was not immediately available on referral. Some CBOs had to change

MHP partners because their original partner was unable to provide any or enough on-site presence at the CBO.

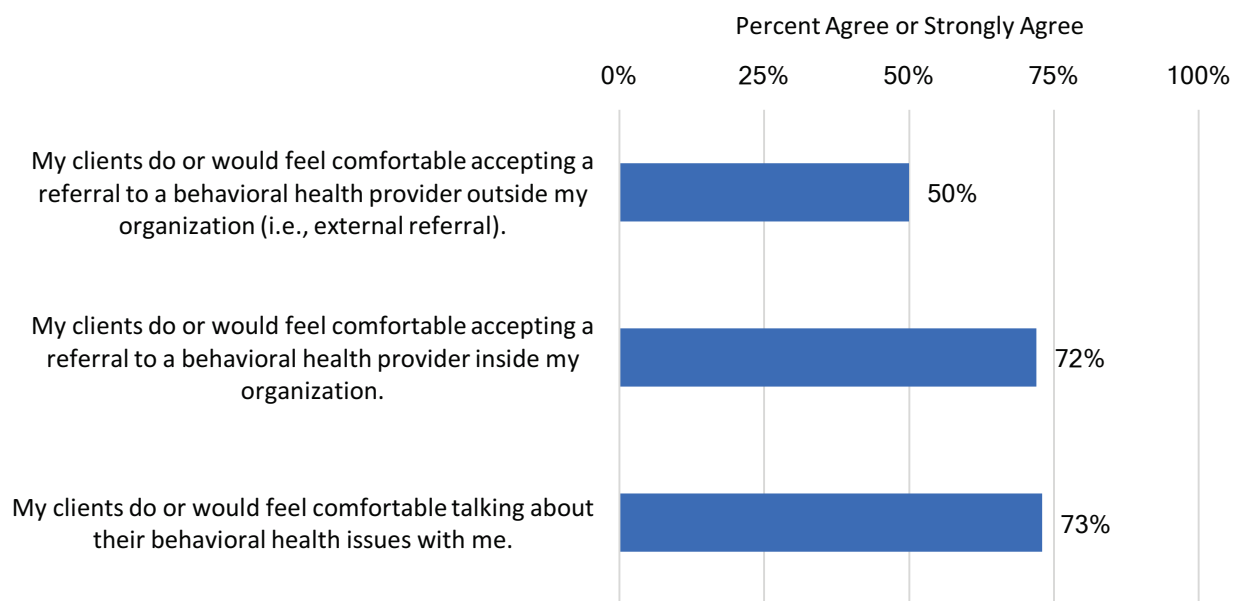
By implementation year 4, all 14 CBOs reported having a trained MHP on-site (or immediately adjacent) at the CBO either part-time ( $n = 5$ ) or full-time ( $n = 9$ ; note: one CBO had an MHP located immediately adjacent to the CBO, and one was counted as full-time). One CBO experienced persistent challenges with providing on-site counseling due to a long-standing position vacancy but was able to provide on-site counseling full-time beginning in year 4. CBO leaders shared that C2C funding increased capacity to provide co-located counseling support within the CBO, which was seen as extremely helpful in terms of addressing practical barriers to getting clients into more intensive mental health treatment. As described by one CBO leader,

We never had a mental health provider onsite or a social worker. That’s never been in a budget. . . . So, this is something that’s radical. And the fact that we can now start offering short-term therapy to participants who mention interests in some type of mental health assistance and weren’t quite getting to the clinic. We, kind of, broke down that barrier and started offering to them here onsite. . . . So, that was really the biggest change with the short-term therapy is the fact that it’s onsite.

According to CBO staff, the availability of on-site counselors at CBOs helped clients feel more comfortable accepting referrals when offered (Figure 6.5). Overall, CBO staff perceived that clients were more comfortable accepting a referral to an MHP within the CBO (72 percent) than with leaving the CBO for an appointment (50 percent).

Some CBOs and MHPs sought out novel, more cost-effective approaches to expand on-site MHP support by leveraging clinical masters or doctoral trainees (e.g., in social work,

**Figure 6.5. Staff Perception of Client Comfort with Accepting Referrals**



SOURCE: Data from CBO staff survey, summer 2019.

psychology, counseling) affiliated with the MHP, and who received supervision from MHP clinicians, to bolster the on-site MHP presence. As described by one CBO leader,

I think if we're seeing increased utilization and people needing counseling in-house, it expands beyond what we have as funded staff positions—relying more heavily on our funded [licensed counseling] staff being supervisors—so we have more interns. So, it would be another pathway to having our longevity and being able to meet the growing need.

One CBO leader also reported on efforts to expand the presence of on-site MHP interns to expand capacity as the C2C program evolved,

We were really looking at what was really successful and making it bigger . . . in working with our MHP, we noticed that counseling sessions are happening, and at a large rate, and we needed to expand. We needed to scale it, and we went from two to . . . Year 1, we had two interns. Year 2, we had three interns, and in year 3, we'll have five interns.

In addition to having counselors on-site, CBO staff consistently mentioned the warm handoff approach as an important facilitator to successful referrals. For CBOs, this included activities such as accompanying clients to the MHP to sign up for services, calling the MHP to schedule an appointment for clients, and explaining the process of psychotherapy to clients prior to scheduling an appointment. MHPs also recognized the importance of warm handoffs and took ownership of the referral process to follow up with CBOs and engage CBO staff actively during the process. One MHP described their referral process that included counselors reaching out to CBO staff:

We try to do a warm hand-off on those referrals so it's not just that we get something in the system that says, "this person has been referred." But if this is a young person who has a close relationship with a member of [CBO], then whichever counselor gets assigned to that young person will try to touch base with [the CBO staff member] to be able to do an in-person introduction because we find it very helpful for young people to be introduced by the person that they already have a close relationship with, in order to be able to increase the likelihood that they will engage in counseling.

### MHP Policies and Practices

To address barriers that limited client access to mental health care at MHPs, some MHPs changed their policies and practices to accommodate client needs. For example, one MHP reported working with their CBO to secure external funding to pay for services when clients did not have any or adequate health insurance. Another MHP explained how they modified their payment options to allow clients to pay in installments. MHPs also expanded their flexible drop-in hours to accommodate clients who could not take time off from work to receive mental health services. One MHP leader reported the ways in which clinical care in the C2C initiative differed from traditional outpatient counseling arrangements with respect to scheduling:

I mean, all of my clients from [CBO] . . . It's not like a regular psychotherapy office where they come in once a week, at the very same time. If they need

different appointment times on different days, we accommodate them. If they want to come twice a month, or once a month even, just for medicine management, we'll do that.

To specifically address stigma as a barrier to receiving mental health care, some CBOs and MHPs implemented additional outreach services to destigmatize mental health and increase client comfort with mental health services. These outreach services included peer escorts to accompany clients to their first MHP appointment, educational materials to explain different types of mental health services provided by psychologists and psychiatrists, and patient panels to discuss mental health issues. In addition, one MHP reported increasing the number of bilingual therapists to meet the needs of clients. Several MHPs reported engaging in cultural competency training with clinic staff to increase their cultural awareness and to improve their ability to work with clients from diverse backgrounds.

### Challenges Navigating MHP Practices and Policies

Many CBOs found it challenging to navigate their MHPs' practices and policies for provision of services to C2C clients, which may also reflect broader barriers to many New Yorkers seeking mental health care. For example, some CBOs shared that the lengthy MHP intake process was often a barrier for clients. Instead of seeing a therapist during the first appointment, many MHPs, adhering to a traditional psychotherapy model, required clients to have an intake appointment first. One CBO staff reported,

That's the challenging way. Yeah, because then they have to go and do the intake and then you have to make it to the next appointments and at that point I think from what I've heard from [a CBO staff member] we lose some folks.

Some MHPs had strict attendance policies that were challenging for some C2C clients. CBOs reported that clients would miss appointments because of work, childcare, or other obligations. Because rescheduling was not easy at some MHPs, CBOs indicated that clients would terminate treatment. A number of MHPs referred clients to other service providers for treatment that they did not offer, such as psychiatric medication management services. Some CBOs expressed frustration with navigating multiple referrals for clients, particularly with respect to clients who needed more intensive psychiatric services. One CBO leader reported,

It was just a gap that kept continuing . . . once somebody had an identified psychiatry meeting and we knew that they needed more intensive care, we were running through the barriers of connecting them to [MHP] and going to [an external psychiatrist], it being a little bit farther and required at least two or three modes of transit to get there. [The psychiatry provider has] a very rigid approach to appointments because their hospital system . . . our young people would engage in one appointment, two appointments, and then be dropped off their case load.

### Referrals to Other Providers

Because CBOs began providing the full complement of C2C services during implementation year 2 and beyond, they learned more about the different needs of their clients. CBOs found that

some clients needed more comprehensive care, such as medical treatment or services related to surviving domestic violence, in addition to mental health services. When MHPs had a long wait list or were otherwise unable to provide services for a given client (e.g., due to insurance requirements, cultural/language competencies), CBOs would refer their clients to other behavioral health providers and utilize other city-sponsored initiatives such as NYC Well. As described by one CBO leader, specific external referral practices were driven by the needs of individual clients,

It also depends on the client and other like specific needs they might have. Like if they have like other physical health concerns as well, we might refer them to the floating hospital because they're all inclusive.

### MHP Referrals to CBOs

As implementation progressed, MHPs appeared to gain a deeper understanding and appreciation of the CBO environment, including the population being served by CBOs. The partnership with CBOs also helped MHPs learn more about the services available at CBOs and how they might be valuable to their clients. For example, one MHP referred their clients to receive workforce training with their CBO partner. Other MHPs sent their clients to CBOs for exposure to the C2C core skills (e.g., attend PE, receive MHFA training). Through engagement with C2C, MHPs developed more effective collaboration with CBOs, which allowed MHPs to connect their clients to needed social services provided by CBOs. One MHP stated,

I would say [among the] biggest changes . . . reverse referrals. We have referred a lot of patients who are interested in working and need that support. The feedback from the patients has been amazing.

### New Care Coordination Approaches

Many CBO-MHP partnerships reported on efforts to initiate new kinds of meetings at the organizational level to coordinate care for clients, described by some as “case conferences” or “collaborative tracking meetings.” In these meetings, CBO and MHP staff would have group discussions about clients who were not yet in care, clients who were already linked to mental health care, and specific client treatment plans. Outside of conversations about clients, CBOs and MHPs also discussed some of the structural and logistical barriers to mental health care and possible solutions at these meetings. In some cases, measures of the effectiveness of care coordination efforts were reviewed, such as the number of referrals or completed appointments. For MHPs who had agreed to prioritize clients from their CBO partner, the care coordination meetings also provided an opportunity to ensure that CBO clients were really being prioritized.

All CBOs and MHPs were required to identify staff members to fulfill key leadership/management and service roles for each organization (see Chapter 4). In addition, clarifying guidance surrounding care coordination issued in year 2 required CBOs and MHPs to designate a person or team at both agencies to facilitate and simplify communication about clients. This care coordinator role typically involved connecting with clients to schedule an appointment, following

up on whether a client has kept an appointment, and answering questions about logistics that would support client linkage and retention in mental health care. One coordinator spoke about the specifics of their role at their CBO:

[I]t would be primarily my role as a C2C coordinator to interface with their [clients'] treatment planning, to make sure the treatment plan is in place. And then there is a communication once a week about whether there is adherence, and then there is a touch up once a month to talk about the treatment planning. . . [there] will be a psychiatrist who sees our clients, and they will be able to just communicate. So, it will be their treatment worker and myself interfacing, and then the psychiatrist being in direct communication with me if any follow-up is needed.

### Challenges with Exchanging Client Information

Throughout implementation, CBOs and MHPs addressed the challenges related to sharing clinical information across organizations, including the need to comply with HIPAA regulations. Partnerships that were sharing clinical information as part of their care coordination efforts set up procedures to obtain client permission for the sharing of clinical information. For example, CBOs would include signed consent forms with the information sent to MHPs when a referral was made. Several CBOs described the intricacies of working with MHPs that were part of a hospital system and having to work out special processes and exemptions for client data sharing. For example, one hospital required that all mental health care happen on hospital grounds so there was no existing policy for sharing client data with a CBO. On the MHP side, some reported that they did not always share all the client information that CBOs requested to protect client confidentiality. One CBO reported a specific client data request made to an MHP:

[W]e've requested having access to the medical record number in the hospital system, and that's being worked out so that we're just then communicating, not just based on name and date of birth, but also just having actual medical record number. And then, we're in closer phone communication with the scheduling, the intake director on the hospital side, and she's been a part of all our shared patient model meetings. She is a really high up level stakeholder that's able to understand the concept, and help us navigate getting quicker appointments, when that's needed, or streamlining communication.

### *Question 4: How Did C2C Facilitate Partnerships Among CBOs Within and Outside the C2C Network?*

Because C2C was designed to expand mental health task-shifting in NYC, it was critical for CBOs within the C2C network to work closely with each other and share processes, challenges, and solutions. It was also important for CBOs to share mental health care practices and resources with organizations outside the C2C network. Future guidance for task-shifting efforts like C2C can benefit from understanding how these relationships worked to advance C2C implementation and promote task-shifting more broadly. In this section, we describe the ways in which C2C facilitated partnerships within and beyond the C2C network.



## Sharing Within the C2C Network

Overall, CBOs described developing positive relationships with the other CBOs in the C2C network and collaborating with them to share best practices related to the C2C skills or other mental health services. These connections were facilitated in part by regular C2C program convenings, organized by the C2C Collaborative, that brought participating CBOs and MHPs together to engage in collaborative learning events and to exchange ideas. In addition to these structured activities, CBO and MHP staff members routinely engaged in more informal networking through email, phone calls, and in-person “site visits” to learn from one another. The collaboration within the C2C network started during the first year and remained strong throughout implementation. For example, one CBO shared how they learned about group screening during a visit to another CBO. Another CBO hosted an open house in collaboration with their MHP after learning from another CBO how this approach had helped clients become more familiar and comfortable with mental health services. CBOs also co-led training sessions on specific C2C skills. Overall, CBOs shared that the opportunity to learn from each other saved time and resources and prevented them from repeating mistakes.

C2C also brought together CBOs that served similar clients and provided opportunities for shared learning. For example, a subset of CBOs that focused on workforce development formed a workgroup during the early stages of implementation that continued to meet regularly throughout implementation to share best practices for working with their clients. As one CBO leader reported,

We’re all meeting at [a CBO] to talk about the process and what issues we’re having and what materials we have. So, it’s about coming together and seeing what we can do to help each other out as we prepare for year 2 implementation.

Many CBOs also viewed the C2C meetings for all participants at “convenings” organized by the C2C Collaborative as valuable to the learning process. These meetings of the C2C network promoted a sense of community and facilitated collaboration and learning among CBOs. For example, one CBO presented their art-based PE curriculum at a C2C meeting to share this innovative practice. When asked about the collaboration among CBOs, many CBO leaders agreed that the relationships and information sharing would continue beyond C2C. As described by one CBO leader,

The grantee meeting was great. They’ve just been connecting me to really important folks out there doing similar work in other agencies. We’ve already cross-pollinated, if you will, in some ways. We had some other contract deliverable that had to do with education for bilingual parents of LGBTQ youth and we offered it to another site where a colleague of mine—I met her through C2C—so like going over there, the curriculum supports her clients and one of our deliverables is to deliver this bilingual education to parents and we don’t have parents but we have youth. So, it’s like we’re really able to help each other.



## Sharing with Organizations Outside the C2C Network

CBOs described their role in bringing the C2C model to other organizations interested in providing mental health services. In interviews with CBO and MHP leaders conducted in year 4, some interviewees reported that, on learning about the mental health services available at CBOs, other organizations in the community requested information about C2C and its approach to integrating mental health care into CBOs. In response, one CBO sent staff members to these other organizations to discuss mental health issues with staff. Over time, external organizations began to see some CBOs as “experts” in providing mental health services to underserved populations. As reported by another leader, the reach of C2C went beyond NYC, with organizations from other countries also seeking out CBOs for consultation,

We have had some global implications...I have been studied by a fellow in the U.K. who wanted to learn about C2C to replicate the model at a women crisis center . . . I have also been studied by an Australian-based non-governmental organization. They will take some pieces of C2C and implement it at the program in Australia. This is transatlantic peer mentoring, and best practices from C2C that have global implications.

CBOs also expanded their reach and began to provide mental health and wellness services to clients from other organizations. One CBO leader shared that they felt competent to provide PE services to other organizations after delivering the curriculum to three cohorts of clients. Some CBOs viewed the extension of mental health services to other organizations as a way to expose more organizations to the C2C model and thus disseminate the model. A CBO leader discussed how they shared C2C practices with CBOs outside the C2C network:

So that was really helpful and seeing that shift was important for us. Also ...another organization in Brooklyn reached out to us, and we sent our social worker up to their organization to do pretty much the same thing she did with our clients here [as part of the C2C program].

One MHP also described their assessment of C2C and its influence in the broader community during the third year of implementation, and specifically highlighted the importance of support for collaboration and exchange of best practices amongst providers within the C2C initiative:

[C2C] has built a larger community in New York City of practitioners who are speaking a common language and exchanging ideas and practices that can become best practices.

## Discussion

In this chapter, we discussed the extent to which C2C transformed CBOs’, MHPs’, and the community’s attitudes, behaviors, and culture surrounding mental health.

### *Role of Mental Health*

CBO leaders described how C2C trainings helped to cultivate a common language with which staff members and clients could discuss mental health and well-being, as well as a more

standardized framework for addressing client mental health needs. Over time, CBO staff began to recognize the strength of C2C skills in meeting client needs and supporting clients in achieving their goals. This observation of the benefits of C2C programming for their clients may have helped CBO staff become more invested in C2C and more willing to deliver C2C skills. Overall, consistent with previous reviews of EBP implementation in nonclinical settings (Bach-Mortensen, Lange, and Montgomery, 2018), effective messaging, high staff buy-in, and perceived alignment of C2C with organizational mission were viewed as important facilitators to the implementation of C2C. Such factors were also critical in bringing about broader changes with respect to how CBOs prioritized client mental health over time.

PE was seen as particularly useful in breaking down mental health stigma among clients when delivered using an MI-centric, nonjudgmental approach. Such an approach may be instrumental in addressing common barriers to seeking clinical care for clients who may benefit from more intensive mental health treatment. Anecdotal reports from client interviewees suggest that PE in the CBO context may help to correct misperceptions surrounding common mental health conditions (e.g., anxiety) and treatment options. In combination with mental health screening, C2C PE may help to increase downstream utilization of mental health services by enhancing clients' ability to recognize whether/when they might be experiencing symptoms that could benefit from treatment. This is potentially important given that lack of perceived need for treatment is among the most commonly cited reasons for forgoing mental health treatment among individuals who experience mental health symptoms but have not received treatment (i.e., "I didn't think I needed [treatment]") (see Mojtabai et al., 2011). Chapter 7 provides more information regarding the effectiveness of C2C in reducing client-reported treatment barriers.

CBO leadership also reported observing the benefits of staff using their C2C skills with clients to help them more successfully navigate CBO programs. In terms of training and supervision in C2C skills received by CBO staff, more than three-quarters of staff survey respondents reported feeling like the training helped them address their clients' mental health-related problems. This suggests that CBO staff began to recognize the strength of C2C services and how these services met client needs and became more invested in C2C and more willing to deliver C2C services. As such, careful consideration of how C2C is expected to address specific staff and client issues or needs, and how C2C aligns with organizational mission (Bach-Mortensen, Lange, and Montgomery, 2018), are critical components of effectively messaging C2C to staff and clients to enhance buy-in.

Of the four core C2C skills, MI was seen as having the greatest and most widespread effect on organizational culture within CBOs. CBO leaders and staff members credited MI training with establishing a common language for discussing client interactions and efforts to enhance client motivation and progress toward specific goals within diverse CBOs. Moreover, MI was seen as having a broader effect on communication styles and interpersonal interactions among staff members. These findings suggest that, of the core C2C skills, MI—specifically the "MI spirit" and orientation toward client interactions—may be an appealing strategy for CBOs with

respect to improving communication, supporting changes in organizational climate, and moving the orientation toward client well-being within a range of different settings. However, MI is more than an orientation toward client interactions (Miller and Rollnick, 2008; Miller and Rollnick, 2013) that encompasses a broad array of clinical skills and requires extensive training, practice, and supervision to implement with fidelity (Moyers et al., 2005). As such, although MI was seen by CBOs as an important and appealing component of the C2C model, integration of MI skills within CBOs may require extensive planning and investment to yield the transformative effects on organizational culture cited by CBOs in the C2C initiative. Despite this, even brief introductory training in basic MI skills may pay dividends with respect to widespread effects on staff-client and staff-staff interactions within CBO settings.

Because the C2C skills were primarily implemented within the CBO setting, the bulk of organizational change was expected to occur within CBOs (Aarons, Hurlburt, and Horwitz et al., 2011). However, MHPs also reported undergoing organizational changes as a consequence of their participation in C2C. As described above, many MHPs expanded their clinical presence (including the presence of the clinical interns who they trained) on-site at CBOs to allow for client intakes and brief counseling outside their home clinics. In addition, through efforts to reduce practical barriers to client referrals through C2C, many MHPs modified their clinic hours and/or rules surrounding appointment no-shows and clinic wait lists. Further, by virtue of learning more about the scope of services provided by CBOs, MHPs engaged in reverse referrals to CBO services that could address a wide range of challenges confronted by their clients. This link to CBO services was seen as promoting more holistic treatment within the MHP. These findings suggest that MHPs experienced a number of organizational changes and experienced tangible—and in some cases unexpected—benefits from their participation in C2C. Establishing formal arrangements with CBOs through programs such as C2C may be an appealing way to increase community presence and promote access to a more comprehensive set of social services for community mental health clinics who serve vulnerable populations.

### *Barriers to Using Mental Health Care*

Client barriers to referrals included practical barriers (e.g., scheduling difficulties, lacking the time, transportation, and childcare to see an off-site provider, inability to pay or lack of insurance), previous negative experience with mental health services, and general discomfort with the idea of receiving mental health services. In addition, although C2C helped to destigmatize mental health among CBO staff and clients, staff perceived community mental health stigma to be relatively high over the course of implementation and a primary and ongoing barrier to clients accepting referrals to seek mental health services outside CBOs. CBOs and MHPs worked collaboratively to develop solutions to minimize client barriers, such as giving metro cards to clients or MHPs adding walk-in hours for C2C clients specifically. Findings from our analysis of C2C's effectiveness in addressing client-reported barriers to service utilization are described in detail in Chapter 7.

The relatively high levels of community stigma reported by staff members are consistent with prior community-based research. A number of studies have found that stigma associated with mental health is persistent in many communities, especially in racial/ethnic minority communities (Brown et al., 2010; Conner, Koeske, and Brown, 2009). A recent review found that stigma is even found among health care professionals who provide care to patients with mental health illnesses (Mestdagh and Hansen, 2014). Although nearly all CBOs endorsed stigma as a barrier to referrals, there was some anecdotal evidence relayed by CBO staff interviewees that some CBO clients tended to show less stigma (i.e., adolescents and young adults, for whom mental health treatment seeking was viewed as more normative), which may have increased the willingness to accept mental health referrals in some client populations. In the context of high community stigma toward mental health and mental health services (e.g., perceptions that seeking treatment is a sign of personal weakness), additional strategies beyond stigma-reduction efforts and PE-based interventions may be needed to appropriately address client mental health needs. For example, ongoing efforts to target stigma within historically underserved communities (e.g., through public education campaigns, partnerships with community leaders) may be needed to optimize the effect of C2C and similar programs on reducing unmet mental health treatment need. Chapter 7 provides a more detailed examination of whether C2C reduced stigma and other barriers to mental health care.

### *Care Coordination and Referrals*

Over time, CBOs and MHPs made adjustments to their organizational structures and policies to address challenges and improve coordination surrounding clients' mental health needs. CBOs reported that solutions such as having on-site counselors at CBOs, warm handoffs to MHPs, and changing MHP practices and policies all helped to minimize some client barriers to receiving mental health care. CBO leaders shared that clients had to overcome many barriers before they could actually see an MHP, which often required CBOs and MHPs to work collaboratively to make structural changes in their practices.

The integration of MHPs within more comprehensive "treatment teams" in non-MHP service settings (e.g., hospitals, primary care clinics) is foundational to "integrated care" and related models (Kodner, 2009) aimed at reducing barriers to accessing mental health treatment. This type of integration has been shown to increase mental health service use in a range of different settings and for different populations (e.g., Fuller et al., 2011). Integration of mental health services on-site at the CBO may represent a particularly important approach to increasing referral completion rates for clients with a need for more intensive mental health treatment. However, integration of MHPs within CBOs can also pose challenges for organizations, including but not limited to practical issues such as clinician availability and the cost of maintaining an MHP presence within the CBO. Some CBOs overcame these challenges by leveraging MHP trainees, typically master's or doctoral-level clinicians in training, who were able to provide some specialty mental health services within the CBO setting and serve as on-site

“faces” of the MHP, which facilitated warm handoffs and smoothed the referral process. Through establishing such arrangements, many CBOs and MHPs were able to demystify the MHP (i.e., because the on-site intern became a “known entity” within the CBO), increase their capacity to address more intensive client mental health needs, and augment referral processes in a resource-efficient way that was seen as beneficial for all parties.

### *Partnerships Among CBOs Within and Outside the C2C Network*

C2C was designed to increase NYC’s capacity to provide mental health care to vulnerable NYC residents. All organizations lauded the extensive guidance, technical assistance, and supplementary trainings (e.g., MI Institute, CQI workshop) that were provided by the C2C Collaborative as part of C2C and perceived these supports as essential for successful implementation. This is consistent with past research on the implementation of EBPs (Bach-Mortensen, Lange, and Montgomery, 2018) and underscores the importance of technical assistance networks and collaborative learning in adapting and implementing behavioral health interventions in CBO settings. CBOs and MHPs developed positive relationships within the C2C network and learned from one another’s experiences throughout implementation. Through sharing common implementation challenges and collaborating on solutions to address these issues, organizations were able to support one another in coping with the stress of bringing C2C to life. This underscores the importance of establishing and facilitating information exchange among organizations who may be considering adopting C2C or similar task-shifting approaches to address client mental health needs.

By implementation year 4, several CBO and MHP leaders reported anecdotal experiences surrounding the diffusion of C2C model beyond the C2C network. CBOs and MHPs shared their expertise gained from the C2C initiative with local organizations (i.e., within NYC) as well as those based in other countries. Because CBOs became more confident in delivering C2C, other organizations in the community began to come to the CBOs for consultation and advice. CBOs shared their experiences with C2C model with other organizations in NYC and beyond in an effort to help those organizations better address issues surrounding client mental health. This finding is of particular importance because it suggests that C2C had a broader effect in NYC with other organizations potentially adopting some elements of the C2C model. The experiences of the CBOs and MHPs who participated in the initial C2C implementation represent a valuable resource that may help to guide implementation decisions for other organizations in the future (see Stevens et al., 2020). It is also important because spread of the C2C model outside the network may have affected our ability to detect interventions effects in the impact study.

## **Limitations**

As in previous chapters, readers should consider the limitations of the evaluation when interpreting these findings. Key findings presented in this chapter were drawn from a mix of

quantitative and qualitative data sources and may not capture the full range of experiences from all stakeholders involved in the implementation of C2C. In addition, as described in Chapter 5, findings from later stages of the implementation process (i.e., implementation year 4) are based on information from the 14 CBOs that are currently participating in the program. Although some of the lessons learned may be generalizable to other organizations, some implementation experiences likely are unique to individual CBOs, MHPs, and clients. Organizations seeking to replicate the program in the future may have different experiences, including challenges and successes, over the course of the implementation process.

## Summary

CBO leaders and staff reported that C2C helped to reconceptualize the role of client mental health in the CBO setting and helped to establish a common language through which staff and clients could communicate about mental health. In addition, a majority of CBO staff survey respondents (more than three-quarters) indicated that C2C training helped them address their clients' mental health-related problems. Clients also reported having a new understanding about mental health and mental health services, which they learned from receiving C2C services. Throughout implementation, CBOs and MHPs described numerous barriers related to client referrals to more intensive clinical services at MHPs and other clinical providers. In particular, despite perceptions that C2C helped to break down stigma within the CBO setting, CBO staff members viewed the stigma in the community around mental health and mental health services as a significant barrier to accessing mental health treatment. Over time, CBOs and MHPs worked collaboratively to address these barriers. CBOs and MHPs also changed their approach to care coordination over the course of implementation and took steps to standardize and streamline information-sharing practices. Routinely connecting and exchanging ideas with other CBOs and MHPs participating in C2C was a commonly cited facilitator of successful implementation. Moreover, many CBO and MHP leaders reported sharing lessons learned from C2C with organizations outside the C2C network.



## References

- Aarons, G. A., M. Hurlburt, and S. M. Horwitz. (2011). Advancing a conceptual model of evidence-based practice implementation in public service sectors. *Administration and Policy in Mental Health*, 38(1), 4–23.
- Ayer, L., M. S. Dunbar, M. Martineau, C. Stevens, D. Schultz, W. Y. Chan, M. Abbott, R. Weir, H. H. Liu, D. Siconolfi, and V. L. Towe, *Evaluation of the Connections to Care (C2C) Initiative: Interim Report*, Santa Monica, Calif.: RAND Corporation, RR-2497-MFANYC, 2018. As of February 4, 2020:  
[https://www.rand.org/pubs/research\\_reports/RR2497.html](https://www.rand.org/pubs/research_reports/RR2497.html)
- Bach-Mortensen, A. M., B. C. Lange, and P. Montgomery, “Barriers and Facilitators to Implementing Evidence-Based Interventions Among Third Sector Organisations: A Systematic Review,” *Implementation Science*, Vol. 13, No. 1, 2018, p. 103.
- Berry, L. L., B. L. Rock, B. S. Houskamp, J. Brueggeman, and L. Tucker, “Care Coordination for Patients with Complex Health Profiles in Inpatient and Outpatient Settings,” *Mayo Clinic Proceedings*, Vol. 88, No. 2, 2013, pp. 184–194.
- Brophy, L., C. Hodges, K. Halloran, M. Grigg, and M. Swift, “Impact of Care Coordination on Australia’s Mental Health Service Delivery System,” *Australian Health Review*, Vol. 38, No. 4, 2014, pp. 396–400.
- Brown, C., K. O. Conner, V. C. Copeland, N. Grote, S. Beach, D. Battista, and C. F. Reynolds, “Depression Stigma, Race, and Treatment Seeking Behavior and Attitudes,” *Journal of Community Psychology*, Vol. 38, No. 3, 2010, pp. 350–368.
- Conner, K. O., G. Koeske, and C. Brown, “Racial Differences in Attitudes Toward Professional Mental Health Treatment: The Mediating Effect of Stigma,” *Journal of Gerontological Social Work*, Vol. 52, No. 7, 2009, pp. 695–712.
- Fuller, J. D., D. Perkins, S. Parker, L. Holdsworth, B. Kelly, R. Roberts, L. Martinez, and L. Fragar, “Effectiveness of Service Linkages in Primary Mental Health Care: A Narrative Review Part 1,” *BMC Health Services Research*, Vol. 11, No. 1, 2011, p. 72.
- Kodner, D. L., “All Together Now: A Conceptual Exploration of Integrated Care,” *Healthcare Quarterly (Toronto, Ontario)*, Vol. 13, 2009, pp. 6–15.
- Link, B. G., F. T. Cullen, A. Struening, P. E. Shrout, and B. P. Dohrenwend, “A Modified Labelling Theory Approach to Mental Disorders: An Empirical Assessment,” *American Sociological Review*, Vol. 54, No. 3, 1989, pp. 400–423.
- Mestdagh, A., and B. Hansen, “Stigma in Patients with Schizophrenia Receiving Community Mental Health Care: A Review of Qualitative Studies,” *Social Psychiatry and Psychiatric Epidemiology*, Vol. 49, No. 1, 2014, pp. 79–87.



- Miller, W. R., and S. Rollnick, *Motivational Interviewing in Health Care*, New York: Guilford Press, 2008.
- Miller, W. R., and S. Rollnick, *Motivational Interviewing, Helping People Change*, 3rd ed., New York: Guilford Press, 2013.
- Mojtabai, R., M. Olfson, N. A. Sampson, R. Jin, B. Druss, P. S. Wang, K. B. Wells, H. A. Pincus, and R. C. Kessler, “Barriers to Mental Health Treatment: Results from the National Comorbidity Survey Replication,” *Psychological Medicine*, Vol. 41, No. 8, 2011, pp 1751–1761.
- Moyers, T. B., T. Martin, J. K. Manuel, S. M. L. Hendrickson, and W. R. Miller, “Assessing Competence in the Use of Motivational Interviewing,” *Journal of Substance Abuse Treatment*, Vol. 28, No. 1, 2005, pp. 19–26.
- Shippee, N. D., B. H. Rosen, K. B. Angstman, M. E. Fuentes, R. S. DeJesus, S. M. Bruce, and M. D. Williams, “Baseline Screening Tools as Indicators for Symptom Outcomes and Health Services Utilization in a Collaborative Care Model for Depression in Primary Care: A Practice-Based Observational Study,” *General Hospital Psychiatry*, Vol. 36, No. 6, 2014, pp. 563–569.
- Stevens, C., E. Tosatti, L. Ayer, D. Barnes-Proby, G. Belkin, S. Lieff, and M. Martineau. (2020). *Helpers in Plain Sight: A Guide to Implementing Mental Health Task Sharing in Community-Based Organizations*. Santa Monica, Calif.: RAND Corporation, TL-317-MFANYC. <https://www.rand.org/pubs/tools/TL317.html>

## Part III. Impact

---

The overarching goal of the C2C impact evaluation was to examine the effect of C2C's task-shifting approach of integrated mental health skills and support into the work of CBOs on participants' access to and utilization of mental health care, mental health and functioning, and outcomes targeted by the programs and services offered by the CBOs.

Chapter 7 examines whether C2C reduced barriers to mental health care, and whether C2C increased various forms of mental health care utilization, relative to the comparison group (i.e., clients of CBOs who did not participate in C2C).

Chapter 8 examines whether C2C improved mental health symptoms over time relative to the comparison group.

Chapter 9 examines whether C2C improved outcomes in the domains of employment, housing, education, and incarceration, relative to the comparison group.

Appendix C provides extensive detail on the methods used to execute the impact analyses, as well as additional data related to that provided in the chapters of this section.

## 7. Impact of C2C on Mental Health Care Access and Utilization

---

*Daniel Siconolfi, Dana Schultz, Lynsay Ayer, Joshua Snoke, and Elie Ohana*

### Key Findings

- From baseline to follow-up, both C2C participants and those in the comparison group reported fewer logistical, attitudinal, and stigma barriers to mental health care, more utilization of clinical outpatient care, and less utilization of inpatient and emergency care.
- In the overall sample, C2C did not result in greater improvement on measures of access to and utilization of mental health services compared with usual CBO services.
- C2C was more effective for certain subgroups, showing an effect in the following areas:
  - reduced attitudinal barriers to mental health care in youth and young adults
  - increased use of outpatient mental health services at youth development CBOs
  - reduced emergency department use among parents and caregivers and youth and young adults
  - reduced residential treatment use at job training and employment CBOs and among unemployed/underemployed adults and parents and caregivers.

## Introduction

C2C was designed to improve access to evidence-informed mental health services for at-risk populations in NYC through its task-shifting approach. For this segment of the impact evaluation, we investigated the extent to which access to mental health care and utilization of mental health care services changed for C2C participants, relative to comparison participants (i.e., clients of CBOs who did not participate in C2C). We expected to find that barriers to mental health care decreased more for C2C participants than for comparison participants. We also expected to find that, among persons with mental health need at baseline, C2C participants would report greater utilization of mental health services at follow-up, relative to comparison participants.

This chapter examines whether C2C reduced barriers to mental health care, and whether C2C increased various forms of mental health care utilization among New Yorkers seeking services from CBOs. Because of variability in the types of CBOs participating and the clients being served, these analyses first examined effects among the entire sample of participants and then looked at effects for different populations or settings within the sample.

### *Background*

For low-income adults and youth, such as those targeted by the C2C program, prior research has documented factors that impede access to mental health services and those that may increase mental health care utilization. Here we briefly review that literature, because it applies to our approach to evaluating the effect of C2C.

#### Barriers to Mental Health Care

There are many barriers to accessing mental health services (Clement et al., 2012; Gulliver, Griffiths, and Christensen, 2010; Priester et al., 2016), which can be broadly categorized into three groups: logistical barriers, non-stigma-related attitudes, and stigma (Clement et al., 2012). Logistical barriers to mental health care include factors such as high cost for services, lack of health insurance, shortages of MHPs, inflexibility in scheduling, lack of culturally inclusive and/or linguistically appropriate care, prior negative experience with mental health services, and mistrust of the health care system (Santiago, Kaltman, and Miranda, 2013; Substance Abuse and Mental Health Services Administration, 2019a). Examples of non-stigma attitudinal barriers include concerns about treatment side effects or the belief that the problem would resolve naturally. Mental health treatment stigma refers to “the stigma and discrimination that individuals believe to be associated with receiving care for a mental health problem” (Clement et al., 2012).

Stigma-related barriers include individuals’ concerns about the potential negative consequences associated with seeking treatment for a mental health problem. Mental health stigma can interfere with help seeking (Clement et al., 2015; Schnyder et al., 2017). Internalized stigma, or the inward shame attributed to mental health problems, is a common impediment to help seeking (Clement et al., 2015). For example, someone in need of mental health care may

avoid seeking treatment due to shame, embarrassment, or fear that others would find out about their mental health problem (Hadfield and Wittkowski, 2017; Lazear et al., 2008).

### Unmet Need for Mental Health Services and Mental Health Care Utilization

Unmet need for mental health services is prevalent in NYC. For example, estimates indicate that less than 40 percent of New Yorkers with major depressive disorder report receiving mental health treatment (City of New York, Office of the Mayor, 2015), despite evidence that depression can be treated effectively (Cipriani et al., 2018; Lopez-Lopez et al., 2019; Siu et al., 2016). Nationally, about one in four persons (24 percent) with any mental illness report unmet mental health needs, and this increases to nearly one in two persons (45 percent) among those with serious mental illness (Substance Abuse and Mental Health Services Administration, 2019b). Mental health care utilization is even lower among historically underserved individuals, including racial/ethnic minority and other socioeconomically disadvantaged groups, which may contribute to or exacerbate mental health problems and other disparities, such as economic and educational inequalities (Ault-Brutus and Alegria, 2018; Breslau et al., 2017; Burnett-Zeigler et al., 2012; Santiago, Kaltman, and Miranda, 2013).

Early detection of mental health problems is one way to address issues related to mental health care utilization. Recent studies have demonstrated that a positive screening for mental health problems is related to greater likelihood of mental health service utilization, such as outpatient services and inpatient care (Petrenko et al., 2011; Shippee et al., 2014; Thomas and Staiger, 2012). However, there are potential racial and ethnic disparities in screening in clinical settings (Alegria et al., 2016; Hahm et al., 2015; Thomas and Staiger, 2012). Mental health screenings in community settings, therefore, have the potential to reduce such disparities (Thomas and Staiger, 2012). In addition, individuals who engage in substance use treatment do not always receive mental health screening, despite the fact that they are vulnerable to cooccurring mental health problems. With adequate training, substance use treatment programs can successfully implement mental health screening for youth and adults (Lee et al., 2010; Lincoln et al., 2006; Lubman et al., 2008). Although C2C was envisioned as an approach to address the unmet need for mental health services, the specific combined package of the four C2C skills has not been studied previously. Further, evidence of the effectiveness of the individual skills for reducing barriers or increasing utilization is limited. As a result, any effect of C2C, whether delivered individually or in combination, on improving these outcomes would be expected to be small.

### *Research Questions*

At the individual level, C2C aimed to assess whether integration of C2C skills into CBO workflows could reduce barriers to mental health care and increase utilization of mental health services. For the primary research question of whether C2C participants showed greater reductions

in barriers to mental health care relative to the comparison group, we tested whether the following were lower among C2C participants:

- logistical barriers to mental health care
- attitudinal barriers to mental health care
- stigma-related barriers to mental health care
- internalized stigma regarding mental health care.

For the primary research question of whether C2C participants reported greater utilization of mental health services relative to the comparison group, we tested the following hypotheses:

- Among persons with unmet mental health needs (one or more baseline mental health scores at or above the moderate symptom threshold), C2C participants have *greater* utilization of the following than comparison group participants over time:
  - mental health services in outpatient clinical settings
  - nonclinical mental health supports in community settings.
- Among persons with unmet mental health needs, C2C participants have *less* utilization of the following than comparison groups participants over time:
  - inpatient care for emotional, mental health, or substance use problems
  - emergency department/urgent care settings for any reason.

We also examined one secondary research question related to our hypotheses:

- Does program effectiveness vary for the specific populations targeted by C2C (i.e., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment program, youth development program)?

## Methods

At the individual level, C2C aimed to demonstrate that implementation of C2C program strategies into CBO workflows can reduce perceived barriers to mental health care for all participants and increase mental health services utilization among those with unmet mental health needs. The impact evaluation tested the extent to which C2C improves participants' access to mental health care and well-being on a variety of dimensions by comparing C2C clients with clients who receive similar social services, but not C2C mental health services, from similar local CBOs (see Appendix C, section C.1 for more information on design of the impact evaluation).

This quasi-experimental evaluation design allowed us to examine the effect of C2C on barriers and utilization for both the primary and secondary research questions: (1) for the primary research questions, we examined the pooled effect of C2C across all treatment participants (i.e., C2C clients) compared with all comparison participants (clients of CBOs who did not participate in C2C), and (2) for the secondary research question, we examined the effect of C2C on specific subgroups of participants, including the three C2C target populations (i.e., adults age 18 or older

who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) and the two CBO service types with sufficient sample sizes (e.g., job training and employment programs and youth development programs).

Information on data collection and data analyses are summarized briefly below. See Appendix C for complete details.

### *Data Collection*

**C2C group.** Thirteen of the 15 C2C CBOs participated in the impact evaluation. It was not possible to include two organizations in the impact component of the evaluation: one CBO was excluded from the analysis because they were not able to implement the program, and the funder terminated their participation in C2C; the other launched implementation with an intervention model that was substantially different from the other CBOs in C2C and offered its program in a language that would have required extensive translation resources for study recruitment and data collection materials. The 13 remaining C2C CBOs included five job training and employment programs, three youth development programs, a homeless shelter, two parent/caregiver-serving organizations, a domestic violence organization, and an immigrant-serving organization.

**Comparison group.** We successfully recruited ten comparison group CBOs to participate in the impact evaluation. Comparison group participants were recruited from CBOs in NYC that served similar populations (e.g., geographic location, race/ethnicity, primary language, age) and provided similar services as C2C CBOs (e.g., three job training and employment programs, three youth development programs, a homeless shelter, a parent/caregiver-serving organization, a domestic violence organization with multiple locations, and an immigrant-serving organization) but were not implementing C2C or providing other mental health services.

**Procedures.** For both C2C and comparison CBOs, RAND data collection staff worked closely with CBO staff to integrate the study data collection procedures into their client workflow. At C2C CBOs, staff administered their CBO-specific C2C screenings to clients, explained the opportunity to participate in the C2C impact evaluation, and provided recruitment materials. Clients who were interested in participating in the study were referred by CBO staff to RAND data collection staff, who obtained informed consent to administer the eligibility screening and baseline assessment for those eligible for the study. For the comparison CBOs, CBO staff supported the early stages of study recruitment (e.g., through recruitment events, referring clients to the study during program intake, posting or distributing recruitment flyers), and RAND data collection staff administered the study screening and baseline assessment for those eligible for the study.

**Eligibility.** The primary inclusion criterion for the impact evaluation was meeting a minimum threshold on one or more of the eligibility screening measures for one of five mental health conditions (depression, anxiety, PTSD, alcohol use, other substance use [i.e., drug use]). We set eligibility thresholds lower than clinical thresholds (“cut points”) typically used to inform



further screening diagnosis to be inclusive of persons with subclinical levels of mental health symptoms in addition to those with clinically significant symptoms.

**Main study sample.** For the analyses for the primary research questions, we used baseline survey data collected as part of study enrollment and follow-up client survey data collected from June 2017 through February 2020. This includes baseline data on 1,838 study participants (1,232 participants in the C2C group, 606 participants in the comparison group), 6-month data on 688 participants at 6 months postbaseline (443 C2C group participants, 245 comparison group participants), and 12-month postbaseline data on 732 participants retained at 12 months (464 C2C group participants, 268 comparison group participants). The retention rate at 6 months was 37 percent (36 percent of C2C group, 40 percent of comparison group); the retention rate at 12 months was 40 percent (38 percent of C2C group, 44 percent of comparison group). For mental health care barriers, we analyzed the 6- and 12-month follow-up time points separately. For mental health care utilization, we used pooled 6- and 12-month data (i.e., participants with one or both follow-up time points were included in analysis). For this pooled follow-up data, the retention rate was 49 percent (47 percent of C2C group, 53 percent of comparison group). Baseline sample characteristics are summarized in Table 7.1 below with complete details in Appendix C, section C7.

**Unmet need subsample.** For the utilization analyses, we focused on the subgroup of both samples (C2C and comparison) whose baseline data indicated unmet mental health need at baseline. Unmet mental health need at baseline was defined as having one or more screening scores above the moderate or intermediate threshold for the baseline mental health indicators (depression, generalized anxiety, psychological distress, PTSD, alcohol use, and other substance use), regardless of recent mental health service utilization. At baseline, 81.3 percent of participants had unmet mental health need ( $n = 1,494$ ). Of the pooled 6- and 12-month retained sample, 83.5 percent ( $n = 756$ ) had unmet need at baseline. The unmet need subsample is described in Table 7.1. Detailed subsample characteristics for the unmet need group are provided in Appendix C, section C7.2.

**Table 7.1. Baseline Characteristics**

Characteristics	Main Sample ( $n = 1,838$ )		Unmet Need Subsample ( $n = 1,494$ )	
	C2C	Comparison	C2C	Comparison
Gender (% female)	49	66	49	67
Age (mean)	29.8	30.7	30.0	30.0
Race/ethnicity (% Black or Hispanic)	90	90	89	89
Education (% high school, GED, or less)	69	72	68	65
Employment (% unemployed)	66	48	66	50
Income (% <\$5,000)	60	57	60	58
Housing (% stably housed)	41	48	41	46

**Subgroup samples.** For the analyses for the secondary research questions of whether C2C program effectiveness varied for different target populations (e.g., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment program, youth development program), Table 7.2 provides details on the sample size for each subgroup examined. These groups are not mutually exclusive.

**Table 7.2. Sample Sizes for Subgroup Analysis**

Subgroup	6 Months			12 Months			1 Year (Pooled 6 and 12 Months)		
	Full Sample	C2C Group	Comparison Group	Full Sample	C2C Group	Comparison Group	Full Sample	C2C Group	Comparison Group
<b>CBO service type</b>									
Job training and employment programs	422	296	126	448	308	140	565	392	173
Youth development programs	158	84	74	160	80	80	196	102	94
<b>C2C target population</b>									
Adults age 18 or older who are unemployed or underemployed	463	318	145	488	336	152	603	422	181
Young adults ages 16 to 24 who are not in school and are not employed	145	95	50	156	104	52	200	135	65
Parents/primary caregivers who are expecting or have children up to age 4	160	100	60	171	108	63	166	104	62

**Power analysis.** For the client survey, we retained a total of 689 participants in the study at 6 months and 732 at 12 months. Given this sample size for the main sample, there was an 80-percent power to detect an intervention effect of size 0.223 at 6 months and 0.215 at 12 months, which are small-sized effects according to Cohen’s effect size classification (Cohen, 1988). For the pooled utilization analysis that combined 6- and 12-month data, there was sufficient power to detect a small intervention effect size (0.215).

**Measures.** The specific outcome measures for these analyses included self-reported measures of mental health care barriers and mental health care utilization. For barriers, we used the three subscales of the Barriers to Access to Care Evaluation (BACEv2) (Clement et al., 2012) to measure logistical barriers (e.g., service cost), attitudinal barriers (e.g., concern about medication side effects), and stigma barriers (e.g., concern about how others will react). Because of the salience of internalized stigma to C2C’s goals, we also separately examined the scale’s single item for internalized stigma, which is also contained in the stigma barriers subscale. For outcomes analysis, we used the BACE scoring approach of averaging responses instead of treating each item as a binary (yes or no) response.

For utilization, we used items adapted from the Community Partners in Care (CPIC) evaluation (Chung et al., 2014) and asked respondents about different services or supports they might have received from the CBO and about their exposure to the different C2C skills. Six- and 12-month follow-up data were pooled for these variables; for example, affirmative use of a given service at either 6 or 12 months was coded as “utilization over the past year.”

### *Data Analyses*

We used propensity scores that estimate the probability that each individual received C2C (vs. services as usual) based on their baseline characteristics to adjust for any differences between the C2C and comparison groups at baseline. The resulting propensity score weights balance the two groups on baseline demographic variables (age, gender, race/ethnicity, income level, education level, employment status, housing status, incarceration status, target population, and CBO service type) and baseline outcome variables (depression, anxiety, PTSD, alcohol use, other substance use, psychological distress, logistical barriers, attitudinal barriers, and stigma barriers) at both 6 and 12 months. Pooled 6- and 12-month data for utilization analysis also used propensity scores generated for those specific analyses.

For the pooled 1-year utilization outcomes in the main analysis comparing the overall C2C group to the overall comparison group, we imputed missing data at either time point for each individual. Fully conditional specification, using the R package mice, was used to create ten imputations across all variables. The imputed outcome variables were then collapsed to create pooled outcomes for the year. We did not impute data for the secondary research question related to subgroup differences (e.g., among job training and employment program clients) due to smaller sample sizes for these secondary analyses.

For the primary research question of whether C2C participants showed greater reductions in barriers to care and greater increases in mental health services utilization, we conducted the following series of analyses for each outcome using propensity score weights (1) at both 6 and 12 months (barriers to care) and (2) over the pooled 1-year follow-up (utilization of services):

- **Differences within groups over time** comparing each participant retained at each follow-up (i.e., 6 or 12 months) with that participant’s score at the baseline assessment.
- **Intervention effects over time** using an intent-to-treat approach in which we compared all individuals in the C2C group with all those in the comparison group, regardless of the actual amount of C2C skills received. With this method, we examined the average change from baseline to follow-up for C2C participants compared with the average change from baseline to follow-up for comparison group participants to assess the program’s effect.
  - **Propensity score weighted models** adjusted the comparison group participants to be similar to the C2C group on key demographic factors (see Appendix C for more details) and also controlled for the baseline value of the relevant outcome in the regression models.
  - **Doubly robust models**, called “doubly robust,” because they adjusted for potential group differences both with the propensity score weights and with the inclusion of covariates in the regression models, used the propensity score weights and controlled for demographic characteristics (age, gender, race/ethnicity, income, employment status, education level, housing status, recent homelessness, and incarceration status), subgroup (target population, CBO service type), and the baseline outcome in the regression models.

For continuous outcomes measuring the number of times something happened, we report Cohen’s *d* as the standardized effect size. For binary outcomes measuring whether or not something happened, we report the OR as the effect size. The standardized effect size was always derived from the doubly robust model.

In this chapter, we present the results of the 12-month barriers to care analyses and describe any notable findings from the 6-month analyses. The tables with 6-month analysis results for barriers to care can be found in Appendix C, section C8.1. The pooled 1-year analyses of mental health care utilization are presented entirely in this chapter.

Because we conducted large numbers of simultaneous hypothesis tests, it was necessary to adjust for multiple comparisons to account for the possibility that some results will achieve statistical significance simply by chance. We made this adjustment by setting cut scores used for determining significance based on the number of tests conducted for the set of analyses described in this chapter. Appendix C, section C6.2 provides information about the p-value used to determine significance for these analyses. In the results section, we present information about the trends observed for intervention effects before the multiple comparison adjustment to indicate results that are approaching statistical significance. For multiple comparisons corrections in this chapter, we grouped analysis into two categories— access and barriers, and utilization—and only adjusted for multiple comparisons within those categories.

For the secondary research question of whether C2C program effectiveness varied for different target populations (e.g., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment program, youth development program), we conducted this same series of analyses using propensity score weighting that was recomputed for each subgroup, including the difference within groups over time and intervention effects over time.

## Results

We started our analyses by examining mental health care access and utilization at baseline to better understand the experiences of study participants prior to C2C. We did this by examining three domains of barriers (logistical, attitudinal, and stigma) and the stand-alone internalized stigma item.

Overall, mental health care barriers across all three domains were common for our study sample of individuals seeking services at a range of CBOs in NYC. Among clients at C2C and comparison CBOs in NYC, the attitudinal barrier domain was the most strongly endorsed both overall (mean of 1.00) and for each group (Table 7.3). Strength of barriers was reported on a range where 0 indicated no interference with receiving care and 3 indicated “a lot” of interference with receiving care. The barrier strength score for each domain reflects the average strength endorsement for barriers in that domain. Both across and within groups, the next most-strongly endorsed barrier domain was the internalized stigma component of the stigma-related barriers

**Table 7.3. Strength of Baseline Barriers to Seeking Professional Care for a Mental Health Problem—Domain Scores (Weighted)**

Strength of Endorsement	Full Sample	C2C Group	Comparison Group	p-Value
	Mean (SD)	Mean (SD)	Mean (SD)	
Logistical barriers to mental health care	0.72 (0.67)	0.71 (0.64)	0.73 (0.71)	0.757
Attitudinal barriers to mental health care	1.00 (0.62)	1.01 (0.62)	0.98 (0.63)	0.399
Stigma barriers to mental health care	0.81 (0.77)	0.83 (0.76)	0.78 (0.79)	0.218
Feeling embarrassed or ashamed (internalized stigma)	0.88 (1.08)	0.91 (1.08)	0.85 (1.08)	0.323

NOTE: SD = standard deviation.

(feeling embarrassed or ashamed; mean of 0.88), followed by the stigma-related barriers domain overall (mean of 0.81). The logistical barriers to care domain was the least strongly endorsed (mean of 0.72). Overall, there were no statistically significant differences between groups in how strongly each barrier domain was endorsed.

We also looked at the number of specific barriers to mental health care endorsed within each domain and found no statistically significant differences between groups (Table 7.4).

**Table 7.4. Number of Endorsed Baseline Barriers to Seeking Professional Care for a Mental Health Problem—Individual Barrier Endorsement (Weighted)**

Number of Barriers Endorsed	Full Sample	C2C Group	Comparison Group	p-Value
	Mean (Range)	Mean (Range)	Mean (Range)	
Logistical barriers to mental health care	2.86 (0–8)	2.87 (0–8)	2.85 (0–8)	0.886
Attitudinal barriers to mental health care	5.18 (0–10)	5.26 (0–10)	5.10 (0–10)	0.272
Stigma barriers to mental health care	4.65 (0–12)	4.73 (0–12)	4.55 (0–12)	0.398

Although our outcomes analysis focused on the changes in barrier scores, we also looked at details for the barriers endorsed within each domain for descriptive purposes. Overall, there were no statistically significant differences between groups in the numbers of barriers endorsed within a given domain. A detailed table describing the prevalence of endorsement for each item in the scale is shown in Appendix C, section C7.2. Below, we describe the most commonly endorsed barriers in each domain.

- **Logistical barriers:** Study participants at baseline most often reported an inability to afford the financial costs involved (55.7 percent), uncertainty about where to go for professional help (46.6 percent), and difficulty taking time off work to seek mental health care (41.1 percent). There were no item-level statistically significant differences by group.
- **Attitudinal barriers:** Two-thirds or more of study participants at baseline identified as barriers wanting to solve the problem on one’s own (76.7 percent); a dislike for talking about one’s feelings, emotions, or thoughts (66.4 percent); and believing the problem would get better by itself (63.0 percent). The only significant difference was for the barrier regarding thinking the problem would get better by itself, with the C2C group more likely than the comparison group to endorse this barrier (65.7 vs. 59.9 percent).
- **Stigma barriers:** Study participants most often had concerns for the reaction from one’s family (49.9 percent), felt embarrassed or ashamed (49.3 percent), had concerns that it might harm employment opportunities (46.9 percent), and did not want a mental health problem on one’s medical records (47.0 percent). There were no item-level statistically significant differences by group.

Our examination of baseline mental health care utilization focused on persons with unmet need at baseline, defined as having one or more scores above the moderate or intermediate threshold for the baseline mental health measures (depression, generalized anxiety, psychological distress, PTSD, alcohol use, and other substance use), and without regard to current or recent mental health care utilization. About 81.3 percent of participants who had unmet mental health need at baseline reported on mental health service use over the prior 6 months in outpatient settings, nonclinical settings, inpatient settings, and emergency settings, and lifetime use for overnight stays in a hospital for emotional, mental health, alcohol, or drug problems (Table 7.5).



**Table 7.5. Baseline Mental Health Care Utilization Among Persons with Baseline Unmet Need (Weighted)**

Mental Health Services	Unmet Need Group	C2C Unmet Need Group	Comparison Unmet Need Group	p-Value
	Percent Endorsed	Percent Endorsed	Percent Endorsed	
Went to any outpatient MHP <sup>a,b</sup>	31.8	35.6	27.3	0.008 <sup>c</sup>
Used any nonclinical settings or resources <sup>a,d</sup>	35.6	39.7	30.6	0.004 <sup>c</sup>
Stayed in inpatient setting <sup>e</sup>	30.6	34.2	26.3	0.009 <sup>c</sup>
Used emergency settings <sup>a,f</sup>	43.2	43.4	43.0	0.915
	Mean (SD)	Mean (SD)	Mean (SD)	p-Value
Number of times went to any MHP <sup>a,b</sup>	3.6 (9.6)	4.4 (11.3)	2.7 (6.9)	<0.001 <sup>c</sup>
Number of times went to emergency setting <sup>a,f</sup>	1.2 (2.4)	1.2 (2.4)	1.2 (2.5)	0.743
Number of nights in residential treatment program for alcohol or drug problems <sup>a</sup>	4.6 (24.8)	6.5 (29.2)	2.2 (18.1)	0.107

NOTE: SD = standard deviation.

<sup>a</sup> Past 6 months.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Statistically significant at the p<.05 level.

<sup>d</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

At baseline, nearly one-third of study participants (31.8 percent) had received mental health services in an **outpatient clinical setting** (i.e., with a psychiatrist, psychologist, social worker, psychiatric nurse, or counselor) within the past 6 months. The difference between the groups was statistically significant (35.6 percent for C2C group vs. 27.3 percent for comparison group). C2C participants also reported significantly more mental health treatment visits than comparison participants (mean of 4.4 vs. 2.7). About one-third of participants had used **nonclinical settings and sources of support** in the past 6 months (35.6 percent) with a significantly higher proportion of C2C participants using any of these services at baseline (39.7 percent) relative to comparison participants (30.6 percent). About one-third of participants had used **inpatient settings** at baseline (30.6 percent) with a statistically significant difference by group (34.2 percent for C2C group vs. 26.3 percent for comparison group). This relatively high baseline prevalence may reflect the inclusion of lifetime use of inpatient hospitalization for mental health or substance use needs. For **emergency settings**, approximately 43 percent of participants had gone to a hospital emergency room or urgent care facility for any reason in the past 6 months, with an average of 1.2 visits, and no difference by group for either utilization measure.

*Primary Research Question 1: Do C2C Participants Show Greater Reductions in Barriers to Mental Health Care?*

To assess whether C2C reduced barriers to mental health care, we first examined differences in the endorsement of mental health care barriers within each group over time. In this comparison, we consider the within-individual change between baseline and the follow-up time points and report the average change and its direction across participants in each group. Participants were asked to report whether each barrier “stopped, delayed or discouraged” them “not at all” (0) to “a lot” (3).

Both groups evidenced statistically significant decreases in the strength of mental health care barriers between baseline and 12 months (Table 7.6). The largest mean difference for both groups emerged for the strength of internalized stigma, with average mean decreases of 0.57 and 0.63, respectively. Results were similar at 6 months, with statistically significant within-group decreases for all indicators (see Appendix C, section C8.1). However, the magnitude of decreases from baseline was generally larger at 12 months compared with 6 months.

**Table 7.6. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	438	-0.425	0.031	<.001 <sup>b</sup>
	Comparison	257	-0.439	0.050	<.001 <sup>b</sup>
Attitudinal barriers	C2C	443	-0.526	0.036	<.001 <sup>b</sup>
	Comparison	257	-0.443	0.048	<.001 <sup>b</sup>
Stigma barriers	C2C	439	-0.486	0.035	<.001 <sup>b</sup>
	Comparison	255	-0.490	0.052	<.001 <sup>b</sup>
Internalized stigma	C2C	420	-0.573	0.062	<.001 <sup>b</sup>
	Comparison	242	-0.632	0.092	<.001 <sup>b</sup>

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

<sup>b</sup> Statistically significant at the p<.05 level.

We next examined the intervention effect over time using an intent-to-treat approach that compared C2C participants with comparison participants regardless of the actual intervention dosage (exposure) that the C2C group received (Table 7.7). There was one statistically significant intervention effect for barriers to care at 12 months. In the propensity score weighted model at 12 months, the C2C group had a smaller decrease in internalized stigma relative to the comparison group. This is evidenced by the within-group reduction noted earlier, combined with the positive coefficient in Table 7.7. In the doubly robust models at 12 months, the treatment effect sizes were very small (Cohen’s *d* ranging from -0.05 to 0.18). At 6 months, there were no

**Table 7.7. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.014	0.058	0.813	-0.022	0.037	0.545	-0.034
Attitudinal barriers	-0.083	0.060	0.164	-0.038	0.045	0.401	-0.054
Stigma barriers	0.004	0.062	0.948	0.048	0.042	0.248	0.066
Internalized stigma	0.059	0.110	0.592	0.227	0.069	0.001 <sup>c</sup>	0.179

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Statistically significant at the p<.05 level.

statistically significant intervention effects, and effect sizes were very small, ranging from 0.02 to 0.07 (see Appendix C, section C8.1).

### *Primary Research Question 2: Do C2C Participants Show Greater Increases in Mental Health Care Utilization?*

We assessed whether C2C increased mental health care utilization among persons with unmet need at baseline who completed follow-up surveys at either 6 or 12 months (83.5 percent of the retained baseline sample). Unmet need was defined as meeting the moderate or middle symptom threshold for one of the six mental health measures at baseline (which are described in greater detail in Chapter 8) without regard for recent or current mental health service utilization. We imputed utilization data for within-group change and between-group analysis for intervention effects.

We first examined changes in utilization among persons with unmet need at baseline within each group with a binary (yes/no) indicator to compare the percentage of study participants who reported receiving the mental health service at baseline with the percentage who reported receiving the service over the 1-year period of follow-up, pooled for each group (Table 7.8). For the clinical outpatient and nonclinical settings, improvement in the outcome measures would be indicated by an increase in utilization from baseline to 12 months, because these questions are positively framed (e.g., calling a hotline for support or a referral). For the inpatient and emergency settings, improvement in the outcome measures would be indicated by a decrease in utilization, because these are questions on emergency sources of care and reflect accumulated unmet need or potential crises (e.g., stayed overnight in a hospital for emotional, mental health, alcohol, or drug problems).

**Table 7.8. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need (Imputed)			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	37.68	48.33	+10.66	<.001 <sup>c</sup>
	Comparison	31.98	42.71	+10.73	0.001 <sup>c</sup>
Used any nonclinical settings or resources <sup>a,d</sup>	C2C	40.39	36.32	-4.06	0.181
	Comparison	32.91	30.24	-2.66	0.558
Stayed in inpatient setting <sup>e</sup>	C2C	32.54	8.86	-23.69	0.001 <sup>c</sup>
	Comparison	24.15	6.33	-17.82	0.005 <sup>c</sup>
Used emergency settings <sup>a,f</sup>	C2C	41.82	47.93	+6.11	0.160
	Comparison	40.66	50.48	+9.82	0.036 <sup>c,g</sup>

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Statistically significant at the  $p < .05$  level.

<sup>d</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up)

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

<sup>g</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

For **clinical outpatient settings**, both groups had statistically significant increases in utilization of about 11 percentage points over 1 year of follow-up. For **nonclinical settings**, there were no statistically significant within-group changes in utilization. For **inpatient settings**, both groups had statistically significant decreases in any utilization: a 24-percentage-point decrease for the C2C group and an 18-percentage-point decrease for the comparison group. This latter finding may reflect the different recall periods for baseline (lifetime) and pooled follow-up data (past 6 months).

For **emergency settings**, only the comparison group had a statistically significant increase in utilization over 1 year (about 10 percentage points), but this decrease was not statistically significant after adjusting for multiple comparisons to account for the possibility that some results will achieve statistical significance simply by chance because of the large number of hypothesis tests.

We also examined utilization with measures indicating the number of visits (outpatient) or nights (inpatient) (Table 7.9). For **clinical outpatient settings**, both groups had statistically significant increases in the number of mental health visits over the past year. The C2C group had approximately three additional visits, and the comparison group had approximately two additional visits. Neither group had a statistically significant change in the number of visits for inpatient settings or emergency settings.

**Table 7.9. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year (Imputed)			
		N	Estimate	SE	p-Value
<b>Clinical outpatient settings</b>					
Number of times went to any outpatient MHP <sup>a</sup>	C2C	498	2.98	0.876	0.001 <sup>b</sup>
	Comparison	258	2.47	1.00	0.011 <sup>b</sup>
<b>Inpatient settings</b>					
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	498	-1.99	1.91	0.836
	Comparison	258	0.067	1.79	0.492
<b>Emergency settings</b>					
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	498	0.215	0.258	0.215
	Comparison	258	0.497	0.308	0.065

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Statistically significant at the  $p < .05$  level.

We next examined the intervention effect over time using the same intent-to-treat approach described earlier, in which all individuals in the C2C unmet need group were compared with all those in the comparison unmet need group regardless of the actual intervention dosage (exposure) that the C2C group received. For continuous outcomes, we report standardized effect sizes. For binary outcomes, we report OR (which represents the likelihood of C2C participants indicating a given outcome), relative to the comparison group. An OR of 1.0 means that the groups were equally likely to report the outcome, and a 95% confidence interval (95% CI) that includes the value of 1.0 means that we cannot rule out that there is no group difference. We do not show model results when the sample size is less than ten participants per group for the propensity score weighted model and less than 20 per group for the doubly robust models (noted by gray shading in the tables).

Over 1 year, there were no statistically significant intervention effects for utilization of services across all three settings (Table 7.10). The 95% CIs all include the value of 1.0, further indicating a lack of effect for these outcomes.

We also examined the between-group changes for the three continuous measures of utilization among persons with baseline unmet needs (Table 7.11). There were no statistically significant intervention effects in the doubly robust models, where the standardized effect sizes were very small (Cohen's  $d$  ranging from 0.002 to -0.11).

**Table 7.10. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year (Imputed)					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>a,b</sup>	1.26	[0.54–2.91]	0.297	1.18	[0.46–2.95]	0.370
Used any nonclinical settings or resources <sup>b,c</sup>	1.32	[0.54–3.20]	0.271	1.08	[0.41–2.82]	0.445
Stayed in inpatient setting <sup>d</sup>	1.48	[0.41–5.15]	0.278			
Used emergency settings <sup>a,e</sup>	0.91	[0.39–2.10]	0.594	0.79	[0.31–1.99]	0.696

NOTE: Areas in gray indicate that the sample size is too small to run models.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>e</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table 7.11. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome	Group-Level Comparison of Utilization over 1 Year (Imputed)						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
No. of times went to any outpatient MHP <sup>c,d</sup>	0.503	1.22	0.342	0.025	1.28	0.492	0.002
No. of nights in a residential treatment program for alcohol or drug problems <sup>c</sup>	-2.06	2.40	0.789	0.497	2.25	0.419	0.022
No. of times went to a hospital, emergency room, urgent care facility for any health reason <sup>c</sup>	-0.282	0.518	0.707	-0.343	0.466	0.769	-0.111

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>d</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

*Secondary Research Question: Does Program Effectiveness Vary for the Different Target Populations or CBO Service Types?*

We sought to understand whether C2C program effectiveness varied for different target populations (adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are

expecting or who have children ages 4 and younger) or CBO service types (job training and employment program, youth development program). Note that these groups are not mutually exclusive. We examined barriers to mental health care and mental health care utilization using the same approach as used in the main analysis.

## Barriers to Mental Health Care

### *Changes over Time Within Each Group*

For each subgroup, we first examined differences within each group over time. In this comparison, we considered the within-individual change between baseline and the follow-up time points and examined the average change and its direction across participants in each group. Across all subgroups, the C2C and comparison groups evidenced statistically significant decreases between baseline and 6 months, and between baseline and 12 months, in each of the barrier domains (see Appendix C, section C8.3).

### *C2C Intervention Effects*

For each subgroup, we then examined the intervention effect over time using the intent-to-treat approach described earlier. Below, we summarize the intervention effects across the subgroups with statistically significant findings at 12 months, all of which support of the effectiveness of C2C (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant. At 6 months, there were no intervention effects for any of the barrier categories across any of the subgroups in either propensity score weighted or doubly robust models.

### CBO service type

- Youth development program:
  - **Logistical barriers** at 12 months *had a smaller decrease* in the C2C group (in the propensity score weighted model before adjusting for multiple comparisons). The standardized effect size in the nonsignificant doubly robust model was small ( $d = 0.15$ ).

### C2C target population

- Adults age 18 or older who are unemployed or underemployed:
  - **Internalized stigma** at 12 months had a smaller decrease in the C2C group (in the doubly robust model before adjusting for multiple comparisons) with a small standardized effect size of  $d = 0.17$ .
- Young adults ages 16 to 24 who are not in school and are not employed:
  - **Attitudinal barriers** at 12 months had a *greater decrease* in the C2C group (in the doubly robust model before adjusting for multiple comparisons) with a small standardized effect size of  $d = -0.28$ .



## Mental Health Care Utilization

### *Changes over Time Within Each Group*

For mental health care utilization for each of the subgroups, we used the pooled data combining 6- and 12-month utilization to examine differences within each group over time. Below, we summarize the statistically significant within-group differences at 12 months for mental health care utilization across the different subgroups (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant.

### CBO service type

- Job training and employment program:
  - C2C participants *decreased* utilization of any **nonclinical services** and **inpatient services** and the number of nights in **residential treatment**, and *increased* the **number of outpatient visits**.
  - Comparison participants *decreased* utilization of any **nonclinical services**, before the multiple comparisons correction, and also *decreased* utilization of any **inpatient services**.
- Youth development program:
  - C2C participants *decreased* utilization of any **nonclinical services**, before the multiple comparison adjustment.

### C2C target population

- Adults age 18 or older who are unemployed or underemployed:
  - C2C participants *decreased* utilization of any nonclinical services, inpatient services, and the number of residential treatment nights, and *increased* the number of outpatient visits.
  - Comparison participants *decreased* utilization of both nonclinical services and inpatient services.
- Young adults ages 16 to 24 who are not in school and are not employed:
  - C2C participants *decreased* utilization of any **outpatient services**, **nonclinical services**, and before the multiple comparison adjustment, **emergency setting use**.
  - Comparison participants *decreased* utilization of any **nonclinical services**.
- Parents/primary caregivers who are expecting or who have children up to age 4:
  - C2C participants *decreased* utilization of any inpatient services, emergency settings, number of visits to emergency settings, and before multiple comparisons adjustment, number of residential treatment nights.
  - Comparison participants *decreased* utilization of any nonclinical services before the multiple comparisons adjustment.

### *C2C Intervention Effects*

For each subgroup, we also examined the intervention effect over time using the intent-to-treat approach described earlier. Below, we summarize the statistically significant intervention

effects across the subgroups at 12 months (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant.

#### CBO service type

- Job training and employment program:
  - C2C participants had a greater decrease in residential treatment nights (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = -0.001$ ).
- Youth development program:
  - C2C participants were three times *more likely* to have used **clinical outpatient services** (OR = 3.10; 95% CI: 1.54–6.26) in the propensity score weighted model.

#### C2C target population

- Adults age 18 or older who are unemployed or underemployed:
  - C2C participants had a greater decrease in residential treatment nights (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = 0.02$ ).
- Young adults ages 16 to 24 who are not in school and are not employed:
  - C2C participants were *half as likely* to have used **emergency settings** (OR = 0.47, 95% CI: 0.22–0.99) in the propensity score weighted model before the multiple comparisons adjustment.
- Parents/primary caregivers who are expecting or who have children up to age 4:
  - C2C participants were *one-third as likely* to have used **emergency settings** (OR = 0.34; 95% CI: 0.16–0.72) in the propensity score weighted model.
  - C2C participants had a *greater decrease* in the number of **emergency setting visits** (in both propensity score weighted and doubly robust models). The standardized effect size for the doubly robust model was medium ( $d = -0.48$ ).
  - C2C participants had a *greater decrease* in **residential treatment nights** (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = -0.01$ ).

## Discussion

For this segment of the impact evaluation, we tested hypotheses that there would be evidence of greater improvements among the C2C group than the comparison group on measures of access to and utilization of mental health services. Overall, we found few statistically significant group differences in barriers to care and utilization (Table 7.12). In the main analysis, there was one intervention effect for barriers to care at 12 months favoring the comparison group, an unexpected finding which is discussed below.

**Table 7.12. Summary of Mental Health Care Barriers and Utilization Outcomes in the Overall Sample**

<b>Outcome</b>	<b>Difference Within Groups over Time</b>	<b>Intervention Effect</b>
<b>Barriers to mental health care</b>		
Logistical barriers	Decrease, both groups	Smaller decrease in C2C group vs. comparison group (12 months only)
Attitudinal barriers	Decrease, both groups	
Stigma barriers	Decrease, both groups	
Internalized stigma	Decrease, both groups	
<b>Utilization—over 1 year</b>		
<i>Binary (yes or no)</i>		
Outpatient MHP	Increase, both groups	
Nonclinical settings		
Inpatient settings <sup>a</sup>	Decrease, both groups	
Emergency settings	Decrease in comparison group only (only before MCC)	
<i>Continuous (no. of times)</i>		
Went to any outpatient MHP	Increase, both groups	
Nights in a residential alcohol/drug treatment program		
Went to emergency settings for any health reason		

NOTE: MCC = multiple comparisons correction.

<sup>a</sup> One indicator in this category assessed lifetime utilization at baseline, which may partially explain decreases seen at follow-up, which used a pooled recall period of the past year.

Our findings should be interpreted in light of the limitation that to be eligible for the study C2C clients needed to reach a very low mental health symptom threshold that was not a requirement for participating in C2C or for CBO services in general. Thus, the study sample is not representative of all clients served by C2C or by the comparison CBOs. Further, we encountered problems with the quality of C2C dosage data that prevented us from being able to examine whether C2C effect differed depending on the “amount” of C2C that participants received. The evaluation sought to include a diverse sample of participants across CBOs and across the implementation timeline. Although we used propensity weighting to help balance potential differences across groups in study enrollment, these results may not represent the effects of C2C on all CBO clients.

### *Overall Group Findings*

In this section, we discuss findings from the overall sample where we compared the entire C2C sample to the entire comparison sample on barriers to care and service utilization.

## Barriers to Mental Health Care

At baseline, we found that internalized stigma (feeling embarrassed or ashamed) was the most strongly endorsed barrier to mental health care. Other key barriers identified by both groups were the cost of mental health care, not knowing where or how to seek services, and stigma from others. These barriers are also common in the general population among adults who felt they needed substance use treatment but had not received it in the past year (Substance Abuse and Mental Health Services Administration, 2019b). For example, among these adults, 42 percent identified cost as a barrier to their care, and one-quarter said they did not know where to go for care (Substance Abuse and Mental Health Services Administration, 2019b). Internalized stigma is also a prevalent barrier to care. For example, a review found that internalized stigma was more often associated with impeded treatment seeking behavior, compared with other forms of stigma (Clement et al., 2015). Other stigma barriers are also salient: across studies, concerns about treatment confidentiality are a salient barrier for one in three persons, and concerns about effects to employment are a barrier for one in four persons (Clement et al., 2015). Both the C2C and comparison groups endorsed similar concerns at baseline, for example, concerns over the reactions of family members, or harms to employment opportunities. In their efforts to reduce mental health stigma or counter beliefs that mental health problems tend to resolve naturally without treatment, C2C and other concurrent ThriveNYC initiatives may have driven the significant within-group decreases in attitudinal and stigma barriers we saw in both groups.

### *Intervention Effects*

There were no intervention effects at 6 months, but we did find a small but significant group difference in internalized stigma at 12 months. Specifically, although both groups' internalized stigma levels decreased significantly over time, the C2C group appeared to do so at a slower rate. One explanation for this counterintuitive finding is that C2C did not affect internalized stigma as well as usual or other mental health programming at the comparison CBOs. As noted in the introduction chapters, the ThriveNYC initiative heavily invested in mental health programming throughout the city, and we heard from many comparison CBOs about ThriveNYC initiatives that were underway at their organization. It is possible that some of these other initiatives were more effective than C2C for decreasing internalized stigma. It is also worth noting that the comparison group's greater decrease in internalized stigma did not appear to translate into more favorable changes in mental health care utilization patterns (discussed in detail in the next section).

Overall, the findings suggest that C2C did not have an effect on reducing barriers to mental health care. Several factors may explain this lack of intervention effects, including additional mental health programming being implemented throughout NYC during the study period, anecdotal evidence of diffusion of the model beyond the C2C network (see Chapter Six), and the addition of mental health services by some comparison CBOs.

## Mental Health Care Utilization

C2C participants reported more mental health care utilization than comparison group participants at baseline, including outpatient clinical services, nonclinical settings, and inpatient settings. About one-third of C2C participants with unmet need and one-quarter of comparison participants with unmet need had utilized outpatient mental health care in the past 6 months at baseline.

These rates of outpatient utilization were lower than those found in a trial of depression collaborative care implementation approaches in low-income communities in Los Angeles, where about half of participants in either arm of the study had received care from an outpatient clinical MHP at baseline and each follow-up (Chung et al., 2014). In the general population, past-year treatment rates (defined as “seeing or talking to a health professional or taking prescribed medication”) were 65 percent for adults with depression and 43 percent for adults with any mental illness (Substance Abuse and Mental Health Services Administration, 2019a), and only about one in ten in a nationally representative sample of adults 18 years or older reports recent mental health treatment utilization (De Luca et al., 2016; Dhingra et al., 2011). Outpatient settings and prescription medication were the most common forms of this treatment for any mental illness (26 and 36 percent) (Substance Abuse and Mental Health Services Administration, 2019b).

One explanation for the lower-than-anticipated use of outpatient mental health services in the C2C evaluation may be the population itself: C2C was intentionally designed to serve communities without easy access to mental health care, and the participating CBOs were selected with that in mind (Chapter 3). Further, in this analysis we relied on self-report of utilization that may not align with other data sources; the rate of kept referrals to the MHPs reported by CBOs in their quarterly reports (Chapter 5) was higher than the self-report numbers of overall outpatient utilization. (It is important to note that the quarterly report data were based on the entire C2C client population of which this sample is not representative.)

We also observed a very high prevalence of inpatient utilization at baseline (31 percent), although it is worth noting that the baseline version included any lifetime hospitalization for mental health needs, whereas the follow-up only included 1 year. Indeed, at 1-year follow-up, about 9 percent of C2C participants and 6 percent of comparison participants had stayed in an inpatient treatment setting in the past year. This is higher than national estimates, where about 3 percent of adults with any mental illness report receiving inpatient mental health services in the past year (Substance Abuse and Mental Health Services Administration, 2019b).

At baseline, we also found high rates of past 6-month emergency care utilization in this sample (43 percent). Because this question referred to “any health reason” (not only mental health needs), it is likely that this high utilization of emergency settings at baseline represents unmet health needs more generally, including both physical and mental health. This prevalence is dramatically higher than national estimates of past-year emergency department utilization (18 percent) in double the recall period of the C2C survey (Gindi, Black, and Cohen, 2016).

These patterns of utilization—low outpatient mental health care utilization and high inpatient and emergency department utilization—are not surprising, given C2C’s focus on underserved populations. Reflecting the three target populations served by C2C, the evaluation sample had high rates of unemployment and very low incomes. Use of emergency care settings is higher among populations of low socioeconomic status and persons with behavioral health needs (Giannouchos et al., 2019; Krieg et al., 2016; Schmidt et al., 2018). These utilization patterns are precisely what C2C aimed to reverse by identifying mental health problems early and helping people find and engage in care, therefore moving utilization into outpatient settings and away from emergency and inpatient settings.

### *Intervention Effects*

For mental health care utilization, we did not find any formal intervention effects in the main analysis, and effect sizes were small, suggesting that C2C did not lead to changes in mental health care utilization. Other explanations for the lack of intervention effects include concurrent ThriveNYC citywide initiatives that may have reached comparison participants, ThriveNYC-related and nonrelated mental health services that some comparison CBOs began providing during the study, anecdotal evidence from the implementation study of diffusion of the model beyond the C2C network, and the null findings for barriers to care.

### *Variation in C2C Effectiveness for Different Subgroups*

We also examined within-group changes and intervention effects over time separately for the three C2C target populations and two of the CBO types.

#### **Barriers to Care—Subgroups**

Across all subgroups, C2C had no effect on barriers to mental health care. This lack of statistically significant intervention effects may be explained in part by reductions in all four barriers types (logistical, attitudinal, stigma, and internalized stigma) for both C2C and comparison groups. However, before correcting for multiple comparisons, we did observe three trends that warrant discussion.

First, among the youth and young adult target population, C2C clients had a stronger decrease in attitudinal barriers from baseline to 12 months relative to their comparison peers—a difference that was no longer statistically significant after adjusting for multiple comparisons. However, this finding is notable because the small-to-medium effect size ( $d = -0.28$ ) was larger than most of the other group differences identified in this study and therefore potentially more meaningful. Second, among clients of youth development CBOs, logistical barriers at 12 months had a smaller decrease for C2C participants relative to comparison peers, a difference that was small in size ( $d = 0.15$ ) and did not remain significant after adjusting for multiple comparisons. Third, among adults 18 and older who were unemployed or underemployed, internalized stigma at 12 months had a smaller decrease among C2C participants, relative to comparison group peers.



This finding did not hold after adjusting for multiple comparisons and was small in size ( $d = 0.17$ ), though it was consistent with a finding in the main analysis at 12 months, discussed earlier.

#### Mental Health Care Utilization—Subgroups

Within-group (C2C or comparison) changes in utilization trended in the same direction as those observed in the overall sample. Thus, although the strength of within-group change varied across subgroups, the directionality was consistent (e.g., decreased or increased over time). For example, all significant changes in nonclinical service use were reductions in use over time.

We found three intervention effects in either propensity score weighted or doubly robust models, and these findings held after the multiple comparisons adjustment. It is also especially notable that these differences emerged within much smaller sample sizes than the main analyses, with several effect sizes larger than those in the main analysis. Still, we caution that, because we did not impute missing data for subgroup analyses, it is possible that these significant effects in subgroups could be attributed to potential bias of the sample (e.g., if those who responded to the follow-up surveys were different from those who did not).

First, C2C clients at youth development CBOs were three times more likely to have used outpatient clinical services than their comparison peers, a much larger effect than the (nonsignificant) one identified in the main analysis. This is consistent with our hypothesis that C2C would increase use of outpatient care, in large part through the formal relationships CBOs formed with MHPs through C2C. It is interesting that this finding emerged specifically in the youth development programs suggesting that the youth development programs that implemented C2C were uniquely effective in linking youth with need to outpatient mental health care. They may have had particularly strong relationships with their MHPs and on-site mental health services which facilitated these connections (see Appendix A). Staff at C2C CBOs also perceived that youth were potentially more amenable to mental health services and referrals (Chapter 6). As described earlier, youth may also have more adaptivity and malleability in their attitudes toward mental health and treatment seeking.

We also found two intervention effects among parents and primary caregivers. Parents and caregivers in the C2C group were one-third less likely to have used emergency settings over 1 year in the propensity score model. This group also had a greater reduction in the number of emergency visits relative to their comparison peers, even in the doubly robust model, giving credence to the strength of the finding. The effect size for this subgroup was medium ( $d = -0.48$ ), which is four times the effect size found in the main analysis. These findings are consistent with our original hypothesis that C2C reduced emergency setting utilization. It is possible that C2C better addressed the unmet behavioral health needs of parents, resulting in fewer crises, less hypervigilance, and/or improved stress coping skills. In turn, this might reduce emergency setting visits for their own needs or the needs of their children. Another potential explanation is that parents and caregivers in C2C had some of their previously unmet health and mental health needs met through C2C programming and services, resulting in fewer emergency setting visits (as described earlier, the emergency setting indicator included all health reasons for



visits, not only mental health). It is also possible that, by nature of parenthood, this subgroup had access to a wider safety net of programs including those addressing the needs of children. For example, in NYC, undocumented pregnant women and children qualify for insurance benefits that other undocumented immigrants do not (City of New York, 2020). C2C skills may have fostered a relationship between CBO staff and clients that allowed CBOs to more easily identify and address a range of parents' needs and/or refer them to other services to meet these needs, including but not limited to mental health needs. It is also important to note that the wording of the survey question for emergency setting visits ("how many different times did you go to a hospital emergency room or an urgent care facility for any health reason?") may have inadvertently captured visits to emergency settings by parents/caregivers for their children's needs; if C2C parents' and caregivers' child health needs were met directly or indirectly through C2C, then an accompanying reduction in the family unit's visits to emergency is plausible.

## Limitations

There are limitations to consider in interpreting these findings. First, the evaluation sample is not representative of the entire C2C and comparison client populations for several reasons. Study participants represent only a fraction of those involved in C2C services across the C2C CBOs. Also, eligibility for the impact evaluation required that participants were experiencing at least mild mental health symptoms at baseline. Although we used thresholds below established screening thresholds to include a wider range of symptom severity, more than 80 percent of clients who completed an eligibility screening were eligible. Second, participating in the evaluation was optional for C2C and comparison clients, and among those who did participate, the retention rate was low overall (less than 50 percent). This means that there may be bias among those who opted to participate in the study or differences among those who continued with the study that hindered our ability to detect intervention effects. There may also have been barriers to retention in the study, including those related to homelessness and incarceration, that differed between the groups. Third, all data were self-reported and therefore are subject to social desirability and recall bias in responses. Although we attempted to obtain administrative data from New York State (NYS) and NYC agencies to obtain more objective estimates of mental health care utilization, bureaucratic and COVID-19-related delays prevented us from obtaining those data in time for them to be used in these analyses. It is possible that self-reported data are under- or overestimates of actual utilization. However, the evaluation employed data collectors with experience and training in sensitive data collection to try to minimize this bias. Fourth, it was not feasible for us to include measures of fidelity or C2C implementation, or to measure the types and quality of other care that participants were receiving in addition to C2C, including CBO programming as well as mental health and substance use treatment. The implementation timeline may also be a factor because full C2C implementation took up to 3 years whereas study enrollment began halfway through year 2. For comparison group participants, there was also possible contamination with ThriveNYC or other efforts to integrate mental health services into

CBO programming. We cannot determine whether the patterns of results we saw were influenced by these other types of services that many clients received. Finally, as intended, the evaluation sample included individuals with very low incomes; high rates of baseline unemployment, housing instability, and homelessness; and recent incarceration. These factors can present challenges for study retention, including competing demands (e.g., meeting basic needs for food and shelter), residential instability, and lack of continuity in phone service (Begun, Berger, and Otto-Salaj, 2018; Gul and Ali, 2010). However, those challenges may make this study even more impactful, by shedding light on how an innovative task-shifting intervention could meet some of the needs of this underserved and often marginalized population.

## Summary

In the overall sample, we did not find support for our hypothesis that C2C participants would report reduced barriers to care and greater changes in utilization patterns than comparison group participants. This suggests that C2C was not effective in reducing barriers to mental health care and increasing utilization of mental health care. This may be attributable to the concurrent ThriveNYC and non-ThriveNYC initiatives that were underway in NYC and at comparison CBOs during the C2C study, which could have contributed to the observed improvement in these domains within the comparison group. The improvement observed in both groups may also be related to the degree of engagement both groups had with their CBOs. A substantial proportion of clients across both groups reported using a range of CBO services at least weekly, lending further weight to the notion that one reason for the lack of intervention effects is that both C2C and comparison participants had ongoing relationships and frequent contact with their CBOs, which in and of itself may have helped address barriers to care and influenced utilization patterns.

Although C2C may not have had an effect on reducing barriers to mental health care or increasing mental health care utilization in the overall sample, the subgroup findings suggest that C2C may have had a greater effect on certain subpopulations. For example, C2C appeared to have benefits for youth and young adults regarding attitudes about mental health symptoms and help seeking in ways that were not apparent for other target populations. Similarly, C2C appeared to reduce emergency service utilization for parents and caregivers but not for other subgroups. Finally, C2C in the context of youth development programs may be especially potent for increasing outpatient treatment utilization among these clients.

Our evaluation was focused primarily on detecting any intervention effects; we provided hypotheses to aid interpretation but future research is needed to more precisely identify the mechanisms that underlie potential intervention effects. Further, this is the first study, to our knowledge, to examine the effect of a mental health task-shifting intervention on these outcomes in the United States. Future research, with less heterogeneous samples, is needed to more fully explore C2C's effectiveness on reducing barriers to mental health care and increasing utilization of mental health care.

## References

- Alegria, M., K. Alvarez, R. Z. Ishikawa, K. DiMarzio, and S. McPeck, “Removing Obstacles to Eliminating Racial and Ethnic Disparities in Behavioral Health Care,” *Health Affairs (Millwood)*, Vol. 35, No. 6, 2016, pp. 991–999.
- Ault-Brutus, A., and M. Alegria, “Racial/Ethnic Differences in Perceived Need for Mental Health Care and Disparities in Use of Care Among Those with Perceived Need in 1990–1992 and 2001–2003,” *Ethnic Health*, Vol. 23, No. 2, 2018, pp. 142–157.
- Begun, A. L., L. K. Berger, and L. L. Otto-Salaj, *Participant Recruitment and Retention in Intervention and Evaluation Research*, New York, NY: Oxford University Press, 2018.
- Breslau, J., M. Cefalu, E. C. Wong, M. A. Burnam, G. P. Hunter, K. R. Florez, and R. L. Collins, “Racial/Ethnic Differences in Perception of Need for Mental Health Treatment in a US National Sample,” *Social Psychiatry and Psychiatric Epidemiology*, Vol. 52, No. 8, 2017, pp. 929–937.
- Burnett-Zeigler, I., K. Zivin, K. Islam, and M. A. Ilgen, “Longitudinal Predictors of First Time Depression Treatment Utilization Among Adults with Depressive Disorders,” *Social Psychiatry Psychiatric Epidemiology*, Vol. 47, No. 10, 2012, pp. 1617–1625.
- Chung, B., M. Ong, S. L. Ettner, F. Jones, J. Gilmore, M. McCreary, C. Sherbourne, V. Ngo, P. Koegel, L. Tang, E. Dixon, J. Miranda, T. R. Belin, and K. B. Wells, “12-Month Outcomes of Community Engagement Versus Technical Assistance to Implement Depression Collaborative Care: A Partnered, Cluster, Randomized, Comparative Effectiveness Trial,” *Annals of Internal Medicine*, Vol. 161, No. 10, 2014, pp. S23–S34.
- Cipriani, A., T. A. Furukawa, G. Salanti, A. Chaimani, L. Z. Atkinson, Y. Ogawa, S. Levcht, H. G. Ruhe, E. H. Turner, J. P. T. Higgins, M. Egger, N. Takeshima, Y. Hayasaka, H. Imai, K. Shinohara, A. Tajika, J. P. A. Ioannidis, and J. R. Geddes, “Comparative efficacy and acceptability of 21 antidepressant drugs for the acute treatment of adults with major depressive disorder: A systematic review and network meta-analysis,” *Lancet*, Vol. 391, No. 10128, 2018, pp. 1357–1366.
- City of New York, Office of the Mayor, *Report: Understanding New York City’s Mental Health Challenge*, press release, New York, NY, 2015. As of September 9, 2020:  
[https://www1.nyc.gov/assets/home/downloads/pdf/press-releases/2015/thriveNYC\\_white\\_paper.pdf](https://www1.nyc.gov/assets/home/downloads/pdf/press-releases/2015/thriveNYC_white_paper.pdf)
- City of New York, “*Health Insurance Link: Find What Fits: Immigrants*,” 2020. As of May 20, 2020:  
<https://www1.nyc.gov/site/ochia/find-what-fits/immigrants.page>

- Clement, S., E. Brohan, D. Jeffery, C. Henderson, S. L. Hatch, and G. Thornicroft, "Development and psychometric properties the Barriers to Access to Care Evaluation scale (BACE) related to people with mental ill health," *BMC Psychiatry*, Vol. 12, 2012, p. 36.
- Clement, S., O. Schauman, T. Graham, F. Maggioni, S. Evans-Lacko, N. Bezborodovs, C. Morgan, N. Rusch, J. S. Brown, and G. Thornicroft, "What Is the Impact of Mental Health-Related Stigma on Help-Seeking? A Systematic Review of Quantitative and Qualitative Studies," *Psychological Medicine*, Vol. 45, No. 1, 2015, pp. 11–27.
- Cohen, J. *Statistical Power Analysis for the Behavioural Sciences*, 2nd ed., Hillsdale, NJ: Erlbaum, 1988.
- De Luca, S. M., J. R. Blosnich, E. A. Hentschel, E. King, and S. Amen, "Mental Health Care Utilization: How Race, Ethnicity and Veteran Status Are Associated with Seeking Help," *Community Mental Health Journal*, Vol. 52, No. 2, 2016, pp. 174–179.
- Dhingra, S. S., M. M. Zack, T. W. Strine, B. G. Druss, J. T. Berry, and L. S. Balluz, "Psychological Distress Severity of Adults Reporting Receipt of Treatment for Mental Health Problems in the BRFSS," *Psychiatric Services*, Vol. 62, No. 4, 2011, pp. 396–403.
- Giannouchos, T. V., H. C. Kum, M. J. Foster, and R. L. Ohsfeldt, "Characteristics and Predictors of Adult Frequent Emergency Department Users in the United States: A Systematic Literature Review," *Journal of Evaluation in Clinical Practice*, Vol. 25, No. 3, 2019, pp. 420–433.
- Gindi, R. M., L. I. Black, and R. A. Cohen, *Reasons for Emergency Room Use Among U.S. Adults Aged 18–64: National Health Interview Survey, 2013 and 2014*, Hyattsville, MD: National Center for Health Statistics, 2016. As of September 9, 2020: <https://www.cdc.gov/nchs/data/nhsr/nhsr090.pdf>
- Gul, R. B., and P. A. Ali, "Clinical Trials: the Challenge of Recruitment and Retention of Participants," *Journal of Clinical Nursing*, Vol. 19, No. 1–2, 2010, pp. 227–233.
- Gulliver, A., K. M. Griffiths, and H. Christensen, "Perceived Barriers and Facilitators to Mental Health Help-Seeking in Young People: A Systematic Review," *BMC Psychiatry*, Vol. 10, 2010, p. 113.
- Hadfield, H., and A. Wittkowski, "Women's Experiences of Seeking and Receiving Psychological and Psychosocial Interventions for Postpartum Depression: A Systematic Review and Thematic Synthesis of the Qualitative Literature," *Journal of Midwifery and Women's Health*, Vol. 62, No. 6, 2017, pp. 723–736.
- Hahm, H. C., B. L. Cook, A. Ault-Brutus, and M. Alegria, "Intersection of Race-Ethnicity and Gender in Depression Care: Screening, Access, and Minimally Adequate Treatment," *Psychiatric Services*, Vol. 66, No. 3, 2015, pp. 258–264.

- Krieg, C., C. Hudon, M. C. Chouinard, and I. Dufour, "Individual Predictors of Frequent Emergency Department Use: A Scoping Review," *BMC Health Services Research*, Vol. 16, No. 1, 2016, p. 594.
- Lazear, K. J., S. A. Pires, M. R. Isaacs, P. Chaulk, and L. Huang, "Depression Among Low-Income Women of Color: Qualitative Findings from Cross-Cultural Focus Groups," *Journal of Immigrant Minority Health*, Vol. 10, No. 2, 2008, pp. 127–133.
- Lee, N., L. Jenner, A. Baker, A. Ritter, L. Hides, J. Norman, F. Kay-Lambkin, K. Hall, F. Dann, and J. Cameron, "Screening and Intervention for Mental Health Problems in Alcohol and Other Drug Settings: Can Training Change Practitioner Behaviour?" *Drugs Education, Prevention and Policy*, Vol. 18, No. 2, 2010, pp. 157–160.
- Lincoln, A. K., J. M. Liebschutz, M. Chernoff, D. Nguyen, and H. Amaro, "Brief Screening for Co-Occurring Disorders Among Women Entering Substance Abuse Treatment," *Substance Abuse Treat Prevention and Policy*, Vol. 1, 2006, p. 26.
- Lopez-Lopez, J. A., S. R. Davies, D. M. Caldwell, R. Churchill, T. J. Peters, D. Tallon, S. Dawson, Q. Wu, J. Li, A. Taylor, G. Lewis, D. S. Kessler, N. Wiles, and N. J. Welton, "The Process and Delivery of CBT for Depression in Adults: A Systematic Review and Network Meta-Analysis," *Psychological Medicine*, Vol. 49, No. 12, 2019, pp. 1937–1947.
- Lubman, D. I., L. Hides, A. Scaffidi, K. Elkins, M. Stevens, and R. Marks, "Implementing Mental Health Screening Within a Youth Alcohol and Other Drugs Service," *Mental Health Substance Use*, Vol. 1, No. 3, 2008, pp. 254–261.
- Petrenko, C. L., S. E. Culhane, E. F. Garrido, and H. N. Taussig, "Do Youth in Out-of-Home Care Receive Recommended Mental Health and Educational Services Following Screening Evaluations?" *Child Youth Services Review*, Vol. 33, No. 10, 2011, pp. 1911–1918.
- Priester, M. A., T. Browne, A. Iachini, S. Clone, D. DeHart, and K. D. Seay, "Treatment Access Barriers and Disparities Among Individuals with Co-Occurring Mental Health and Substance Use Disorders: An Integrative Literature Review," *Journal of Substance Abuse and Treatment*, Vol. 61, 2016, pp. 47–59.
- Santiago, C. D., S. Kaltman, and J. Miranda, "Poverty and Mental Health: How Do Low-Income Adults and Children Fare in Psychotherapy?" *Journal of Clinical Psychology*, Vol. 69, No. 2, 2013, pp. 115–126.
- Schmidt, E. M., S. Behar, A. Barrera, M. Cordova, and L. Beckum, "Potentially Preventable Medical Hospitalizations and Emergency Department Visits by the Behavioral Health Population," *Journal of Behavioral Health Services & Research*, Vol. 45, No. 3, 2018, pp. 370–388.

- Schnyder, N., R. Panczak, N. Groth, and F. Schultze-Lutter, “Association Between Mental Health-Related Stigma and Active Help-Seeking: Systematic Review and Meta-Analysis,” *British Journal of Psychiatry*, Vol. 210, No. 4, 2017, pp. 261–268.
- Shippee, N. D., B. H. Rosen, K. B. Angstman, M. E. Fuentes, R. S. DeJesus, S. M. Bruce, and M. D. Williams, “Baseline Screening Tools as Indicators for Symptom Outcomes and Health Services Utilization in a Collaborative Care Model for Depression in Primary Care: A Practice-Based Observational Study,” *General Hospital Psychiatry*, Vol. 36, No. 6, 2014, pp. 563–569.
- Siu, A. L., U. S. Preventive Services Task Force, K. Bibbins-Domingo, D. C. Grossman, L. C. Baumann, K. W. Davidson, M. Ebell, F. A. Garcia, M. Gillman, J. Herzstein, A. R. Kemper, A. H. Krist, A. E. Kurth, D. K. Owens, W. R. Phillips, M. G. Phipps, and M. P. Pignone, “Screening for depression in Adults: US Preventive Services Task Force Recommendation Statement,” *JAMA*, Vol. 315, No. 4, 2016, pp. 380–387.
- Substance Abuse and Mental Health Services Administration, *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health*, Rockville, MD, HHS Publication No. PEP19-5068, NSDUH Series H-54, 2019a. As of September 9, 2020:  
<https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf>
- , *Results from the 2018 National Survey on Drug Use and Health: Detailed Tables*, Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, 2019b. As of September 9, 2020:  
<https://www.samhsa.gov/data/report/2018-nsduh-detailed-tables>
- Thomas, A. C., and P. K. Staiger, “Introducing Mental Health and Substance Use Screening into a Community-Based Health Service in Australia: Usefulness and Implications for Service Change,” *Health & Social Care in the Community*, Vol. 20, No. 6, 2012, pp. 635–644.

## 8. Impact of C2C on Mental Health Symptoms

---

*Dana Schultz, Daniel Siconolfi, Lynsay Ayer, Joshua Snoke, and Elie Ohana*

### Key Findings

- From baseline to follow-up, both C2C participants and those in the comparison group experienced statistically significant decreases in symptoms across all of the mental health conditions. These across-the-board symptom reductions may reflect a natural recovery process and the receipt of “usual” or other ThriveNYC services in the comparison group.
- At 12 months, C2C did not result in greater improvements in any of the mental health symptoms compared with usual CBO services. At 6 months, there was evidence that C2C may have been more effective in decreasing substance use symptoms, although the effect size was very small.
- C2C had no effect on mental health symptoms in the overall sample.
- There was some evidence that C2C may have been more effective for certain subgroups, showing an effect in the following areas:
  - reduced alcohol use at job training and employment CBOs (with a small effect size)
  - decreased depressive symptoms at youth development CBOs (with a small-to-medium effect size)
  - decreased psychological distress for youth and young adults (with a small-to-medium effect size).



## Introduction

By improving access to and utilization of mental health care services, C2C aimed to reduce symptoms of mental health problems among its participants. Thus, building on the access and utilization analyses described in Chapter 7, this chapter investigates whether C2C improved mental health, functioning, and well-being among New Yorkers seeking services from CBOs by examining their depression, generalized anxiety, PTSD, alcohol use, other substance use, and general psychological distress. For this segment of the impact evaluation, we expected to find that C2C participants would report greater reductions in symptoms across all of the mental health outcome measures, relative to comparison participants.

In this chapter, we examine mental health symptoms over time to understand the nature of any changes in symptom status and the effectiveness of C2C skills on different mental health symptoms. Because of the wide variability in types of CBOs participating, and thus in the clients they serve, we examine effects among the entire sample of participants as well as effects for specific populations or settings within the sample.

### *Background*

Prior reports on the prevalence of mental health symptoms and diagnoses support our earlier assertion that there are disparities in mental health problems among different populations in the United States. At a macro level, such disparities may not be easy to detect. For instance, an estimated 18.3 percent of adults nationally, and a similar percentage (17.6 percent) of adults in NYS, have had one or more mental illness in the past year (Center for Behavioral Health Statistics and Quality, 2018; Substance Abuse and Mental Health Services Administration, 2018). But closer inspection by locality or population segment may tell a different story. In NYC, for instance, the estimate of past-year mental illness exceeded 20 percent (Belkin et al., 2016).

The availability and granularity of prevalence data for specific mental health issues varies widely:

- Estimates of the prevalence of mood disorders, such as depression, range from 9.5 percent in the general population to 20 percent among low-income populations (Muntaner et al., 1998). It is estimated that more than half a million adult New Yorkers have depression at any given time, representing about 8 percent of the city's adult population (Belkin et al., 2016; McCray, Buery, and Bassett, 2015).
- An estimated 18 percent of the general population has anxiety disorders such as generalized anxiety disorder (GAD) (Kessler et al., 2012).
- Estimates of PTSD range from 3 to 4 percent with rates far higher for disadvantaged groups, such as Black Americans with a history of incarceration (Anderson, Geier, and Cahill, 2016; Kessler et al., 2005).
- Nationally, past-year alcohol use disorder is estimated at 10 percent for 18 to 25 year olds and 5 percent for adults age 26 or older (SAMHSA, 2019). Among New Yorkers,

estimates of heavy or binge drinking in the last month range from 20 to 29 percent (Capua, Tuazon, and Paone, 2016).

- According to the latest national estimate, about 8 percent of young adults ages 18 to 25 and 2 percent of adults ages 26 or older had past-year illicit drug use disorder (SAMHSA, 2019). In NYC, it has been estimated that about 10 percent of adults used illicit drugs in the last month (SAMHSA, 2019). Drug overdose deaths have leveled off at about 20 per 100,000 over the last few years (Nolan et al., 2019).

Mental health problems such as depression, anxiety, and PTSD often co-occur with alcohol and drug use particularly among young adults between the ages of 18 and 25 (Mericle et al., 2012). The high rates of co-occurring disorders often result when individuals with symptoms of mental health issues turn to drugs and alcohol to help them cope with negative emotions (e.g., anger, sadness, anxiety, fear), leading to drug and alcohol addiction for some of these individuals (Metrik et al., 2016). Nationally, estimates of co-occurring disorders range from 3.7 to 11.8 percent of adults (Kessler et al., 2005; SAMHSA, 2019).

Despite the prevalence of mental health problems, many individuals, particularly those from low-income, disadvantaged populations, do not receive treatment. Evidence-based interventions such as cognitive behavioral therapy (CBT), are generally effective in treating a wide range of mental health problems, including depression, anxiety, and PTSD (Bisson et al., 2007; Hofmann and Smits, 2008; Miranda et al., 2003; Roy-Byrne et al., 2010; Shear et al., 2005). Unfortunately, these interventions are not often accessible, particularly in community-based settings and for low-income, disadvantaged populations such as the groups targeted by the C2C program. Further, historically underserved individuals, including racial/ethnic minorities and other socioeconomically disadvantaged groups, are much less likely to utilize treatment for mental health issues for reasons such as perceived discrimination or perceived negative experiences, which may contribute to or exacerbate mental health problems and other disparities, such as economic and educational inequalities (Kataoka, Zhang, and Wells, 2002).

C2C was envisioned as an approach to address the unmet need for mental health services in NYC by integrating mental health skills into the work of CBOs working with individuals who may be the least likely to have access to mental health support. Although the specific combined package of the four C2C skills has not been studied previously, the individual skills (screening for detection of mental health conditions, MI, MHFA, and PE) have been examined to determine their effectiveness on a range of outcomes (see Chapter 2 for more details).

Evidence on the effectiveness of these four skills for improving mental health outcomes in community settings is limited, though this evaluation will add to the evidence base. When the C2C skills are delivered individually or in combination in community-based settings, the size of their effect on mental health symptoms would be expected to be very small, whereas referral to MHPs and services delivering evidence-based treatments would likely produce larger effects because these interventions provide more intensive focus on symptom relief. The “light touch” nature of the four C2C skills, possible variations in the quality of delivery, and relative

disadvantage of the individuals being served all contribute to this estimated small effect size. Further, small effect sizes like those expected here require very large sample sizes, which was not feasible in this community-based study. In addition, we should note that, because of the large citywide Thrive NYC mental health initiative, many New Yorkers have been exposed to mental health services and supports in recent years, beyond what is typical (City of New York, 2018). Therefore, even in this quasi-experimental study, we knew from the start that would be challenging to identify improvements in mental health outcomes attributable solely to C2C skills integrated at C2C CBOs.

### *Research Questions*

At the individual level, C2C aimed to assess whether integration of the C2C skills into CBO workflows could improve mental health outcomes for participants. For the primary research question of whether C2C participants showed greater positive improvement in depression, generalized anxiety, PTSD, alcohol use, substance use, and general psychological distress relative to comparison group participants over time, we tested whether C2C participants had

- fewer mental health symptoms (depression, generalized anxiety, PTSD, psychological distress)
- lower levels of alcohol and substance use
- clinically significant improvements or reliable decreases in mental health symptoms.

We also examined one secondary research question related to mental health symptoms:

- Does program effectiveness vary for the specific populations targeted by C2C (i.e., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment programs, youth development programs)?

## Methods

Information on data collection and data analyses was provided in the methods section of Chapter 7. Below, we provide only information on data collection and analyses that differs from what was presented in Chapter 7. See Appendix C for complete details.

### *Data Collection*

The specific mental health outcome measures for these analyses included self-reported measures of depression (the eight-item Patient Health Questionnaire [PHQ-8]) (Kroenke et al., 2010), generalized anxiety (Generalized Anxiety Disorder 7-Item Scale [GAD-7]) (Spitzer et al., 2006), PTSD (PTSD Checklist for Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition [PCL-5]) (Blevins et al., 2015), alcohol use (AUDIT) (Berner et al., 2007), and substance

use (DAST) (Yudko, Lozhkina, and Fouts, 2007) on the study eligibility screener, and general psychological distress (K6) (Kessler et al., 2005) on the baseline survey.

### Data Analyses

In addition to examining differences within groups and intervention effects over time, we also examined whether C2C resulted in clinically significant or reliable improvements in mental health outcome measures, controlling for the outcome at baseline. Table 8.1 summarizes how we defined whether there was clinically significant or reliable improvement for each measure using improvement thresholds found in the literature.

**Table 8.1. Clinically Significant and Reliable Improvement for Mental Health Outcomes**

Mental Health Outcome	Clinically Significant Improvement	Clinically Reliable Improvement	Citation(s)
Depression	5-point or greater decrease in score	Not applicable	Kroenke et al., 2010; Kroenke and Spitzer, 2002; Löwe et al., 2004; Wells et al., 2013
Generalized anxiety	10-point or greater decrease in score	5-point or greater decrease in score	Richards and Borglin, 2011; Spitzer et al., 2006
PTSD	10-point or greater decrease in score	5-point or greater decrease in score	National Center for PTSD, 2019
Alcohol misuse	Moving from above threshold for positive screen ( $\geq 8$ ) to below threshold for positive screen ( $< 8$ )	Not applicable	
Substance misuse	Moving from above threshold for positive screen ( $\geq 3$ ) to below threshold for positive screen ( $< 3$ )	Not applicable	
Psychological distress	Moving from above threshold for positive screen ( $\geq 13$ ) to below threshold for positive screen ( $< 13$ )	Moving from above threshold for positive screen ( $\geq 5$ ) to below threshold for positive screen ( $< 5$ )	Prochaska et al., 2012

## Results

Among this population of individuals seeking services at a range of CBOs in NYC, clinically relevant mental health symptoms were quite prevalent, based on established scoring thresholds (Table 8.2). As noted earlier, the study eligibility screener included measures of five common mental health conditions (depression, generalized anxiety, PTSD, alcohol use, substance use), with study eligibility determined by meeting a minimum threshold on one or more, and the baseline survey assessed general psychological distress. Together, these six mental health conditions are the focal outcomes in this chapter. For baseline descriptive purposes, we stratified

the sample according to the commonly used and established symptom thresholds for each measure (Table 8.2).

**Table 8.2. Baseline Mental Health Symptoms (Weighted)**

<b>Mental Health Symptoms</b>	<b>Full Sample</b>	<b>C2C Group</b>	<b>Comparison Group</b>	<b>p-Value</b>
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>Depression</b>	8.4 (0–24)	7.9 (0–24)	9.0 (0–24)	<.001 <sup>a</sup>
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
None—minimal depression	26.6	33.8	18.3	<.001 <sup>a</sup>
Mild depression	35.4	30.4	41.1	
Moderate depression	22.7	22.2	23.2	
Moderately severe depression	11.4	8.9	14.3	
Severe depression	3.9	4.6	3.1	
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>Generalized anxiety</b>	8.4 (0–21)	8.2 (0–21)	8.5 (0–21)	0.251
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
Mild	61.3	62.2	60.3	0.192
Moderate	23.2	21.3	25.3	
Severe	15.5	16.5	14.4	
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>PTSD</b>	28.73 (0–80)	28.05 (0–80)	29.5 (0–78)	0.148
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
Percentage above the cut point	47.6 (0–80)	47.3 (0–80)	47.9 (0–78)	0.820
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>Alcohol use</b>	4.62 (0–40)	4.78 (0–40)	4.43 (0–34)	0.379
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
Below either threshold	79.5	79.2	79.9	0.774
Harmful or hazardous drinking	10.4	10.2	10.6	
Alcohol dependence	10.1	10.7	9.4	
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>Substance use</b>	1.71 (0–10)	1.89 (0–10)	1.51 (0–10)	0.009 <sup>a</sup>
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
Below any threshold	38.4	35.6	41.6	0.093
Low	37.3	37.2	37.5	
Intermediate	15.9	16.8	14.8	
Substantial	6.1	7.7	4.4	
Severe	2.2	2.7	1.7	
	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
<b>Overall no. of positive screens, across screening measures</b>	1.64 (0–5)	1.63 (0–5)	1.64 (0–5)	0.899
	<b>Percent</b>	<b>Percent</b>	<b>Percent</b>	
One positive screen	20.3	21.7	18.6	0.209
Two positive screens	14.9	16.2	13.4	
Three positive screens	18.7	18.9	18.3	
Four positive screens	8.3	8.1	8.5	
Five positive screens	4.9	4.0	5.9	

<b>Mental Health Symptoms</b>	<b>Full Sample</b>	<b>C2C Group</b>	<b>Comparison Group</b>	<b>p-Value</b>
<b>Psychological distress</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	<b>Mean (Range)</b>	
	8.47 (0–24)	8.66 (0–24)	8.26 (0–24)	0.211
Percentage with severe mental illness	24.0	25.4	22.5	0.482
Percentage with moderate psychological distress	47.0	45.8	48.3	
<b>Co-occurring disorders</b>				
Percentage with positive mental health and alcohol/substance use screen	23.7	22.5	25.0	0.307

<sup>a</sup> Statistically significant at the  $p < .05$  level.

At baseline, more than one-third (38 percent) of the overall sample reported depressive symptoms in the moderate-to-severe range, and an additional 35.4 percent reported mild depressive symptoms. Overall, nearly three-quarters (73.4 percent) of the sample had at least mild depressive symptoms at the time of their initial study screening, with the comparison group experiencing significantly more depressive symptoms at baseline than the C2C group. For generalized anxiety, more than one-third (38.7 percent) reported moderate-to-severe anxiety symptoms. Almost half (47.6 percent) of the study participants scored higher than the suggested cut score on the measure of PTSD symptoms. For alcohol use, 10.4 percent reported alcohol use that indicated alcohol dependence, whereas an additional 10.1 percent reported harmful or hazardous drinking behavior. For other substance use, 8.3 percent of study participants reported severe or substantial substance use, whereas 15.9 percent reported behavior that indicated an intermediate level of substance use. The C2C group had a statistically significant higher mean score on the substance abuse measure than the comparison group (1.89 vs. 1.51). Overall, 20.3 percent of study participants reported symptoms above the threshold for only one condition, and nearly one-third (31.9 percent) reported symptoms above the thresholds for three conditions or more. For psychological distress, 24 percent of the sample reported symptoms above the threshold for severe mental illness and 47 percent reported symptoms above the threshold for moderate psychological distress. With regard to co-occurring mental health and alcohol/substance use disorders, about one in four persons screened positive on both a mental health and alcohol or substance use measure, and there was no difference by group.

*Primary Research Question: Do C2C Participants Show Greater Improvement in Mental Health Symptoms Relative to Comparison Group Participants?*

To understand whether C2C improved mental health symptoms, we first examined differences within groups over time. The columns in Table 8.3 describe differences within groups between the baseline and 12-month assessment by comparing each person’s score at 12 months with his or her own score at baseline. From baseline to 12 months, both groups experienced statistically significant improvements in scores for all of the mental health outcomes, with both groups showing decreases in symptoms over this time period. The magnitude of the change depends on

**Table 8.3. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	457	–2.22	0.286	<.001 <sup>b</sup>
	Comparison	265	–2.59	0.330	<.001 <sup>b</sup>
Generalized anxiety (score range 0–21)	C2C	455	–2.66	0.286	<.001 <sup>b</sup>
	Comparison	265	–2.36	0.328	<.001 <sup>b</sup>
PTSD (score range 0–80)	C2C	455	–10.63	0.885	<.001 <sup>b</sup>
	Comparison	265	–10.94	1.07	<.001 <sup>b</sup>
Alcohol use (score range 0–40)	C2C	449	–1.66	0.271	<.001 <sup>b</sup>
	Comparison	264	–1.73	0.350	<.001 <sup>b</sup>
Substance use (score range 0–10)	C2C	447	–1.09	0.101	<.001 <sup>b</sup>
	Comparison	260	–0.815	0.124	<.001 <sup>b</sup>
Psychological distress (score range 0–24)	C2C	444	–3.29	0.267	<.001 <sup>b</sup>
	Comparison	261	–2.91	0.375	<.001 <sup>b</sup>

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

<sup>b</sup> Statistically significant at the  $p < .05$  level.

the scoring range for each measure. For example, an estimate of –2.22 for the C2C group on the depression measure indicates that the score decreased by about 2.22 points on the 24-point scale. As described below, a 10-point decrease on this depression measure is considered to be a clinically significant improvement. The 6-month results were similar with smaller, but still statistically significant, improvements in scores across all mental health outcomes (see Appendix C, section C8.1).

We next examined intervention effects over time using an intent-to-treat approach, in which all individuals in the C2C group were compared with all those in the comparison group, regardless of the actual amount of intervention that the C2C group received. With both groups improving over time on all of the mental health outcomes, we did not see any statistically significant intervention effects at 12 months (Table 8.4). As illustrated in Table 8.4, all 12-month effect sizes were very small (Cohen’s  $d$  ranging from 0.04 to –0.03). At 6 months, the intervention effect for substance use was statistically significant in the propensity score weighted model but not the doubly robust model (see Appendix C, section C8.1), such that C2C participants had a stronger decrease than comparison participants. The doubly robust standardized effect size was very small ( $d = -0.08$ ).

Finally, we examined whether C2C participants had more clinically significant or reliable decreases in mental health symptoms over time, relative to the comparison group. For these analyses, we used thresholds for change established in the research literature for each measure (Table 8.1). Specifically, we examined clinically significant improvement as indicated by a 10-point or greater decrease in scores, and reliable improvement as indicated by a 5-point or greater decrease in scores or going from above the threshold for a positive screen to below the



**Table 8.4. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.374	0.437	0.392	-0.108	0.362	0.765	-0.019
Generalized anxiety	-0.304	0.435	0.485	-0.190	0.391	0.627	-0.033
PTSD	0.303	1.39	0.827	0.651	1.14	0.567	0.036
Alcohol use	0.073	0.443	0.869	-0.037	0.300	0.901	-0.007
Substance use	-0.279	0.160	0.082	-0.057	0.107	0.598	-0.027
Distress	-0.379	0.460	0.410	-0.154	0.373	0.680	-0.027

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

threshold (note: there is not a reliable change threshold for the PHQ-8, our depression measure, because we were unable to find such a threshold in the scientific literature). Across the different mental health outcomes, there were no statistically significant differences between groups on these measures at 12 months, although we did see a marginally significant trend favoring the C2C group for clinically significant improvement in generalized anxiety (Table 8.5). At 6 months,

**Table 8.5. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percent with Change		
		N	Percent with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	457	32.93	0.920
	Comparison	265	33.32	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	455	13.36	0.058
	Comparison	265	8.46	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	455	33.33	0.717
	Comparison	265	31.95	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	455	47.30	0.363
	Comparison	265	51.04	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	455	62.86	0.757
	Comparison	265	61.62	
Alcohol use (change to below positive screen threshold)	C2C	449	13.73	0.379
	Comparison	264	11.23	
Substance use (change to below positive screen threshold)	C2C	447	19.88	0.296
	Comparison	260	16.35	
Psychological distress (change to below threshold for serious mental illness)	C2C	444	25.61	0.809
	Comparison	261	24.74	
Psychological distress (change to below threshold for moderate distress)	C2C	444	71.67	0.611
	Comparison	261	69.78	

we found one statistically significant difference for substance use (see Appendix C, section C8.1). Although this result was no longer significant after adjusting for multiple comparisons, the trend suggested that the C2C group was more likely than the comparison group to move from above the threshold for a positive screen to below the threshold. Overall, at 6 months, 16.4 percent of the C2C group moved from above to below the threshold for a positive screen, compared with 9.6 percent of the comparison group.

### *Secondary Research Question: Does Program Effectiveness Vary for the Different Target Populations or CBO Service Types?*

We sought to understand whether C2C program effectiveness varied for different target populations (e.g., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children ages 4 and younger) or CBO service types (e.g., job training and employment program, youth development program). Note that these groups are not mutually exclusive. We examined the mental health outcomes using the same approach as used in the main analysis.

#### Changes over Time Within Each Group

For each subgroup, we first examined differences within each group over time. In this comparison, we considered the within-individual change between baseline and the follow-up time points and determined the average change and its direction across participants in each group. Across almost all of the subgroups, the C2C and comparison groups indicated statistically significant decreases between baseline and 12 months for each of the mental health symptoms (see Appendix C, section C8.3). The two exceptions were alcohol use, which did not significantly change over time for C2C participants in youth development programs or for comparison group participants in the young adult target population.

#### C2C Intervention Effects

For each subgroup, we also examined the intervention effect over time using the intent-to-treat approach described earlier. Below, we summarize the statistically significant intervention effect findings across the subgroups at 12 months (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant.

#### *CBO service type*

- Job training and employment program:
  - **Depressive symptoms** at 12 months had a smaller decrease in the C2C group (in the propensity score weighted model before adjusting for multiple comparisons). The intervention effect was not statistically significant in the doubly robust model, where the standardized effect size was very small ( $d = 0.04$ ).

- **Alcohol use** at 12 months had a greater decrease in the C2C group (in the doubly robust model before adjusting for multiple comparisons). The standardized effect size was small ( $d = -0.17$ ).
- Youth development program:
  - **Depressive symptoms** at 12 months had a greater decrease in the C2C group (in both the propensity score weighted and doubly robust models before adjusting for multiple comparisons). The standardized effect size in the doubly robust model was small to medium ( $d = -0.30$ ).
  - **Alcohol use** at 12 months had a smaller decrease in the C2C group (in the propensity score weighted model before adjusting for multiple comparisons). The intervention effect was not statistically significant in the doubly robust model, where the standardized effect size was very small ( $d = 0.08$ ).

#### *C2C target population*

- Young adults ages 16 to 24 who are not in school and are not employed:
  - **Psychological distress** at 12 months had a greater decrease in the C2C group (in the doubly robust model before adjusting for multiple comparisons). The standardized effect size was small to medium ( $d = -0.35$ ) in the doubly robust model.
- Parents/primary caregivers who are expecting or who have children up to age 4:
  - **PTSD symptoms** at 12 months had a smaller decrease in the C2C group (in the doubly robust model before adjusting for multiple comparisons). The standardized effect size was small to medium ( $d = 0.29$ ) in the doubly robust model.

Overall, we saw a few notable trends in the subgroup analysis with an intervention effect in the doubly robust models showing greater improvement for the C2C group in alcohol use (job training and employment program), depressive symptoms (youth development program), and psychological distress (young adult target population). On the other hand, in the parents/primary caregivers' subgroup, the comparison group improved more on PTSD symptoms than the C2C group in the doubly robust model. The two other areas where the comparison group performed better were in the propensity score weighted models before adjusting for multiple comparisons. At 6 months, only the young adult target population had any intervention effects in the doubly robust models (prior to adjusting for multiple comparison), with greater decreases in depression (small-to-medium standardized effect size;  $d = -0.34$ ) and anxiety (small-to-medium standardized effect size;  $d = -0.34$ ) in the C2C group relative to the comparison group.

## Discussion

For this segment of the impact evaluation, we tested hypotheses about whether individuals at C2C CBOs showed greater positive improvement across the different mental health outcome measures than those at comparison CBOs. Overall, we found that both groups improved across all of the mental health outcomes and that there were no significant intervention effects for our primary research question at 12 months, and only one trend in the propensity score weighted

model at 6 months. However, we found some signal of an intervention effect for some of the mental health outcomes for different subgroups, and one signal of an intervention effect that favored the comparison group.

In terms of improvement in mental health symptoms over time, we saw consistent and strong improvement from baseline to 12 months across all mental health outcome measures within both the C2C and comparison groups (Table 8.6). For depression and anxiety, this pattern of decreasing symptoms over time is consistent with the literature that shows symptom patterns that generally decline over time in a natural recovery process (Boland et al., 2009; Richards, 2011).

**Table 8.6. Summary of Mental Health Outcome Results in the Overall Sample**

<b>Mental Health Outcome</b>	<b>Difference Within Groups over Time</b>	<b>Intervention Effect</b>	<b>Clinically Significant or Reliable Change</b>
Depression	Decrease in both groups		
Generalized anxiety	Decrease in both groups		
PTSD	Decrease in both groups		
Alcohol use	Decrease in both groups		
Substance use	Decrease in both groups	Greater decrease in C2C group (6 months only, PSW)	Change more likely in C2C group (6 months only)
Psychological distress	Decrease in both groups		

NOTE: PSW = propensity score weighted.

We did not see greater improvement in mental health symptoms in the C2C groups over time, which suggests that C2C did not have an effect on reducing mental health symptoms. However, we did observe one significant intervention effect in the propensity score weighted model at 6 months. The C2C group showed a trend toward greater decreases in substance use symptoms over time relative to the comparison group, although the effect size was very small. Similarly, we found that a higher percentage of the C2C group relative to the comparison group moved from above the substance use threshold, indicating a positive screen, to below the threshold at 6 months. Although small, we note that about one in four persons had a mental health problem co-occurring with alcohol or substance use, meaning that programs will need to address mental health in tandem with substance use to reach a significant proportion of clients with unmet needs.

Overall, C2C’s screening components were designed to identify mental health needs among individuals seeking community-based services in NYC. C2C also provided support and referrals to persons with identified mental health needs. Across the board, the prevalence of mental health issues in the study sample exceeded the prevalence rates from epidemiological studies of vulnerable populations (Table 8.7). For depression, 38 percent of study participants reported moderate-to-severe depressive symptoms, which is much higher than the 8-percent estimate often cited as context for the ThriveNYC initiative (Belkin et al., 2016; McCray, Buery, and Bassett,

**Table 8.7. Summary of Mental Health Status of Study Participants at Baseline**

Mental Health Issue	Reference Point <sup>a</sup> (%)	Study Results		
		Full Sample (%)	C2C Group (%)	Comparison Group (%)
Depression	8–20	38	36	41
Anxiety	18	39	38	40
Trauma/PTSD	3–12	48	47	48
Alcohol use	5–29	21	21	20
Substance use	2–10	25	27	21
Co-occurring disorders	4–12	24	23	25

<sup>a</sup> The reference points represent rates found in the literature for similar at-risk populations (e.g., depression: Belkin et al., 2016 and Kessler et al., 2005; anxiety: Kessler et al., 2005 and Muntaner et al., 1998; PTSD: Anderson et al., 2016 and Kessler et al., 2005; and alcohol use: SAMHSA, 2019; substance use: SAMHSA, 2019; and co-occurring disorders: Kessler et al., 2005 and SAMHSA, 2019).

2015). Further, 39 percent of study participants had baseline anxiety symptoms in the moderate-to-severe range, which is higher than the 18 percent national prevalence rate for anxiety disorder (Kessler et al., 2012). Although prevalence rates from epidemiological studies are typically in the single digits, almost one-half (48 percent) of study participants had PTSD symptoms at a level consistent with a probable PTSD diagnosis. Among study participants, the prevalence of harmful drinking or alcohol dependence was comparable to what has been found nationally for alcohol use disorders and in NYC for binge drinking. Moderate and severe substance use was also more prevalent among study participants when compared with national and local prevalence estimates of illicit drug use disorder. Owing to the higher prevalence rates overall, we also found that rates of co-occurring disorders (i.e., alcohol/substance use that occurs along with depression, anxiety, or PTSD) overall and for each group were also substantially higher than the prevalence rates from other studies.

Our descriptive analyses showed a very high degree of disadvantage among those seeking services at CBOs with very low income levels, high unemployment rates, and low education levels in both the C2C and comparison groups. This relative disadvantage coupled with attitudinal and logistical barriers to care, and relatively low rates of clinical outpatient mental health treatment utilization, likely contributed to the high rates of unmet mental health need described in Chapter 7.

Overall, the C2C impact study provides important new information about the prevalence of mental health issues among individuals seeking community-based services that can help guide ongoing ThriveNYC efforts, as well as the replication and refinement of C2C. The high level of unmet need points to the importance of finding ways to identify and support these underserved New Yorkers, given the well-documented effects of untreated mental health problems on outcomes such as employment, education, housing, and incarceration status (explored in Chapter 9).

### *Variation in C2C Effectiveness for Different Subgroups*

We examined within-group changes and intervention effects over time separately for the three C2C target populations and two of the CBO types. Overall, both the C2C and comparison group improved between baseline and 12 months for each of the mental health symptom domains across almost all of the subgroups. In terms of intervention effects, we observed mixed results, with a number of trends showing greater improvement for the C2C group relative to the comparison group and others favoring the comparison group, although none of these findings remained statistically significant after adjusting for multiple comparisons. These subgroup findings may help explain the overall lack of group differences in these outcomes in the overall sample. That is, when two subgroups of CBO clients are responding to C2C in different ways, it can seem as if there is no intervention effect overall, masking these important differences in how the intervention worked at different types of CBOs (i.e., “treatment heterogeneity”).

Among job training and employment CBO clients, C2C participants had greater decreases in alcohol use compared with their comparison peers at 12 months, including in the doubly robust model that further adjusted for important covariates. Although the effect size was still small ( $d = -0.17$ ), we note that it was double the effect size observed for alcohol use in the overall analysis. Job training and employment programs within C2C may have been particularly effective at targeting alcohol misuse in their clients; or they may be better equipped to reduce alcohol use by focusing on goals (i.e., obtain and/or retain employment) that could be incompatible with alcohol misuse. This aligns with the findings in Chapter 9, in which C2C clients also had substantial improvements in employment outcomes (hours worked and monthly pay) at 12 months relative to their comparison peers. Among job training and employment clients, we also found that C2C clients had a smaller decrease in depressive symptoms. However, this effect size was very small ( $d = 0.04$ ); combined with the lack of statistical significance after the multiple comparisons adjustment, we did not consider this to be evidence of a meaningful effect.

We found the reverse pattern among youth development CBO clients in the C2C group (greater improvement in depression symptoms and less improvement in alcohol use). Consistent with our hypotheses, C2C clients had a greater improvement in depressive symptoms relative to the comparison group. This effect size was small to medium ( $d = -0.30$ ) and about 15 times the magnitude of the effect calculated for the analyses in the overall sample. This finding also held (albeit not after multiple comparisons adjustment) in the doubly robust model, lending further weight to the finding. This finding is also consistent with the results in Chapter 7, in which C2C clients at youth development CBOs had a threefold greater odds of using outpatient mental health services during this same period of follow-up. This greater utilization may have helped drive the greater decrease in depression in the C2C group at youth development CBOs. In contrast, the C2C group had a smaller decrease in alcohol use than the comparison group at youth development CBOs. However, this finding only emerged in the propensity score weighted model, and the standardized effect size was very small ( $d = 0.08$ ).



Among youth and young adults who are not in school and unemployed, we saw that C2C participants had greater reductions in psychological distress relative to comparison group young adults, supporting our hypothesis. Two observations underscore the robustness of this finding: We found the difference in the doubly robust model before the multiple comparisons adjustment, and the effect size was small to medium ( $d = -0.35$ ), about 13-fold the effect size from the main analysis. We also note our finding of Chapter 7 for this subgroup, in which C2C clients had a 50-percent reduction in the odds of having used an emergency setting over the year of follow-up. This decreased emergency utilization may reflect behavioral health needs being adequately met through C2C, leading to fewer emergency setting visits. This finding only emerged for psychological distress, which may be related to the lack of specificity for this measure: This measure represents a more global indicator of unmet mental health needs with ties to depression, anxiety, and overall mood.

Finally, among parents and caregivers, C2C participants' PTSD symptoms improved less than their comparison group counterparts. This difference was observed in the doubly robust model, with a small-to-medium effect size ( $d = 0.29$ ). This counterintuitive finding may be related to differential retention in the study across the groups.

## Limitations

As described more fully in Chapter 7, limitations of the evaluation provide additional important context for our findings. First, study participants are not representative of C2C and comparison CBO clients at large. In the C2C group, study participants represent only a fraction of those served by C2C, and study eligibility was based on meeting a threshold of mental health symptoms at baseline. Second, given the voluntary nature of the study, there may be bias among those who opted to participate in the baseline assessment and continue with the follow-up surveys or barriers to retention in the study that differed by group. Third, all data were self-reported and therefore are subject to social desirability and recall bias in responses. Fourth, we were not able to include measures of fidelity or C2C implementation or account for other services that participants in both groups may have been receiving from their CBO. Fifth, we note the high levels of mental health need at baseline in this sample, along with high rates of unemployment, housing instability, and incarceration (explored in Chapter 9), which may mean that this sample is not generalizable to the larger NYC population. Finally, there are many factors related to the quantity and quality of mental health care in NYC that are outside the control of the C2C initiative or this study. For example, many C2C participants with clinically significant symptoms were referred for formal mental health services (e.g., medication or counseling) (Chapter 7), but we were not able to assess the quality or intensity of such services, whether evidence-based treatments were delivered, or whether the client engaged in a full course of treatment, all of which are limitations to the interpretation of the findings.



## Summary

Overall, we did not see that C2C improved mental health symptoms over the course of 6 or 12 months, with the exception of a very small potential effect favoring the C2C group in substance use. Although C2C may not have had an effect on improving mental health symptoms in the overall sample, we did find some signal of an intervention effect for some of the mental health outcomes for different subgroups. The comparable improvements found in the comparison group might reflect the fact that usual care for mental health issues was changing more broadly in NYC due to citywide, concurrent efforts within the ThriveNYC initiative, including efforts such as citywide MHFA trainings (not part of C2C). Further, there were changes at some of the comparison CBOs in their organizations' approaches, programming, and services related to clients' mental health needs over the course of the study. It is possible that some of these changes may have resulted in clients at the comparison CBOs who became more willing to disclose mental health problems, staff who were more aware of mental health problems in their client population, and staff who received training on specific skills for addressing mental health issues among their clients (e.g., MHFA) over the course of the study. The improvement for both groups points to the promise of the supports that are offered as part of usual CBO services, even though this made it difficult to observe an intervention effect. It is also possible that these improvements for both groups reflect natural recovery or other factors that are unrelated to the mental health supports offered. Our findings present valuable information regarding the efficacy of C2C in this underserved population and provide a critical snapshot of mental health needs in this sample of individuals seeking a range of community-based services and programming in NYC.

## References

- Anderson, R. E., T. J. Geier, and S. P. Cahill. "Epidemiological Associations Between Posttraumatic Stress Disorder and Incarceration in the National Survey of American Life," *Criminal Behaviour and Mental Health*, Vol. 26, No. 2, 2016, pp. 110–123.
- Belkin, G., N. Linos, S. E. Perlman, C. Norman, and M. T. Bassett. "A Roadmap for Better Mental Health in New York City," *The Lancet*, Vol. 387, No. 10015, 2016, pp. 207–208.
- Berner, M. M., L. Kriston, M. Bentele, and M. Harter, "The Alcohol Use Disorders Identification Test for Detecting At-Risk Drinking: A Systematic Review and Meta-Analysis," *Journal of Studies on Alcohol and Drugs*, Vol. 68, No. 3, 2007, pp. 461–473.
- Bisson, J. I., A. Ehlers, R. Matthews, S. Pilling, D. Richards, and S. Turner, "Psychological Treatments for Chronic Post-Traumatic Stress Disorder: Systematic Review and Meta-Analysis," *British Journal of Psychiatry*, Vol. 190, 2007, pp. 97–104.
- Blevins, C. A., F. W. Weathers, M. T. Davis, T. K. Witte, and J. L. Domino, "The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and Initial Psychometric Evaluation," *Journal of Traumatic Stress*, Vol. 28, No. 6, 2015, pp. 489–498.
- Boland, R. J., M. B. Keller, I. H. Gotlib, and C. L. Hammen, Course and Outcome of Depression, *Handbook of Depression*, New York: The Guilford Press, Vol. 2, 2009, pp. 23–43.
- Capua, J., E. Tuazon, and D. Paone. *Binge Drinking and Associated Health-Related Behaviors Among Adults in New York City*, 2014. New York City Department of Health and Mental Hygiene: Epi Data Brief (77), 2016.
- Center for Behavioral Health Statistics and Quality. (2018). "2017 National Survey on Drug Use and Health: Methodological Summary and Definitions."  
<https://www.samhsa.gov/data/>
- City of New York, *ThriveNYC: A Mental Health Roadmap for All*, New York, NY, 2018.  
<https://thrivenyc.cityofnewyork.us/wp-content/uploads/2019/08/Thrive-Roadmap.pdf>
- De Luca, S. M., J. R. Blosnich, E. A. Hentschel, E. King, and S. Amen. "Mental Health Care Utilization: How Race, Ethnicity and Veteran Status Are Associated with Seeking Help," *Community Mental Health Journal*, Vol. 52, No. 2, 2016, pp. 174–179.
- Hahm, H. C., B. L. Cook, A. Ault-Brutus, and M. Alegria, "Intersection of Race-Ethnicity and Gender in Depression Care: Screening, Access, and Minimally Adequate Treatment," *Psychiatric Services*, Vol. 66, No. 3, 2015, pp. 258–264.
- Hofmann, S. G., and J. A. Smits, "Cognitive-Behavioral Therapy for Adult Anxiety Disorders: A Meta-Analysis of Randomized Placebo-Controlled Trials," *Journal of Clinical Psychiatry*, Vol. 69, No. 4, 2008, pp. 621–632.

- Kataoka, S. H., L. Zhang, and K. B. Wells, “Unmet Need for Mental Health Care Among U.S. Children: Variation by Ethnicity and Insurance Status,” *American Journal of Psychiatry*, Vol. 159, No. 9, 2002, pp. 1548–1555.
- Kessler, R. C., M. Petukhova, N. A. Sampson, A. M. Zaslavsky, and H. U. Wittchen, “Twelve-Month and Lifetime Prevalence and Lifetime Morbid Risk of Anxiety and Mood Disorders in the United States.” *International Journal of Methods in Psychiatric Research*, Vol. 21, No. 3, 2012, pp. 169–184.
- Kessler, R. C., W. T. Chiu, O. Demler, K. R. Merikangas, and E. E. Walters, “Prevalence, Severity, and Comorbidity of 12-Month DSM-IV Disorders in the National Comorbidity Survey Replication.” *Archives of General Psychiatry*. Vol. 65, 2005, pp. 617–627.
- Kroenke, K., R. L. Spitzer, J. B. Williams, and B. Löwe. “The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: A Systematic Review.” *General Hospital Psychiatry*, Vol. 32, No. 4, 2010, pp. 345–359.
- McCray, C., R. Buery, and M. T. Bassett. *ThriveNYC: A Mental Health Roadmap for All*. New York, NY: The New York City Mayor’s Office, 2015.
- Mericle, A. A., V. M. Ta Park, P. Holck, and A. M. Arria, “Prevalence, Patterns, and Correlates of Co-Occurring Substance Use and Mental Disorders in the United States: Variations by Race/Ethnicity,” *Comprehensive Psychiatry*, Vol. 53, No. 6, 2012, pp. 657–665.
- Metrik, J., K. Jackson, S. S. Bassett, M. J. Zvolensky, K., Seal, and B. Borsari, “The Mediating Roles of Coping, Sleep, and Anxiety Motives in Cannabis Use and Problems Among Returning Veterans with PTSD and MDD,” *Psychology of Addictive Behaviors*, Vol. 30, No. 7, 2016, pp. 743–754.
- Miranda, J., J. Y. Chung, B. L. Green, J. Krupnick, J. Siddique, D. A. Revicki, and T. Belin, “Treating Depression in Predominantly Low-Income Young Minority Women: A randomized controlled trial,” *JAMA*, Vol. 290, No. 1, 2003, pp. 57–65.
- Muntaner, C., W. W. Eaton, C. Diala, R. C. Kessler, and P. D. Sorlie. “Social Class, Assets, Organizational Control and the Prevalence of Common Groups of Psychiatric Disorders.” *Social Science & Medicine*, Vol. 47, No. 12, 1998, pp. 2043–2053.
- Nolan, M. L., S. Mantha, E. Tuazon, and D. Paone. *Unintentional Drug Poisoning (Overdose) Deaths in New York City in 2018*. New York City Department of Health and Mental Hygiene: Epi Data Brief (116), 2019.
- Richards, D. (2011). “Prevalence and Clinical Course of Depression: A Review.” *Clinical Psychology Review*, Vol. 31, No. 7, 2011, pp. 1117–1125.

- Roy-Byrne, P., M. G. Craske, G. Sullivan, R. D. Rose, M. J. Edlund, A. J. Lang, A. Bystritsky, S. S. Welch, D. A. Chavira, D. Golinelli, L. Campbell-Sills, C. D. Sherbourne, and M. B. Stein, “Delivery of Evidence-Based Treatment for Multiple Anxiety Disorders in Primary Care: A Randomized Controlled Trial,” *JAMA*, Vol. 303, No. 19, 2010, pp. 1921–1928.
- Santiago, C. D., S. Kaltman, and J. Miranda, “Poverty and Mental Health: How Do Low-Income Adults and Children Fare in Psychotherapy?” *Journal of Clinical Psychology*, Vol. 69, No. 2, 2013, pp. 115–126.
- Shear, K., E. Frank, P. R. Houck, and C. F. Reynolds, 3rd, “Treatment of Complicated Grief: A Randomized Controlled Trial,” *JAMA*, Vol. 293, No. 21, 2005, pp. 2601–2608.
- Spitzer, R. L., K. Kroenke, J. B. Williams, and B. Lowe, “A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7,” *Archives of Internal Medicine*, Vol. 166, No. 10, 2006, pp. 1092–1097.
- Substance Abuse and Mental Health Services Administration (SAMHSA), *2016–2017 NSDUC State Prevalence Estimates*, 2018.  
<http://www.samhsa.gov/data/report/2016-2017-nsduh-state-prevalence-estimates>
- , *Key Substance Use and Mental Health Indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series H-54)*, Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, 2019.  
<https://www.samhsa.gov/data/sites/default/files/cbhsq-reports/NSDUHNationalFindingsReport2018/NSDUHNationalFindingsReport2018.pdf>
- , Office of Applied Studies, *Query Results Provided from the 2006-07 National Surveys on Drug Use and Health*, provided to the New York City Dept of Health and Mental Hygiene by SAMHSA, 2008, unpublished data.
- Wang, P. S., M. Lane, M. Olfson, H. A. Pincus, K. B. Wells, and R. C. Kessler. (2005). “Twelve-Month Use of Mental Health Services in the United States: Results from the National Comorbidity Survey Replication,” *Archives of General Psychiatry*, Vol. 62, No. 6, pp. 629–640.  
 doi:10.1001/archpsyc.62.6.629
- Yudko, E., O. Lozhkina, and A. Fouts, “A Comprehensive Review of the Psychometric Properties of the Drug Abuse Screening Test,” *Journal of Substance Abuse Treatment*, Vol. 32, No. 2, 2007, pp. 189–198.

## 9. Impact of C2C on Employment, Education, Housing, and Incarceration

---

*Daniel Siconolfi, Dana Schultz, Lynsay Ayer, Joshua Snoke, and Elie Ohana*

### Key Findings

- From baseline to follow-up, both C2C participants and those in the comparison group reported more full- or part-time employment, more weekly work hours, higher monthly pay, more stable housing, and more high school or GED completion.
- Across all of the employment, housing, education, and incarceration outcomes, there was one statistically significant intervention effect at 12 months. C2C resulted in larger increases in weekly work hours compared with usual CBO services, with a small effect size.
- C2C had no effect on the other outcomes in the overall sample.
- There was evidence that C2C may have been more effective for certain subgroups, showing an effect in the following areas:
  - increased weekly work hours (small-to-medium effect size) and monthly pay (small effect size) at job training and employment CBOs
  - increased weekly work hours (very small effect size) for adults 18 or older
  - increased weekly work hours (small effect size) for parents or caregivers.

## Introduction

The analyses in this chapter examine whether C2C's task-shifting approach improved outcomes in the domains of employment, housing, education, and incarceration for those individuals receiving services from CBOs. For this segment of the impact evaluation, we expected that C2C clients would show greater improvements in these non-mental health outcomes compared with their comparison group peers at follow-up. For employment outcomes, we expected that C2C participants would report more full- or part-time employment, hours worked, and monthly pay. For housing outcomes, we expected that C2C participants would report more stable housing and would be less likely to experience homelessness. For educational outcomes, we expected that C2C participants would be more likely to have completed a high school diploma or GED. Finally, for criminal justice involvement outcomes, we expected that C2C participants would be less likely to have experienced incarceration.

In this chapter, we examine changes in non-mental health outcomes over time to understand the effect of C2C on participants' social and emotional functioning. Because of the wide variability in types of CBOs participating, and thus in the clients they serve, we examined effects among the entire sample of participants as well as effects for different populations and settings within the sample.

### *Background*

Untreated mental health problems and substance misuse can have far-reaching effects. Mental health problems (including substance use) can make it more difficult for people to find or keep full-time employment, stay in school, obtain and keep stable housing, and avoid the criminal justice system (Antonisse and Garfield, 2018; Esch et al., 2014; Fazel, Geddes, and Kushel, 2014; Hawthorne et al., 2012; Kim and Ford, 2006). The outcomes examined in this chapter are interrelated in terms of their causes and mutually reinforcing nature (Acker et al., 2019; Commission on the Social Determinants of Health, 2008; Fedock and Sarantakos, 2017; Freudenberg and Ruglis, 2007; Kim and Ford, 2006; National Health Care for the Homeless Council, 2016; Prins, 2014). For example, the effect of depression on educational attainment may have longer-term implications for employment status (McGee and Thompson, 2015). Below, we briefly summarize the evidence base related to the associations between mental health issues (including substance use) and employment, housing, education, and incarceration outcomes.

### Employment

Mental health issues are common among unemployed persons, with evidence that about one in three unemployed adults experience psychological problems such as anxiety, depression, and distress (Paul and Moser, 2009). Among young adults (ages 18–25), a population with especially high unemployment, about one in four unemployed persons evidence depression (McGee and Thompson, 2015). The association is also bidirectional. For example, unmet mental health needs

can lead to unemployment, and job loss has been associated with onset of mental health needs (Hergenrather et al., 2015; Lerner and Henke, 2008; McKee-Ryan et al., 2005; Paul and Moser, 2009; van der Noordt et al., 2014; Wanberg, 2012). Further, unemployment and the associated lack of income and insurance coverage can present a barrier to treatment (Wanberg, 2012). Unmet mental health needs in young adulthood can also indirectly affect employment prospects, for example, through its effects on social relationships that could be conducive to employment (McGee and Thompson, 2015).

There is some evidence that early intervention to address mental health needs for young adults can potentially forestall long-term unemployment and negative effects (Gmitroski et al., 2018). Evidence is mixed with regard to whether employment can improve mental health and health (Antonisse and Garfield, 2018). However, for persons with mental health needs, employment can facilitate mental health improvements or substance use recovery (Harrison, Krieger, and Johnson, 2020; van der Noordt et al., 2014). It may also be possible to directly address mental health problems attributed to unemployment, with some evidence for intervention programs aimed at reducing the psychological distress associated with chronic unemployment (Paul and Moser, 2009).

## Housing

Associations between homelessness and mental health needs are well documented (Davey-Rothwell, German, and Latkin, 2008; Duke and Searby, 2019; Fazel, Geddes, and Kuschel, 2014; Goering et al., 2002; Kim and Ford, 2006; Substance Abuse and Mental Health Services Administration, 2013; Suglia, Duarte, and Sandel, 2011). Nationally, about one in two homeless adults report having ever received treatment for mental illness, and one in five report current unmet mental health needs (Baggett et al., 2010). Estimates of the prevalence of substance use problems among homeless populations range from 10 to 50 percent (Baggett et al., 2010; Kim and Ford, 2006). Further, the risk factors associated with homelessness (e.g., child maltreatment, intimate partner violence, familial mental health problems, and poverty) have significant and overlapping implications for mental health and substance use (Edidin et al., 2012; Goering et al., 2002; Kim and Ford, 2006; Sullivan, Burnam, and Koegel, 2000; Wang et al., 2019).

Unmet mental health needs may also affect outcomes among homeless or unstably housed persons. Persons with substance use issues are less likely to transition into stable housing and more likely to exit supported housing prematurely (Aubry et al., 2016; Gabrielian et al., 2016). This population also faces barriers to mental health care. For example, homelessness also affects employment (Kim and Ford, 2006), and lack of insurance and an inability to pay for care is a barrier to mental health services for this population (Baggett et al., 2010).

## Education

Mental health and substance use issues are associated with lower educational completion, such as dropping out of high school or lower likelihood of college enrollment (Breslau et al.,



2008; Esch et al., 2014; Fletcher, 2010; Fergusson and Woodward, 2002; Kessler et al., 1995; McGee and Thompson, 2015). Mental health problems explain about one in ten of the educational terminations before high school graduation (Breslau et al., 2008). Both clinically significant depression and subclinical symptoms have been associated with lower educational attainment (Fletcher, 2010). The associations are also bidirectional, meaning there is some evidence that lower educational attainment can lead to subsequent mental health problems and substance use (Esch et al., 2014; Freudenberg and Ruglis, 2007)

### Incarceration

Mental health and substance use issues are associated with incarceration and recidivism, because mental health problems and substance use are more common among criminal justice-involved persons (Bronson and Berzofsky, 2017; Fedock and Sarantakos, 2017; Greenberg and Rosenheck, 2009; Hawthorne et al., 2012; Prins, 2014; Sugie and Turney, 2017). Although prevalence estimates vary substantially, one systematic review found that the prevalence of major depression among persons incarcerated in state prisons ranged from about one in ten persons to nearly one in three persons (Prins, 2014). A national study of prisoners and jail inmates found that depression was the most common prior diagnosis (Bronson and Berzofsky, 2017). Another study of persons in a public mental health system who had been incarcerated in the past year found that 65 percent had a cooccurring substance use disorder and 13 percent had a diagnosis of major depression (Hawthorne et al., 2012). Recent analysis of NYC Community Health Survey data found that New Yorkers with prior criminal justice system involvement were more likely than those without criminal justice involvement to show evidence of depression and alcohol misuse (heavy drinking and binge drinking) (Baquero et al., 2020).

The association between incarceration and mental health problems may also exist among those who are connected to mental health services, suggesting continuing needs. For example, about 12 percent of patients in a public mental health system were incarcerated in the span of 1 year, and about one in four were reincarcerated within 12 months (Hawthorne et al., 2012). For persons in community reentry, inability to pay for services represents a barrier for mental health and substance use services (Begun, Early, and Hodge, 2016). Providing outpatient mental health services and case management can reduce reincarceration or use of emergency psychiatric services (Hawthorne et al., 2012). Although one recent study found that utilization of mental health services was associated with a greater likelihood of reincarceration within 1 year among individuals with severe mental illness, this may be related to clients' increased visibility while receiving clinical mental health services (Domino et al., 2019).

As described in Chapter 3, it was anticipated that C2C could yield benefits in these domains, both directly and indirectly. By addressing mental health symptoms or catching problems early, C2C may result in better employment, housing, education, and incarceration outcomes. It is also possible that CBO staff with C2C skills are better able to serve their clients in these domains, by recognizing and understanding their clients' mental health needs. For example, through C2C a

job training and employment program staff member may have a new ability to recognize symptoms of depression in a client and provide adaptive coping strategies that allow the client to maintain engagement in job training programs, leading to better employment outcomes. However, as described in Chapter 8, we anticipated that the size of any intervention effects would be relatively small for the 6- and 12-month follow-up periods.

### *Research Questions and Hypotheses*

At the individual level, the evaluation aimed to assess whether C2C could improve outcomes in the domains of education, housing, employment, and incarceration. For the primary research question of whether C2C improved these non-mental health outcomes relative to comparison group participants over time, we tested whether C2C participants:

- employment
  - were more likely to have part-/full-time employment
  - were employed for more hours per week
  - reported higher monthly earnings.
- housing
  - were more likely to have stable housing
  - were less likely to have experienced recent homelessness.
- education
  - were more likely to have completed a high school diploma or GED.
- incarceration
  - were less likely to have been incarcerated.

We also examined one secondary research question related to our hypotheses:

- Does program effectiveness vary for the specific populations targeted by C2C (i.e., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment programs, youth development programs)?

## **Method**

Information on data collection and data analyses was provided in the methods section of Chapter 7. Below, we provide only information on data collection that differs from what was presented in Chapter 7. See Appendix C for complete details.

### *Data Collection*

**Measures.** The specific outcome measures for these analyses included self-reported measures of employment, housing, educational attainment, and incarceration from the client survey (Table 9.1). For employment outcomes, we focused on the aggregate binary indicator of “employed full-/part-time” versus “unemployed,” which excludes retirees, students, homemakers,

**Table 9.1. Recall Period for Non-Mental Health Outcomes**

Outcome	Recall Period	
	Current, at each follow-up time point	Past year, pooled follow-up
Employment	Full- or part-time employment Hours worked per week Monthly pay before taxes/deductions	–
Housing	Housing status	Any homelessness
Education	High school/GED completion	–
Incarceration	–	Any incarceration

and the disabled, an indicator of hours worked per week (among those who worked), and an indicator of monthly employment pay before taxes and deductions (among those who worked). For housing outcomes, we focused on the aggregate binary indicator for current housing, indicating “stably housed or staying with someone else” (i.e., in a friend or family member’s room, apartment, or house) versus “transitional/temporary housing, unstable housing, or homelessness.”

We also examined recent homelessness. This variable was pooled across the two follow-up time points due to differing recall periods in the baseline survey versus follow-up surveys (past year at baseline, past 6 months at follow-up), and also because *any* homelessness over the past year was considered to be a meaningful and important outcome.

For the education outcome, we focused on the aggregate binary variable indicating “completed high school diploma, GED, or greater,” versus not having completed high school or a GED.

For the incarceration outcome, we examined recent incarceration (spending time in a correctional facility, such as a jail or prison). Similar to recent homelessness, we pooled the follow-up survey data to permit baseline and follow-up comparisons, which otherwise had differing recall periods, and also because any incarceration in the past year was considered a meaningful and important outcome.

## Results

We started these analyses by looking descriptively at baseline employment status, housing status, educational attainment, and incarceration status (Table 9.2). Detailed tables are in Appendix C, section C7.2

For **employment status** at baseline, we describe the distribution across all employment categories as well as the proportion of persons who were employed full-time or part-time versus unemployed. Overall, there were no statistically significant differences between the C2C and comparison groups at baseline for either measure. The majority of study participants (60.8 percent) were unemployed at baseline. About one in four study participants had full-/part-time employment at baseline (27.4 percent). Participants reported working 7.4 hours per week, on average (across

**Table 9.2. Baseline Indicators for Employment, Housing, Educational Attainment, and Incarceration (Weighted)**

Indicator	Full Sample	C2C Group	Comparison Group	p-Value
	Percent Endorsed	Percent Endorsed	Percent Endorsed	
Employed full-time or part-time <sup>a</sup>	27.4	26.0	29.0	0.265
	Mean (SD)	Mean (SD)	Mean (SD)	p-Value
Hours worked per week	7.43 (14.4)	6.99 (14.4)	7.92 (14.5)	0.268
Current monthly pay before taxes/deductions	\$332 (887)	\$301 (807)	\$366 (968)	0.200
	Percent Endorsed	Percent Endorsed	Percent Endorsed	p-Value
Currently stably housed/staying with someone else <sup>b</sup>	76.6	74.3	79.2	0.053
Past-year homelessness	18.9	20.3	17.3	0.202
Completed high school or GED or greater <sup>c</sup>	68.7	70.1	67.2	0.293
Past-year incarceration	12.8	14.7	10.7	0.066

NOTE: SD = standard deviation.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline.

<sup>b</sup> Versus *transitional/temporary or homeless/unstably housed*.

<sup>c</sup> Among persons 18 and older at baseline.

full-time, part-time, and unemployed persons) with no difference by group. The average current monthly pay among persons who were employed full-time, part-time, or unemployed was \$331 USD, with no difference by group.

For **housing status** at baseline, we looked at the distribution across all housing categories, as well as the proportion of persons who were stably housed or staying with someone else (i.e., in a friend or family member’s room, apartment, or house) versus those who were transitionally housed, homeless, or unstably housed. There were no statistically significant differences by group for either measure. Although the majority of study participants were stably housed or staying with someone else (45.1 and 36.4 percent, respectively; 76.6 percent for combined category) at baseline, about 8 percent were in transitional or temporary housing, and another 10 percent were homeless or unstably housed. About one in five persons (18.9 percent) reported any homelessness in the past year.

For **educational attainment** at baseline, we focused on the proportion of persons who had completed high school, a GED, or more. About two-thirds of the sample ages 18 and older had completed a high school diploma, GED, or greater (69 percent) with no statistically significant differences by group.

For **incarceration status** at baseline, about one in eight persons had been incarcerated in the past year at baseline, with no statistically significant differences by group.

*Primary Research Question: Do C2C Participants Show Greater Improvements in Non-Mental Health Outcomes?*

To assess whether C2C participation improved employment, housing, education, and incarceration outcomes, we first examined changes in outcomes within each group over time. In this comparison, we considered the within-individual change between baseline and the follow-up time points and report the average change and its direction across participants in each group.

For employment-related outcomes, we found that both groups showed statistically significant improvements across all outcomes (Table 9.3). At 12 months, the proportion of the C2C group with full- or part-time employment doubled, to 61 percent and the comparison group increased to 57 percent from 37 percent. Both groups also reported statistically significant increases in hours worked per week and current monthly pay (Table 9.4). For hours worked per week, the average increase at 12 months was 13.1 hours in the C2C group and 6.7 hours in the comparison group. For monthly employment pay, the average increase at 12 months was \$840 in the C2C group and \$570 in the comparison group. Results were similar at the 6-month follow-up, with all employment outcomes in each group showing statistically significant improvements from baseline (see Appendix C, section C8.1).

**Table 9.3. Within-Group Differences in Full-Time or Part-Time Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			p-Value
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference (%)	
Full-time or part-time employment (vs. unemployed) <sup>a</sup>	C2C	29.13	61.11	31.98	<.001 <sup>b</sup>
	Comparison	37.42	57.24	19.81	<.001 <sup>b</sup>

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months.

<sup>b</sup> Statistically significant at the p<.05 level.

**Table 9.4. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Hours and Pay at 12 Months <sup>a</sup>		
		Estimate	SE	p-Value
Hours worked per week	C2C	13.1	1.23	<.001 <sup>b</sup>
	Comparison	6.68	1.43	<.001 <sup>b</sup>
Current monthly pay before taxes and deductions	C2C	\$840 USD	107	<.001 <sup>b</sup>
	Comparison	\$570 USD	123	<.001 <sup>b</sup>

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12 months for each group separately.

<sup>b</sup> Statistically significant at the p<.05 level.

For current housing, both groups evidenced a statistically significant improvement in the proportion stably housed or staying with someone else at 12 months (Table 9.5). In the C2C group, the proportion of persons in this stable housing/doubled up category increased by 8.5 percentage points. In the comparison group, this proportion increased by 5 percentage points. For recent homelessness, we used the pooled 6- and 12-month imputed data to examine homelessness over the prior year and found no statistically significant within-group changes over 1 year (Table 9.6).

**Table 9.5. Within-Group Differences in Housing Status at 12 Months (Weighted)**

Outcome		Housing at 12 Months			p-Value
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference (%)	
Currently stably housed/staying with someone else <sup>b</sup>	C2C	80.31	88.81	8.50	<.001 <sup>a</sup>
	Comparison	85.33	90.31	4.98	<.001 <sup>a</sup>

<sup>a</sup> Statistically significant at the p<.05 level.

<sup>b</sup> Versus transitional/temporary or homeless/unstably housed.

**Table 9.6. Within-Group Changes in Homelessness at 12 Months (Weighted)**

Outcome		Homelessness at 12 Months (Imputed)			p-Value
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference (%)	
Homeless, past year	C2C	16.41	17.05	+0.64	>0.99
	Comparison	11.77	9.66	-2.11	0.609

For educational attainment, we found statistically significant increases in both the C2C group (4.7 percentage points) and the comparison group (3.9 percentage points) in the proportion of persons who had completed a high school diploma, GED, or more at 12 months (Table 9.7). Results were similar at the 6-month follow-up, both groups showing statistically significant improvements from baseline (see Appendix C, section C8.1).

For incarceration status, each group decreased the proportion incarcerated over 1 year, but the improvement was not statistically significant for either group (Table 9.8).

**Table 9.7. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

Outcome		Educational Attainment at 12 Months			p-Value
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference (%)	
Completed high school or GED or greater <sup>a</sup>	C2C	76.92	81.66	4.74	0.001 <sup>b</sup>
	Comparison	74.09	77.95	3.87	0.019 <sup>b</sup>

<sup>a</sup> Among persons ages 18 and older at baseline.

<sup>b</sup> Statistically significant at the p<.05 level.

**Table 9.8. Within-Group Changes in Incarceration at 12 Months (Weighted)**

Outcome		Incarceration at 12 Months (Imputed)			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference (%)	p-Value
Incarcerated, past year	C2C	11.32	4.38	-6.94	0.122
	Comparison	6.79	4.44	-2.35	>0.99

We next examined the intervention effect over time using an intent-to-treat approach, in which all individuals in the C2C group were compared with all those in the comparison group regardless of the amount of intervention (i.e., dosage or exposure) the C2C group received. For continuous outcomes, we report standardized effect sizes. For binary outcomes, we report OR, which represents the odds of C2C participants indicating a given outcome, relative to the comparison group. An OR of 1.0 means that the groups were equally likely to report the outcome, and a 95% CI that includes the value of 1.0 means that we cannot rule out that there is no group difference. We do not show model results when the sample size is less than ten participants per group for the propensity score weighted model and less than 20 per group for the doubly robust models (noted by gray shading in the tables).

For **employment-related outcomes**, we considered changes in full- or part-time employment versus unemployment, hours worked per week, and current monthly pay at 12 months (Table 9.9). For full-/part-time employment, there were no statistically significant intervention effects, in either the propensity score weighted or doubly robust models. For weekly work hours, there was a statistically significant intervention effect in the propensity score weighted model, such that the C2C group had a greater increase in weekly work hours than the comparison group. In the doubly robust model, where the standardized effect size was small ( $d = 0.16$ ), there was evidence of a statistically significant intervention effect before the multiple comparisons adjustment. For monthly employment pay, there were also no statistically significant intervention effects in the propensity score weighted or doubly robust models. At the 6-month follow-up, there were no statistically significant intervention effects in the propensity score weighted or doubly robust models for any of the employment-related outcomes (see Appendix C, section C8.1).

For **housing-related outcomes**, we looked at changes in stably housed/staying with someone and homelessness. For stably housed/staying with someone else, there were no statistically significant intervention effects in either model at 12 months (Table 9.9) or 6 months (see Appendix C, section C8.1). We used the pooled 6- and 12-month data to assess homelessness over the past year and found no statistically significant intervention effect in either model (Table 9.8).

For the **educational attainment outcome**, there were no statistically significant intervention effects in either model at 12 months (Table 9.9) or 6 months (see Appendix C, section C8.1).

For the **incarceration outcome**, we used the pooled 6- and 12-month data to assess incarceration over the past year and found no evidence of an intervention effect in the propensity score weighted model (Table 9.9).



**Table 9.9. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
Full-/part-time employment (vs. unemployment) <sup>c</sup>	OR = 1.13	[0.77–1.66]	0.537	OR = 1.13	[0.68–1.88]	0.651	–
Change in hours worked per week	6.39	1.88	0.001 <sup>d</sup>	3.21	1.59	0.044 <sup>d,e</sup>	0.155
Change in current monthly pay before taxes and deductions	271	164	0.099	172	152	0.260	0.098
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>f</sup>	OR = 0.85	[0.47–1.55]	0.599	OR = 1.06	[0.45–.47]	0.899	–
<b>Recent homelessness—over 1 year</b>							
Homeless (past year)—imputed	OR = 0.52	[0.19–1.44]	0.898	OR = 0.60	[0.21–1.70]	0.834	–
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>g</sup>	OR = 1.26	[0.83–1.92]	0.271	OR = 1.10	[0.54–2.26]	0.796	–
<b>Incarceration—over 1 year</b>							
Incarcerated (past year)—imputed	OR = 1.03	[0.24–4.07]	0.506				

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Statistically significant at the p<.05 level.

<sup>e</sup> Not statistically significant at p<.05 after adjusting for multiple comparisons.

<sup>f</sup> Versus *transitional/temporary or homeless/unstably housed*.

<sup>g</sup> Among persons 18 and older at baseline.

## *Secondary Research Question: Does Program Effectiveness Vary for the Different Target Populations or CBO Service Types?*

We assessed whether C2C program effectiveness varied for different target populations (e.g., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children ages 4 and younger) or CBO service types (e.g., job training and employment program, youth development program). Note that these subgroups are not mutually exclusive; for example, there is expected overlap between the target population of job training and employment CBO program clients (CBO-type subgroup) and the target population of adults 18 and older who are underemployed or unemployed (client-type subgroup). We examined the same housing, employment, education, and incarceration outcomes described in the main analyses.

### *Changes over Time Within Each Group*

For each subgroup, we first examined differences within each group over time. In this comparison, we considered the within-individual change between baseline and the follow-up time points and examined the average change and its direction across participants in each group. Below, we summarize the statistically significant within-group differences at 12 months for housing, employment, education, and incarceration outcomes across the different subgroups (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant.

#### *CBO service type*

- Job training and employment program:
  - Both C2C and comparison participants had increases in **full-/part-time employment, weekly work hours, and monthly pay**.
  - C2C participants also had increases in current **stable housing** and decreases in past-year **incarceration**.
- Youth development program:
  - C2C participants had increases in the percentage with a **high school diploma or GED**.
  - Comparison participants had increases in **full-/part-time employment, hours worked per week**, and before the multiple comparisons correction, an increase in **monthly employment pay**.

#### *C2C target population*

- Adults age 18 or older who are unemployed or underemployed:
  - Both C2C and comparison participants had increases in **full-/part-time employment, weekly work hours, and monthly pay**.
  - C2C participants also had increases in **current stable housing** and a reduction in **past-year incarceration**.

- Young adults ages 16 to 24 who are not in school and are not employed:
  - Both C2C and comparison participants had increases in **weekly work hours** and **monthly pay**.
  - C2C participants also had a reduction in **past-year homelessness**.
- Parents/primary caregivers who are expecting or who have children up to age 4:
  - C2C participants had increases in **full-time employment, weekly work hours, monthly pay, and stable housing**.
  - Comparison participants had increases in **monthly pay** and **stable housing**.

#### C2C Intervention Effects

For each subgroup, we also examined the intervention effect over time using the intent-to-treat approach described earlier. Below, we summarize the statistically significant intervention effects across the subgroups at 6 and 12 months, which show mixed results, with some favoring the C2C group and others favoring the comparison group (see Appendix C, section C8.3). None of the other subgroup findings were statistically significant. Cell sizes for past-year homelessness and past-year incarceration were typically too small for analysis of intervention effects.

#### *CBO service type*

- Job training and employment program:
  - C2C participants at 12 months had a greater increase in **weekly work hours** (in the propensity score weighted model and the doubly robust model). The standardized effect size for the doubly robust model was small to medium ( $d = 0.37$ ).
  - C2C participants at 12 months had a greater increase in **monthly pay** (in the propensity score weighted model and the doubly robust model before the multiple comparisons adjustment). The standardized effect size for the doubly robust model was small ( $d = 0.20$ ).
  - C2C participants at 6 months were less likely to have **completed a high school diploma or GED** (OR = 0.24; 95% CI: 0.06–0.96) in the doubly robust model before the multiple comparisons adjustment.
- Youth development program:
  - C2C participants at 6 months had a smaller increase in **weekly work hours** (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = -0.06$ ).

#### *C2C target populations*

- Adults age 18 or older who are unemployed or underemployed:
  - C2C participants at 12 months had a greater increase in **weekly work hours** (in the propensity score weighted model). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = 0.08$ ).
  - C2C participants at 12 months were more likely to report **past-year homelessness** (OR = 3.92; 95% CI: 1.89–8.14) in the propensity score weighted model.

- Young adults ages 16 to 24 who are not in school and are not employed:
  - C2C participants at 12 months had a greater increase in **weekly work hours** (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was small and in the opposite direction ( $d = -0.10$ ) of the propensity score weighted model coefficient, which makes it difficult to interpret this finding.
- Parents/primary caregivers who are expecting or who have children up to age 4:
  - C2C participants at 12 months had a greater increase in **weekly work hours** (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was small ( $d = 0.20$ ).
  - C2C participants at 6 months had a smaller increase in **weekly work hours** (in the propensity score weighted model before the multiple comparisons adjustment). The standardized effect size for the nonsignificant doubly robust model was very small ( $d = -0.04$ ).

## Discussion

C2C was designed to improve access to evidence-informed mental health services for at-risk populations through a task-shifting approach that integrated certain mental health skills and supports into the work of CBOs with the goal of improving both mental health and non-mental health outcomes. With our examination of employment, housing, education, and incarceration outcomes, we tested whether the C2C group showed greater improvements than the comparison group on these outcomes. Overall, we found an intervention effect showing a greater increase in weekly work hours among C2C participants but no other intervention effects in the main analysis (Table 9.10). We did, however, find several subgroup intervention effects.

Our findings suggest that C2C had no effect on these outcomes. We note that C2C clients who participated in the evaluation represent a small portion of overall C2C clients. As a quasi-experimental evaluation, we sought to include a diverse sample of participants across CBOs and across the implementation timeline and also to include a similar non-C2C comparison group in recruitment efforts and in analysis (using propensity weighting). However, this impact evaluation may not represent the effects of C2C on all CBO clients.

### *Overall Group Findings*

This discussion summarizes our findings and describes a similar pattern of within-group changes across the outcomes.

### Employment

At baseline, the vast majority of study participants were unemployed; only about one in five reported full- or part-time employment. On average, employed participants were working only

**Table 9.10. Summary of Employment, Educational Attainment, Housing, and Incarceration Outcomes in the Overall Sample**

<b>Outcome</b>	<b>Difference Within Groups over Time</b>	<b>Intervention Effect</b>
<b>Employment status</b>		
Full-/part-time employment vs. unemployment	Increased in both groups	
Hours worked per week	Increased in both groups	Greater increase in C2C group vs. comparison group (12-month PSW model; 12-month DRM only before MCC)
Monthly employment pay	Increased in both groups	
<b>Housing status</b>		
Stably housed or staying with someone else vs. homelessness (current)	Increased in both groups	
Homelessness (past year)		
<b>Educational attainment</b>		
Completed high school diploma or general educational	Increased in both groups	
Incarceration status		

NOTES: PSW = propensity score weighted; DRM = doubly robust model; MCC = multiple comparisons correction.

about 7 hours per week, and current monthly employment pay was about \$330 per month. The rates of self-reported unemployment in this sample were substantially higher than current estimates in the general population nationally (e.g., about 4 percent in February 2020) and in the NYC metropolitan region (e.g., about 3 percent in December 2019) (U.S. Bureau of Labor Statistics, 2020a; U.S. Bureau of Labor Statistics, 2020b), although these rates are calculated very differently.

Overall, both groups improved significantly over time for all three of the employment-related indicators (full- or part-time employment vs. unemployment, hours worked per week, and monthly employment pay). With this level of improvement for both groups, we did not find a significant intervention effect at 6 months for any of the employment indicators in doubly robust or propensity score weighted models. Given that two-thirds of participants at baseline were recruited from job training and employment programs, some short-term improvement in these outcomes for both groups is not surprising. For full- or part-time employment, we saw within-group improvements of 23 to 31 percentage points at 6 months, meaning that about two in three persons in each group had full-time or part-time employment at 6 months. Prevalence of full- or part-time employment was similar at 12 months, with the C2C group doubling its employment rate from baseline.

With longer follow-up and supporting our hypotheses, we found evidence of an intervention effect related to the number of hours worked per week at 12 months. In the propensity score weighted model, C2C participants had a stronger increase in weekly work hours than comparison

participants, although the effect size was small ( $d = 0.16$ ) and no longer significant after adjusting for multiple comparisons. This finding was replicated in multiple subgroups as well, indicating that C2C may improve this employment indicator overall and also for key subpopulations. The greater increase among C2C participants in weekly work hours could reflect greater full-time (vs. part-time) employment, a greater likelihood of having one or more jobs, and/or greater engagement in one or more jobs. It is notable that we did not find a concordant intervention effect for monthly employment pay, which may indicate that, although C2C participants are working more, mean earnings in the two groups did not differ as substantially. With longer-term follow-up beyond 1 year, it is possible that this increased job engagement (hours worked) could spur later increases and/or better sustainment of income over the long-term for the C2C group. We did not find intervention effects for the binary indicator of full- or part-time employment, which could be explained by a true lack of differences in this outcome, or insufficient power for this indicator.

## Housing

With regard to housing status at baseline, three-quarters of study participants had stable housing or were staying with someone else at baseline. The relatively high proportion staying with someone else in our study might reflect adult children living with other family members or staying with friends, owing both to affordable housing issues in NYC and the very high rates of baseline unemployment in this sample. We also note the very high prevalence of past-year homelessness at baseline, despite the fact that most persons were currently stably housed or staying with someone else. About 19 percent of the overall sample reported that there was a period of time in the past year when they were homeless by definition (without a place to sleep). This prevalence is substantially higher than the estimate of past-year homelessness in a nationally representative sample of adults (1.5 percent) (Tsai, 2018).

Both groups showed statistically significant improvements in their housing status over time. The proportion of persons who were stably housed or staying with someone else increased in both groups, and there was no intervention effect for current housing status. However, when we examined past-year homelessness during the follow-up period rather than current housing, there was no significant change between baseline and follow-up for either group, nor was there an intervention effect. In a sensitivity analysis for past-year homelessness using non-imputed data, we found that C2C participants were more likely to experience homelessness during follow-up, a difference that may have been driven by better retention of homeless and unstably housed participants in the C2C group, attributed to the research team's consistent, long-term contact with the C2C CBOs (relative to the comparison CBOs) through the broader C2C evaluation.

These findings suggest that C2C is not able to reduce risk for homelessness or to improve housing stability, at least in the short term. This is not entirely surprising, because homelessness and housing stability are tied to many other factors beyond mental health, such as the current shortage of affordable housing in NYC (City of New York, 2017).

## Educational Attainment

For educational attainment, about one-third of persons ages 18 and older had not completed high school at baseline. This is about three times higher than estimates of high school non-completion in the general population, at about 12 percent (U.S. Census Bureau, 2017). When examining changes in educational attainment, we again observed both groups improving over time with increases in the proportion of persons with a high school diploma, GED, or greater. We did not find statistically significant intervention effects at 6 or 12 months, suggesting that the C2C intervention did not outperform usual CBO services in its effect on educational attainment. However, it is worth noting that the 12-month follow-up period may have been too short to detect larger changes in this outcome; GED programs could take years to complete, particularly if individuals are also working and attending to family obligations simultaneously.

## Incarceration

Finally, we also saw high rates of past-year incarceration at baseline (about 13 percent). This is higher than the prevalence of lifetime criminal justice involvement found in analysis of 2017 NYC Community Health Survey data (approximately 8 percent), weighted to be representative of adult New Yorkers (Baquero et al., 2020). The high prevalence in the C2C evaluation sample is likely attributable to the C2C population being served (e.g., CBOs offering reentry programs). Although the prevalence of incarceration appeared to decrease over the 1 year of follow-up, these changes were not statistically significant. It is also worth noting that incarceration was so infrequent in the retained sample that we were only able to implement the propensity score weighted model due to the small sample size, even after imputing data. With nonimputed data, we were unable to model intervention effects for incarceration. It is important to note that the retained sample is likely to underrepresent incarceration in the evaluation sample because it would have been difficult or impossible to reach currently incarcerated participants to schedule their follow-up survey, and we could not complete surveys with an individual if they were currently incarcerated.

## *Variation in C2C's Effectiveness for Different Subgroups*

We also examined within-group changes and intervention effects over time separately for the three C2C target populations and two of the CBO types. Overall, subgroups reported important within-group improvements in employment, housing, and education, often in indicators that were clearly linked with their program's goals or in indicators that defined the subgroup. For example, in both groups, job training and employment program attendees reported improvements in full- or part-time employment, hours worked per week, and monthly pay. Similarly, the target population of young adults who are not in school and are not employed also showed within-group improvements in employment indicators.

For clients of job training and employment programs, we found two intervention effects at 12 months, which were consistent with our hypotheses: C2C participants had greater increases in



weekly work hours and monthly pay than comparison participants in the propensity score weighted model. With the doubly robust model that incorporated more control variables, C2C clients still showed greater increases in weekly work hours, with a small-to-medium standardized effect size ( $d = 0.37$ ). Unlike the intervention effect for weekly work hours, the intervention effect for monthly pay was no longer significant after adjusting for multiple comparisons, possibly because it was a smaller effect ( $d = 0.20$ ). Together, these two positive indicators suggest that C2C is associated with positive employment-related effects for this CBO subgroup, very much in line with these CBOs' program missions.

The evaluation survey included three objective indicators related to employment (full- or part-time, hours worked, monthly pay). There are other objective indicators (e.g., duration of current employment) and subjective indicators (e.g., job satisfaction) that we did not assess in this evaluation that could help provide a multifaceted perspective on employment outcomes. It is also possible that the intervention effect observed here reflects higher quality "usual" job training and employment programs at the C2C CBOs relative to the comparison CBOs. We were not able to systematically measure the quality of the overall job training and employment programs in this study, but this was a factor we considered in recruiting comparison CBO sites. Every attempt was made to recruit comparison CBOs with a reputation for high-quality programming.

At 6 months, there was evidence that C2C was associated with a lower likelihood of high school or GED completion in this subgroup, but this finding was not significant after adjusting for multiple comparisons, and there was no intervention effect at 12 months. As with educational attainment, the 6- and 12-month time periods may be too short to allow for observable intervention effects in this particular outcome.

Among the target population of unemployed or underemployed adults, we found two intervention effects at 12 months. Both of these findings only emerged in the propensity score weighted model. First, C2C participants had a greater increase in weekly work hours relative to the comparison group, which may reflect substantial overlap between this target population and the CBO programming type of job training and employment programs, where we also saw positive intervention effects for employment outcomes. Again, this finding is consistent with our hypothesis and with findings in the overall sample. We note, however, that the effect size for this target population was much smaller than the effect size for the job training and employment programs ( $d = 0.08$  vs.  $d = 0.37$ ). This may not be surprising, given that the job training and employment programs directly target employment outcomes in their programming, while the target population of unemployed adults encompasses clients from any CBO type in the C2C evaluation. Still, this suggests that C2C may be more potent for improving employment outcomes in the specific context of employment programming.

Second, for this target population of unemployed and underemployed adults, we found that C2C clients were more likely to have experienced homelessness in the past year than comparison clients. The effect size for this finding was fairly large (OR of about 4), but we also note the very large confidence interval for this effect size (about 2–8), which indicates some lack of precision

in this estimate. In addition, we could not implement the doubly robust model to adjust this estimate for other covariates that might explain differential patterns of homelessness. Therefore, it is possible that this finding represents unobserved differences in the C2C and comparison samples of unemployed/underemployed adults at baseline and/or follow-up. It is also worth noting that the C2C sample had a large proportion of participants (about 20 percent of the C2C group baseline sample) recruited from a CBO that focuses on recently incarcerated individuals and those on probation and parole, a population known to be at high risk for unstable housing and homelessness (Cortes and Rogers, 2010).

Other subgroup-related findings were not statistically significant after adjustment and also tended to have small effect sizes. For example, we found potential intervention effects for weekly work hours in the additional subgroups of young adults who were not in school and not employed, parents and primary caregivers, and youth development CBO clients, but none of these were statistically significant after multiple comparisons corrections, and the effect sizes were very small. The largest effect was for parents and caregivers, and even this was small ( $d = 0.20$ ).

We were almost never able to model intervention effects for recent homelessness and recent incarceration in the subgroups due to small cell sizes. Several interpretations are worth noting here. First, this may be an encouraging finding, in the sense that these two negative outcomes were very rare during follow-up. This could suggest that both C2C-participating CBOs and comparison CBOs are addressing client needs and preventing two especially negative outcomes. A more tempered explanation may involve differences in study retention among persons with these two outcomes in both groups. As noted earlier, we could not conduct follow-up surveys with persons who were currently incarcerated; it was also difficult to reach and complete surveys with persons who were homeless at the time of the follow-up.

## Limitations

The evaluation findings should be considered in light of limitations outlined more fully in Chapter 7.

First, the evaluation sample is not representative of the entire C2C and comparison client populations because they represent only a fraction of the clients served by these CBOs, and eligibility was contingent on participants experiencing at least mild mental health symptoms at baseline. Second, participants also opted-in to eligibility screening and study participation if eligible, and retention rates were low, which is relevant because factors such as employment, housing, and incarceration can drive differential attrition. Third, all data were self-reported and therefore are subject to social desirability and recall bias in responses. Although we attempted to obtain administrative data from NYS and NYC agencies to obtain more objective estimates of these non-mental health outcomes, bureaucratic and COVID-19-related delays prevented us from obtaining those data in time for them to be used in these analyses. It is possible that self-reported data are under- or overestimates; fourth, we were not able to include measures of

fidelity or C2C implementation, or to account for other services that participants in both groups may have been receiving from their CBO. Finally, the C2C skills may not be sufficient on their own to directly affect the outcomes we examined in this chapter.

## Summary

In summary, we found occasional evidence for C2C intervention effects, particularly related to employment outcomes. At 12 months, C2C participants had greater increases in weekly work hours, albeit in the less robust model. We also found several subgroup intervention effects. The most notable findings emerged for job training and employment participants, where the C2C arm had greater increases in weekly work hours and monthly pay; the finding for weekly work hours was especially robust and of a small-to-medium effect size. Finally, we note that nearly all of the indicators across outcomes showed statistically significant within-group improvements at follow-up in the main analysis and often in the subgroups. This may reflect positive effects of the underlying services provided by the CBOs per their missions and programming, and also the many concurrent ThriveNYC initiatives during the implementation of C2C.

## References

- Acker, J., P. Braveman, E. Arkin, L. Leviton, J. Parsons, and G. Hobor, *Mass Incarceration Threatens Health Equity in America. Executive Summary*, Princeton, NJ: Robert Wood Johnson Foundation, 2019.  
<https://www.rwjf.org/en/library/research/2019/01/mass-incarceration-threatens-health-equity-in-america.html>
- Antonisse, L., and R. Garfield, *The Relationship Between Work and Health: Findings from a Literature Review*, San Francisco, CA: Henry J. Kaiser Family Foundation, 2018.  
<https://www.kff.org/medicaid/issue-brief/the-relationship-between-work-and-health-findings-from-a-literature-review/>
- Aubry, T., A. Duhoux, F. Klodawsky, J. Ecker, and E. Hay, “A Longitudinal Study of Predictors of Housing Stability, Housing Quality, and Mental Health Functioning Among Single Homeless Individuals Staying in Emergency Shelters,” *American Journal of Community Psychology*, Vol. 58, No. 1–2, 2016, pp. 123–135.
- Baggett, T. P., J. J. O’Connell, D. E. Singer, and N. A. Rigotti, “The Unmet Health Care Needs of Homeless Adults: A National Study,” *American Journal of Public Health*, Vol. 100, No. 7, 2010, 1326–1333.
- Baquero, M., K. Zweig, S. Y. Angell, and S. B. Meropol, “Health Behaviors and Outcomes Associated with Personal and Family History of Criminal Justice System Involvement, New York City, 2017,” *American Journal of Public Health*, Vol. 110, No. 3, 2020, pp. 378–384.
- Begun, A. L., T. J. Early, and A. Hodge, “Mental Health and Substance Abuse Service Engagement by Men and Women During Community Reentry Following Incarceration,” *Administration and Policy in Mental Health*, Vol. 43, No. 2, pp. 207–218.
- Breslau, J., M. Lane, N. Sampson, and R. C. Kessler, “Mental Disorders and Subsequent Educational Attainment in a U.S. National Sample,” *Journal of Psychiatric Research*, Vol. 42, No. 9, 2008, pp. 708–716.
- Bronson, J., and M. Berzofsky, *Indicators of Mental Health Problems Reported by Prisoners and Jail Inmates, 2011–12 (NCJ 250612)*, 2017.  
<http://www.bjs.gov/index.cfm?ty=pbdetail&iid=5946>
- City of New York, *Housing New York: A Five-Borough, Ten-Year Plan*, New York, NY, 2017. As of May 19, 2020:  
<https://www1.nyc.gov/site/housing/about/our-plan.page>

- Commission on the Social Determinants of Health, *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health. Final Report of the Commission on Social Determinants of Health*, Geneva: World Health Organization, 2008. As of September 9, 2020:  
[http://www.who.int/social\\_determinants/thecommission/finalreport/en/](http://www.who.int/social_determinants/thecommission/finalreport/en/)
- Cortes, K., and S. Rogers, *Reentry Housing Options: The Policymakers' Guide*, New York, NY: Council of State Governments Justice Center, 2010.
- Davey-Rothwell, M. A., D. German, and C. A. Latkin, "Residential Transience and Depression: Does the Relationship Exist for Men and Women?" *Journal of Urban Health*, Vol. 85, No. 5, 2008, pp. 707–716.
- Domino, M. E., A. Gertner, B. Grabert, G. S. Cuddeback, T. Childers, and J. P. Morrissey, "Do Timely Mental Health Services Reduce Re-Incarceration Among Prison Releasees with Severe Mental Illness?," *Health Services Research*, Vol. 54, No. 3, 2019, pp. 592–602.
- Duke, A., and A. Searby, "Mental Ill Health in Homeless Women: A Review," *Issues in Mental Health Nursing*, Vol. 40, No. 7, 2019, pp. 605–612.
- Eddidin, J. P., Z. Ganim, S. J. Hunter, and N. S. Karnik, "The Mental and Physical Health of Homeless Youth: A Literature Review," *Child Psychiatry and Human Development*, Vol. 43, No. 3, 2012, pp. 354–375.
- Esch, P., V. Bocquet, C. Pull, S. Couffignal, T. Lehnert, M. Graas, L. Fond-Harmant, and M. Anseau, "The Downward Spiral of Mental Disorders and Educational Attainment: A Systematic Review on Early School Leaving," *BMC Psychiatry*, Vol. 14, 2014, p. 237.
- Fazel, S., J. R. Geddes, and M. Kushel, "The Health of Homeless People in High-Income Countries: Descriptive Epidemiology, Health Consequences, and Clinical and Policy Recommendations," *The Lancet*, Vol. 384, No. 9953, 2014, pp. 1529–1540.
- Fedock, G., and S. Sarantakos, "Physical and Mental Health Disparities for Young Women with Arrest Histories," *Health & Social Work*, Vol. 42, No. 2, 2017, pp. e102–e110.
- Fergusson, D. M., and L. J. Woodward, "Mental Health, Educational, and Social Role Outcomes of Adolescents with Depression," *Archives of General Psychiatry*, Vol. 59, No. 3, 2002, pp. 225–231.
- Fletcher, J. M. "Adolescent Depression and Educational Attainment: Results Using Sibling Fixed Effects," *Health Economics*, Vol. 19, No. 7, 2010, pp. 855–871.
- Freudenberg, N., and J. Ruglis, "Reframing School Dropout as a Public Health Issue," *Preventing Chronic Disorders*, Vol. 4, No. 4, 2007, p. A107.

- Gabrielian, S., A. V. Burns, N. Nanda, G. Hellemann, V. Kane, and A. S. Young, "Factors Associated with Premature Exits from Supported Housing," *Psychiatric Services*, Vol. 67, No. 1, 2016, pp. 86–93.
- Gmitroski, T., C. Bradley, L. Heinemann, G. Liu, P. Blanchard, C. Beck, S. Mathias, A. Leon, and S. P. Barbic, "Barriers and Facilitators to Employment for Young Adults with Mental Illness: A Scoping Review," *BMJ Open*, Vol. 8, No. 12, 2018, p. e024487.
- Goering, P., G. Tolomiczenko, T. Sheldon, K. Boydell, and D. Wasylenki, "Characteristics of Persons Who Are Homeless for the First Time," *Psychiatric Services*, Vol. 53, No. 11, 2002, pp. 1472–1474.
- Greenberg, G. A., and R. A. Rosenheck, "Mental Health and Other Risk Factors for Jail Incarceration Among Male Veterans," *Psychiatry Quarterly*, Vol. 80, No. 1, 2009, pp. 41–53.
- Harrison, J., M. J. Krieger, and H. A. Johnson, "Review of Individual Placement and Support Employment Intervention for Persons with Substance Use Disorder," *Substance Use & Misuse*, Vol. 55, No. 4, 2020, pp. 636–643.
- Hawthorne, W. B., D. P. Folsom, D. H. Sommerfeld, N. M. Lanouette, M. Lewis, G. A. Aarons, R. M. Conklin, E. Solorzano, L. A. Lindamer, and D. V. Jeste, "Incarceration Among Adults Who Are in the Public Mental Health System: Rates, Risk Factors, and Short-Term Outcomes," *Psychiatric Services*, Vol. 63, No. 1, 2012, pp. 26–32.
- Hergenrather, K. C., R. J. Zeglin, M. McGuire-Kuletz, and S. D. Rhodes, "Employment as a Social Determinant of Health: A Review of Longitudinal Studies Exploring the Relationship Between Employment Status and Mental Health," *Rehabilitation Research Policy and Education*, Vol. 29, No. 3, 2015, pp. 261–290.
- Kim, M. M., and J. D. Ford, "Trauma and Post-Traumatic Stress Among Homeless Men," *Journal of Aggression, Maltreatment & Trauma*, Vol. 13, No. 2, 2006, pp. 1–22.
- Lerner, D., and R. M. Henke, "What Does Research Tell Us About Depression, Job Performance, and Work Productivity?" *Journal of Occupational and Environmental Medicine*, Vol. 50, No. 4, 2008, pp. 401–410.
- McGee, R. E., and N. J. Thompson, "Unemployment and Depression Among Emerging Adults in 12 States, Behavioral Risk Factor Surveillance System, 2010," *Preventing Chronic Disease*, Vol. 12, 2015, p. E38.
- McKee-Ryan, F., Z. Song, C. R. Wanberg, and A. J. Kinicki, "Psychological and Physical Well-Being During Unemployment: A Meta-Analytic Study," *Journal of Applied Psychology*, Vol. 90, No. 1, 2005, pp. 53–76.
- National Health Care for the Homeless Council, *Social Determinants of Health: Predictors of Health Among People Without Homes*, Nashville, TN, 2016.  
[http://councilbackup.flywheelsites.com/wp-content/uploads/2011/09/fact-sheet\\_2016\\_social-determinants-of-health1.pdf](http://councilbackup.flywheelsites.com/wp-content/uploads/2011/09/fact-sheet_2016_social-determinants-of-health1.pdf)

- Paul, K. I., and K. Moser, “Unemployment Impairs Mental Health: Meta-Analyses,” *Journal of Vocational Behavior*, Vol. 74, No. 3, 2009, pp. 264–282.
- Prins, S. J. (2014). Prevalence of Mental Illnesses in US State Prisons: A Systematic Review. *Psychiatric Services*, Vol. 65, No. 7, pp. 862–872.
- Substance Abuse and Mental Health Services Administration, “Behavioral Health Services for People Who Are Homeless,” 2013.  
<https://www.ncbi.nlm.nih.gov/books/NBK138725/>
- Sugie, N. F., and K. Turney, “Beyond Incarceration: Criminal Justice Contact and Mental Health,” *American Sociological Review*, Vol. 82, No. 4, 2017, pp. 719–743.
- Suglia, S. F., C. S. Duarte, and M. T. Sandel, “Housing Quality, Housing Instability, and Maternal Mental Health,” *Journal of Urban Health*, Vol. 88, No. 6, 2011, pp. 1105–1116.
- Sullivan, G., A. Burnam, and P. Koegel, “Pathways to Homelessness Among the Mentally Ill,” *Social Psychiatry and Psychiatric Epidemiology*, Vol. 35, No. 10, 2000, pp. 444–450.
- Tsai, J. “Lifetime and 1-Year Prevalence of Homelessness in the US Population: Results from the National Epidemiologic Survey on Alcohol and Related Conditions-III,” *Journal of Public Health*, Vol. 40, No. 1, 2018, pp. 65–74.
- U.S. Bureau of Labor Statistics, Employment Situation Summary. 2020a.  
[www.bls.gov/CES](http://www.bls.gov/CES)
- U.S. Bureau of Labor Statistics, New York-New Jersey—Labor Force Statistics, 2020b.
- U.S. Census Bureau, Educational Attainment in the United States: 2017, 2017.  
<https://www.census.gov/data/tables/2017/demo/education-attainment/cps-detailed-tables.html>
- Van der Noordt, M., I. H. Jzelenberg, M. Droomers, and K. I. Proper, “Health Effects of Employment: A Systematic Review of Prospective Studies,” *Occupational and Environmental Medicine*, Vol. 71, No. 10, Oct, 2014, pp. 730–736.
- Wanberg, C. R., “The Individual Experience of Unemployment,” *Annual Review of Psychology*, Vol. 63, 2012, pp. 369–396.
- Wang, P. S., M. Lane, M. Olfson, H. A. Pincus, K. B. Wells, and R. C. Kessler. (2005). “Twelve-Month Use of Mental Health Services in the United States: Results from the National Comorbidity Survey Replication.” *Archives of General Psychiatry*, Vol. 62, No. 6, 629–640. doi:10.1001/archpsyc.62.6.629



## Part IV: Cost

---

Before implementing any new program, organizations—particularly community-serving organizations that are likely to be resource constrained—will need to have a good understanding of the expected cost of the program they are about to implement. C2C was a novel intervention, so the cost evaluation sought to keep track of what CBOs needed to implement and maintain the program. This information is useful for comparison among the various types of CBOs that participated, but also to inform future implementations of C2C or programs like it.

Chapter 10 examines the resources required to implement and maintain the C2C program, both in terms of overall cost and cost per client served, from the perspective of CBOs. This analysis uses a “micro-costing” approach in which all resources used by CBOs to implement the intervention and maintain it are factored into the cost estimates. Because of the heterogeneity across CBOs, we counted the resources used by intervention CBOs to implement and maintain the program instead of comparing cost data between intervention and comparison CBOs. We measured the incremental changes in resources, from what they spent on baseline programming in year 2 compared with spending in year 3.

Related material in Appendix D provides detailed results from the sensitivity analyses, which were conducted to test the results of the cost study against alternative methods or parameters.

## 10. Resources Required to Implement and Maintain the C2C Program

---

*Michele Abbott and Harry H. Liu*

### Key Findings

- The number of CBO staff members trained in at least one C2C skill increased by 49 percent from year 2 to year 3. However, with the exception of coordinators hired specifically for the C2C program, staff members spent a relatively small portion of their time on the program.
- Annual number of labor hours spent on C2C increased by 26 percent from year 2 to year 3. CBO labor activities shifted from receiving training, program management, and technical assistance to providing training and receiving coaching and supervision.
- Due mostly to the increase in staff labor hours, the average annual C2C program cost per CBO rose about 18 percent, from \$437,546 in year 2 to \$514,142 in year 3.
- In the same time period, the average number of clients served per CBO increased 31 percent, from 817 per CBO in year 2 to 1,066 in year 3.
- Across the whole C2C program, the average cost per C2C client served decreased by 10 percent from \$536 in year 2 to \$482 in year 3. However, only 6 of the 15 CBOs had a year-on-year decrease in cost per C2C client served.
- Nearly half (44 percent) of the resources consumed in the C2C program were not part of the planned budget, and the funder sponsored only half of the rest of C2C program costs (28 percent).
- Potential C2C adopters can use these results (i.e., labor hours and clients served) in conjunction with local wages and organization-specific overhead ratios to estimate a budget for implementing the C2C program.

## Introduction

Integrating mental health support into community-based settings via task-shifting has the potential to benefit clients' mental health and other outcomes. Though multiple reviews have called for evidence, there is a dearth of research on cost, cost savings, or economic outcomes of task-shifting interventions for mental health (Hoeft et al., 2018; van Ginneken et al, 2013). Reviews of research on collaborative care or other low-intensity interventions on mental health also lack clarity on cost effectiveness (Barrett, Byford, and Knapp, 2005; Rodgers et al., 2012), but studies have been published on intervention cost per patient. A cost evaluation of five collaborative care programs for older adults was conducted in which a primary care provider worked with a case manager, a psychiatric consultant, CBOs, and family members or friends to form a collaborative care team to improve the effectiveness of treating depression in older adults (Hoeft et al., 2019). The authors found that the intervention cost per patient per month ranged from \$154 to \$544 (in 2018 U.S. dollars). However, the costs of collaborative care models may not be directly translatable to task-shifting models like C2C. For one, collaborative care is typically implemented in primary care or other medical settings with existing infrastructure and systems that are integrally related to program costs. For example, these settings have existing medical records systems, and providers can be reimbursed by insurance for the services they provide. Therefore, we would not necessarily expect the costs required to implement C2C to be similar to these other models.

This is the first study, to our knowledge, to estimate the costs of such an intervention in the United States. Specifically, this cost evaluation sought to address one primary research question: **What are the costs to CBOs associated with the implementation of the C2C program, overall and on average per program client?** We were unable to calculate the marginal cost of serving an additional client, due to data limitations explained in the Methods section below. Instead, we examined a secondary question in this cost analysis: **How did the average cost of serving a client change over time?** At the start of the evaluation, we had also planned to analyze whether the C2C program generates net cost savings to the government. However, because of challenges obtaining administrative data (e.g., state and local expenses for health care, housing, unemployment benefits, etc.) in time for this analysis, we were not able to answer the original cost savings research question as planned. This question could be addressed in a separate supplemental report, should these data become available.

To answer our primary research question, we estimated the resources used to implement and maintain the C2C program, including labor, nonlabor, overhead costs, and direct payments from CBOs to vendors and MHPs. The cost analysis results can inform government agencies deciding whether there are sufficient resources to invest in C2C and in how many CBOs. CBOs thinking about implementing C2C may also find these results helpful because they weigh the program's costs and consider how to financially support implementing it in their own context.

## Methods

We followed the guidelines proposed by Crowley et al. (2018) to estimate the C2C program intervention cost and present findings, according to which researchers should report the perspective for the analysis, time horizon, intervention and comparison conditions, monetary units, methods used for estimating costs, cost categories, sources of data, and research limitations. In this cost analysis, we adopted a micro-costing approach to enumerate resources utilized by CBOs in the implementation and maintenance of the C2C program. The cost analysis was conducted from a CBO's perspective, which means we did not take into account the resources spent by CBO clients (e.g., payment for transportation or childcare) who received C2C skills. We were not able to receive sufficient administrative data to conduct a benefit-cost analysis that could be conducted to estimate net savings of the C2C program from the government perspective. Should those data become available, such an analysis could be undertaken in the future.

Ideally, a comparison group of CBOs would have been included in the cost analysis. However, because of the heterogeneity across CBOs in service delivery structure, quantity of clients served, and length of time a client is engaged in services—even within the same type of CBO—cost data from the comparison CBOs used in the impact evaluation chapters would not be comparable to the cost data from CBOs that implemented the C2C program (intervention CBOs). Although CBOs serving the same client populations (e.g., parent and caregiver-serving CBOs) are likely pursuing similar client outcomes, the resources they consume to deliver services may vary widely. For example, one CBO may interact with a parent client once for a referral or community event, whereas another CBO may maintain consistent interactions with the client over the course of a school year. In consideration of these factors, we measured the incremental resources used by intervention CBOs to implement and maintain the program. That is, we used CBO baseline programming, or business as usual, for within-CBO comparisons.

We conducted one main analysis and three sensitivity analyses. Our main analysis estimated program resources consumed to implement the C2C program using survey data and participant assessments from years 2 (March 2017–February 2018) and 3 (March 2018–February 2019). However, this is still an estimate and sensitivity analyses were conducted to verify if the results were robust to alternative estimation methods or parameters. The first sensitivity analysis utilized an alternative method for overhead cost estimation based on government-negotiated indirect cost rates. The second sensitivity analysis relied solely on resources invoiced from CBOs to the Mayor's Fund for the project years 1 to 3 (March 2016–February 2019), rather than survey data, to estimate program costs. Finally, the third sensitivity analysis reintroduced labor costs associated with C2C skill delivery. As we explain in further detail in the Program-Level Cost Input Analysis section, because the delivery of C2C skills was integrated with regular CBO programming, it was difficult to parse the effect of C2C skill delivery on labor resources consumed in comparison to preexisting programming. Therefore, C2C delivery costs were excluded from the main analysis, so this third sensitivity analysis used potential estimates of

C2C skill delivery time to approximate costs. All costs have been adjusted for inflation to 2019 U.S. dollars using the Consumer Price Index from the U.S. Census Bureau (U.S. Bureau of Labor Statistics, 2019).

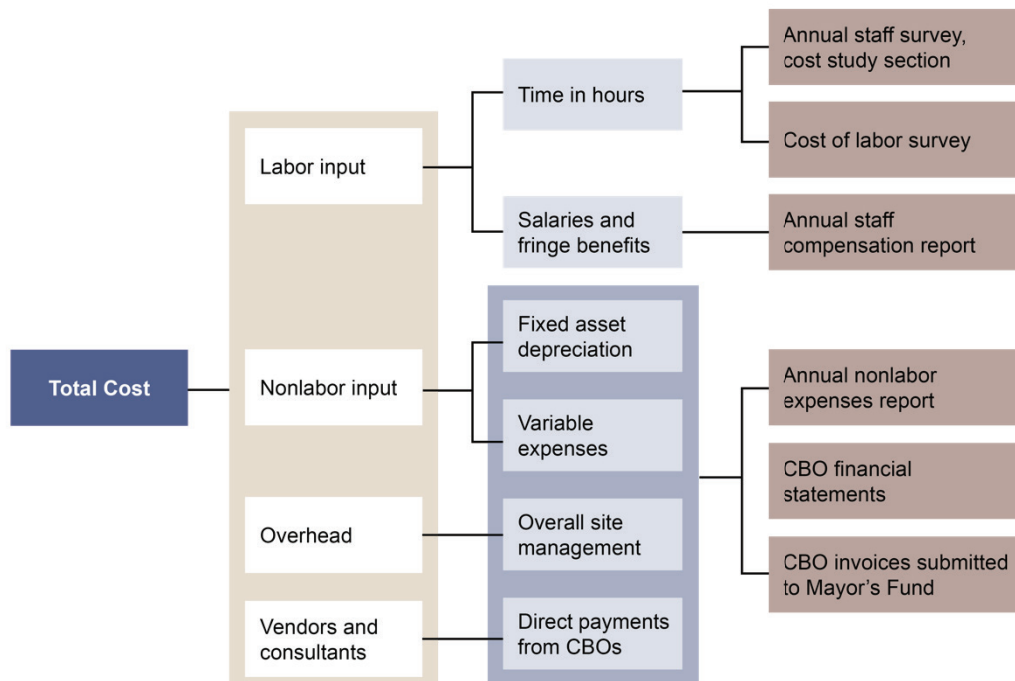
### Data Sources

The cost evaluation was conducted with data collected from several sources. The cost measures and supporting data are described below.

#### Program-Level Resource Inputs

To generate the total cost of the C2C program for each CBO, we identified and collected data required (shown in Figure 10.1) for the CBO program-level cost inputs: labor input, nonlabor input, overhead, and direct payments from CBOs to their MHPs and other vendors or consultants for the C2C program if relevant (e.g., computer system vendors). Labor input was generated based on labor time, in hours, with salaries and fringe benefits. Nonlabor input was generated from the depreciation of fixed assets, defined as assets that can be used for 1 or more years, and other variable expenses that are typically used up within a year. Overhead inputs refer to the overall site management; vendor and consultant costs are direct payments from CBOs.

**Figure 10.1. Program-Level Cost Data Collection**



To capture these data, we designed four data collection forms: the Cost Study Section embedded in the annual staff survey (Appendix B), the cost of labor survey, the staff compensation report, and the nonlabor expenses report. Labor input came from the two surveys and the staff compensation

report; nonlabor input, direct payments to the MHP and other C2C vendors, and overhead input came from the nonlabor expenses report, CBO financial statements, and CBO invoices submitted to the Mayor’s Fund. When applicable, the staff compensation report and nonlabor expenses report were prepopulated before sharing with CBOs, which then confirmed the accuracy of the prepopulated fields.

#### *Annual Staff Survey: Cost Study Section*

As part of the implementation evaluation, RAND conducted annual staff surveys to collect information on factors affecting program implementation from the perspective of participating CBO staff members. The survey covered a range of topics; a full description of the survey and its measures is included in Appendix B. The Cost Study Section consisted of eight questions asking respondents to report their level of engagement in a range of C2C activities in a typical week of the past month. It was intended to capture the hours per week staff members spent on various C2C activities, the number of service sessions delivered in a typical week, and the average length of time it takes to deliver each service session. Activities included C2C skills delivery (one or more skills), client referrals, training, coaching and supervision, technical assistance, data collection and reporting, and program management.

#### *Cost of Labor Survey*

Because of potential seasonal variation in the number of clients served and, correspondingly, the amount of labor input for C2C skills, we conducted a cost of labor survey—with the same survey items in the Cost Study Section of the annual staff survey—between the second annual staff survey in year 3 and the third in year 4. We timed the administration of the cost of labor survey so that it did not overlap with the time period covered by the annual staff survey.

#### *Staff Compensation Report*

CBOs completed the staff compensation form to report information for all staff members who were eligible for the year 3 annual staff survey, including annual salaries and fringe benefits. To protect the privacy of CBO staff, the compensation information was reported by job category by assigning each staff member to one of five job categories: administrative staff, frontline staff, supervisors, leadership, and organizational support staff. Staff members were assigned to appropriate job categories by C2C leads. Administrative staff included administrative assistants, receptionists, and security guards. Frontline staff included family workers, case managers, educators, and social workers. Supervisors had frontline staff as direct reports. Leadership included executive- and director-level staff. Organizational support staff included finance, contracts, information technology, and human resources staff. We used this information in combination with the reported number of hours spent on C2C-related activities to estimate the annual labor cost of implementing the C2C program.

### *CBO Financial Statements*

CBOs' publicly available audited financial statements were either found online or requested from the CBOs' financial departments for fiscal years 2017 through 2019. We used these statements to confirm resources captured in the nonlabor expenses report (i.e., organization-level depreciation and total expenses for CBO program services and administration). We calculated CBO allocation rates for depreciation, nonlabor, and overhead expenses as the ratio of total C2C labor costs (as determined by the staff surveys and compensation reports) to total CBO salary and fringe benefits spent on all CBO program services.

### *Nonlabor Expenses Report*

The nonlabor expense report was designed to be completed by a CBO financial staff member to collect the amount of nonlabor associated resources spent by CBOs in the last fiscal year as well as any in-kind contributions to program implementation. The report included five key subcategories: (1) organization-wide asset depreciation, (2) new asset purchases specifically for the C2C program, (3) variable nonlabor expenses, (4) direct payments to mental health partners or consultants, and (5) overhead expenses. Except for some recorded expenses specifically for the C2C program, categories 1, 3, and 5 typically required an allocation of organization-wide nonlabor expenses to the C2C program, using the allocation ratio of C2C labor to all CBO program services labor, described above. To estimate the upfront investment required to implement the C2C program, we collected the amount spent on new assets purchased specifically for the C2C program and associated annual depreciation expenses, though this ended up being minimal.

### *Quarterly CBO Invoices*

We also leveraged the quarterly CBO invoices submitted to the Mayor's Fund to supplement the information collected using other instruments. Because of audit requirements, these invoices should be accurate in terms of the amount charged to the Mayor's Fund. Leveraging these invoices enabled us to reduce the reporting burden of CBOs by prepopulating relevant items in the staff compensation report and nonlabor expenses report (e.g., variable nonlabor expenses and direct payments to MHP vendors), in some cases. However, the invoices did not capture all data at the level of detail needed to conduct the cost analysis. It is important to note that these invoices are based on budgets, which often drive an organization's spending and billing patterns and do not necessarily reflect actual expenses. For example, they do not include labor expenses for staff who were not on the budget but who still engaged in C2C activities such as training or C2C skills delivery. In addition, the overhead rate charged on invoices has a maximum set at the rate based on federally negotiated indirect cost rate agreements, which could be lower than actual overhead rates used by some CBOs.

### *CBO Quarterly Reports*

We used the quarterly reports that CBOs submitted to the Mayor's Fund between March 2016 and June 2019 to estimate the number of unique clients served in a project year, which was then



used to calculate the average cost per client served. CBOs reported the total number of clients served per quarter as well as the new clients who received C2C skills, per quarter. In both metrics, “client served” means the client received at least one C2C skill and could include anything from a screening to a 10-week PE group. To calculate the number of unique clients served by the C2C program per year, we summed the total number of clients served in the first quarter and the new clients receiving C2C skills in the last three quarters. This is the closest approximation to the unique number of clients served. Summing the total number of clients served across quarters would have overestimated client numbers because some of the clients would have received ongoing C2C skills across quarters, whereas summing only the new clients served per quarter would have underestimated total clients because it would not include clients who received C2C skills in that year who had also received C2C skills from the CBO in prior years.

### Qualitative Interviews with CBO and MHP Leadership

Key informant interviews and focus groups were conducted as a part of the implementation evaluation. Interviews took place in person in 2017 and 2018 and by telephone in 2019. We were particularly interested in gathering CBO and MHP leadership perspectives on anything related to financial considerations, budget constraints, resource allocation, or sustainability of the C2C project activities. Further details of the key informant interviews are discussed in section B.2 of Appendix B.

### *Measures*

For the program-level cost input analysis, we used several measures which are as follows:

- average annual C2C program cost per CBO, reflecting the total amount of resources consumed to implement and maintain the C2C program at the CBO level
- average annual program cost per C2C client served, representing the efficiency of C2C
- change in the average cost per C2C client served over time.

The average cost likely depends on the total number of C2C clients served in a year and the economies of scale. We defined a C2C client as any CBO client that received at least one C2C skill (screening, MHFA, MI, or PE), but these clients could have received more than one skill. All measures are presented in aggregate across all CBOs and by CBO type (described below).

### *Data Analyses*

#### Survey Weighting

We used surveys to collect program-level labor input data, and survey nonresponse can bias cost estimates if the outcomes being measured by the survey are correlated with the probability of responding to the survey. We therefore used a weighted analysis to address potential nonresponse bias. For the cost of labor survey, we collected the information about job titles of the staff eligible for the survey, classified them into five job categories, and created weights based on the response rate to the survey for each job category. For the annual staff surveys,

which do not have the job category information for nonrespondents, we used the inverse of the overall response rate as the weight. This way, individuals who are underrepresented among the respondents (relative to all surveyed staff) are upweighted in the analysis. The final estimates reported in this chapter are based on these weighted analyses of survey responses.

### Program-Level Cost Input Analysis

Program-level cost includes labor, nonlabor, direct payments to MHP and training consultants, and overhead cost. We derived the total labor cost for each staff member by multiplying the time spent on C2C per year (as reported on staff surveys) by annual salaries and fringe benefits. Because it was a program requirement to integrate C2C skill provision into existing CBO programming, there is likely a large overlap, in terms of staff labor hours between “usual” CBO service delivery (e.g., job training or youth development work) and C2C skills delivery. Although some C2C skills, such as mental health screening protocols or PE groups, may be provided separately from regular CBO services, MHFA and MI skills are designed to be woven into regular CBO programming. As a result, C2C could potentially improve the quality and effectiveness of regular CBO services, but it is unclear how much these skills increased the total amount of time CBO staff spent on regular service delivery. In our staff labor survey, respondents were not able to distinguish between time spent on regular services and additional time spent on C2C skills delivery. This poses a major challenge to estimating labor hours in our analysis. Therefore, we decided to exclude the amount of time spent on C2C skills delivery in the program cost in the main analysis, but we did conduct a sensitivity analysis to further address this (see Sensitivity Analyses section, below).

CBO financial data provided the amount of nonlabor costs, such as depreciation expenses of fixed assets or office supply expenses, which can be further classified into two categories: C2C costs that can be separated from other CBO activities and those that cannot. For the former, the costs were derived from CBO invoices submitted to the Mayor’s Fund (e.g., travel expenses or office supplies purchased solely for the C2C project). For the latter, including overhead expenses, we used an allocation basis—the ratio of C2C labor cost to all CBO program service labor cost, as reported on CBO financial statements—to allocate the cost of the items shared between the C2C project and other organizational activities. We did not allocate any cost items that were not directly relevant to the C2C operation (e.g., expenses for meals provided to CBOs’ clients). By adding direct CBO payments to MHPs or vendors to labor and nonlabor portions of program costs, we were able to calculate the total amount of resources used for the C2C program. The resources associated with activities for data collection, evaluation, and reporting were excluded from the analysis, because they will not be part of the daily operation of the C2C program when the study ends.

We generated estimates for annual program cost and cost per client served for each participating CBO and we present the average estimates across all CBOs, as well as averages by CBO type. The estimates of CBO-level averages were not weighted by CBO size, but the

average cost per client served, defined as the ratio of the sum of total program costs across all CBOs over the total number of clients served by all CBOs, was weighted. Similar approaches were used for each CBO type. CBOs were categorized into four different CBO types, consistent with the categories used for the implementation and impact evaluations (Table 5.1).

In addition, we present annual program costs grouped by other factors, such as an internal or external funding mechanism for the MHP, CBO size in terms of the total number of CBO staff, and C2C funding source. As detailed in Chapter 4, the structure of CBO-MHP partnerships and the financial vehicles used varied across CBOs and over time. Most CBOs subcontracted with external MHP organizations to cover MHP staff time, but some CBOs hired and paid MHP clinicians as internal staff. Consequently, these expenses show up differently in the cost data, either through the “MHP and trainer contracts” category or rolled into the “labor” category. Economies of scale may have affected the cost as well, because larger CBOs (e.g., in terms of the number of total staff) may have had more resources available and may operate differently than smaller CBOs. Thus, we present annual program costs by CBO size, using employment as our grouping metric.

Last, we present the funding sources of annual program costs. CBOs proposed a budget in their C2C program applications submitted to the Mayor’s Fund. The program required that the total C2C budget be at least \$200,000 per year. The Mayor’s Fund was responsible for reimbursing 50 percent of the budget; CBOs were to find matching funds from nonfederal funders, such as philanthropic contributions or grants from private foundations, to cover the remainder. CBOs were allowed to carry over unused funds from 1 year to the next. If more resources were spent than the planned budget, CBOs had to absorb the additional cost.

To examine whether CBOs improved their operating efficiency, we presented the difference in the average cost per client between years 2 and 3. In theory, the costs for training should decline over time, if they are upfront fixed costs, but we did not observe such a pattern, likely due to staff turnover and staggered rollout of training modules. We were not able to determine what portion of labor costs should be considered “fixed,” i.e., costs that do not change when service volume increases. In addition, because only year 2 and year 3 data were available for the analysis, we were not able to judge with confidence whether or when the program entered the maintenance stage and therefore did not estimate the cost of implementation separately from the cost of maintenance. For this reason, we did not calculate the marginal cost, often defined as the increase in variable costs—costs that change when service volume increases—due to serving an additional client while fixed costs remain unchanged. Instead, we examined how the average cost per client served changed over time.

### *Sensitivity Analyses*

We conducted three sensitivity analyses to address the uncertainty in the cost estimation. The first sensitivity analysis used an **alternative method to calculate overhead costs**. Whereas the main analysis used an overhead rate derived from CBOs’ financial statements, this sensitivity

analysis instead used the overhead rate charged by the CBO on C2C project invoices. The overhead rate had a maximum rate based on government-negotiated indirect cost rate agreements; however, the actual overhead charged per invoice was sometimes less than the allowable rate. We calculated the invoice rate as the ratio of total overhead charged on project invoices per year to total project expenses charged less overhead. This invoice rate was then applied to the same direct project costs in the main analysis.

The second sensitivity analysis **measured only the program costs charged by CBOs on the C2C project invoices**, and therefore, only the costs for which CBOs were reimbursed. As noted above, the Mayor's Fund reimbursed 50 percent of CBO project costs, and CBOs were required to find funding for the remainder from nonfederal funders. By relying solely on invoices, this sensitivity analysis allowed us to calculate program costs for the first three project years (compared with only years 2 and 3 in the main analysis using surveys), although using invoices only would lead to an underestimation of program costs.

In our third sensitivity analysis, we **adjusted labor hours to account for a marginal increase in the amount of time C2C staff spent delivering regular client services** due to C2C skills delivery. Although most of the C2C skills (such as MHFA and MI) were integrated into client interactions under existing CBO programming, delivery of some skills could increase the length of regular client interactions (i.e., additional screenings) or add new client interactions (i.e., new PE groups). Because of the challenge of quantifying the *marginal* increase in time spent on regular CBO service delivery due to the utilization of C2C skills, we assumed that implementing C2C skills increased staff time spent on regular CBO services by 5 to 25 percent, based on our qualitative interviews with CBO staff. The purpose of this sensitivity analysis was to examine how labor costs and annual program costs would change if C2C skills increased regular CBO service delivery time by 5 or 25 percent.

## Results

As described in the Methods section, we conducted a main analysis to determine the costs associated with the C2C program, as well as three sensitivity analyses. We also used interviews with key informants to understand more about what we were seeing in the data. Note that one CBO was unable to implement the program adequately and was discontinued from the program by the funder in year 3. As a result, the cost of labor survey for year 3 and the staff survey for year 4 were not available for this CBO. Because our analysis focused on years 2 and 3, and we were able to rely on the staff survey in year 3 to estimate labor cost for the CBO that dropped out, we present the cost results for all 15 CBOs. In this section, we present the results of the main analysis first. Several calculations were necessary to complete before the average annual cost of providing C2C at each CBO and the average annual cost per client could be determined. Here we break down our analyses by the number of CBO staff trained and the number of clients served with C2C skills, and then the number of labor hours spent and the compensation of CBO staff,

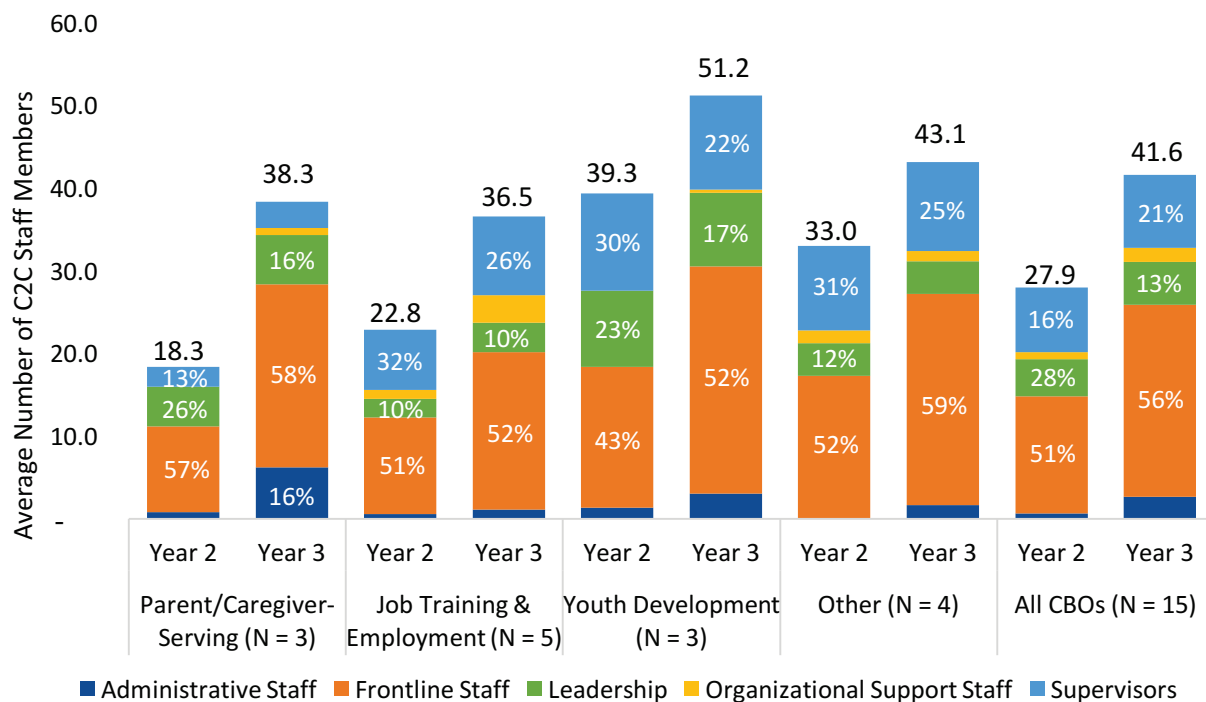
before using these data to calculate C2C program costs. After the main analysis results, we describe our findings from the sensitivity analyses and the key informant interviews.

### Main Analysis

#### Staff Trained and Clients Served in C2C

Figure 10.2 presents the average number of staff involved in the C2C initiative, by CBO type, for years 2 and 3. Staff involvement was defined as having received training in at least one of the four C2C skills (screening, MI, MHFA, or PE) in the past year. CBO program managers provided this list of C2C staff members as those eligible to take the staff survey. Overall, CBOs ( $N = 15$ ) reported an average of 27.9 C2C-involved staff members in year 2 (range: 6–81) and 41.6 in year 3 (range: 14–108), a 49-percent increase in average staff members. There was some variation in the average number of C2C staff between CBO type, but also *within* CBO types. Parent/caregiver-serving CBOs ( $n = 3$ ) had the highest growth in average staff numbers, increasing from 18.3 in year 2 (range: 10–30) to 38.3 in year 3 (range: 14–71) or 109 percent. On average, youth development CBOs ( $n = 3$ ) had a large number of staff members (19–40 percent larger) than other types of CBOs but had a relatively small increase from a year 2 average of 39.3 (range: 13–81) to an average of 51.2 in year 3 (range: 26–100).

**Figure 10.2. Average Number of Staff Members Who Received C2C Training per CBO, by Job Category, C2C Project Year, and CBO Type**

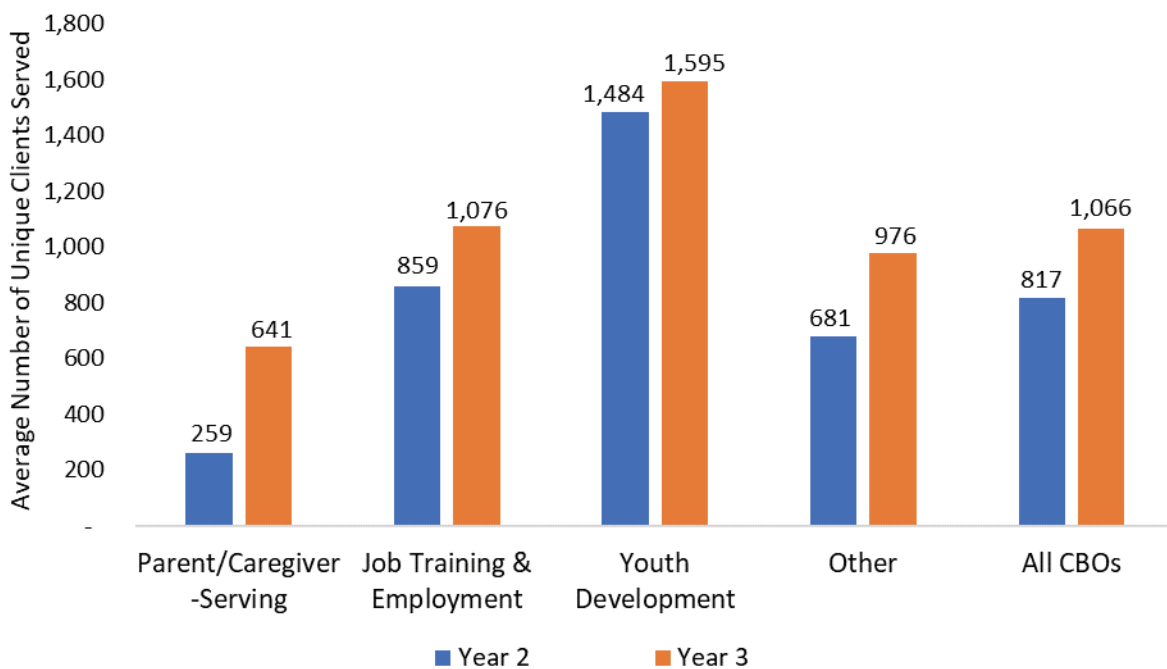


SOURCE: Staff surveys. Percentages are not labeled for components that are less than 10 percent.  
 NOTE: Year 2 staff job category percentages were extrapolated from survey responses, whereas year 3 job category percentages are based on the full list of staff eligible for which such information was available.

The number of unique clients served increased substantially over the first 3 years of C2C implementation as the program scaled up (refer to Chapter 5 for more detail). The total number of unique clients served under the C2C initiative increased by 198 percent between years 1 and 2 (from 4,106 to 12,249, respectively) and by 31 percent in year 3 (to 15,992) (data not shown). Figure 10.3 shows the average number of unique clients served for years 2 and 3, by CBO type and project year. Overall, CBOs served an average of 817 clients in year 2 (range: 68–2,737) and 1,066 in year 3 (range: 164–2,590), a 30.6-percent increase, but the change varied widely across CBOs. Four CBOs had roughly no change in number of clients served, seven CBOs had a modest increase (mean: 36 percent), and the remaining four CBOs had a substantial increase (mean: 241 percent). The change in number of clients served did not correlate strongly with either CBO type or size.

Also, the average number of unique clients served varied substantially across and within CBO types. CBOs serving parents/caregivers reached the fewest clients in year 3 (mean: 641; range: 164–1,583), but these CBOs increased the number of unique clients served more than any other CBO type between years 2 and 3 (147 percent). Youth development CBOs served the largest number of clients in year 3 (mean: 1,595; range: 493–2,590), but their number served remained fairly consistent with year 2 (7.5-percent increase). Job training and employment CBOs served an average of 1,076 clients in year 3 (range: 632–1,629; 25-percent increase from year 2), and other CBOs served an average of 976 clients in year 3 (range: 507–1,590; 43-percent increase from year 2).

**Figure 10.3. Average Number of Unique Clients Served per CBO, by CBO Type and Project Year**



SOURCE: CBO quarterly reports.



## Labor Hours and Compensation

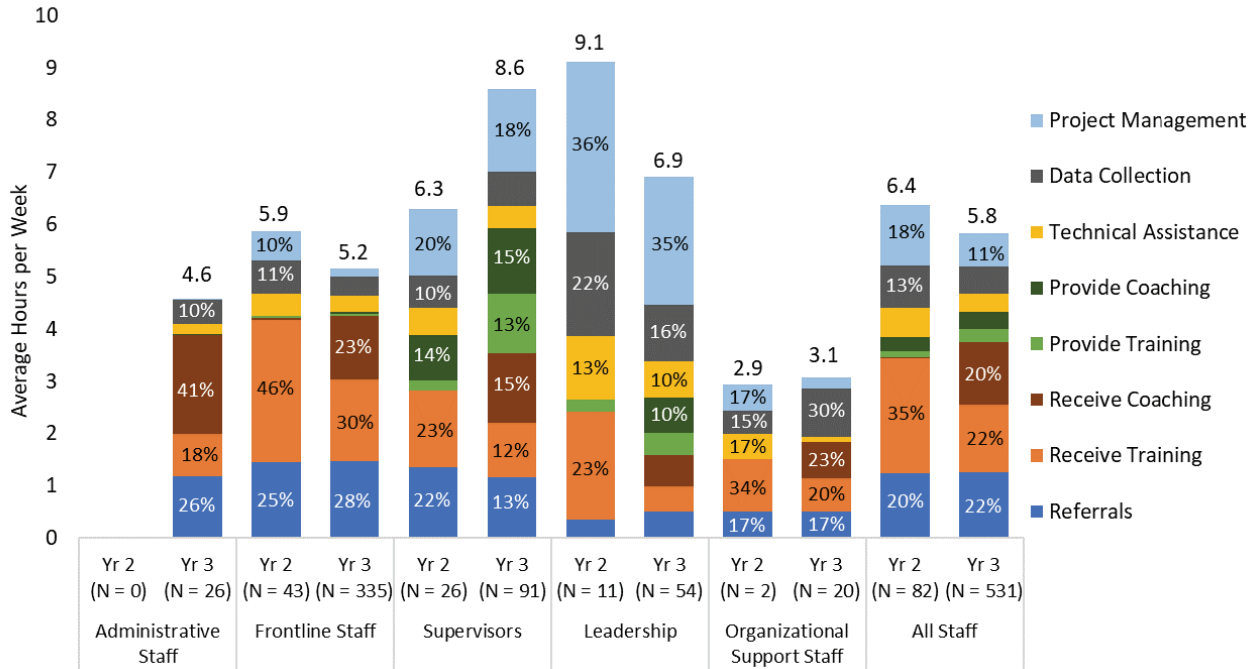
Annual staff surveys collected the breakdown of weekly hours staff spent on C2C by activity. Although we were unable to calculate the *marginal* increase in time spent on regular CBO service delivery due to C2C, staff reported spending an average of 4.6 hours per week on C2C skills delivery in year 2 and 3.9 hours per week in year 3 (data not shown). This time spent on C2C skills varied by job type: frontline staff and supervisors reported more hours on C2C skill delivery than did leadership or administrative staff. However, because of the integration of C2C skills with existing CBO programming, we were unable to tease out the marginal increase in service delivery hours specifically related to the application of C2C skills. Thus, all labor hours spent on C2C skill delivery have been excluded from the rest of this analysis. (Figure D.4, from the third sensitivity analysis, illustrates the increase in program cost per client assuming a 5- to 25-percent increase in staff time spent on delivering regular CBO services due to the addition of implementing C2C skills.)

Figure 10.4 reflects the average number of hours per C2C activity in a typical week by staff who responded to the survey. These hours were not weighted for total CBO staff working on the C2C program, because we were unable to collect job category information for all nonrespondents. Among those who did respond to the surveys, staff spent an average of 6.4 and 5.8 hours per week on C2C activities in years 2 and 3, respectively. A large portion of staff time was spent on receiving training, followed by providing referrals to MHPs and project management activities. Notably, there was a decrease in the amount of time staff received training in year 3 compared with year 2 (from 2.2 to 1.3 hours per week), which appears to have been complemented by receipt of coaching in year 3 instead of training (1.2 hours per week). The amount of time spent per week on several tasks declined from year 2 to year 3: project management, from 1.2 hours per week in year 2 to 0.6 in year 3; data collection, 0.8 to 0.5 hours; and technical assistance, 0.6 to 0.4 hours. Figure D.5 further extends this analysis with responses from the year 4 survey, from which we observed an increase in the amount of time for referrals (17 percent) and providing coaching (75 percent) but a decrease in receiving training (-65 percent), receiving coaching (-57 percent), providing training (-15 percent), technical assistance (-21 percent), data collection (-46 percent), and project management (-48 percent).

As seen in Figure 10.4, the amount of time spent on various C2C activities differed by staff job category. As expected, leadership staff spent the most hours per week on project management (3.3 in year 2 and 2.5 in year 3), data collection (2.0 in year 2 and 1.1 in year 3), and technical assistance activities (1.2 in year 2 and 0.7 in year 3). In both project years, frontline staff spent the most time receiving training (2.7 and 1.6 hours in years 2 and 3, respectively) and providing referrals to MHPs (1.4 and 1.5 hours in years 2 and 3, respectively). Supervisors also spent a substantial amount of time providing referrals to MHPs in years 2 and 3 (1.4 and 1.2 hours in years 2 and 3, respectively) and providing coaching to frontline and other staff (0.9 and 1.3 hours, respectively). In year 3, MHP staff transitioned some of the recurring training over to CBO supervisors, who spent an average of 1.1 hours per week providing training in year 3.



**Figure 10.4. Average Weekly C2C Labor Hours per Staff Member, by Job Category, C2C Activity, and Project Year**



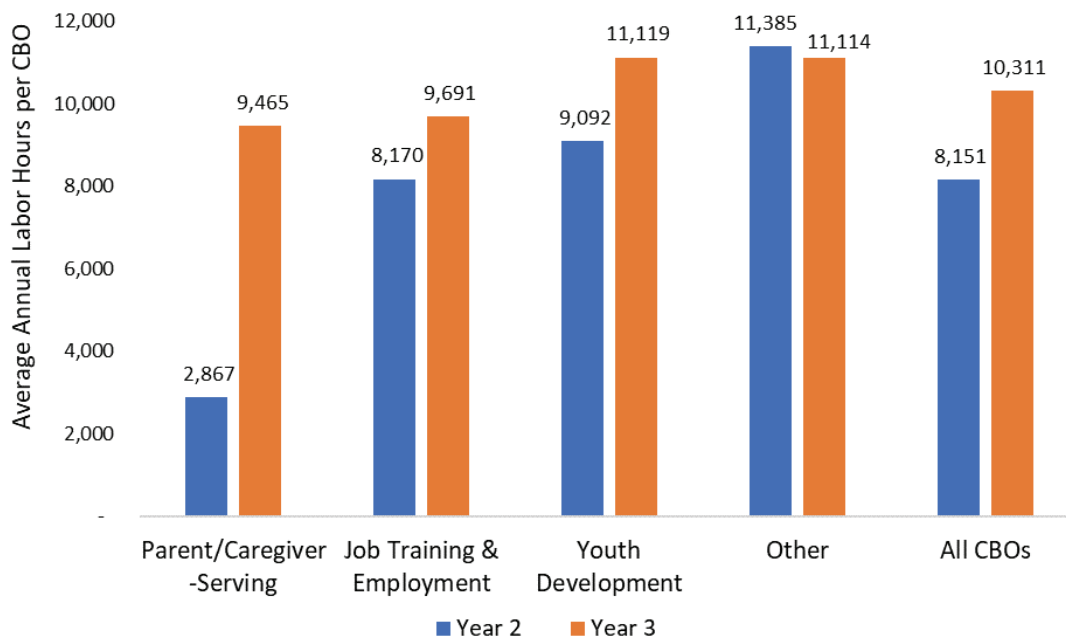
SOURCE: Staff surveys.

NOTES: Because we were unable to collect job category information for all nonrespondents, results reflect the average staff who responded to the staff survey and were not weighted for the total number of staff. Percentages are not labeled for components that are less than 10 percent.

Figure 10.5 shows the average annual labor hours per CBO, with weighted staff survey responses to reflect all staff working on the C2C program and extrapolated to the full year. Weekly labor hours were standardized to a 35-hour workweek, and we assumed 50 workweeks per year. On average, CBOs spent 26 percent more labor hours in year 3 (mean: 10,311; range: 2,031–29,377) compared with year 2 (mean: 8,151; range: 704–24,544). This translates to an average of 5.9 full-time equivalents in year 3 (range: 1.2–16.8) compared with 4.7 full-time equivalents in year 2 (range: 0.4–14.0). (Figure D.6 extends results using the year 4 staff survey, which indicates a 12-percent decline in the average number of annual labor hours, to 9,109, for that year per CBO.)

Youth development and other CBOs had a higher average number of annual labor hours in years 2 and 3 compared with the parent/caregiver-serving and job training and employment CBOs. However, the number of staff labor hours worked at parent/caregiver-serving CBOs increased substantially (230 percent), whereas the increase in the number of labor hours at youth development and job training and employment CBOs was more moderate (22 and 19 percent, respectively). Labor hours at other CBOs decreased slightly (–2 percent). However, these averages mask wide variation at the CBO level with no discernible correlation to CBO type:

**Figure 10.5. Average Annual C2C Labor Hours per CBO, by CBO Type and Project Year**



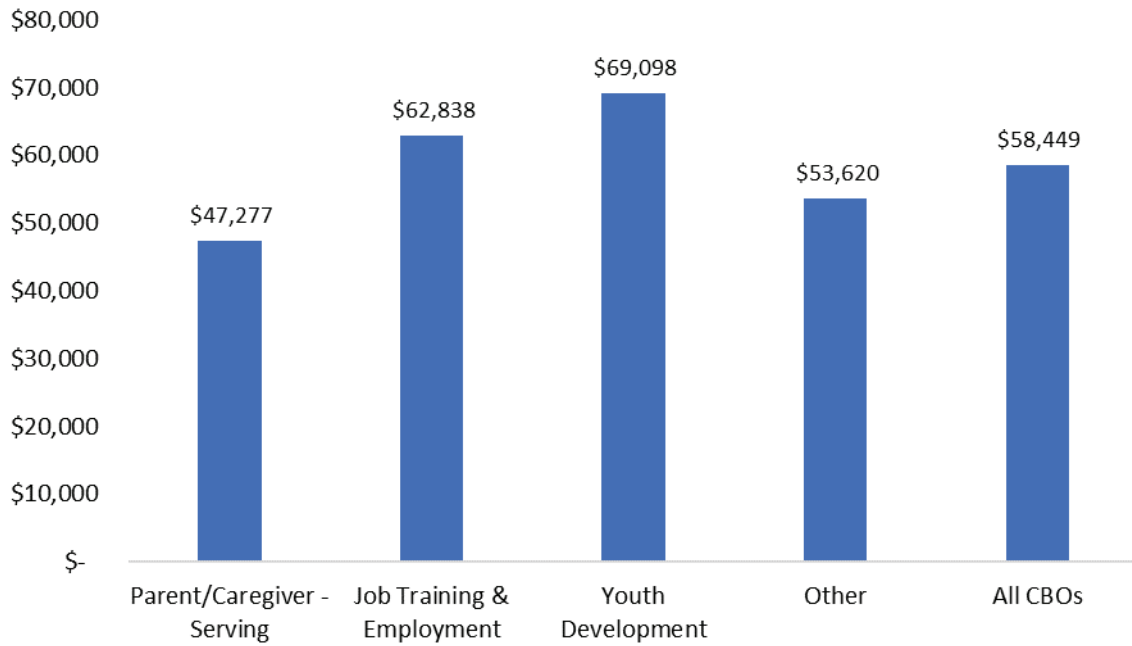
SOURCE: Staff surveys.

four CBOs' labor hours decreased from year 2 to year 3, five CBOs' labor hours increased between 0 and 100 percent, and five CBOs' labor hours more than doubled (>100 percent).

Figure 10.6 shows the average annual staff compensation per CBO in year 3, the only year we collected compensation data. Across all CBOs, the average compensation (salary plus fringe benefits) was \$58,449 per CBO (median: \$55,267, range: \$43,902–\$74,498). But this average staff compensation masks variation by staff job category. For example, for administrative staff, the average compensation was \$41,589; frontline staff, \$50,417; organizational support staff, \$57,789; supervisors, \$70,719; and leadership, \$104,120 (data not shown). We also observed variation in staff compensation by job category across different types of CBOs. For example, the average annual compensation for frontline staff in parent/caregiver-serving CBOs was \$43,554, compared with \$60,751 in youth development CBOs. Similarly, the average compensation for leadership staff was \$83,998 in parent/caregiver-serving CBOs and \$121,382 in job training and employment CBOs.

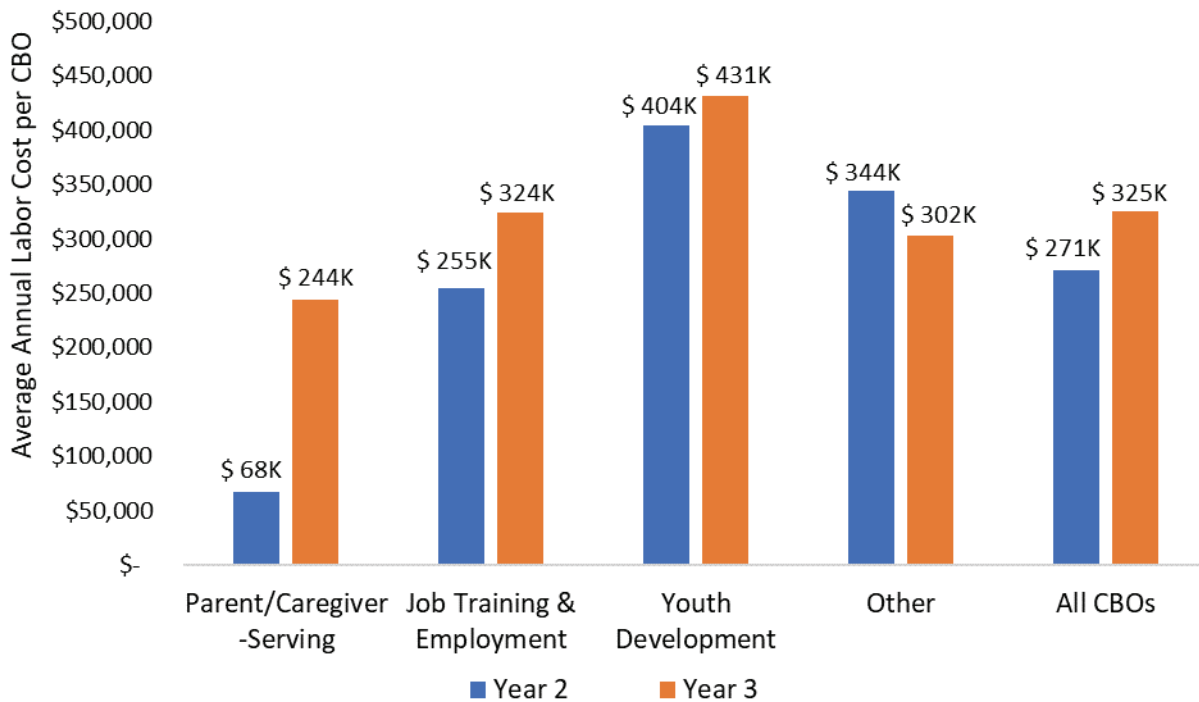
Using the weighted staff-level reported hours worked in a typical week and annual compensation, we calculated the average annual labor cost per CBO, as illustrated in Figure 10.7. Overall, CBOs spent 20 percent more in year 3, on average, than in year 2 (\$324,792 in year 3, vs. \$271,124 in year 2). However, both the average annual labor costs and the percentage increase from year 2 to 3 differed substantially by CBO type. For example, parent/caregiver-serving CBOs spent 260 percent more in year 3 than in year 2 (largely driven by substantial increase in labor at one CBO), whereas youth development CBOs spent 6 percent more in year 3.

**Figure 10.6. Average Annual Staff Compensation in Year 3, by CBO Type**



SOURCE: Compensation report, 2018.

**Figure 10.7. Average Annual Labor Cost per CBO, by CBO Type and Project Year**



SOURCE: Staff surveys; compensation report, 2018.

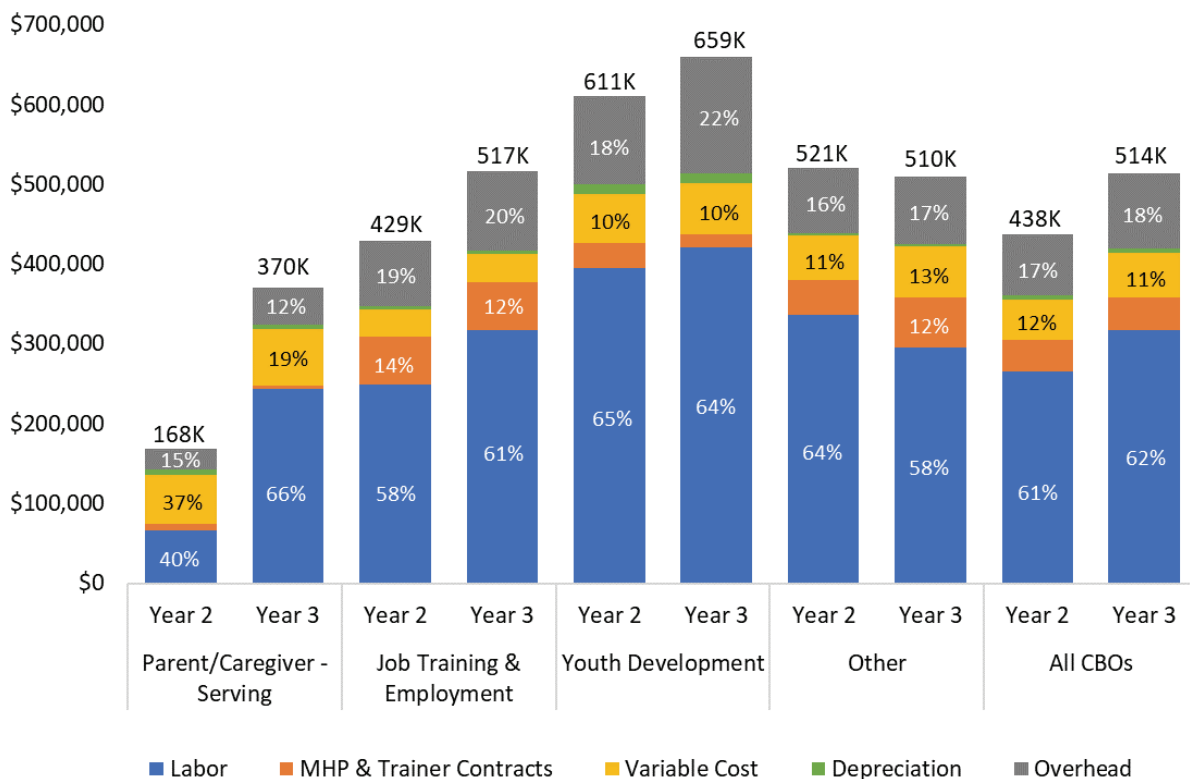
Job training and employment and other CBOs spent closer to the overall average, with only a 27-percent increase and a 12-percent decrease, respectively.

Similar to the findings for annual labor hours, averages of annual labor cost mask wide variation at the CBO level that are unrelated to CBO type: five CBOs' labor cost decreased from year 2 to year 3 (mean: -43 percent), five CBOs' labor hours increased between 0 and 100 percent (mean: 56 percent), and four CBOs' labor hours more than doubled (mean: 592 percent).

### Program Cost

We compiled all results and report the average annual program cost per CBO, by project year and CBO type. Overall, CBOs spent a total of \$6,563,194 in year 2 and \$7,712,137 in year 3, an 18-percent increase. As illustrated in Figure 10.8, the C2C project costs each CBO an average of \$437,546 in year 2 (median: \$315,532; range: \$89,653-\$1,237,302) and \$514,142 in year 3 (median: \$433,614; range: \$124,108-\$1,047,960). Four CBOs' program cost decreased in year 3 (mean: -42 percent), seven CBOs had a modest increase in program cost (mean: 39 percent), and the remaining four CBOs' program cost more than doubled (mean: 200-percent increase).

**Figure 10.8. Average Annual C2C Program Cost per CBO, by Cost Component, Project Year, and CBO Type**



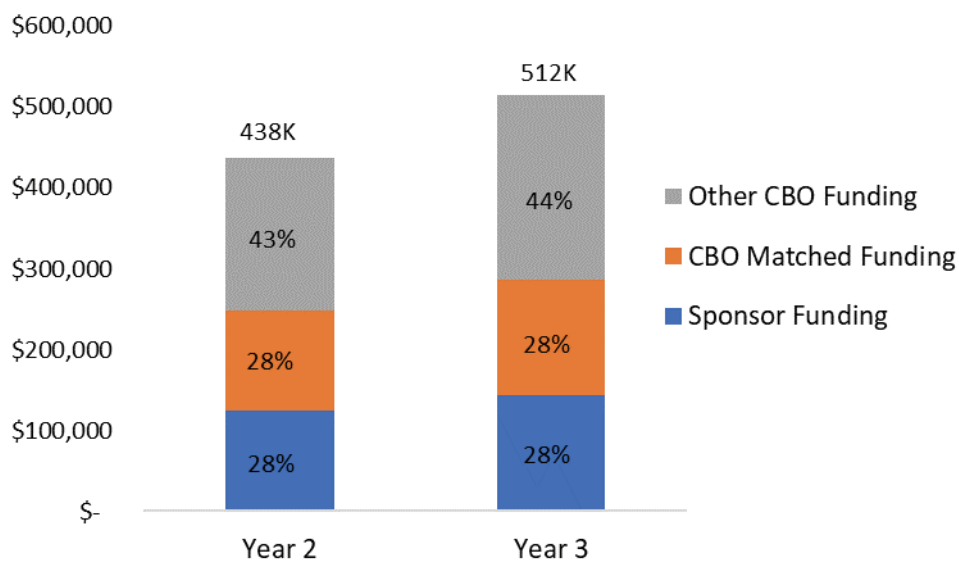
SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices.

NOTE: Percentages are not labeled for components that are less than 10 percent.

Annual program cost, and the increase in cost from year 2 to 3, varied across and within CBO types. Youth development CBOs had the highest average cost in year 2 (mean: \$611,055; range: \$280,332–\$1,237,302) and year 3 (mean: \$659,109; range: \$433,614–\$879,629), and their average program cost increased by 8 percent, a relatively small amount. Average annual costs for other CBOs decreased by 2 percent, from \$520,810 in year 2 (median: \$517,041; range: \$275,096–\$744,062) to \$509,658 in year 3 (median: \$386,679; range: \$217,315–\$1,047,960). Conversely, the average annual C2C program costs of job training and employment CBOs increased 21 percent, from \$428,516 in year 2 (median: \$449,722; range: \$189,986–\$838,165) to \$517,088 in year 3 (median: \$508,857; range: \$384,258–\$652,201). Last, although the parent/ caregiver-serving CBOs had the lowest annual program costs, \$168,069 in year 2 (range: \$89,653–\$297,345) and \$370,246 in year 3 (range: \$124,108–\$579,357), they had the largest increase in program spending (120 percent) from year 2 to 3.

Annual program costs were partially driven by the structure of the funding mechanism for C2C. As previously described, CBOs were required to submit annual budgets of at least \$200,000 to the Mayor’s Fund, and funding was split 50-50 between the Mayor’s Fund CBO-identified funders, typically foundation grants. Figure 10.9 shows the breakdown of average annual program cost per CBO, by funding source and project year; “sponsor” represents the Mayor’s Fund share of funding. Qualitative interviews (refer to the Interview Results section below) indicated that, in some cases, the match requirement created an upper bound on the budget requested. In other cases, CBOs used resources not accounted for in the C2C budgets to pay for additional staff labor costs and organizational-level overhead costs above the federally

**Figure 10.9. Average Annual Program Cost per CBO, by Funding Source and Project Year**



SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices.

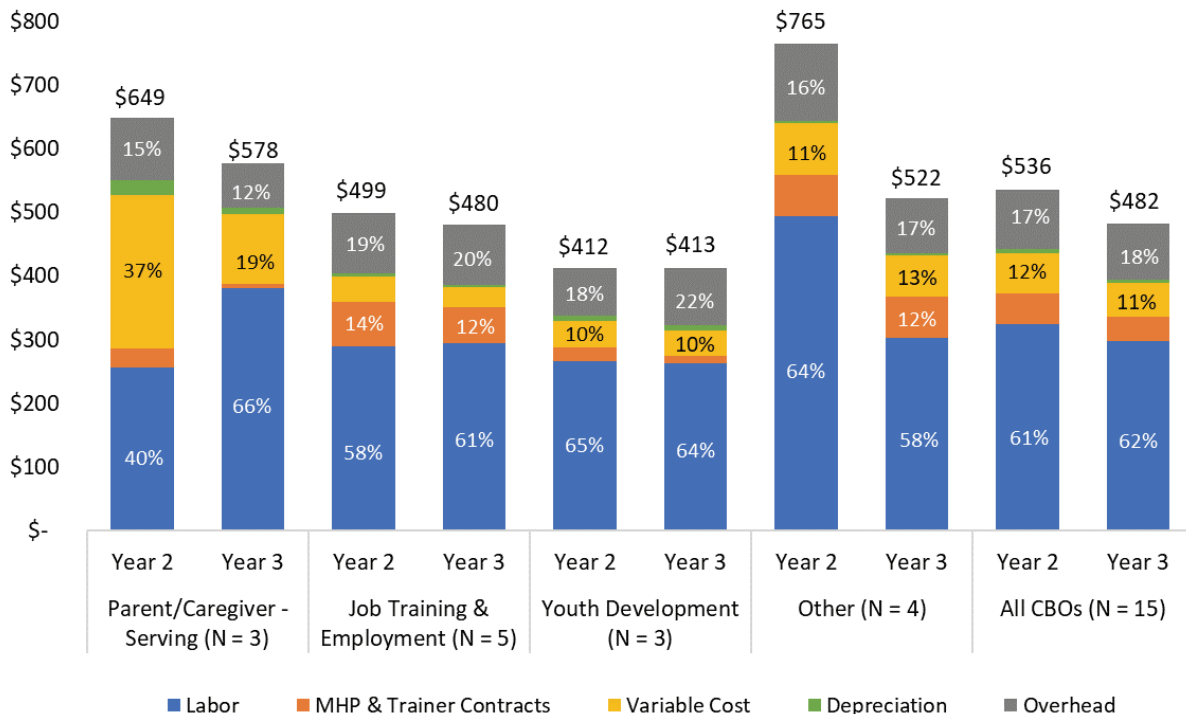
NOTE: Percentages are not labeled for components that are less than 10 percent.

negotiated indirect cost rate agreement. On average, CBOs covered substantially more costs than they had planned in the budget, accounting for 43 percent of total program expenses in year 2 and 44 percent in year 3.

As shown in Figure 10.10 below, across all CBOs ( $N = 15$ ), the C2C initiative’s cost per client was \$536 (median: \$701; range: \$120–\$3,203) in year 2 and \$482 (median: \$500; range: \$137–\$2,483) in year 3, a 10-percent decrease. The largest cost driver of the C2C initiative was labor (61 percent in year 2 and 62 percent in year 3), followed by overhead (17 percent in year 2 and 18 percent in year 3), variable costs (12 percent in year 2 and 11 percent in year 3), and MHP and trainer contract costs (9 percent in year 2 and 8 percent in year 3).

The C2C cost per client varied across and within CBO types. Among the three parent/caregiver-serving CBOs, the C2C cost per client was \$649 in year 2 (range: \$217–\$1,759) and decreased about 13 percent to \$578 in year 3 (range: \$366–\$2,483). Among the five job training and employment CBOs, the C2C cost per client was \$499 (median: \$470; range: \$120–\$1,603) in year 2 and decreased about 4 percent to \$480 (median: \$500; range: \$236–\$805) in year 3. Among the three youth development CBOs, the C2C cost per client served was \$412 (range: \$240–\$701) in year 2 and remained constant at \$413 (range: \$255–\$1,347) in year 3. Among the

**Figure 10.10. Average C2C Program Cost per Client Served, by Cost Component, Project Year, and CBO Type**



SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices.

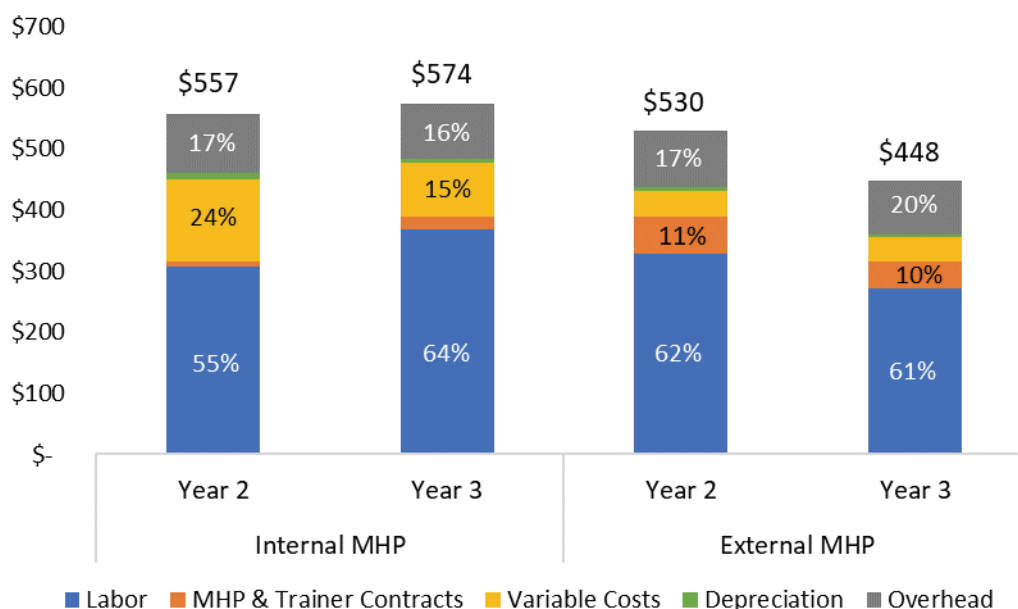
NOTE: Percentages are not labeled for components that are less than 10 percent.

four other CBOs, the C2C cost per client was \$765 (median: \$1,349; range: \$259–\$3,203) in year 2 and decreased 32 percent to \$522 (median: \$568; range: \$137–\$1,231) in year 3.

Combining the average cost per client (Figure 10.10) with the funding sources (Figure 10.9), we find that the sponsor-funded portion of the cost per client was \$150 in year 2 and \$135 in year 3. With the average cost per client that was reimbursed (sponsor-funded portion plus the 50 percent match) at \$300 in year 2 and \$270 in year 3, CBOs had to cover, on average, \$230 per client in year 2 and \$212 per client in year 3 (data not shown).

The type of MHP partnership model did not affect the average number of clients served but did affect the total C2C program cost. The four CBOs with internal mental health clinicians had a similar average number of unique clients served in year 3 (1,075 vs. 1,063) but a higher total program cost (\$459,913 vs. \$476,721) in comparison to the 11 CBOs with external MHP clinicians (data not shown). Figure 10.11 shows that the average cost per client served was higher among CBOs with internal mental health clinicians.

**Figure 10.11. Average Program Cost per Client Served, by Cost Component, MHP Partnership Model, and Project Year**



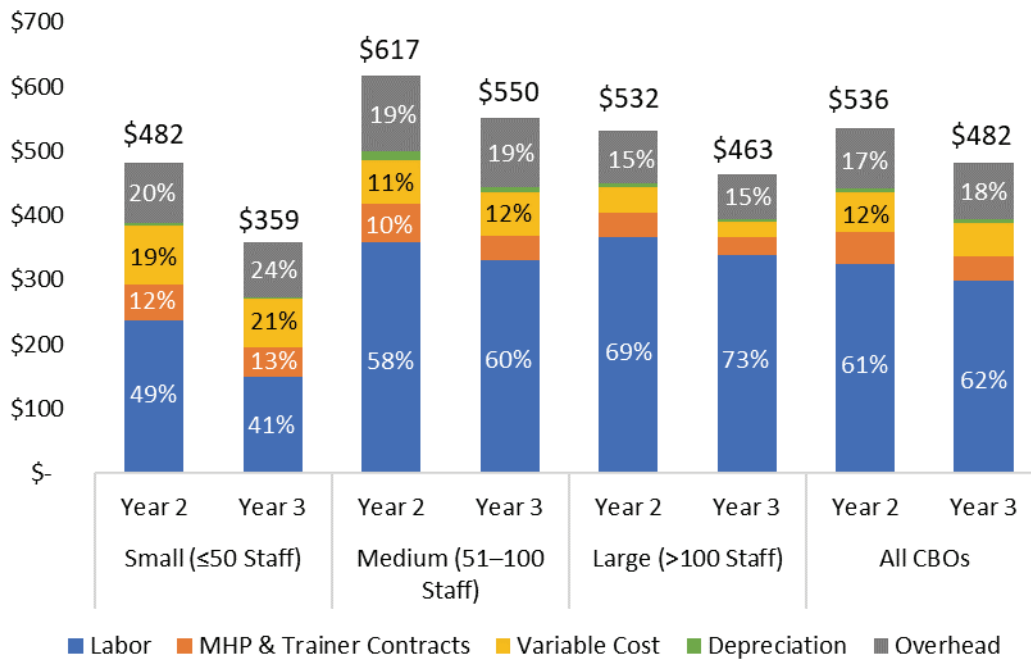
SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices.

NOTE: Percentages are not labeled for components that are less than 10 percent.

We also broke out the average program cost per client served by CBO size, as calculated by the total number of CBO staff members at the end of year 3 (Figure 10.12). For small CBOs (50 or fewer staff members), the average program cost per client was \$482 in year 2 (range: \$240–\$1,554) and \$359 in year 3 (range: \$137–\$805). For medium CBOs (between 51 and 100 staff), the average program cost per client was \$617 in year 2 (range: \$120–\$1,759) and



**Figure 10.12. Average Program Cost per Client Served, by Cost Component, CBO Employment Size, and CBO Project Year**



SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices; CBO quarterly reports.  
 NOTE: Percentages are not labeled for components that are less than 10 percent.

\$550 in year 3 (range: \$236–\$2,483). The average program cost per client among large CBOs (more than 100 staff) was \$532 in year 2 (range: \$217–\$1,143) and \$463 in year 3 (range: \$340–\$1,231). Within CBO size groups, there was still a considerable amount of variation in CBO-level cost per client, indicated by the wide ranges.

We originally hypothesized we would see a lower cost per client, and thus greater economies of scale, in larger CBOs that had greater preexisting resources (i.e., human, financial, physical space). Small- and medium-sized CBOs spent about the same amount in terms of total program costs, but small CBOs provided C2C skills to a larger number of unique clients than the medium CBOs, bringing the cost per client down (data not shown). Large CBOs spent a larger percentage of the average cost per client on labor (73 percent in year 3) compared with medium and small CBOs (60 and 41 percent in year 3, respectively) (Figure 10.12). Conversely, in year 3, small CBOs spent a larger percentage of average cost per client on overhead (24 percent, compared with 19 percent for medium and 15 percent for large CBOs) and variable costs (21 percent compared with 12 percent for medium and 5 percent for large CBOs). We also examined average cost per client by the number of staff involved in C2C and found no notable patterns (data not shown).

Last, we examined the changes in the average cost per client served between year 2 and year 3. Because of survey limitations (described in the Methods section), we were unable to estimate the portion of labor costs that should be considered fixed, and thus we were unable to calculate the

marginal cost of an additional client served within the same time period. Overall, across all CBOs, the average cost per client decreased by 10 percent, from \$536 in year 2 to \$482 in year 3. However, there was large variation in CBO-level changes in the average cost per client served, ranging from a year-on-year decrease of \$2,506 to an increase of \$724 per client served. Only six of 15 CBOs experienced a decline in the average cost per client served (mean: -56 percent). The other nine CBOs' average cost per client increased from year 2 to year 3. Of these nine CBOs, four had a small increase in average cost (mean: 7 percent), whereas the other five had a much larger increase (mean: 74 percent).

The variation was due to changes in program cost and/or the number of clients served between the 2 years. The \$2,506 decrease was associated with a 41-percent decline in total program cost and a 171-percent increase in the number of clients served between the 2 years. In contrast, the \$724 increase was associated with a 37-percent increase in total program cost but a 3-percent decrease in the number of clients served.

As described above, all CBO types had a decline in the average cost per client served except for youth development CBOs (Figure 10.10). CBOs with an internal MHP had a slight increase from \$557 to \$574, but those with an external MHP had a decrease from \$530 to \$448 (Figure 10.11). Once grouped into different size categories, a consistent decline in average cost per client emerged across all CBO categories (Figure 10.12).

### *Sensitivity Analyses*

As described in the Methods section, we performed three sensitivity analyses to explore aspects of the main analysis for which we encountered substantial uncertainty. The first analysis involved using an alternative method to calculate overhead costs, the second restricted the cost analysis to using only the C2C project invoices to measure C2C costs, and the third approximated a marginal labor cost of providing C2C skills while delivering typical CBO services if time spent increased by 5 or 25 percent. Data for each of these analyses are shown in Appendix D, as specified below.

For the first sensitivity analysis, we used the indirect rate charged on CBO invoices to calculate the total overhead cost per CBO. Across all CBOs, our estimates of the average total program cost decreased by about \$38,172 in year 2 (9 percent) and \$51,620 in year 3 (10 percent) (Figure D.1). The overall C2C cost per client under this sensitivity analysis was \$489 in year 2 (9 percent less than the main analysis cost per client of \$536) and \$433 in year 3 (10 percent less than the main analysis cost of \$482). These differences demonstrate that the overhead rates based on negotiated indirect cost rate agreements are lower than the true overhead costs based on CBOs' financial statements.

The second sensitivity analysis measured only the program costs shown on the CBO invoices to the Mayor's Fund, 50 percent of which were reimbursed. We find that the program costs billed on invoices are substantially less than those estimated using staff surveys and financial statements (Figure D.2). Overall, based on billed costs, CBOs spent an average of \$174,741 in year 1, \$244,870 in year 2, and \$286,582 in year 3. Thus, average invoice-based program costs were

about 40 percent less than program costs in the main analysis both in year 2 and year 3. Figure D.3 shows that the cost per client in year 1 (\$638) based on invoice-based program costs was over twice as high as in years 2 and 3 (\$300 and \$269, respectively).

Finally, we adjusted staff labor to estimate a 5- to 25-percent marginal increase in labor hours and cost related to CBO service delivery when implementing C2C. Under this assumption, in year 2, CBOs spent an average of \$438,348 to \$465,520 on C2C (compared with \$437,546 in the main analysis) and \$520,339 to \$567,216 in year 3 (compared with \$514,142 in the main analysis). These costs represent a 0.2- to 6.4-percent increase in average program cost in year 2 and a 1.2- to 10.3-percent increase in year 3, compared with the main analysis. Using these labor-adjusted program costs, the average cost per client served was \$544 to \$577 in year 2 and \$493 to \$537 in year 3 (Figure D.4). Compared with the main analysis finding of an average cost per client of \$536 in year 2 and \$482 in year 3, this sensitivity found a 5-percent increase in time spent on CBO service delivery would increase the average cost per client by \$8 in year 2 and \$11 in year 3, and a 25-percent increase would raise the average cost per client by \$41 in year 2 and \$55 in year 3.

### *Interview Results*

Three cost-related themes emerged from the qualitative interviews with CBO and MHP leadership: (1) budget-related constraints, (2) allocation of resources, and (3) financial sustainability.

#### **Budget**

The C2C funding match requirement limited the size of C2C budgets for some of the CBOs, who described the 50-percent match requirement as “incredibly difficult” and “certainly a lot of work.” In at least two cases, CBOs said they met the match requirement with internal funding or by leveraging labor support from interns. One CBO leader said, “the funding of C2C is also matched by our organization, dollar for dollar . . . with very little wiggle room.” Many CBOs mentioned the burden on staff time not included on the budget, but one CBO remarked, “There’s only so many hours in the day, so I don’t know if it costs us more or it just was robbing Peter to pay Paul in terms of the hours.” However, another CBO noted that, while hosting meetings and tours for potential funders was very time intensive, “it also helped us strengthen our language, our ability to talk about [C2C] and really explain what it does.”

In addition, project administration and data reporting seemed to be more resource-intensive than expected for many CBOs, both in terms of staff time and database development, and were typically not included in CBOs’ annual budgets. In the words of one CBO leader,

The administrative and reporting part of C2C has been hugely challenging . . . .  
There’s no way we would have been able to do C2C reporting without a full-time  
Salesforce administrator, and it’s certainly not reflected in our budget.

Smaller CBOs without dedicated IT staff or data analysts tended to have a more difficult time responding to the C2C data reporting requirements than their larger counterparts.

Some CBOs and MHPs reported feeling a budgetary pinch through a combination of the structure of mental health payments and a lack of C2C funding to cover client copayments or counseling fees. For example, one MHP said an ideal change to the C2C program would be “to have some kind of [financial] carve out so client insurance was a nonissue.” Another MHP remarked that it would be useful to have “some funding built into the system . . . to be able to make those copayments or meet those deductibles.” In addition, because of the fee-for-service structure of mental health in NYC, many C2C clients were dropped by counselors after missing two or three appointments because MHPs lose money when appointments become no-shows. One CBO reported that,

If we had a therapist who wasn't linked to insurance, who could be more fluid, I think that would work well, but there's not enough funding in the grant for us to do that.

Other CBOs, however, preemptively included therapy fees for uninsured clients into their C2C program budgets and were able to cover these costs.

#### Resource Allocation

Both CBO and MHP leadership remarked on how resource-intensive staff labor and trainings were. All CBOs noted that most of the C2C funding was allocated to labor costs. Some CBOs mentioned that this was beneficial, in that it allowed for the hiring of extra case managers and the reduction of caseloads. Others highlighted the difficulty of the funding constraints on providing full-time C2C coordination positions or salary constraints on hiring qualified individuals for such positions. Training was the second largest area of resource allocation. One CBO lead explained, “How often I can offer a workshop is going to be based on how much money I have to get a space outside this building.” Training resources also involve staff labor, in terms of the time of staff in training because they do not provide CBO client services, as well as those of MHP trainers.

#### Financial Sustainability

CBO and MHP leadership also responded to questions on their current plans for sustainability of the C2C program. All CBOs reported that funding will be a key in deciding sustainability of C2C program activities. Interviews were conducted in year 2 and year 3, so there was substantial variation in whether CBOs had clear vision of potential funding sources for future work after the program ends in year 5. One CBO noted that C2C had allowed them to increase both the quantity of social work services provided and the stability of those services, which in turn demonstrated capacity and “allowed us to secure other funding sources for social work roles.” Another CBO mentioned that, in addition to an internal desire to sustain C2C, there are business motivations for doing so:

We've seen increased engagement in participants in our mental health services, and that increased the need for more present and available clinical supervision.

Small CBOs are not optimistic about sustainability, as reported by one CBO:

C2C has been a significant portion of our annual [organizational] budget. C2C without funding is not sustainable...even though it's kind of a depressing answer.

CBOs also varied in the level of resources they needed to sustain various C2C skills. MHFA training was perceived as “mostly free,” because the city offers the training, and “low-hanging fruit for us to be able to connect folks with that are on their way in the door.” Other C2C skills have become so ingrained in some CBOs’ way of providing regular services that they can continue without much effort. For example, hiring more staff with a background in mental health, continuing exit surveys or interviews, maintaining relationships with MHPs to track referrals and hold collaborative team meetings, and bringing in social work interns and peers were all noted as “relatively low cost.” However, hiring social workers for on-site counseling services and continuing MI (which is training intensive) were mentioned as examples of C2C activities that would depend on external funding sources for continued maintenance. One CBO suggested a novel pathway to generate revenue as a means of sustaining C2C activities: to allow “the CBOs that have done really well” or “made innovative changes” to provide paid expertise as “technical support” services “to other cities and organizations in a way that we can generate income.”

## Discussion

### *Program Changes over Time*

The resources needed to administer the C2C program evolved over the study period. For example, the average number of staff members involved in C2C increased 49 percent from year 2 to year 3, from 27.9 to 41.6. The average annual C2C labor hours per CBO increased 26 percent from year 2 to year 3, from 8,151 to 10,311 hours per year, yet decreased by 12 percent in year 4. From year 2 to year 3, program staff allocated less time to receiving training, technical assistance, data collection, and project management, but more time to providing training and receiving coaching and supervision. The shift from MHP staff to CBO staff in the number of hours spent providing training suggests that CBOs increasingly relied on their own staff and operated more independently in year 3 than in year 2. The increase in staff time spent on receiving coaching and decrease in time spent on receiving training are consistent with a greater focus on on-the-job coaching than in-classroom training, indicating CBOs were applying the knowledge gained to regular client services in year 3. In year 4, CBOs further decreased time in training, technical assistance, data collection, and project management. The average amount of time CBO staff spent receiving coaching decreased but providing coaching increased, indicating a task-shifting of coaching from MHP staff to CBO supervisors in year 4.

Over time, CBOs shifted their labor input from leadership staff to nonleadership staff. Compared with year 2, in year 3 there were three times more administrative staff, about one and a half as many frontline staff, and twice as many organizational support staff in C2C. In contrast,

the number of supervisory and leadership staff increased by 13 and 16 percent, respectively. The average number of hours per week per C2C staff member decreased by 9 percent in year 3, primarily due to the 24-percent decline in leadership hours, though the supervisor hours increased by about one-third. Note that, except for a C2C coordinator hired by some CBOs to work full-time on C2C, other staff spent a relatively small portion of their time on the program.

Though the average weekly number of labor hours per staff member among survey respondents decreased from year 2 to year 3, the weighted average annual number of C2C labor hours per CBO increased. Largely because of the 26-percent increase in the annual number of staff hours spent on C2C, the average annual program cost per CBO increased 18 percent in year 3 compared with year 2, from \$437,546 to \$514,142. At 18 percent, the magnitude of the increase in average annual program cost was smaller than the 26-percent average increase in staff hours during the 2-year period. This is likely due to greater utilization of non-leadership staff, whose annual compensation is typically lower (e.g., \$50,417 for frontline staff and \$70,719 for supervisors vs. \$104,120 for leadership staff). The sensitivity analysis based on CBO invoices only, as opposed to survey-based estimates in the main analysis, also demonstrated a rapid increase in the average annual program cost over the first 3 years, resulting in an increase of 40 percent in year 2 and 17 percent in year 3.

From an efficiency standpoint, it seems the C2C program as a whole had completed the startup phase by year 3 and reached a level, in terms of the number of clients served, beyond which we would expect a decrease in the average cost per client served (hereafter we call this *increasing returns to scale*). Further increases in service volume may lead to constant returns to scale under which increasing service volume does not change the average cost per client served; that is, CBOs may operate at the bottom of their long-run average cost curve in this scenario if their service volume increases up to that point. Overall, the number of unique clients served increased 31 percent between year 2 and year 3, which is higher than the increase in program cost during the same time period (18 percent). This is consistent with the 10-percent decrease in the average program cost per C2C client served in year 3 than year 2, from \$536 to \$482.

However, we caution against the interpretation that most CBOs, at an organizational level, reached a stage where serving more clients necessarily leads to a lower average cost per client, i.e., increasing returns to scale. Only six of 15 CBOs experienced a decline in the average cost per client served. These six CBOs had either a large decline in total program cost or a large increase in the number of clients served. The decline in program cost was primarily attributed to a lower labor cost or lower external MHP and trainer contract expenses. It could be that these CBOs received extensive training and coaching among their staff in year 2, making these activities less necessary in year 3. A large increase in the number of clients served also suggests that these CBOs scaled the C2C operation efficiently without incurring a similar increase in labor costs.

In general, as service volume increases, we observe that labor costs increase. Based on the CBO cost data for years 2 and 3, whether the average cost per client served decreases depends



largely on whether there are major reductions in other nonlabor cost categories. That is, whether a program has increasing returns to scale may not depend only on service volume but also on the cost structure of the program. If the magnitude of the total cost increase for an additional client served is smaller than the increase in the number of clients served, the average cost per client may decrease.

As the C2C program becomes more mature over time, we expect to see further decreases in staff time spent on training, technical assistance, data collection, and project management, consistent with the survey data from year 4. That is, the C2C program cost is likely to decrease more in year 4 and beyond. Assuming that the time spent on technical assistance and data collection become unnecessary once the program fully matures, and that time spent on training, coaching and program management, and the nonlabor cost continues to decrease along the same trend, the total program cost could decrease by 22 percent. This may be an important consideration for potential adopters of C2C.

The composition of program costs remained similar over time. Labor input accounted for about 60 percent of program cost, consistent with a service program; payments to MHPs or trainers were about 8 percent of the total program cost. Overhead accounted for 17 and 18 percent of the total cost in years 2 and 3, respectively. However, more than two-thirds of the program cost increase from year 2 to year 3 ( $\$514,142 - \$437,546 = \$76,596$ ) was due to an increase in labor input ( $\$52,441$ ), whereas the increase in overhead ( $\$18,074$ ) accounted for about one-quarter of the increase.

### *Cost Differences Between CBO Subgroups*

Because of several factors, youth development CBOs were associated with a higher annual labor and program cost than other types of CBOs. First, youth development CBOs trained more staff members (19–40 percent more in year 3 than other types of CBOs) and spent 15 to 17 percent more labor hours than parent/caregiver-serving and job training and employment CBOs. Second, a larger proportion of staff involved in C2C in youth development CBOs were supervisors or leadership staff, with higher compensation than that of nonsupervisory or leadership staff. Last, even within the same job category, youth development CBOs paid a similar or greater amount than other types of CBOs. As a result, youth development CBOs' average annual staff compensation was 10 to 46 percent higher than that of other types of CBOs, and their average annual labor cost was 33 to 76 percent higher.

The average cost per C2C client served among youth development CBOs, however, was the lowest, followed by job training and employment CBOs, other CBOs, and parent/caregiver-serving CBOs. This is primarily due to a larger number of clients served among youth development CBOs than other types of CBOs (48–149 percent more in year 3).

When examining the trends in the average cost per client served, we observed a decline from year 2 to year 3 across all CBO types, with the largest decline of 32 percent among other CBOs.



A majority of the decline in cost per client served can be attributed to the decreases in depreciation, MHP and trainer contract expenses, and variable nonlabor costs.

We expected that larger CBOs would have a lower average cost per client served. This hypothesis held true with the data for youth development CBOs compared with other types of CBOs, but similar patterns were not observed when examining CBOs by employment size. Larger CBOs, in terms of the number of staff employed and the number of C2C staff members, were not associated with a lower cost per client served. These results suggest that, when examining the economies of scale of C2C, the output (e.g., service volume or the number of clients served) matters more than the input (employment size). We acknowledge that a simple count of the number of clients served masks the heterogeneity in CBO services. For example, the clients of parent/caregiver-serving CBOs are typically enrolled at the beginning of a year and receive CBO services for a long period of time, whereas the clients of youth development CBOs may receive services for several weeks. Such heterogeneity in CBO services should be accounted for in future analyses, if more detailed data become available.

The cost structure of CBOs with internal clinicians is different from those with external MHP clinicians. Eleven CBOs subcontracted with external MHP organizations to cover MHP staff time; the four remaining CBOs had preexisting MH clinics in their organizations, enabling them to cover MHP labor costs as internal staff. Consequently, these expenses show up differently in the cost data, but we did not find notable patterns in terms of cost efficiency worthy of further exploration.

### *Invoice-Based Cost Estimates and Funding Sources*

Program cost estimates from our main analysis for year 2 and year 3 were 79 percent larger than those from the sensitivity analysis based on invoices only. Direct payments to MHPs were the same in both, but the labor cost from the invoice-based estimate was about two-thirds of those from our main estimate, variable cost was about half, and overhead cost was about one-quarter. The invoices did not provide information on fixed asset depreciation expenses. Examination of the C2C funding sources showed that nearly half of the resources consumed were not part of the planned budget, representing costs that participating CBOs had to absorb.

There are several possible explanations for why invoice-based estimates were different. A number of factors affect the amount billed on invoices. The invoices are based on the budgets submitted to the Mayor's Fund in the original applications, and the actual amount of resources spent on the program may have differed from what is in the budget. Because CBOs were obligated to raise 50 percent of the total budget to match the amount from the sponsor, the amount CBOs can bill may be limited by the funds they were able to raise, rather than the (greater) amounts they spent. In the first 2 years, many CBOs had not fully ramped up the program and they underspent the allocated funds. On the other hand, CBOs might have been incentivized to spend more resources on the program if they had enough matched funds available. Because CBOs were allowed to carry over remaining funds from 1 year to the next, CBOs had little incentive to

overbill toward the end of a project year. Also, based on our communication with CBOs' financial personnel, some have may billed expenses that are not allowed under C2C to other projects. As such, it seems the estimates based on invoices only would bias the program cost results downward.

Considering the limitations discussed above, for our main program cost analysis, we used both invoice and survey data, in addition to CBO self-reported nonlabor expenses and financial statements. The labor input came from the surveys, whereas nonlabor expenses were based on multiple data sources: the invoices, self-reported nonlabor expenses, and financial statements. Overhead to direct cost ratios were derived from CBO financial statements. Of course, labor cost estimates based on surveys are subject to biases due to survey nonresponse and inaccurate recall of respondents. Nonetheless, this approach allows us to leverage the advantages of multiple data sources to generate the best program cost estimates.

Our qualitative interviews with CBO and MHP leadership revealed that CBOs felt that finding the matched funds was difficult and that budgets were constrained. Perceptions of budget constraints may not always be accurate, depending on the type of activities requiring cash outlays. For example, some activities incurred direct costs, such as paying for a conference room for C2C training or hiring a new person for C2C. Such activities that require cash outlays and approval from leadership are likely to be more closely tracked (and perhaps cut), which could give CBO staff the perception of budget constraints and that sponsor funds were important to relieve such a constraint. On the other hand, since a majority of cost incurred was for staff time, and existing staff are often salaried, it is easier for CBO staff to reallocate their time to C2C from other typical tasks they would have done in the absence of C2C. This labor reallocation may not be as obvious as activities requiring cash outlays. In other words, real resources were spent in both scenarios, but the perception of a budget constraint could be very different. Overall, their perceptions were consistent with our estimate that CBOs spent on average 79 percent more resources than what was in the budget.

### *Comparison to Prior Research*

As described earlier in this chapter, little research has been conducted previously to examine the cost of task-shifting in improving mental health. The closest comparison is a prior evaluation of the cost of a collaborative care program. The study by Hoefl et al. (2019) estimated a cost per patient per month of \$154 to \$544 based on five collaborative care programs that aimed to improve depression treatment among older adults. These estimates translated to an annual cost of \$1,848 and \$6,528, respectively, much higher than our average estimates (\$536 per client in year 2 and \$482 in year 3). Of course, the studied collaborative care programs were very different from C2C. In a collaborative care program, in addition to the care provided by primary care providers, extra visits with a professional MHP were made for depression patients, and case management services were also provided. The cost estimates included, among others, the incremental time from case managers, primary care providers, and professional MHPs. In C2C,

CBO staff were trained in the four C2C skills and incorporated such skills in their regular services. If needed, clients were referred to a professional MHP. Our cost estimates do not include the time spent by professional MHPs, so the estimates are not directly comparable. However, we offer the example here as a point of reference, given a lack of better comparisons in the literature.

### *Utility of Cost Estimates to Other Settings*

How can potential adopters of C2C use these program cost results? We are aware that the 15 CBOs participating in the C2C program may differ from those in other states or cities; that is, the average program cost estimates are not necessarily generalizable to other geographic areas. Our results are organized such that adopters of C2C or a similar program could use the data presented here to help their decisionmaking, especially with regard to labor costs, which accounted for nearly two-thirds of total program costs. For instance, results regarding the number of staff involved, their job categories, and the amount of time required to implement the program may be of interest to other locales. Potential C2C adopters could apply local wages for each job category to these data to estimate labor costs, and they could adjust the nonlabor costs by comparing the cost of doing business between NYC and their locality. Finally, they can use their own overhead cost ratio to estimate the cost of overall management, as well as other expenses that are not allocated to specific projects such as rental expenses or utilities.

### **Limitations**

There are several limitations to our cost evaluation. For example, C2C is funded as a 5-year program, but due to data availability, the cost evaluation focuses on years 2 and 3. We present the labor hours based on the year 4 staff survey in Appendix D, but it is largely unknown whether, in year 4 or 5, the program matured and achieved increasing returns to scale—or even better—constant returns to scale (at which point a CBO would operate at the bottom of its long-run total average cost curve or achieve the lowest average cost per client served). Because of the lack of the survey and nonlabor expense data for year 1 and the limitations of invoices as described above in the Invoice-based Cost Estimates section, we were not able to reliably estimate the program startup cost.

We did not collect cost data from the comparison CBOs that participated in the impact evaluation (see Part III of this report) due to the heterogeneity in services and clients across CBOs. That is, the amount of resources consumed by individual comparison CBOs is not necessarily comparable to that of intervention CBOs in the absence of C2C. We therefore measured the incremental resources used by intervention CBOs to implement and maintain the C2C program. This cost evaluation assumes that C2C cost can be separated from the cost of regular services, which is the case for the most part. But we did encounter the problem of measuring C2C skills delivery cost. Because of the design of the C2C intervention as being integrated into usual CBO programming, we had difficulty in identifying incremental time spent delivering C2C skills. Further, in using C2C CBOs as their own control, we assumed that the

cost of regular CBO programming (outside C2C) was not affected by C2C. This assumption may not hold and is therefore another limitation to be considered when interpreting these findings.

We relied on the staff surveys to collect the information on labor input, that is, the amount of time spent on the program, which has its own limitations. The response rates were 33, 53, 56, and 51 percent for the year 2 staff survey, year 3 staff survey, and year 3 cost of labor survey, and year 4 staff survey, respectively. Although we applied weights to account for nonresponse in the analyses, we had to assume that the respondents were a representative sample of all C2C staff. For year 3, the distribution of staff job categories of all C2C staff was nearly identical to that of the respondents, suggesting that our assumption is reasonable. In addition, we had to extrapolate the labor input in a week based on year 2 staff survey and two different 1-week data points based on the year 3 staff survey and cost of labor survey. There may be seasonal variation in terms of the labor hours spent on C2C, and as a result, our estimates may bias labor input upward or downward, depending on the timing of the surveys.

In a majority of cases, C2C activities are not delivered separately from regular CBO services, and this has created a challenge for the surveys. For example, MI and MHFA are often delivered by CBO staff when they are delivering regular CBO services, although screenings and PE may be separate. In staff surveys or cost-of-labor surveys, respondents may have difficulty estimating how much time they allocated to C2C skills. Given the lack of an accurate way to capture this data point, we excluded C2C skills delivery time in the main analysis. We conducted a sensitivity analysis to adjust the labor input, assuming that adding C2C skills would increase the overall service delivery time by 5 to 25 percent, based on our qualitative interview results. We found that incorporating C2C skills in regular CBO service delivery could potentially increase the total program cost by 0.2 to 10.3 percent. Because these adjustment ratios are exploratory, our main analysis does not incorporate this adjustment.

We were not able to separate data collection or technical assistance activities for research purposes from those for program implementation and reporting purposes. Because a majority of data collection was for reporting requirements of the Mayor's Fund, the amount of time spent on completing surveys, interviews, or financial data should be relatively small. For example, the staff survey took an average of 25 minutes to complete and the cost-of-labor survey took about 10 minutes, once per year. The interviews and financial data collection took about an hour each, but they only involved a small number of individuals. Similarly, most technical assistance provided to CBOs was for program implementation. The inability to accurately separate hours for data collection and technical assistance associated with the evaluation may have led to a slight overestimation of labor hours.

## Summary

The C2C program changed over time, and such changes were reflected in the resources consumed to implement and maintain the program. Compared with year 2, nearly 50 percent

more staff members participated in C2C, and program staff allocated less time to training, technical assistance, data collection, and project management, but more time to providing training and receiving coaching and supervision. In addition, CBOs shifted their labor input to nonleadership staff over time, with the average number of hours contributed by leadership decreasing by about one-quarter.

The estimated number of unique clients served increased nearly one-third from year 2 to year 3, and the average annual cost per CBO increased by 18 percent, largely due to increased labor input, which accounted for nearly two-thirds of the total program cost. Nearly half of the resources consumed in the C2C program were not part of the planned budget, and the participating CBOs had to absorb these costs.

From an efficiency standpoint, the C2C program overall appears to have completed the start-up phase, and six CBOs achieved increasing returns to scale. The average cost per client served decreased from \$536 in year 2 to \$482 in year 3. However, this result is confounded by the heterogeneity in the changes of program input and service volume across CBOs. Compared with other types of CBOs, for example, youth development CBOs in year 3 had the largest number of unique clients served per CBO per year, the greatest annual program cost per CBO, but the lowest average cost per client served.

Funders of C2C or similar programs can use our results to estimate the resources required to implement the program according to their local cost of doing business. For planning purposes, potential adopters may need to prepare resources required to implement and maintain C2C or similar programs for 2 to 3 years before the average cost per client served declines. Our results show that some CBOs, although small in terms of the number of clients served, observed a declining cost per client served at the end of year 3. To control implementation costs, future C2C adopters may want to focus on building resources for labor input because a majority of program cost is attributed to staff time, though controlling nonlabor and overhead expenses may shorten the time needed to achieve increasing returns to scale.

## References

- Barrett, B., S. Byford, and M. Knapp. (2005). “Evidence of Cost-Effective Treatments for Depression: A Systematic Review. *Journal of Affective Disorders*, Vol. 84, No. 1, 1–13.
- Crowley, M. D., A. D. Kenneth, W. S. Barnett, P. Corson, S. Duffy, P. Graham, M. Greenberg, R. Haskins, L. Hill, D. E. Jones, L. A. Karoly, M. R. Kuklinski, and R. Plotnick, Standards of Evidence for Conducting and Reporting Economic Evaluations in Prevention Science. *Prevention Science*, Vol. 19, No. 3, 2018, pp. 366–390.
- Hoefl, T. J., J. C. Fortney, V. Patel, and J. Unützer, Task-Sharing Approaches to Improve Mental Health Care in Rural and Other Low-Resource Settings: A Systematic Review. *The Journal of Rural Health*, Vol. 34, No. 1, 2018, 48–62.
- Hoefl, T. J., H. Wilcox, L. Hinton, and J. Unützer, “Costs of Implementing and Sustaining Enhanced Collaborative Care Programs Involving Community Partners,” *Implementation Science*, Vol. 14, No. 1, 2019, p. 37.
- Rodgers, M., M. Asaria, S. Walker, D. McMillan, M. Lucock, M. Harden, S. Palmer, and A. Eastwood, A. “The Clinical Effectiveness and Cost-Effectiveness of Low-Intensity Psychological Interventions for the Secondary Prevention of Relapse After Depression: A Systematic Review,” *Health Technology Assessment (Winchester, England)*, Vol. 16, No. 28, 2012, pp. 1–130.
- U.S. Bureau of Labor Statistics, *Historical Consumer Price Index for All Urban Consumers: U.S. City Average, all Items, by Month. For U.S. City Average, 2019*. As of April 3, 2019: <https://www.bls.gov/cpi/tables/supplemental-files/home.htm>
- Van Ginneken, N., P. Tharyan, S. Lewin, G. N. Rao, S. M. Meera, J. Pian, S. Chandrashekar, and V. Patel, “Non-Specialist Health Worker Interventions for the Care of Mental, Neurological and Substance-Abuse Disorders in Low-and Middle-Income Countries. *Cochrane Database of Systematic Reviews*, No. 11, 2013, CD009149.

## Part V. Conclusions and Recommendations

---

We close this report by highlighting the key themes or takeaways from this evaluation, across its three components (implementation, impact, and cost). Each individual chapter has already detailed strengths and limitations and interpreted specific findings. Therefore, in this section, we take a step back to draw higher level conclusions and generate recommendations for future policy, practice, and research related to mental health task-shifting and the C2C model.



## 11. Conclusions and Recommendations

---

*Lynsay Ayer, Michael Stephan Dunbar, Dana Schultz, Harry H. Liu, and Monique Martineau*

Access to mental health care in the United States is not evenly distributed. Communities affected by poverty and unemployment—problems that disproportionately affect racial/ethnic minorities—often experience the greatest barriers to obtaining mental health care when it is needed. C2C sought to address this inequality and improve mental health and well-being by integrating mental health skills into the usual work of CBOs that are trusted and established in their NYC communities. The C2C program specifically focused on serving three target populations: (1) youth/young adults ages 16 to 24 who are not in school and are not employed, (2) adults age 18 or older who are unemployed or underemployed, and, (3) parents/primary caregivers who are expecting or who have children up to the age of 4. To understand the effects of the C2C program, we evaluated its implementation, impact on individual client outcomes, and costs to CBOs. The results of these evaluations and discussion of their interpretation were detailed in the previous chapters.

Overall, the results of the impact evaluation did not provide evidence of the effectiveness of the C2C model of task-shifting. We found no differences between the C2C group and the comparison group overall, although we did find some benefits of C2C for certain subpopulations and in certain settings. While C2C participants as a whole improved in most of the outcome domains investigated in the impact study, the comparison group as a whole improved by a similar amount.

There are several possible explanations for this. It may be that C2C lacks efficacy. It may also be that the C2C toolkit wasn't powerful or intensive enough to result in measurable impacts in the domains we examined relative to the comparison group. Moreover, the similar improvements in both the C2C and comparison groups may reflect a natural recovery process in both groups or—as discussed earlier—may have been influenced by extensive concurrent mental health programming from the ThriveNYC or other mental health initiatives or programs to which many comparison participants may have been exposed. Finally, as Kazdin (2015) has noted, it is not uncommon for treatments of known efficacy relative to no-treatment or waitlist control groups to perform at a level similar to “treatment as usual” (as in the comparison group in this study) (Kazdin, 2015).

While the impact evaluation results do not support broad scale-up of the C2C model of task-shifting, our experience points to three conclusions about the task-shifting approach that should be considered by practitioners, policymakers, and/or researchers interested in further exploring how to design, implement, and evaluate task-shifting interventions. Below, we describe these conclusions and then offer a series of recommendations that derive from them.

## Conclusions

### *Reaching Full Implementation of a Complex Task-Shifting Model Requires Significant Investment of Time and Resources—but Is Feasible*

Our findings from the implementation and cost studies showed that the first 2 years of C2C implementation involved a significant investment of time and resources from CBOs to get the program up and running—even with technical assistance from NYU McSilver and the C2C Collaborative. It took over a year for most CBOs to set up the C2C program. It is typical for new mental health programs to require a lengthy start-up period (Torrey et al., 2012; Williams et al., 2018; Williams et al., 2020). However, because C2C was implemented in nontraditional settings without existing infrastructure and staff for mental health programming, this was especially true. C2C required substantial upfront effort and attention on developing relationships (e.g., with the MHPs), planning activities, hiring staff, and developing and refining workflows. We also found that many of the partnerships between CBOs and MHPs came together in fits and starts, requiring time and coordination across two different organizations with different staff, missions, and cultures. The cultural shifts experienced by CBO and MHP staff took time to develop throughout the project, as the program evolved and matured.

Cost analyses showed that implementation efforts were still incurring substantial costs beyond the initial planning phase. From year 2 to year 3, labor input increased nearly 50 percent and the number of clients increased 31 percent. Over that same period, CBOs shifted their labor input to nonleadership staff, decreasing the average number of hours contributed by leadership by about one-quarter, and the average cost per client served decreased by 10 percent. We would expect that, over time, C2C program costs would decrease further in the future because CBOs require less spending on the start-up administrative and training costs that were required to set up the program and because CBOs continue to improve their operation efficiency.

Prior literature shows that integrating and scaling-up evidence-based mental health practices in community settings requires a multiphased approach to building the partnerships, infrastructure, and capacity required by organizations to enact and sustain new practices (e.g., Grant, Simmons, and Davey et al., 2018; Saldana and Chamberlain, 2012). Specific timelines may vary from weeks to years, depending on a range of factors including existing infrastructure, organizational readiness, and intervention complexity, among other factors (Hurlburt et al., 2014). Moreover, past work suggests that factors affecting implementation of EBPs—and clinicians' use of new EBPs—in community mental health settings evolve over periods of 2 to 5 years following initial implementation (Torrey et al., 2012; Williams et al., 2018; Williams et al., 2020). It is reasonable to expect that these factors would be even more pronounced in the case of a complex task-shifting intervention like C2C that is implemented within nontraditional settings with little or no mental health experience. More specifically, for many or most CBO staff, mental health–related tasks were new and different from their usual responsibilities. This was likely reflected in the initial investment of time and resources and consistent increases in labor input over the first several years

of the project. Despite the initial resource-intensive start-up phase, C2C served a large number of clients (41,000) over the first 3 years and trained more than 1,700 CBO staff members—exceeding the initial goal of serving 40,000 clients.

*Although C2C Was Well Received by Staff and Providers, Barriers Such as Stigma and Access Challenges Were Hard to Overcome*

Our analysis of implementation data showed that, by year 4, most clients (more than 80 percent) referred for formal mental health assessment and treatment kept their first appointment with the MHP. This is notably higher than rates of kept appointments reported in studies on other mental health interventions, in which less than 60 percent of referred patients may keep their first appointment. This finding aligned with other data from the implementation study showing that most CBO staff (77 percent) felt better equipped to address their clients' mental health needs, particularly by using their MI skills and leveraging their relationship with the MHP.

Despite overall very positive impressions of the C2C program, our findings from the implementation and impact studies showed that some barriers to care—particularly mental health stigma—were difficult to overcome. Qualitative data from the implementation study showed that many CBO staff believed stigma continued to interfere with clients' engagement in mental health services outside the CBOs, and that logistical barriers like a lack of transportation, insurance, and childcare continued to interfere with clients' abilities to access needed mental health care. CBOs and MHPs worked together to come up with a range of solutions to address such barriers, like providing metro cards and expanding clinic hours. However, the impact study showed that, although both C2C clients and those receiving usual CBO services (i.e., the comparison group) reported fewer barriers at the 12-month follow-up compared with baseline, there was no benefit of C2C on barriers to mental health care overall. An exception to this, revealed in the subgroup analyses, was a small-sized effect ( $d = -0.28$ ) of C2C on attitudinal barriers for the targeted out-of-school and out-of-work youth and young adult population.

The overall lack of a difference between the C2C and comparison groups in terms of effects on barriers to mental health care may not be surprising because this evaluation occurred amid a larger Thrive NYC initiative, which rolled out many different programs all over the city with an intention to promote mental health and reduce stigma and other barriers to care. Comparison CBO clients and staff were likely to be exposed to some of these other ThriveNYC programs or other efforts to expand mental health supports. Further, in qualitative interviews conducted with CBOs for the impact evaluation, we learned that C2C CBOs were often offering assistance to other CBOs in the city who were interested in implementing C2C or some of its components. In addition, some barriers, such as mental health stigma, operate on a more systemic scale and may be out of reach for C2C or any single mental health initiative. In the same vein, logistical barriers like a lack of affordable childcare and health insurance are widespread issues beyond the scope of C2C. In 2019, NYC Mayor DeBlasio announced NYC Care, a large investment in expanding health care to cover those who do not qualify or cannot afford health insurance (NYC Care,

undated). Future evaluations could examine whether implementation of this program impacted utilization of mental health care. Also, adaptations of C2C could more intentionally address mental health stigma and attitudinal barriers by including evidence-based stigma reduction curricula (e.g., Bulanda et al., 2014; Perry et al., 2014; Pinto-Foltz, Logsdon, and Myers, 2011) and campaigns such as National Alliance on Mental Illness (NAMI)'s *Ending the Silence* campaign (Wahl et al., 2018). Our finding in the youth and young adult subgroup suggests that the attitudinal barriers of younger participants may be more malleable and responsive to interventions as well, perhaps due to generational differences in views about mental health and treatment seeking (ADAA, 2015).

### *C2C Positively Affected Some Populations and Settings but Not Others*

Because it is often difficult to detect intervention effects in comparison to a treatment as usual group (Kazdin, 2015), we conducted additional analyses of the effect of C2C among sample subgroups by CBO type or target population. In these analyses, we identified some meaningful intervention effects, as well as a few instances where the comparison group had better outcomes than the C2C group. For example, C2C increased utilization of outpatient mental health care in the youth development program subgroup and reduced emergency service utilization in the parents and caregivers' subgroup and the youth and young adult subgroup. C2C may have also led to improvements in non-mental health outcomes for some participants, as demonstrated by the increase in weekly work hours and monthly pay among participants in the job training and employment CBOs.

This pattern of findings—a lack of differences in the overall sample but evidence for intervention effects in some subgroups—may seem counterintuitive. However, there are several plausible explanations for it. For one, the populations and settings in which C2C was implemented were extremely heterogeneous. The finding that the intervention worked better for some populations and in some settings than others (“treatment heterogeneity”) is consistent with other mental health intervention studies—particularly those like C2C that test program effectiveness in real-world settings—which often find that a program works better for certain groups (e.g., racial/ ethnic groups, ages, gender, symptom severity and diagnoses) (Kravitz, Duan, and Braslow, 2004; Vardahan and Seeger, 2013). Furthermore, the timeline and process for getting C2C fully up and running was not uniform across CBOs; some were at full implementation much sooner than others. Because of the timing of the impact study, we were not able to wait for C2C to be scaled and fully implemented at each CBO before starting data collection, so some were only at partial C2C implementation (e.g., doing screenings, MHFA, and PE but not yet MI) at the time impact study data collection began. These implementation timeline variations could also explain why C2C appeared to have a stronger influence in some settings and for some populations than others.

This pattern of findings should also be considered in the context of the different studies. As described earlier, the implementation study found that task-shifting is feasible and CBO staff

perceived it as helpful to their clients. While this appears to run counter to the overall impact study findings, it is important to note that the samples in each of the studies differed in meaningful ways. For the implementation study, participants in the surveys and interviews were mostly staff and a few clients who were selected for the study by the CBOs—the people best equipped to speak about the process of implementing C2C. The impact study, on the other hand, enrolled clients with at least a low baseline level of mental health symptoms, regardless of the extent to which they actually ended up engaging in C2C. This design helped to ensure the impact study findings were not disproportionately influenced by outcomes of highly motivated and engaged C2C clients, who may not be representative of the overall target population. Therefore, findings from these different implementation and impact study samples can help to contextualize one another, but they are not directly comparable.

## Recommendations

Our recommendations, based on the conclusions outlined above, are designed to inform future design, implementation, and evaluation of task-shifting interventions.

**Recommendation 1:** Design the mental health task-shifting model with evidence-based content and alternative delivery modes (e.g., telehealth) to reduce barriers to mental health care.

Many barriers to mental health care were not responsive to the C2C program, as shown by both implementation and impact study data. Some barriers like lack of health insurance or fears about seeking help stemming from undocumented immigrant status could be addressed at the broader policy level but may be outside the control of any individual task-shifting program. However, evidence-based stigma reduction curricula and campaigns can be integrated into a task-shifting model to help reduce other barriers to care. Our impact study findings suggest that intentional and systematic inclusion of stigma reduction curricula into a task-shifting intervention could be particularly helpful since C2C in its current form did not appear to impact stigma overall, compared to as usual CBO services.

Furthermore, remote delivery of mental health skills such as the ones implemented in C2C (e.g., online, telephone or videoconferencing) is another way to reduce logistical barriers like transportation. Tele-mental health has been shown to be an acceptable way to deliver mental health interventions with similar outcomes to in-person modalities (Jenkins-Guarnieri et al., 2015; Morland et al., 2020). Data collection for this evaluation ended before the COVID-19 pandemic led to broad, citywide shutdown of many in-person CBO services, but as of this writing, many CBOs have already found ways to continue delivering C2C to their clients and to receive coaching and supervision remotely. Future evaluations could examine the implementation, impact, and cost of task-shifting models delivered via telehealth modalities compared with in person.

**Recommendation 2:** Consider replacing or augmenting the four skills that made up the original C2C model (screening, MHFA, MI, PE) with other evidence-based strategies.

C2C was designed to be flexible to meet the needs of each CBO and its clientele. The four core skills employed in the C2C model could, however, be changed to better meet the needs of clients. Other evidence-based mental health strategies, including CBT skills, for example, can be very effective in reducing mental health symptoms and promoting well-being. For example, a task-shifting program in Zimbabwe, called the Friendship Bench, trained grandmothers in problem-solving therapy (Chibanda et al., 2015) to help community members struggling with depression. This and other evidence-based strategies would still require proper training, coaching, and supervision, as described in Part II of this report. However, they may have a stronger effect on mental health outcomes for many clients. CBOs considering adapting C2C or designing another task-shifting model may wish to reference our mental health task-sharing guide (Stevens et al., 2020), which contains suggestions for other evidence-based mental health strategies that could be delivered within a mental health task-shifting program.

**Recommendation 3:** Examine the role of systemic barriers to implementation and sustainment of C2C and other nontraditional mental health delivery models.

A thorough examination of systemic barriers to implementation of and client engagement in C2C was beyond the scope of this evaluation. However, as noted previously, many logistical barriers like lack of insurance to cover the cost of mental health services could be ameliorated by systemic changes such as universal coverage for mental health care or Medicaid reimbursement for mental health services delivered by CBOs. Any nontraditional model that delivers mental health services outside clinical settings will have to address these issues to be successful and sustainable.

**Recommendation 4:** Invest resources in reducing barriers to care among youth and young adults.

Youth and young adult attitudinal barriers to care appeared to be more responsive to the C2C program compared with older age groups. Investing resources (e.g., time, money) in task-shifting programs such as C2C that can further eliminate barriers to mental health care in youth and young adults may have long-term benefits, by helping this younger generation to access needed treatment earlier, before mental health problems worsen and become more impairing.

**Recommendation 5:** To implement mental health task-shifting in CBOs plan for at least an initial 1-year ramp-up period, and prepare for increasing costs over time until the program gets to scale.

Implementation of task-shifting may require a significant ramp-up period to put in place the necessary protocols and processes. The 15 CBOs and MHPs participating in C2C benefited from the public-private partnership that funded the program as well as from technical assistance and training support from the C2C Collaborative and NYU McSilver. CBOs interested in



implementing task-shifting may not have access to this level of technical support or resources. The lessons learned and guidance reported here and in the task sharing guide (Stevens et al., 2020), can guide future implementation and evaluation of similar task-shifting models. This guidance about what to consider for this ramp-up period may help CBOs avoid some of the initial challenges confronted in this project. While the time and cost required to set up a task-shifting intervention will likely vary depending on many factors like the design and focus of the program, characteristics of the CBO (e.g., staff and leadership buy-in, size), and the community context (e.g., cost of living, support from state or local governments), the time and cost estimates provided in this report can be used as a reference point or rule of thumb.

**Recommendation 6:** Consider the population, setting, and outcomes when determining whether and how to implement the model.

The lack of impact study findings in the overall sample suggests that, in deciding how to design and implement task-shifting, it is important to consider the target population, setting, and outcomes. Not surprisingly given the heterogeneity of the sample, our study showed that C2C did not help everyone more than usual CBO services; although certain subgroups benefited more than others. Mental health task-shifting interventions—including adaptations of C2C—should be designed to best fit the particular needs and goals of the CBO and clients. For example, if the highest priority of the program is to increase utilization of outpatient mental health services, it may be best to focus on youth and young adults (because our findings showed this subgroup benefited from C2C in this domain, whereas others did not), or to consider ways to adapt the program to enhance its effect on other groups.

**Recommendation 7:** Design future evaluations of the effectiveness of task-shifting to account for individual and site-level heterogeneity, and to examine mechanisms of change.

Randomization of participants to a control condition was not possible within this impact study, nor was the use of a within-CBO comparison group. However, these methods could help future research to ensure the ability to control for potential confounders that we could not reliably measure in this study (e.g., the effectiveness of “usual” CBO services) within the study design itself. Although we are confident that our rigorous propensity score weighting techniques balanced the comparison and C2C groups on most individual client characteristics, we cannot rule out the possibility that our findings were influenced by other, unmeasured variables like CBO-specific characteristics. This is a limitation of the quasi-experimental design, which could be addressed using other designs in future studies of task-shifting (e.g., randomized controlled trials).

Future studies of task-shifting with more highly controlled designs and targeted outcomes should also ensure greater consistency in training, coaching, and supervision across sites, and conduct more rigorous fidelity monitoring than we were able to perform. This would also help to minimize the influence of variation in training and implementation quality on study findings.



In addition, given the already extensive set of outcomes examined, we were not able to add measures of potential mechanisms of change in this study. However, our findings highlight the importance of studying mechanisms in future research. C2C differentially affected certain settings and populations and, while we offer some possible explanations in this report, we do not have the data to test whether they are supported by the evidence. Understanding how and why task-shifting interventions work for certain groups and settings (and not others) could help make such programs more efficient, for example, by eliminating components that are less impactful and augmenting the program with more powerful ones.

## Final Thoughts

To our knowledge, this is the first U.S.-based evaluation of a mental health task-shifting intervention on this scale. As we have noted, the study is not perfectly suited to answer every question about C2C's implementation, impact, and cost. The impact study found no evidence for C2C's impact on a range of outcomes in the overall sample, though we did find some benefits of C2C for certain subpopulations and in certain settings. CBOs balanced many factors to tailor the program to their clientele, but most CBO staff and leaders reported that C2C changed the way they approached mental health with clients and among themselves. The cost evaluation found that labor costs accounted for a substantial portion of overall costs, and that less than half of CBOs were able to achieve economies of scale sufficient to reduce the cost per client by year 3.

Yet the positive feedback from CBO and MHP staff and leadership and the effects of C2C on certain subgroups within the impact evaluation—however small—demonstrate that CBOs are capable and well suited to integrate mental health supports into their usual services, with help from partnering MHPs. Over the course of the 5-year project, C2C brought mental health services to tens of thousands of low-income New Yorkers and continues to do so, adapting to the new reality of delivering these services remotely during the COVID-19 pandemic. Together, the three evaluations underscore that C2C is feasible and can provide useful information to those interested in further refining task-shifting. These findings can help CBOs, MHPs, policymakers, funders, researchers, and communities as they consider mental health task-shifting as a new way to expand the mental health workforce and reach vulnerable, low-income communities with evidence-based care.

## References

- Anxiety Disorders Association of America (ADAA), editor, *College-Aged Adults Face Less Mental Health Stigma*, 2015. As of July 05, 2020:  
<https://adaa.org/college-aged-adults-face-less-mental-health-stigma>
- Bulanda, J. J., C. Bruhn, T. Byro-Johnson, and J. Zentmyer, "Addressing Mental Health Stigma Among Young Adolescents: Evaluation of a Youth-Led Approach," *Health & Social Work*, Vol. 39, No. 2, 2014, pp. 73–80.
- Chibanda, D., T. Bowers, R. Verhey, S. Rusakaniko, M. Abas, H. A. Weiss, and R. Araya, "The Friendship Bench Programme: A Cluster 267 Randomized Controlled Trial of a Brief Psychological Intervention for Common Mental Disorders Delivered by Lay Health Workers in Zimbabwe," *International Journal of Mental Health Systems*, Vol. 9, No. 1, 2015, p. 21.
- Grant, K. L., M. B. Simmons, and C. G. Davey, "Three Nontraditional Approaches to Improving the Capacity, Accessibility, and Quality of Mental Health Services: An Overview," *Psychiatric Services*, Vol. 69, No. 5, 2018, pp. 508–516.
- Hurlburt, M., G. A. Aarons, D. Fettes, C. Willging, L. Gunderson, and M. J. Chaffin, "Interagency Collaborative Team Model for Capacity Building to Scale-Up Evidence-Based Practice," *Children and Youth Services Review*, Vol. 39, 2014, pp. 160–168.
- Jenkins-Guarnieri, M. A., Pruitt, L. D., Luxton, D. D., and K. Johnson, "Patient Perceptions of Tele-Mental Health: Systematic Review of Direct Comparisons to in-Person Psychotherapeutic Treatments," *Telemedicine and e-Health*, Vol. 21, No. 8, 2015, pp. 652–660.
- Kazdin, A. E., "Treatment as Usual and Routine Care in Research and Clinical Practice," *Clinical Psychology Review*, Vol. 42, 2015, pp. 168–178.
- Kravitz, R. L., N. Duan, and J. Braslow, "Evidence-Based Medicine, Heterogeneity of Treatment Effects, and the Trouble with Averages," *The Milbank Quarterly*, Vol. 82, No. 4, 2004, pp. 661–687.
- Morland, L. A., M. A. Mackintosh, L. H. Glassman, S. Y. Wells, S. R. Thorp, S. A. M. Rauch, P. B. Cunningham, P. W. Tuerk, K. M. Grubbs, S. Golshan, M. J. Sohn, and R. Acierno, "Home-Based Delivery of Variable Length Prolonged Exposure Therapy: A Comparison of Clinical Efficacy Between Service Modalities," *Depression and Anxiety*, Vol. 37, No. 4, 2020, pp. 346–355.
- NYC Care, homepage, undated.  
<https://www.nyccare.nyc/>
- Perry, Y., K. Petrie, and H. Buckley, L. Cavanagh, D. Clarke, M. Winslade, D. Hadzi-Pavlovic, V. Manicavasagar, and H. Christensen, "Effects of a Classroom-Based Educational Resource on Adolescent Mental Health Literacy: A Cluster 267 Randomized Controlled Trial," *Journal of Adolescent Health*, Vol. 37, 2014, pp. 1143–1151.

- Pinto-Foltz, M. D., M. C. Logsdon, and J. A. Myers, "Feasibility, Acceptability, and Initial Efficacy of a Knowledge-Contact Program to Reduce Mental Illness Stigma and Improve Mental Health Literacy in Adolescents," *Social Science & Medicine*, Vol. 72, 2011, pp. 2011e–2019e.
- Saldana, L., and P. Chamberlain, "Supporting Implementation: The Role of Community Development Teams to Build Infrastructure," *American Journal of Community Psychology*, Vol. 50, No. 3–4, 2012, pp. 334–346.
- Stevens, C., E. Tosatti, L. Ayer, D. Barnes-Proby, G. Belkin, S. Lieff, and M. Martineau. *Helpers in Plain Sight: A Guide to Implementing Mental Health Task Sharing in Community-Based Organizations*, 2020.  
<https://www.rand.org/pubs/tools/TL317.html>
- Torrey, W. C., G. R. Bond, G. J. McHugo, and K. Swain, "Evidence-Based Practice Implementation in Community Mental Health Settings: The Relative Importance of Key Domains of Implementation Activity," *Administration and Policy in Mental Health and Mental Health Services Research*, Vol. 39, No. 5, 2012, pp. 353–364.
- Varadhan, R., and J. D. Seeger, "Estimation and Reporting of Heterogeneity of Treatment Effects," in P. Velentgas, N. A. Dreyer, P. Nourjah P, et al., editors. *Developing a Protocol for Observational Comparative Effectiveness Research: A User's Guide*. Rockville, MD: Agency for Healthcare Research and Quality (US), 2013.
- Wahl, O., J. Rothman, T. Brister, and C. Thompson, "Changing Student Attitudes About Mental Health Conditions: NAMI Ending the Silence," *Stigma and Health*, Vol. 4, No. 2, 2018, pp. 188–195.
- Williams, N. J., C. B. Wolk, E. M. Becker-Haimes, and R. S. Beidas, "Testing a Theory of Strategic Implementation Leadership, Implementation Climate, and Clinicians' Use of Evidence-Based Practice: A 5-Year Panel Analysis," *Implementation Science*, 15, 2020, p. 10.
- Williams, N. J., M. G. Ehrhart, G. A. Aarons, S. C. Marcus, and R. S. Beidas, "Linking Molar Organizational Climate and Strategic Implementation Climate to Clinicians' Use of Evidence-Based Psychotherapy Techniques: Cross-Sectional and Lagged Analyses from a 2-Year Observational Study," *Implementation Science*, Vol. 13, No. 1, 2018, p. 85.

## Appendix A. C2C Program Summaries<sup>1</sup>

---

*Dionne Barnes-Proby, Clare Stevens, Michael Stephan Dunbar, Michele Abbott, and Wing Yi Chan*

### Arab American Association of New York

#### Arab American Association of New York C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** NYU Langone Family Health Center

**CBO type:** Other (agency primarily serving immigrant populations)

**On-site mental health counseling available at CBO:** Full-time

**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4; out-of-school, out-of-work young adults ages 16 to 24; unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services

**CBO's target population(s):** Arab Americans and Arab immigrants of all ages, primarily low-income women and youth

**Target geographical area/s:** Brooklyn

**Target CBO programs for C2C implementation:** All programs: Adult Education, Immigration and Casework, Youth, and Advocacy

**Number of CBO sites providing C2C services:** One CBO location, one non-CBO location

**Total CBO clients served by C2C (Y1–Y4 Q3):** 4,268

**Number of current staff and supervisors trained in one or more C2C modalities:** 25

**Number of staff receiving continuous coaching and supervision (Y4 average):** 13

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

#### *Program Overview*

The Arab American Association of New York (AAANY) is a nonprofit organization that functions as a grassroots center situated in a storefront. Its mission is to support and “empower the Arab Immigrant and Arab American community by providing services to help them adjust to their new home” (AAANY, undated) and become active members of society. AAANY “serves as a bridge between the Arab community and the greater NYC community, fostering greater understanding of Arab culture and immigrant issues; serving as a liaison between schools, government and other institutions and residents to address issues of discrimination; and providing a variety of culturally sensitive social services” (AAANY, undated). AAANY provides Adult Education courses (English for Speakers of Other Languages, Civic and Naturalization Test Prep), Advocacy and Civil Engagement (Law Enforcement Accountability

---

<sup>1</sup> Each program description summarizes the specific way each CBO and MHP implemented the C2C program. The descriptions compile information and materials provided by the CBOs.

Campaign, Civic Engagement and Community Organizing, Immigration Reform Campaign, Muslim Schools Holidays Campaign, Arab Women Activists and Leaders, Deferred Action for Childhood Arrivals), Social Services (Case Worker Services, Legal and Immigration Services), and Youth Development programs (Teen Grant-Making Initiative, Youth Community Organizing).<sup>2</sup>

AAANY recognized the need to provide culturally competent, trauma-informed mental health services to the Arab community in both English and Arabic. To that end, AAANY aimed to create a space where clients, particularly low-income underemployed adults and youth suffering from substance use, could feel safe exploring ideas of mental wellness. C2C was implemented across the entire organization, with the goal of weaving a deep understanding of best mental health practices into program services as part of a holistic model of service delivery. Staff were trained to provide C2C services at AAANY's main site and at the satellite Adult Education Site.

### *C2C Model Implementation*

*C2C staffing model.* AAANY partnered with the NYU Langone Family Health Centers (NYU Langone) network, which provides outpatient primary health care and support services. The CBO C2C program lead (licensed master social worker [LMSW]) conducted all screening and referral to MH services, as well as psychoeducation, MI, MHFA, CBT, and trauma-informed care in English and Arabic. Other CBO staff implemented MI and MHFA and made internal referrals to the CBO C2C program lead.

NYU Langone clinical staff provided all training, coaching, and supervision to AAANY staff (Table A.1). All NYU Langone staff were licensed in their field or board certified and trained in mental health screening and MI. All AAANY direct service staff, including the CBO C2C program lead, immigration caseworkers, operations manager, advocacy and civic engagement staff, immigration attorney, capacity building manager, HR manager, case managers, adult education coordinator and associates, were trained in all four skills by the MHP. To help staff translate mental health–related words or concepts into Arabic and its dialects, MHP facilitated MI and MHFA trainings with a focus on mindful translation and cultural competency. NYU Langone provided quarterly booster training sessions to staff, rotating the focus on one or more of the four core skills for each session. The primary form of ongoing training and supervision for AAANY staff was group meetings with the NYU Langone program lead approximately quarterly in department “check-in” meetings. These interactions typically consisted of discussions about specific client stories/scenarios encountered by staff. The NYU Langone program lead was also on-site every Friday for one-on-one weekly meetings with staff. The CBO C2C program lead also provided one-on-one ad hoc coaching to staff members.

---

<sup>2</sup> For more information, please refer to AAANY, homepage, undated.

*Screening.* Screening was not implemented universally. It was offered to all clients who attended psychoeducation as part of the Adult Education program and to immigration services clients as needed or requested. Staff members could also refer individual clients in any program to the C2C Program Lead for a screening. CBO staff were trained in screening but did not implement this service until the second quarter of year 4, where Immigration Services staff incorporated the two-item Patient Health Questionnaire into their standard screening tool.

Screenings that occurred in conjunction with psychoeducation workshops were client self-administered in a group setting. Individual screenings occurring outside psychoeducation workshops were conducted in two steps. First, a client who presented to CBO staff with any kind of emotional distress, or who asked to see a social worker, received a basic “rated stress assessment” screening. If clients scored positively on this screening, the staff used psychoeducation to advise them on mental health services available on-site and, as necessary, MI to help clients accept a referral to the CBO C2C program lead for a full screen. The CBO C2C program lead then screened these referred clients, completed an intake form, and conducted a psychosocial interview to determine more about the client’s history, background, and symptoms.

All clients offered a screening were screened for depression (PHQ-9) and anxiety (GAD-7). AAANY also offered substance use (Alcohol Use Disorder Identification Test–Concise [AUDIT-C], Drug Abuse Screening Test–10 [DAST-10]), PTSD (primary care PTSD screen, [PC-PTSD]), tobacco use, and suicide risk (Columbia-Suicide Severity Rating Scale [C-SSRS]) and violence risk assessment (multidimensional violence risk assessment ) screeners to a subset of clients. AAANY translated screening tools and adapted screening introduction and follow-up processes to fit the specific cultural preferences and focused needs of the Arab immigrant and Arab American community.

*Mental health first aid.* All staff were trained to deliver MHFA to ensure their ability to respond to client needs. If a client showed signs of substantial anxiety or distress, program staff administered MHFA, implementing ALGEE (a mnemonic device for MHFA’s five-step action plan) to assess an individual’s immediate need and track changes over time.

*Motivational interviewing.* All staff were trained to deliver MI when they encountered clients in need of services who demonstrated resistance to those services or other related changes. As noted above, MI was used as needed when offering an internal referral for screening and could also be delivered when staff interacted with clients for a scheduling appointment, during classes, and if a client walked in seeking any CBO service.

*Psychoeducation.* All staff were trained to provide PE. Formal, group-based PE was provided through one of three groups: (1) Telling Our Stories: Immigrant Women’s Resilience; (2) Domestic Violence Support; or (3) Brooklyn at Young Women’s Group. PE provided information about available mental health resources as well as mindfulness and problem-solving skills. PE was also delivered via one-on-one conversation between staff and clients, where specific information was presented to educate clients about mental health issues identified as important or beneficial to the client or the community at large.

*Referral pathway (warm handoff).* Referral to NYU Langone occurred when clients needed services beyond what AAANY was able to provide. Typically, before offering a referral to NYU Langone, the CBO C2C program lead provided on-site, short-term treatment (10–12 sessions) to clients who scored positive on any of the screening tools. At the tenth session, the client retook the psychosocial assessment/universal screening tool. If the client’s score improved, AAANY scheduled the final session and then provided a referral list and helped develop an out-of-treatment action plan for the client. If the client’s score worsened or did not improve, AAANY offered a referral to NYU Langone, which was received by the NYU Langone Intake Director. AAANY referrals were given priority at NYU Langone, and appointments were made no later than 5 days after the referral. Clients also had the opportunity to choose from a list of Arabic-speaking psychiatrists within the community.

*Care coordination.* Once a client was referred to NYU Langone, the CBO C2C program lead followed up to ensure that an appointment was scheduled and kept. In addition, quarterly interdisciplinary case reviews were held, involving AAANY and NYU Langone managers who participated in or oversaw screening, referral, and care coordination. This meeting included review of individual cases and aggregate data to improve screening, referral, and engagement in care.

**Table A.1. AAANY Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	All staff	27	MHP	NYU Langone program lead provided coaching and supervision during quarterly departmental meetings. In addition, the CBO C2C program lead provided one-on-one supervision throughout the grant cycle.	All staff
MHFA	All staff	27	MHP	NYU Langone program lead provided coaching and supervision during quarterly departmental meetings.	All staff
MI	All staff	27	MHP	NYU Langone program lead provided coaching and supervision during quarterly departmental meetings. In addition, the CBO C2C program lead provided one-on-one supervision throughout the grant cycle. CBO C2C program lead received coaching and supervision on MI from NYU Langone program lead during weekly meetings.	All staff
Psychoeducation	All staff	27	MHP	NYU Langone program lead provided coaching and supervision to all staff during one-on-one and group continuous coaching sessions.	All staff



## Bedford Stuyvesant Restoration Corporation

### BSRC C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** The Family Center  
**Program type:** Job training and employment  
**On-site mental health counseling available at CBO:** Part-time  
**C2C Initiative target group(s):** Unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services  
**CBO's target population(s):** Young adults, families, seniors  
**Target geographical area/s:** Brooklyn  
**Target CBO programs for C2C implementation:** Economic Solutions Center  
**Number of CBO sites providing C2C services:** Multiple sites  
**Total CBO clients served by C2C (Y1–Y4 Q3):** 2,748  
**Number of current staff and supervisors trained in one or more C2C modalities:** 32  
**Number of staff receiving continuous coaching and supervision (Y4 average):** 23

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Bedford Stuyvesant Restoration Corporation (BSRC) is a nonprofit multiservice community development corporation headquartered in Brooklyn, New York, that promotes economic self-sufficiency, healthy and stable families, and art and culture. Services include workforce development, economic and business development, education, health services, and youth development. C2C was housed in BSRC's Economic Solutions Center, which provides one-on-one case management, benefits screening and enrollment, on-site food stamps and Medicaid enrollment, legal counseling, financial counseling, career development, educational coaching, and job placement and retention services to promote self-sufficiency and mobility for low-income individuals (BSRC, undated).

BSRC's C2C services targeted individuals residing in two high-need Census tracts in northern Bedford Stuyvesant (as defined by the proportion of low-income households and high costs of development relative to median income), and other individuals served by the Economic Solutions Center. BSRC's C2C program sought to address behavioral health issues that are barriers to economic stability—loss of hope, depression, anxiety, anger—and help clients learn important life skills such as staying calm in the workplace. C2C services were provided in two distinct BSRC locations: Restoration Plaza (main site) and Jobs-Plus (serving NYCHA residents in northern Bedford Stuyvesant).

### *C2C Model Implementation*

*C2C staffing model.* Initially, BSRC partnered with Brooklyn Community Services to serve as the C2C MHP and provide training and supervision in mental health skills (Table A.2). In year 3, BSRC partnered with a new MHP—The Family Center—to increase their capacity to

provide on-site mental health treatment services to BSRC clients. C2C implementation was led by the BSRC program lead who worked in close coordination with the on-site LCSW from The Family Center to plan and carry out coaching and training curriculum development. The program was also supported by a CBO lead care coordinator who is an LMSW responsible for providing on-site counseling, as well as assisting with oversight of CBO care coordinators, junior care coordinator, and MSW interns. The CBO lead care coordinator received supervision from the MHP LCSW. The program also included several counseling interns and registered nurses from local universities. Although the majority of staff were trained, a core team applied C2C skills with clients: customer service specialists (intakes/screenings), resource coordinators (screenings, other skills, initiate and follow-up on referrals), and career coaches, employment specialists, and financial counselor (MI, PE, and MHFA). The Family Center's trainer was located on-site at both BSRC locations part-time to provide counseling to clients, training, coaching and supervision, and facilitate referrals. Although the MHP provided training in screening, MI, and PE to all BSRC staff, a subset received intensive training so they could serve as local experts, ultimately providing coaching, conducting peer-to-peer learning sessions, and informing BSRC C2C site coordinators of additional training and coaching needs. BSRC staff utilized city-sponsored MHFA trainings. The MHP LCSW and BSRC LMSW were primarily responsible for coaching and supervision.

*Screening.* Screening was conducted individually, on paper during intake at Restoration Plaza and orientation at the Jobs Plus site. Screening results were later entered into the electronic database. Initially, staff offered the PHQ-4 to all clients and used results to determine which additional screening instruments should be offered. Clients who screened positive on the PHQ-4 were then screened by the CBO lead care coordinator for depression (PHQ-9), anxiety (GAD-7), substance use (modified simple screening instrument for substance abuse [MSSI-SA]), and overall stress (Perceived Stress Scale and The Ardell Wellness Stress Test). Based on screenings, the CBO lead care coordinator determined the level of services needed (e.g., offer to participate in PE workshops, general on-site counseling, referral to MHP) for each client. Anxiety and stress management screenings were also incorporated into the PE workshops for individuals who had not yet completed these screenings.

*Mental health first aid.* MHFA was applied as needed during interactions with clients on positive screens and in crisis situations.

*Motivational interviewing.* Staff used MI to assist clients in considering lifestyle changes and to encourage clients to use mental health services provided on- and off-site. For example, MI was used by financial counselors and workforce staff during times when clients are in a transitional stage such as changing careers or becoming a homeowner, and so on.

*Psychoeducation.* With the guidance of MHP staff, BSRC nonclinical staff implemented stress management workshops based on the Whole Health Action Management model once a week for 8 weeks. Workshops were open to all clients and addressed issues such as employment stress and family relationships—the workshops related mental health issues to BSRC's services

(e.g., debt reduction, employment). BSRC also partnered with external groups such as NAMI and the National Council of Negro Women to provide these workshops to multiple populations, including young women, men, and seniors. Graduates became champions and lead additional workshops (e.g., stress management, senior shelter group, and job readiness group).

*Referral pathway (warm handoff).* The CBO lead care coordinator determined whether clients needed short-term on-site counseling or referral to counseling off-site. Once the Family Center became the MHP, most referrals were made there, although clients were referred to other organizations based on need and preference. BSRC and the Family Center developed a “hot handoff” process—the CBO lead care coordinator was trained in the Family Center’s intake process and referred directly to the director of intake. In addition, the CBO lead care coordinator added appointments to the MHP LCSW’s calendar when she was scheduled to be on-site at either location. To help facilitate referral follow-through, BSRC covered client transportation costs to off-site care if the client was not able to afford the expense. BSRC staff were also responsible for following up with clients and the Family Center to verify whether the clients kept their appointments.

*Care coordination.* Biquarterly interdisciplinary case conference meetings were led by the C2C site coordinators and held with BSRC and MHP staff for the purpose of reviewing client cases, data around screening results and service utilization, and service outcomes.

**Table A.2. BSRC Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	17	The Family Center staff, MHP LCSW, CBO lead	MHP/CBO	Economic Solutions Center staff applying modalities
MHFA	All staff, members of the community	16	DOHMH	MHP/CBO	Economic Solutions Center staff applying modalities, Economic Solutions Center C2C site coordinators
MI	All staff	21	BSRC lead care coordinator—LMSW is MI certified	MHP/CBO	Economic Solutions Center staff applying modalities, ESC C2C site coordinators
PE	Subset	20	CBO lead, LMSW	MHP/CBO	Economic Solutions Center staff applying modalities

## CAMBA

### CAMBA C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** The Jewish Board of Family and Children's Services  
**Program type:** Other (homeless shelter)  
**On-site mental health counseling available at CBO:** Part-time  
**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4  
**CBO's target population(s):** Homeless families referred by Department of Homeless Services or Human Exploitation Rescue Operative Child Rescue Corps  
**Target geographical area/s:** Queens  
**Target CBO programs for C2C implementation:** The Landing, a homeless family shelter  
**Number of CBO sites providing C2C services:** One location  
**Total CBO clients served by C2C (Y1–Y4 Q3):** 819  
**Number of current staff and supervisors trained in one or more C2C modalities:** 44  
**Number of staff receiving continuous coaching and supervision (Y4 average):** 15

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

CAMBA is a nonprofit community-based social service agency, operational since 1977. CAMBA offers 160 programs in six service domains: Economic Development, Education and Youth Development, Family Support, Health, Housing, and Legal Services. The organization serves more than 45,000 individuals and families annually. Approximately 80 percent of clients are at or below the poverty level, and more than half are immigrants. CAMBA has three temporary family homeless shelters: Flagstone Family Center, The Kensington, and The Landing.<sup>3</sup>

C2C was implemented at The Landing, a homeless family shelter in East Elmhurst, Queens, that serves 600 individuals annually. At The Landing, the staff provide ongoing case management, relocation to permanent housing, and crisis intervention (emergency food, clothing, transportation, and supportive services) for any family in need. The primary goal is to assist families to become stabilized through securing benefits, employment, searching for permanent housing, and securing a better quality of life when returning to the community. CAMBA recognized and implemented C2C in response to the need of delivering mental health service to homeless pregnant mothers and parents of children aged 0 to 4 who had experienced trauma.

### *C2C Model Implementation*

*C2C staffing model.* CAMBA partnered with The Jewish Board of Family and Children's Services to implement an evidence-based Early Childhood Mental Health Consultation model at The Landing. Early Childhood Mental Health Consultation is an evidence-based, problem-solving and capacity-building model, implemented collaboratively between a professional consultant with mental health training and one or more individuals with other areas of expertise.

<sup>3</sup> For more information, please refer to CAMBA, "About Us," webpage, undated.

The Jewish Board has successfully implemented an Early Childhood Mental Health Consultation model in other settings (schools, childcare centers). Using this model, The Jewish Board placed a licensed early childhood mental health partner on-site at The Landing part-time to train and support shelter staff in the delivery of C2C skills (Table A.3). Specifically, the mental health partner provided training, consultation, capacity building, and referrals/linkage to care. CAMBA's C2C clinical coordinator (CC)—the main administrator of C2C implementation—worked closely with the MHP on planning and executing trainings and coaching and supervision. Service delivery evolved over time, with the shelter team, primarily case managers (primary client worker) and client care coordinators (social workers), taking on more responsibility for screening and service delivery and Jewish Board staff providing less direct intervention. Case managers and clinical care coordinators (CCCs) were supervised by clinical case supervisors. All CAMBA staff were trained in at least one of the C2C skills. The Jewish Board also provided training on topics beyond the four core skills including ambiguous loss, complex trauma, vicarious trauma, parent/caregiver-serving development, working with young and LGBTQ adults, and a Seeking Safety group therapy program for clients.

*Screening.* CAMBA's CC and CCCs screened clients within 30 days of establishing shelter eligibility. Clients who refused screening the first time were offered a screening 1 month later. The screenings included the following: PHQ-9 for depression, DAST-10 and Alcohol Use Disorder Identification Test-10 (AUDIT-10) for substance and alcohol use, and GAD-7 for anxiety. The PC-PTSD and the Edinburgh Postnatal Depression Scale were also added later on. The MHP and CC met weekly to review the quality of screens. Based on how a client scored, the CBO CC either referred the client directly to The Jewish Board or requested a case conference with the MHP to determine the next steps. CAMBA considered the following to be positive scores that triggered a referral to the CBO CC: a score above 10 on the PHQ-9, a score above 10 on the GAD-7, a score equal to 3 or higher on the DAST-10, and a score of 4 or above for men and 3 or above for women on the AUDIT-C. For individuals who scored above 20 on the PHQ-9 or answered positively on the question of suicidality, the MHP and CBO CC helped the individual's case manager determine the level of risk, and whether emergency services needed to be called.

*Mental health first aid.* Case managers applied MHFA during their required weekly or biweekly case management sessions with all clients at The Landing. Individuals who were not screened still received MHFA.

*Motivational interviewing.* Case managers applied MI during their required weekly or biweekly case management sessions with all clients at The Landing, as relevant. The CBO CCCs and the CBO CC also used MI on an ongoing basis with clients. The site also planned to offer more continuous MI training to operations staff, particularly shift supervisors.

*Psychoeducation.* Individual PE was delivered by the CBO CC when clients were referred postscreening. CAMBA offered "Baby and Me," an attachment-focused, interactive parent-child group facilitated by the MHP and a trained staff member, and Seeking Safety, a treatment module promoting effective coping and emotional regulation skills for participants affected by

trauma and substance use, facilitated by the CBO CC and a trained staff member. Clients whose case managers identified that they could benefit from either of these classes were invited to attend. PE topics included attachment and bonding, sleeping and disciplinary challenges, developmental milestones, infant brain development, talking to your child about being homeless, trauma, and so on. PE was offered to all clients regardless of whether or not they participated in C2C screenings.

*Referral pathway (warm handoff).* Clients were primarily referred to Jewish Board’s Rego Park clinic during open access hours, which was reserved for new intakes. Depending on preference, clients could also be referred to another of The Jewish Board’s 16 licensed behavioral health clinic locations throughout the five boroughs and Long Island. All referrals were conducted by the CBO CC, CBO CCC, or MHP, who ensured timely appointment for the parent, helped coordinate transportation and consent to release information, and ensured that all parties were made aware of clients’ receipt of services.

*Care coordination.* For those individuals who did not follow through with referrals, a case conference was scheduled at The Landing with the client, MHP, CBO CC, and case manager, who all used MI to encourage the client to follow through with services. The MHP met weekly with the program directors and supervisory staff and held case conferences with CAMBA case managers to monitor client progress and the need for referral to additional services.

**Table A.3. CAMBA Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	6	CBP CC and MHP	Provided by MHP and CC—weekly group coaching led by MHP	All social services staff
MHFA	All staff	34	MHP and CBO CC CAMBA trainer (LCSW)	Weekly group coaching led by MHP (for social services staff) Monthly group coaching led by CC (for shift supervisors)	All social services staff Shift supervisors
MI	Subset	10	MHP and CBO CC CAMBA trainer (LCSW)	Provided by MHP and CC, as well as CAMBA trainer (LCSW) and additional Jewish Board refreshers  Weekly group coaching led by MHP (for social services staff) Monthly group coaching led by CBO CC (for shift supervisors) Discussion of case examples, observation of MI interventions and coding by MHP, CBO CC, and social services supervisors	All social services staff Shift supervisors
PE	Subset	17	MHP and CBO CC	Provided by MHP, CBO CC, and other CAMBA and Jewish Board staff  Weekly group coaching led by MHP (for social services staff) Monthly group coaching led by CBO CC (for shift supervisors)	All social services staff Shift supervisors



## Center for Employment Opportunities

### Center for Employment Opportunities C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Center for Alternative Sentencing and Employment Services  
**Program type:** Job training and employment  
**On-site mental health counseling available at CBO:** Part-time  
**C2C Initiative target group(s):** Out-of-school or out-of-work young adults ages 18 to 4; unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services  
**CBO's target population(s):** Formerly incarcerated individuals  
**Target geographical area:** Citywide  
**Target CBO programs for C2C implementation:** All programs  
**Number of CBO sites providing C2C services:** Multiple sites  
**Total CBO clients served by C2C (Y1–Y4 Q3):** 5,644  
**Number of current staff and supervisors trained in one or more C2C modalities:** 71  
**Number of staff receiving continuous coaching and supervision (Y4 average):** 30

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

The Center for Employment Opportunities (CEO) is a nonprofit organization headquartered in NYC with locations in 29 other cities across 11 states. C2C was implemented exclusively in CEO's NYC locations. CEO provides immediate and comprehensive employment services. All CEO participants were recently released from incarceration and/or are involved in the criminal justice system and unemployed and without any income at the time of enrollment. Program participants are most often referred to CEO by a parole or probation officer, who has determined through a validated risk and needs assessment that the individual is a good match for CEO's programs and services. CEO offers a range of services that aim to (1) improve client stability and self-sufficiency post-incarceration and (2) reduce recidivism. Program services include screening for employment barriers; short-term, paid transitional employment; job coaching; full-time job placement; and job retention skills training. All participants complete "Pathway 2 Employment" orientation class on enrollment. After this class, participants work with a job coach to prepare them for job placement; after placement, they are supported by a job retention specialist (RS).<sup>4</sup>

CEO recognized that many of their clients experience varying levels of depression. Because untreated clinical depression may become a chronic condition that disrupts work, family, and personal life, CEO elected to participate in the C2C Initiative to increase access to mental health services for individuals with depression and ultimately improve their clients' employment outcomes. C2C was situated in CEO's Supportive Services department, whose focus is to

---

<sup>4</sup> For more information, please refer to Center for Employment Opportunities, homepage, undated.



connect clients with resources that will improve their overall physical and mental wellness. CEO's Supportive Services team partners with external service providers to offer health screenings and education on-site and facilitate connections for other wellness services off-site. The department also works closely with government agencies and CBOs to offer Supplemental Nutrition Assistance Program and Medicaid enrollment along with tax preparation support at point of service. C2C fit into CEO's Supportive Services as a foundational part of mental health support. The C2C project markedly increased the department's capacity to address mental health needs among clientele.

### *C2C Model Implementation*

*C2C staffing model.* CEO partnered with the Center for Alternative Sentencing and Employment Services (CASES) to train their direct service staff to deliver services using C2C skills, including the supportive services manager (SSM), participant wellness specialist (PWS), job coaches, life skills educators, business account managers, RSs, and transitional worksite supervisors (TWS). The SSM oversees the Supportive Services department at CEO, building and maintaining connections with external wellness service provider partners and organizing on- and off-site referrals to those partners. Life skills educators facilitate an introductory 1-week course for all new CEO clients, whereas transitional worksite supervisors directly supervise participants in their daily work responsibilities on CEO-managed job sites around NYC. CASES and CEO have been partners for many years in NYC. Both are members of the city's alternative to incarceration/reentry coalition and have collaborated on alternatives to incarceration and other initiatives prior to C2C. At the start of C2C, CASES embedded one LCSW at CEO's program headquarters 2 days a week to provide clinical services. Over time, additional social worker interns have been assigned to CEO. On-site, short-term counseling with the MHP LCSWs was available to clients in person or over the phone. C2C services (both those offered by CBO staff and those provided by CASES) were made available to all CEO participants. In all, a lead MHP LCSW was on-site at CEO's Manhattan HQ or Bronx office twice weekly, whereas an MHP social work intern worked once weekly (location worked was dependent on client need and MHP staff availability). MHP social work interns generally worked on the project for 4 to 6 months before a new intern would be assigned. All CEO program staff and managers were trained in at least one of the C2C modalities. CEO and CASES staff provided coaching and supervision to direct service staff trained in the C2C skills (Table A.4).

*Screening.* After program intake, every CEO participant is assigned to a Life Skills Education class. During the Pathway 2 Employment class and as coordinated with the orientation instructors, the PHQ-9, a mental health screening tool for depression and anxiety, is administered by the PWS or SSM. The PWS or SSM utilizes a SBIRT designed script to introduce the tool to program participants, administer one-on-one or in a group setting, and collect the PHQ-9 for later scoring. The screening tools were then tabulated by one of the Supportive Services staff members and

**Table A.4. CEO Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	4	MHP LCSW (initial); CEO trainers (ongoing)	Quarterly group coaching sessions for 1 hour; weekly, biweekly, or as-needed individual reflective supervision sessions	PWS
MHFA	All staff	61	MHP LCSW and NYC DOHMH (initial); certified CEO trainers (ongoing)	Quarterly group coaching sessions for 1 hour; weekly, biweekly, or as-needed individual reflective supervision sessions	Job coaches, life skills instructors, PWS
MI	Subset	71	MHP LCSW and MI Institute (initial); certified CEO trainers (mid-project); Institute for Individual and Organizational Change (ongoing)	Monthly coaching sessions; weekly, biweekly, or as-needed individual reflective supervision sessions. Quarterly MI recordings submitted to and reviewed by the Institute for Individual and Organizational Change	Job coaches, PWS, SSM, life skills education instructors
PE	Subset	11	MHP LCSW (initial and ongoing)	Quarterly group coaching sessions for 1 hour; weekly, biweekly, or as-needed individual reflective supervision sessions	Job coaches, PWS, life skills education instructors

recorded in CEO’s custom client database. After review of the scores, the PWS compiled a list of participants that scored more than 5, indicating clinical intervention was needed and forwarded the names to the MHP LCSW while on-site and notified the MSS. The PWS then completed a warm handoff to the MHP LCSW to ensure that the participants were offered services on the days that MHP LCSW was on-site. Those who met with MHP LCSW were offered a 30-minute one-on-one meeting in which the PHQ-9 was reviewed, an additional assessment was completed, and a care plan developed. All participants were informed of the option for connection to mental health services on-site regardless of the outcome of their PHQ-9 score.

*Mental health first aid.* MHFA strategies were integrated into daily service delivery to assist all direct service staff with responding effectively to participants who had mental health needs and to provide participants with important information about dealing with mental health concerns (e.g., how to obtain professional help, how to build resilience). Initially, CEO held quarterly MHFA trainings for program participants and their families. Starting in 2019, a specialized MHFA trainer with CASES offered monthly trainings for staff and participants alike, both on-site at CEO and at a CASES clinic. CEO extended the offering of MHFA to the community and served as a host location for MHFA by opening these trainings to the public.

*Motivational interviewing.* MI was also integrated into daily service delivery. Prior to C2C, CEO staff were already using MI with participants to help them develop their own reasons to engage in the program and to overcome barriers to employment. MI was used to build trusting relationships between participants and all CEO staff. For example, CEO's job coaches used MI to help participants explore and resolve ambivalence around seeking and obtaining mental health services. In addition, the MHP LCSW used MI techniques during the one-on-one sessions with CEO participants who screened positive to discuss screening results, administer supplemental assessments, establish a care plan, provide psychosocial and support needs associated with assessment findings, and discuss options for ongoing clinical treatment, if warranted.

*Psychoeducation.* PE was introduced to participants during Pathway 2 Employment classes through the curriculum *Staying Well While You Work*. Instructors were trained in the delivery of the PE curriculum and associated coping skills. Participants practiced a coping skill while in a group setting. PE was also integrated into daily service delivery by CEO's job coaching staff. They delivered PE as needed during weekly one-on-one meetings with participants as part of the job start readiness process. This PE provision included a review of various evidenced-based coping skills that would apply to the issues that surfaced during the session, including the coping skills that were already practiced during orientation class. CEO worked with the MHP LCSW to identify common situations experienced by participants that would be ideal topics to address through PE and focused on trauma-based responses to the stressful life-based situations faced by program participants while reentering community and engaging in employment (e.g., identifying previous patterns of stress response and associated behaviors, discussing common barriers faced by those returning back to community post-incarceration, and identifying alternate ways to cope with stress).

*Referral pathways (warm handoff).* The MHP LCSW was responsible for coordinating all referrals from CEO for mental health services, which included referrals to CASES Harlem-based Nathaniel Clinic and other CASES treatment providers. CASES also made referrals to five external providers: New York Psychotherapy and Counseling, Safe Horizon, Brightpoint Health, Institute of Family Health, and Hudson Guild. Because CEO participants lived in locations throughout the city, the MHP LCSW attempted to connect participants to clinics or MHPs in participants' communities. CEO staff and the MHP LCSW prioritized establishing relationships with providers in the Bronx and Brooklyn, where a large proportion of CEO participants resided. Participants were also provided transportation support (e.g., MetroCards) to commute to treatment providers.

While on-site, the MHP LCSW received referrals from CEO staff or identified participants who needed to be referred based on the screening results. When the MHP LSCW was off-site, CEO SSM met with any participants to provide emotional support and referral to MHP or external MHPs as indicated. When referred internally, clients met with the MHP LCSW for an

initial consultation and further mental health assessment. Clients could elect to continue to meet with the on-site MHP LCSW for up to 3 months for short-term therapy but could also be referred to CASES Nathaniel Clinic or other external treatment providers for long-term care. The CEO SSM would continue to triage any referrals for consultation made by staff in addition to the formal C2C referral process. CEO SSM attended monthly case conferences with CEO teams for discussion and follow-up related to participant mental health–related issues and would recommend and reinforce with the staff the path for reengagement with MHP LCSW or assist with other mental health resources as needed.

*Care coordination.* During C2C implementation, leadership at CEO and CASES held monthly planning meetings and/or implementation telephone conferences. During each meeting, the project partners prepared for upcoming staff trainings, reviewed project performance indicators (number of screenings complete, number of referrals made, etc.), and discussed feedback from CASES and CEO managers on the status of the quality assurance monitoring and coaching of direct service staff following trainings. In addition, CBO and MHP staff convened joint care coordination meetings twice a quarter to discuss client engagement, appointment follow-through, retention in care, as well as client well-being (screening results, treatment adherence or other health-promoting behaviors, the effects of MHP and CBO services on symptoms or other indicators of well-being). In addition, the MHP LCSW participated in case conference meetings with treatment providers serving participants to coordinate care.

## Hetrick-Martin Institute

### HMI C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** HMI counseling department, on-site

**Program type:** Youth development

**On-site mental health counseling available at CBO:** Full-time

**C2C initiative target group(s):** Out-of-school, out-of-work young adults ages 16 to 24 and unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services

**CBO's target population(s):** Low-income youth of color and LGBTQ youth, many who face homelessness and lack of family support

**Target geographical area/s:** Citywide

**Target CBO programs for C2C implementation:** All

**Number of CBO sites providing C2C services:** One site

**Total CBO clients served by C2C (Y1–Y4 Q3):** 4,033

**Number of current staff and supervisors trained in one or more C2C modalities:** 22

**Number of staff receiving continuous coaching and supervision (Y4 average):** 25

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

The Hetrick-Martin Institute (HMI) is a nonprofit that provides free year-round programs and services to LGBTQ youth and allies aged 13 to 24. HMI offers a continuum of services designed to provide youth with the skills necessary for a productive transition into healthy adulthood. HMI functions as the Department of Health–designated Center of Expertise for Sexual Health and Gender Identity. HMI provides services to two groups of LGBTQ youth: (1) students at Harvey Milk High School and (2) individuals from the community. HMI partners with the Harvey Milk School, a NYC Department of Education school, to provide students with in-school college counseling and access to HMI programs and services.<sup>5</sup>

HMI provides the following services: health and wellness, job readiness, arts and culture, academic enrichment, counseling and case management, on-site pantry, homeless outreach services, and referrals to additional services. HMI implemented C2C across multiple program areas to address critical issues affecting their client population, including depression, substance use and risky sexual behavior, verbal harassment, physical abuse, eating disorders, and self-harming behaviors.

### *C2C Model Implementation*

*C2C staffing model.* During the first year of C2C implementation, HMI attempted to partner with Mt. Sinai Hospital to provide mental health services. However, extensive administrative challenges prevented the partnership to succeed. Starting in year 2 of implementation, HMI's youth development department partnered with HMI's in-house counseling services department to

<sup>5</sup> For more information, please refer to Hetrick-Martin Institute, homepage, undated.

serve as the C2C MHP (Table A.5). The partnership aimed to bridge the gap between counselors and youth development workers within the organization. Mental health counselors trained youth development staff on C2C modalities, and youth development staff shared their expertise on outreach and client engagement. HMI staff had full access to HMI's MHP clinical team: A counselor was on-call every day of operation and the director of clinical and counseling services was on-call via agency cell phone 24/7. Staff also had access to HMI's psychiatrist, who was on-site 1 day per week for psychiatric evaluation and medication management services, and available throughout the week to consult with staff.

*Screening.* All potential HMI clients are required to complete an intake process. As a part of C2C, mental health screenings, administered by an MHP licensed counselor or an MHP counseling intern, were included in the intake process. MHP counseling staff used Beck Anxiety and Depression Inventories, DAST-10 for substance use, and AUDIT for alcohol abuse, then added the PHQ-9, CRAFFT (Car, Relax, Alone, Forget, Friends, Trouble), of Multi-Attitude Suicide Tendency Scale, and Columbia suicidality scales. If a client declined screening at intake, a youth development worker sometimes screened the client at a later time. Even if a client did not screen positive, they were still eligible to utilize counseling services. Clients were rescreened at the termination of a group/internship cycle.

*Mental health first aid.* MHFA was delivered primarily during crisis situations and as-needed to facilitate de-escalation and to engage clients in referral services. HMI extended MHFA training to peer educators, who are HMI clients employed by HMI to do outreach within and outside the organization.

*Motivational interviewing.* MI was implemented by intake, counseling, and youth programs staff as part of individual check-ins and ongoing counseling and case management. MI was used to aid youth in thinking through difficult situations where they may be experiencing a great deal of ambivalence. In addition to using MI during individual counseling sessions, HMI programmatic staff also used MI during individual conversations and interactions with clients participating in activities such as college prep, job readiness, portfolio making, and health and wellness internships.

*Psychoeducation.* MHP counseling staff implemented workshops on a range of topics, including signs and symptoms of mental illness, accessing services/benefits, health education for LGBTQ youth/young adult community, harm reduction/risk reduction, stress management, relationship issues, and trauma-informed care. In year 2, MHP counseling center also developed a curriculum-based, evidence-informed PE program that used art therapy skills to help HMI clients reduce stress. In year 3, MHP expanded on this program to create a self-care toolkit, an evidence-informed PE resource that can be used in group or individual sessions and includes strategies to help participants strengthen resilience and leadership skills. In November 2019, HMI also developed and piloted a PE support group that is curriculum driven and activity based, focused on coping with grief and loss.

*MHP referral process (warm handoff).* If a client screened positive, a referral to an on-site MHP counselor was made. MHP counselors were available 5 days a week and clients could drop in to see a counselor. If an MHP counselor was available and/or the client was in need of services immediately, the client could start counseling the same day. In addition, HMI employed several strategies to support client engagement with the MHP counseling center including providing opportunities for HMI clients to get to know counseling center clinicians, providing information during referral to demystify the counseling process, and quickly addressing scheduling conflicts to ensure clients were connected to care in a timely manner. During the course of C2C, MHP changed its counseling model from long-term care to short-term counseling, so clients were limited to 12 sessions and were referred to group counseling—if needed—as they transitioned out of care.

*Care coordination.* MHP counselors and youth development staff participated in biweekly interdisciplinary care coordination meetings in which youth development staff set the agenda. These meetings served as a forum for discussing staff and client successes, assigning action items, and discussing adaptations to C2C programming to best meet the needs of HMI clients. Although hampered at times by staffing transitions and scheduling conflicts, implementation of routine supervision improved over time. HMI implemented additional group and individual supervision sessions to meet its quarterly coaching and supervision targets.

**Table A.5. HMI Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Received Coaching and Supervision</b>
Screening	Subset	12	MHP	MHP program lead and CC	Supervising counselor; CC; counseling staff; graduate interns
MHFA	Subset	14	MHP; DOHMH	MHP lead and CC	Education specialists from health and wellness, services for homeless youth, and job readiness tracks; teaching artists from arts and culture programming; counseling graduate interns
MI	Subset	13	MHP; also hired outside trainer	Three staff participating in supervision track through MI Institute	Counselor; program coordinator; coordination/education specialists from health and wellness program
PE	Subset	17	MHP Program Lead	MHP lead and CC	Education specialists from health and wellness, services for homeless youth, and job readiness tracks; teaching artists from arts and culture programming; counseling graduate interns



## Hudson Guild

### Hudson Guild C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Paula B. Balser Counseling Center

**Program type:** Child and parent services

**On-site mental health counseling available at CBO:** None (note: MHP clinic location adjacent to main CBO site)

**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4

**CBO's target population(s):** Low-income families, most of whom live in public and supportive housing in Chelsea, Hell's Kitchen, and Lincoln Square neighborhoods

**Target geographical area/s:** Manhattan

**Target CBO programs for C2C implementation:** Early Childhood Education program

**Number of CBO sites providing C2C services:** Five sites

**Total CBO clients served by C2C (Y1–Y4 Q3):** 590

**Number of current staff and supervisors trained in one or more C2C modalities:** 56

**Number of staff receiving continuous coaching and supervision (Y4 average):** 7

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Hudson Guild is a nonprofit, multiservice community agency serving low-income families who live, work, or go to school in Chelsea, Hell's Kitchen, and Lincoln Square with programs located throughout these Manhattan neighborhoods.<sup>6</sup> Programs include early childhood education, youth development and education, adult services, art, and community building. Through its Paula B. Balser Counseling Center and two school-based clinics, Hudson Guild also offers mental health services.

Hudson Guild recognized that needs such as anxiety, posttraumatic stress, depression, substance use, domestic violence, and parent/child conflict may affect the families served by their programs and implemented C2C to address these needs. C2C was implemented in the Early Childhood Education (ECE) program, which offers Head Start, Pre-K for all, and EarlyLearn NYC Child Care. Through C2C, Hudson Guild aimed to decrease the number of crisis interventions among ECE families, increase awareness of and access to mental health services, destigmatize mental illness, and help to improve the overall well-being of families.

### *C2C Model Implementation*

*C2C staffing model.* Hudson Guild partnered with the Paula B. Balser Counseling Center, who served as the MHP. The Balser Counseling Center provides the following services: outreach, initial assessment (including health screening), psychiatric assessment, crisis intervention, psychotropic medication treatment, psychotherapy services, family/collateral psychotherapy, group psychotherapy, and complex care management.

<sup>6</sup> For more information, please refer to Hudson Guild, homepage, undated.

The Balser Center hired a C2C coordinator (LCSW) to train ECE staff members. Hudson Guild family workers were the primary staff members delivering C2C skills. Family workers used C2C skills to develop individualized client plans and to facilitate clients’ problem-solving by educating and counseling clients where appropriate. The MHP C2C coordinator (LCSW) facilitated implementation by serving as a bridge between Hudson Guild ECE programs and the Balser Center, which despite close proximity and being housed under the same organization, rarely interacted before C2C.

All family services workers and a family services supervisor received training on PE and screening from the MHP C2C coordinator and MHFA training from the NYC DOHMH (Table A.6). Both the MHP C2C coordinator and an outside contractor provided MI training to family workers. In addition, booster trainings were offered regularly in each C2C skill. Coaching and supervision occurred weekly, in a group setting, for 1 hour, and staff completed supervision checklists and self-assessments (forms created in-house that assess knowledge, skills, and actions) biannually. Coaching and supervision also included experiential learning and direct practice observation. CBO supervisors (the director of Early Childhood Education and assistant director of Early Childhood Education) monitored the quality of coaching and supervision through weekly meetings with MHP C2C coordinator and observations of staff.

*Screening.* Initial screenings for depression (PHQ-9), anxiety (GAD-7), substance use (MSSI-SA), and PTSD (PCL-5) were included as a regular part of the intake process for clients. Family workers aimed to conduct screening with clients within 2 months of enrolling their child in the ECE program. Clients could also receive a screening at any time through self-referral or

**Table A.6. Hudson Guild Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervisions</b>
Screening	Subset	8	MHP C2C coordinator	MHP C2C coordinator provides coaching and supervision weekly, in a group setting, for 1 hour, as a stand-alone activity (C2C supervision group)	Family workers, family services supervisor
MHFA	All ECE staff	56	MHP C2C coordinator Four staff sent to NYC DOHMH training	Same as above	Same as above
MI	Subset All ECE staff received introductory MI training	10	MHP C2C coordinator (initial); outside contractor (ongoing)	Same as above	Same as above
PE	Subset	8	MHP C2C coordinator	Same as above	Same as above

through a referral from Hudson Guild staff (e.g., reception staff) who noticed changes in clients' mood or demeanor.

*Mental health first aid.* Family workers, teachers, and reception staff were trained in MHFA to facilitate recognition and detection of mental health symptoms and provide appropriate assistance and resources. Direct service staff integrated MHFA during interactions with clients who exhibited signs of mental health symptoms or crises.

*Motivational interviewing.* MI was used in conjunction with screening. For clients who screened positive, family workers engaged clients using MI techniques to discuss concerns and habits the clients wanted to change, evoking clients to change behavior and developing practical steps to implement change.

*Psychoeducation.* All clients had the opportunity to attend PE workshops. Family workers and the MHP C2C coordinator cofacilitated monthly workshops on a range of topics including self-care, positive parenting strategies, and anger management. Individual PE was also provided by direct service staff, as needed, in conjunction with screenings.

*Referral pathways (warm handoff).* If a client received a positive screening or requested a referral, a family worker referred her/him to the Balser Center. If the client accepted the referral, the family worker completed the required paperwork and collected insurance information from the client. MHP referral intakes took place over the phone, but clients could also walk in to the Balser Center, which offered open access hours for intake completion. The Balser Center's intake clinician received all referrals and verified insurance status. All Medicaid eligible clients were provided with metro cards to cover transportation costs to and from the clinic.

MHP clinicians notified family workers when a client made the first intake appointment so family workers could remind the client to attend. MHP clinicians also alerted family workers when a client was not attending sessions so family workers could help with outreach and encourage the client to make a new appointment and/or troubleshoot barriers to appointment completion.

*Care coordination.* Once an MHP therapist was assigned to a client, family workers and the C2C coordinator were in ongoing communication with the MHP therapist and hosted quarterly case conference meetings in which they discussed care coordination and caregiver engagement issues.

## Northern Manhattan Improvement Corporation

### NMIC C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** The Dean Hope Center for Educational and Psychological Services at Teacher's College, Columbia University

**Program type:** Job training and employment

**On-site mental health counseling available at CBO:** Full-time

**C2C Initiative target group(s):** Out-of-school, out-of-work young adults 16 to 24

**CBO's target population(s):** Disconnected youth; un-/underemployed adults

**Target geographical area/s:** Washington Heights/Inwood/South Bronx

**Target CBO programs for C2C implementation:** Education & Career Services department; Legal, Organizing, and Advocacy department; domestic violence program

**Number of CBO sites providing C2C services:** One site

**Total CBO clients served by C2C (Y1–Y4 Q3):** 3,292

**Number of current staff and supervisors trained in one or more C2C modalities:** 41

**Number of staff receiving continuous coaching and supervision (Y4 average):** 30

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Northern Manhattan Improvement Corporation (NMIC) is a community-based settlement house founded in 1979. It has evolved into a leading multiservice agency with a staff of more than 150 persons, serving all of NYC. Their mission is “to serve as a catalyst for positive change in the lives of the people” in the community.<sup>7</sup> Their legal, organizing, and advocacy services include immigration legal services, housing court representation/eviction prevention, and counseling for immigrant communities. Their education and career services programs provide the community with the additional tools necessary to build secure and prosperous futures. They also offer weatherization services to improve the housing stock in Upper Manhattan.

NMIC implemented C2C to build a sustainable bilingual Spanish-English mental health case management service program to address challenges they noted in their client population including low self-esteem, low self-efficacy, strained family and social relationships, and mental health issues (e.g., depression, anxiety, stress, reactivity/impulse control, and substance and/or alcohol abuse). C2C was implemented in the Education & Career Services and then subsequently into the Legal, Organizing, and Advocacy (LOA) department, as well as their domestic violence program.

### *C2C Model Implementation*

*C2C staffing model.* NMIC partnered with the Dean Hope Center for Educational and Psychological Services at Teacher's College (TC), Columbia University. NMIC hired a C2C

---

<sup>7</sup> NMIC, “NMIC Overview,” webpage, undated.

counseling coordinator to provide substantive support to NMIC staff and TC graduate student counselors, while overseeing program operations and handling a direct service caseload. Five bilingual master-level counseling graduate students from TC were on-site 9:00 a.m. to 5:00 p.m. Monday through Friday to provide services to clients when needed. Licensed clinical staff at TC trained NMIC staff. Beyond the four core C2C skills, the NMIC staff were trained on HIPAA issues, cultural competency, crisis management, and de-escalation. Because NMIC serves many Spanish-speaking clients, staff received separate training on how to deliver the four skills in Spanish (Table A.7).

*Screening.* Clients were offered screening by their assigned case managers who were already building trusting relationships and were trained to use strategic, strength-based messaging while providing responsive and respectful services. Although all clients of the NMIC Education and Career Services Department were deemed eligible for screening, NMIC focused on offering screening to clients engaged in cohort-based programs on-site to maximize the potential for follow-up. NMIC's LOA clients were also offered screening and referral if their paralegal assessed a mental health need. In addition, staff in the domestic violence program (i.e., counselor/advocates and LMSW) offer their clients screening and referrals to the C2C program.

Case managers conducted screenings for clients in on-site, cohort-based programs including Youth Workforce Adult Education and Adult Workforce/On-site career training. Case managers screened clients for depression (PHQ-9), anxiety (GAD-7), and substance use/abuse (CRAFFT for clients younger than 21 and CAGE-AID for clients 21+). Screening occurred after the clients completed programmatic intake and orientation. Sometimes, clients completed self-administered screens in a group setting if the cohort was in an off-site location or a once-a-week class, which typically made one-on-one screening difficult for administration.

The determination of which clients to screen in the LOA department was made on a case-by-case basis by the Director of LOA Services and the CBO C2C counseling coordinator. Screenings for clients in the legal department were conducted by the NMIC paralegal.

In the NMIC model, client needs were triaged into one of three tiers based on screening scores. And then the four core C2C skills were delivered accordingly:

*Tier I: basic services.* If clients screened positive for mild anxiety or minimal depression, NMIC case managers provided C2C skills directly to clients. Delivery of MHFA, MI, and PE was incorporated into the regular meetings NMIC case managers had with clients to track progress in their relevant program. If a client wanted to receive counseling or if case managers thought a client could benefit from seeing a counselor, case managers referred clients to Tier II or III services without a positive screening. LOA clients did not receive Tier I services because those who were identified as needing mental health services were referred to Tier II or III based on their screening results.

*Tier II: on-site graduate student counseling.* Tier II was indicated for a screening result on the PHQ-9 of 10 or above, GAD7 of 10 or above, and positive response of 3 and above on the CRAFFT/CAGE-AID. The case managers and MHP C2C counseling intern coordinated for

on-site warm handoff referrals. This in-house counseling service was intended to be short term (6–8 sessions).

*Tier III: client in need of higher level of services.* If a client's screening results indicated severe need or if it was clear that the client's mental health needs were not being met by NMIC staff or the on-site TC students, the client was referred to the CBO C2C counseling coordinator. The CBO C2C counseling coordinator assessed the client's need for a higher level of care and offered a referral to the appropriate referral agency. Higher level of need meant suicide or homicide ideation or psychosis. Often the need for a psychiatric evaluation or medication management would indicate a need for a referral to an agency with a psychiatrist. Clients were assessed by utilizing a risk assessment instrument, C-SSRS instrument, and the rescreening results. Referrals were completed in a collaborative process that considered the client's individualized needs. The MHP was included in individual supervision and case conceptualization and review.

*Mental health first aid.* Depending on the client's screening results, MHFA was delivered by NMIC case managers (Tier I), TC graduate students (Tier II), or the CBO C2C counseling coordinator (Tier III).

*Motivational interviewing.* MI was completely integrated into service delivery for all clients. All NMIC staff utilize these skills in implementation of PE sessions, individual case management sessions, and counseling sessions. MI also served as the framework for how staff members interact with each other at NMIC.

*Psychoeducation.* In addition to any individual PE provided after screening, TC graduate students conducted PE sessions in all Education and Career Services classrooms. The purpose of these PE sessions was twofold: (1) to reduce stigma and (2) to introduce C2C services to clients. These PE sessions supported the increase of utilization of C2C counseling services.

*Referral pathway (warm handoff).* A warm handoff was completed internally at NMIC by the case manager who completed the C2C Wellness Survey (screening instrument) and the assigned MHP C2C counseling intern. The assigned intern reached out to the client to schedule an appointment for Tier II. If the client was referred to Tier III, the intern scheduled an appointment with an external provider during the session with the client. An additional session with the client was scheduled to check the status of the first meeting with the external provider. The warm handoff helped to increase the utilization of counseling services by supporting the client to engage in counseling services by utilization of the role of the case manager. In addition, the warm handoff process was explained to the client to ensure complete understanding before the client transitioned to another tier.

*Care coordination.* The CBO C2C counseling coordinator coordinated monthly meetings between NMIC and TC to review screenings, referrals, and care coordination data. The group reviewed the number of screeners completed, data indicating engagement and utilization of C2C services, next steps toward improvement of C2C services provided, and how to provide more support/trainings to case managers utilizing C2C skills.

**Table A.7. NMIC Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	32	CBO C2C counseling coordinator and MHP consultant  CBO C2C counseling coordinator started in year 2  MHP consultant started in year 3	Provided by CBO C2C counseling coordinator and MHP consultant.  Weekly to staff members who delivered C2C skills.  Monthly “advanced coaching” required for all Education & Career Services staff, optional for legal services staff.  Ad hoc availability of CBO C2C counseling coordinator.  MHP clinician monitors the quality of coaching and supervision.  Direct coaching and feedback and reflective supervision at least twice per quarter.  Twice per year, staff will assess their own knowledge, skills, beliefs, and practice.	All members in Education & Career Services who are delivering a C2C skill
MHFA	Subset	30	DOHMH	Same as above	Same as above
MI	Subset	35	NMIC has three staff trained as trainers (each completed MI Institute and trained as trainers)	Same as above	Same as above
PE	Subset	20	CBO C2C counseling coordinator and MHP consultant	Same as above	Same as above



## Red Hook Initiative

### Red Hook Initiative C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** NYU Langone Health (formerly NYU Lutheran Family Health Centers)

**Program type:** Youth development

**On-site mental health counseling available at CBO:** Full-time

**C2C Initiative target group(s):** Out-of-school, out-of-work young adults ages 16 to 24

**CBO's target population(s):** Young people; Brooklyn native; public housing assistance

**Target geographical area/s:** Red Hook

**Target CBO programs for C2C implementation:** All programs

**Number of CBO sites providing C2C services:** Multiple sites

**Total CBO clients served by C2C (Y1–Y4 Q3):** 710

**Number of current staff and supervisors trained in one or more C2C modalities:** 39

**Number of staff receiving continuous coaching and supervision (Y4 average):** 7

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### Program Overview

Red Hook Initiative (RHI) is a nonprofit organization focused on youth development and community-building. RHI's approach is structured around a youth empowerment pipeline, which provides young people intensive academic support, job readiness and leadership training, part-time entry-level employment, college application assistance, college retention support, and a range of services that promote resiliency and prepare youth for independent, self-sufficient adulthood. The organization primarily serves young people, from middle school through age 24, who live in Red Hook, Brooklyn, in the NYC Housing Authority Red Hook Houses—Brooklyn's largest public housing development. RHI has three youth development programs (Middle School Program, High School Youth Leader Program, and Young Adult Program) and a fourth program for residents 25 and older (Community Building) focused on building a healthy and sustainable Red Hook community.<sup>8</sup>

RHI implemented C2C to provide access to mental health care that will ultimately improve the organization's ability to support youth toward high school graduation, acceptance into a college or workforce training program, graduation from college, and securing a job with opportunities for advancement. Particular mental health issues of concern for the population include depression, anxiety, suicidal ideation, social isolation and hopelessness, substance use, and trauma.

### C2C Model Implementation

*C2C staffing model.* RHI's C2C coordinator was in charge of training and evaluation, and RHI also utilized staff with a master's degree in social work to provide mental health counseling to their clients (Table A.8). The following RHI staff were trained in C2C skills: director of professional development, senior director of programs, young adult program manager, high school program

<sup>8</sup> For more information, please refer to Red Hook Initiative, homepage, undated.

**Table A.8. RHI Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	Social work staff (6), education support staff (1), case manager (1)	Initial trainer: MHP clinical staff  <i>Ongoing trainers:</i> RHI director of professional development	Provided by MHP clinical staff, young adult program manager, high school program manager, young adult social worker  Social workers receive weekly individual coaching  Education staff and case manager receive weekly supervision  Social workers receive monthly group clinical supervision Reflective supervision included in individual and group supervision sessions  Compliance completed by NYU Langone clinical staff annually  Self-assessments completed twice annually	Social work staff, education and case management staff
MHFA	All staff	28 FT 23 PT	Initial trainer: MHP clinical staff  <i>Ongoing trainers:</i> ThriveNYC Learning Center	Provided by MHP clinical staff, RHI senior director of programs, director of community building, young adult program manager, high school program manager, director of professional development  Social workers receive weekly individual coaching  Clinical staff receive weekly supervision  Social workers receive monthly group clinical supervision  Reflective supervision included in individual and group supervision sessions  Self-assessments completed twice annually	Young adult social worker, C2C social work contractor, high school social worker, education coordinator, employment coordinator, college RS, case manager, high school group leaders, community organizers
MI	Subset	21 total— 15 FT 6 PT	Initial trainer: MHP clinical staff and MI Institute  <i>Ongoing trainer:</i> RHI director of professional development/MI network of trainers	Social workers receive monthly group clinical supervision  Reflective supervision included in individual and group supervision sessions  Compliance completed by MHP clinical staff annually  Self-assessments completed twice annually  MI refresher and series of six MI practice labs are held annually	Young adult social worker, C2C social work contractor, high school social worker, education coordinator, employment coordinator, college RS, case manager, high school group leaders, community organizers

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
PE	Subset	Social work staff (6)	MHP clinical staff	<p>Provided by MHP clinical staff, RHI young adult program manager, high school program manager, reproductive health educator</p> <p>Social workers receive weekly individual coaching</p> <p>One-on-one case management weekly supervision</p> <p>Social workers receive monthly group clinical supervision</p> <p>Reflective supervision included in individual and group supervision sessions</p> <p>Self-assessments completed twice annually</p>	Young adult social worker, high school social worker, C2C social work contractor, reproductive health educators

NOTES: FT = full-time; PT = part-time.

manager, college retention specialist, reproductive health manager, employment coordinator, programs associate, youth jobs developer, academic advisers, education coordinator, program associate, reception staff, technology instructor, media and design associate, referral specialist, tech program assistant, and social workers. RHI partnered with NYU Langone Health, formerly NYU Lutheran Family Health Centers, an Article 31 clinic, to provide mental health services, training, and supervision. NYU Langone clinical staff (senior psychologist) was on-site at least once a week and responsible for clinical supervision and training. In addition to training in the four skills, training in therapeutic crisis intervention was delivered to staff. Therapeutic crisis intervention is an evidence-informed model of crisis prevention and de-escalation used internationally in youth-based organizations. It utilizes best practices in social work, youth development, and trauma-informed practice perspectives (including the sanctuary model of trauma-treatment).

*Screening.* Clients were screened by RHI social workers, case managers, and college RSs on a rolling basis and during youth leader and young adult enrollment/orientation periods. Clients completed a counselor administered in-person Unified Behavioral Health Screening Tool, assessing for depression (PHQ-9), trauma (race-based traumatic stress scale and University of California, Los Angeles (UCLA) trauma screen, PC-PTSD), anxiety (GAD7, Young Beck Anxiety Inventory), and drug (DAST-10) and (AUDIT-C) alcohol use. The CBO social workers received in-depth training in screening tool utilization, whereas nonclinical CBO staff learned a “screening-lite” version aligned with their roles and level of experience with mental health.

Enrolled clients had four entry points to C2C services: (1) Clients could mention to a CBO social worker directly if services were of interest due to stressors, (2) a program facilitator or staff member could notice signs and symptoms of mental health issues and refer the client to the CBO social worker at RHI, (3) during client “check-ins” with a CBO social worker or case manager, which happens twice annually for high school students and at the point of entry for

young adults, and (4) during a peer or CBO social worker–led PE workshop. At each entry point, CBO social workers offered screening to the young person. If he/she is not interested in receiving services, the CBO social worker followed up within 2 weeks. If the client still refused, the CBO social worker let him/her know that there was an open-door policy and encouraged the client to return whenever needed.

After screening, clients were triaged for C2C services according to the following three tiers:

**Tier 1:** Individuals received services provided by RHI trained staff using the three skills (MI, MHFA, and PE). These services include academic support and advocacy, reproductive health services, and case management support.

**Tier 2:** Individuals in need of counseling services were provided on-site clinical counseling by RHI clinical social work staff, supervised by NYU Langone. CBO clinical social work staff provided trauma-informed therapy, psychodynamic therapy, and short-term solution-focused therapy to meet client needs.

**Tier 3:** Individuals who required more intensive mental health services, including psychiatric assessment and crisis services, were referred to NYU Langone Sunset Terrace and NYU Langone Psychiatric Hospital. The NYU Langone intake coordinator facilitated completion of a screening assessment, full biopsychosocial assessment, and a psychiatric evaluation. NYU Langone clinical staff provided different treatment approaches (beyond C2C skills) such as cognitive behavioral approaches, psychodynamic techniques, and so on.

*Mental health first aid.* Implementation of MHFA was diffuse throughout the organization. Staff used MHFA when providing intake and case management, educational counseling, reproductive health counseling, discussing screening results with clients, and when referring clients to RHI social workers or NYU Langone.

*Motivational interviewing.* Implementation of MI was diffuse throughout the organization. RHI staff used MI skills to assess and improve their relational work with clients. This focused on highlighting client strengths, promoting self-determination, and helping clients make progress toward their self-identified goals. Staff also used MI skills to address participant behavior during programs, identify new strategies to proactively address triggers, and progress toward change behavior. CBO social work staff used MI when discussing screening results, and the CBO social workers utilized the skills to encourage clients to attend the first scheduled counseling session with on-site RHI clinical social workers and with NYU Langone.

*Psychoeducation.* Initially, PE occurred in three ways: (1) peer counselor–led workshops for youth/young adult clients such as mental health awareness panels and community health fair workshops, (2) individually with a CBO social worker when a youth/young adult client screened positive, and through (3) mental health awareness “campaigns” of information posted throughout the organization. In April 2018, RHI adopted the Seeking Safety curriculum, an evidence-based approach for PE. The curriculum was adapted to be age appropriate for high school participants and to address maladaptive coping exhibited by those with positive screenings for drug and alcohol use. The adapted curriculum included PE on the symptoms of PTSD, mindfulness grounding exercises, and identifying triggers. As a result, participants reported having more

tools for grounding and centering when experiencing anxiety and stress and requested additional workshops.

*Referral pathway (warm handoff).* Immediately following a positive screen or if a need was indicated by a client, the RHI social worker provided (1) an appointment for in-house CBO social workers to provide clinical counseling if the symptoms were mild to moderate, (2) a referral to NYU Langone if the symptoms were severe or if psychiatric services were needed, and (3) an accompaniment to crisis services if a client was at risk for self-harm or experiencing psychiatric crisis. If the staff member conducting screening was not a social worker, the staff member referred the client to the CBO social worker for referral support. If a client declined, the RHI staff member did biweekly check-ins to assess needs and reoffer support. If an off-site referral was needed, the intake coordinator at Lutheran scheduled the client for a clinician session or psychiatric evaluation appointment, ideally within 5 days of the referral. Insurance was verified at RHI. If the client did not have insurance, CBO social work staff worked to secure insurance for him/her. If that was not possible, the RHI social worker worked with NYU Langone to obtain a sliding-scale quote and then develop a plan with the client to make the payments. RHI provided emergency assistance to clients unable to pay to ensure continuity of service. The RHI social worker escorted the client to the first session and provided metro cards and refreshments. The CBO social worker referring then became the lead contact, liaising with NYU Langone and checking with the intake coordinator about attendance. If clients missed any appointments, the referring CBO social worker explored the reasons and provided additional support. In some cases, clients were referred to local MHPs that were more geographically accessible.

The CBO social worker tracked information on what happened with the referral. RHI observed very low completion rates for referrals to NYU Langone and determined that this was due to several barriers, such as lack of transportation, lack of insurance, unfamiliarity with the workings of the medical clinic setting, and increased stigma on engaging in psychiatric services. In the summer of 2018, RHI proposed a shared patient model pilot with NYU Langone Brooklyn that allowed clients in need of higher-level clinical care to be referred to NYU Langone for psychiatric care only (e.g., psychiatric evaluation), whereas the RHI clinical social worker continued to provide individual and group counseling on-site. Though the initial pilot was small, it allowed strong relationship building with a client and the psychiatric team during the transition period of shared care. In January 2019, NYU Langone and RHI agreed to continue the shared patient model long-term.

*Care coordination.* CBO and MHP staff met at least once quarterly to review aggregate data about screening, referral, and engagement rates and strategize around process improvements. These meetings typically included RHI's C2C coordinator and social work staff, and NYU Langone's senior psychologist, intake coordinator, and senior medical director; however, additional clinical and administrative staff at NYU Langone often participated in these meetings. In addition, RHI and NYU Langone addressed process improvements and individual-level care coordination in interdisciplinary team meetings that include NYU Langone, RHI social workers, and RHI nonclinical staff.

## Safe Horizon

### Safe Horizon C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Safe Horizon Counseling Center  
**Program type:** Other (domestic violence organization)  
**On-site mental health counseling available at CBO:** Part-time  
**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4  
**CBO's target population(s):** Unemployed/underemployed women with young children  
**Target geographical area/s:** Citywide  
**Target CBO programs for C2C implementation:** Domestic Violence Shelter Program  
**Number of CBO sites providing C2C services:** Multiple sites  
**Total CBO clients served by C2C (Y1–Y4 Q3):** 2,059  
**Number of current staff and supervisors trained in one or more C2C modalities:** 113  
**Number of staff receiving continuous coaching and supervision (Y4 average):** 75

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Safe Horizon is a nonprofit that operates a domestic violence shelter program to provide safety and support for thousands of adults and children each year in all five boroughs. In addition to domestic violence shelters, Safe Horizon programs include a 24-hour domestic violence hotline, food and clothing assistance, legal and court programs, child advocacy, childcare and safety assistance, and financial and housing assistance.

Many Safe Horizon clients have experienced harms like domestic violence, sexual assault, child abuse, stalking, and/or human trafficking. Safe Horizon implemented C2C at its eight domestic violence shelters to support residents who might need mental health services as a result of surviving these and other extremely difficult life events.<sup>9</sup>

### *C2C Model Implementation*

*C2C staffing model.* Safe Horizon's domestic violence shelter program partnered with Safe Horizon Counseling Center (SHCC), the only NYS licensed mental health clinic that focuses solely on trauma-focused treatment for survivors of crime and abuse of all ages. The CBO C2C project coordinator managed C2C implementation. SHCC staff facilitated trainings and provided coaching and supervision to DVSP supervisors in the delivery of all the core C2C skills except MI (Table A.9). The program hired an external consultant to provide MI training and ongoing coaching to a subset of staff—directors, social workers, case managers, and housing specialists. All clinical services were offered out of the SHCC program locations in Brooklyn or Harlem.

*Screening.* All DSVP residents were screened for C2C services using a three-step screening process. First, as part of acceptance into the shelter, all new residents met with a social worker or

---

<sup>9</sup> For more information, please refer to Safe Horizon, homepage, undated.



case manager to conduct a required face-to-face intake. As part of this intake, residents were given an initial brief screening to check for the presence of mental health symptoms. Second, within the first week of residence in the shelter, all residents met with a CBO social worker and completed a clinical assessment that included screening for depression (PHQ-9), substance use (MSSI-SA), and PTSD (PCL-C). Initially, the site planned for the final step to occur 4 to 6 weeks into a resident's shelter stay and consist of residents completing the same screening tools again to determine if there were any continuing mental health issues. However, this became too cumbersome. Although they did not conduct rescreenings, they did continue to monitor residents who exhibited symptoms. In addition, they planned to pilot test a rescreening that would involve rescreening clients at 4 to 12 weeks after an initial positive screen. Case managers were trained in screening residents during regularly scheduled appointments.

*Mental health first aid.* Throughout the duration of an individual's stay in the shelter, DSVP staff used MHFA skills on an as-needed basis to address any mental health crises that arose.

*Motivational interviewing.* MI techniques such as change talk were incorporated into sessions and interactions with clients especially around tough decisions such as whether clients would see their abusers again. No decisions were made for the clients, but instead, the pros and cons of each situation were weighed to empower clients to make the decision for themselves with the support of staff.

*Psychoeducation.* The site used *Risking Connection*<sup>®10</sup> as their model to train staff on PE at all eight sites. Staff used their knowledge in their one-on-one interactions with residents as needed. In particular, PE was used at the time of the mental health screenings, which were found to provide an intervention in itself.

*Referral pathway (warm handoff).* When screening results indicated any symptoms, social workers offered residents a referral to clinical care. For clients who accepted the referral, CBO social workers initiated a warm handoff to the intake coordinator at the SHCC. CBO social workers sent an email to the SHCC intake coordinator with initial information about the resident being referred (including a referral and HIPPA form). Usually within 24 hours, the intake coordinator called the CBO social worker to discuss the referral and gather any additional helpful information. The SHCC intake coordinator or a SHCC staff member then called the resident to complete a 15- to 20-minute phone screening. CBO social workers also followed up with residents to make sure they received a call from the intake coordinator and to answer any questions or concerns they had about treatment.

If the counseling center seemed like an appropriate fit for the resident (e.g., was in a location safe from the abuser), then the intake coordinator set up an appointment with an available clinician. Appointments were scheduled to take place within 2 weeks of the referral acceptance. The intake coordinator let the CBO social worker know when an appointment was scheduled. If

---

<sup>10</sup> Traumatic Stress Institute, "Risking Connection® (RC) Training," webpage, undated.



the resident did not make the appointment, then the CBO social worker contacted the resident to help problem-solve any obstacles to appointment attendance. If the counseling center was not an appropriate fit for the resident, the intake coordinator provided outside referrals or recommendations based on the resident’s needs, safety, and convenience of location.

*Care coordination.* The CBO C2C project coordinator organized and led joint quarterly meetings between DSVP and SHCC staff to review screening, referral, and care coordination data. Safe Horizon’s VP was responsible for monitoring screening, referral, and care coordination data with technical assistance from the SHCC clinical social worker.

**Table A.9. Safe Horizon Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	All staff, however, only a subset trained on screening administration	98	SHCC staff and external consultants	Safe Horizon staff supervisors (directors, supervising social workers, supervising residential specialists) provide with technical assistance from CBO clinical social worker  Biweekly individual supervisions, including reflective supervision  Incorporated into monthly group supervisions	All staff except program assistants (directors, supervising social workers, social workers, case managers, supervising residential specialists, residential specialists, childcare aides, and housing specialists)
MHFA	All staff	99	SHCC staff	Same as above	Same as above
MI	Subset	22	Contractor through MI network of trainers	Two to three on-site coaching sessions are provided from MI consultant (usually for social workers and case managers)	Directors, supervising social workers, case managers, residential managers housing specialists, and some supervising residential specialists
PE	All staff	98	SHCC staff and external contractors	Same as screening and MHFA	Same as screening and MHFA

## Sheltering Arms

### Sheltering Arms C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Sheltering Arms Jamaica Clinic, Sheltering Arms Bronx Clinic, and Child and Family Treatment and Support Services

**Program type:** Child and parent services

**On-site mental health counseling available at CBO:** Part-time

**C2C initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4

**CBO's target population(s):** Low-income families, single-parent households

**Target geographical area/s:** Queens, Bronx, Harlem

**Target CBO programs for C2C implementation:** Six Early Childhood Education program sites

**Number of CBO sites providing C2C services:** Multiple sites

**Total CBO clients served by C2C (Y1–Y4 Q3):** 2,327

**Number of current staff and supervisors trained in one or more C2C modalities:** 58

**Number of staff receiving continuous coaching and supervision (Y4 average):** 8

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Sheltering Arms is a nonprofit that strengthens the education, well-being, and development of high-need children, adults, and families across NYC. The organization provides parent/caregiver-serving programs (Early Head Start, Head Start, and Early Learn); afterschool programs; a community school program; programming in foster care/group homes; family preservation, juvenile justice placement and aftercare services; fatherhood programs; and services for developmentally disabled adults.<sup>11</sup>

Sheltering Arms implemented C2C to connect the caregivers of young children in ECE programs to mental health services to address depression, alcohol and drug use, immigration challenges, postpartum depression, and various types of trauma. Through provision of mental health services, Sheltering Arms aimed to help clients provide a more stable and nurturing home for their children, improve relationships between families, enhance children's academic performance, and engage parents in school activities.

### *C2C Model Implementation*

*C2C staffing model.* The CBO C2C CC (LMSW) was the primary contact for ECE staff across six sites. The CC and the ECE clinical supervisor were responsible for the overall planning and implementation, training and coaching staff, and interfacing with MHPs and linkage agreements. The MHPs for Sheltering Arms included Sheltering Arms Jamaica Clinic, Sheltering Arms Bronx Clinic, and Children and Family Support Services. Their linkage agreements included The Door, Catholic Charities, Northside, New York Psychotherapy and

<sup>11</sup> For more information, please refer to Sheltering Arms, "About Us," webpage, undated. <https://shelteringarmsny.org/about-us/>

Counseling Center, Emma Bowen Clinic, Harlem Family Institute, and University Settlement. The MHP and CBO staff provided MI/reflective check-ins to directors (C2C supervisory team) who then provided MI/reflective check-ins with the family service worker (C2C support team). All ECE staff were trained in MHFA to help them recognize and respond to the signs and symptoms of mental health disorders and substance use. The C2C support team (family service worker) were trained in screening, MI, MHFA, and PE (Table A.10). Sheltering Arm's Director of Mental Health Services, LCSW, a PhD candidate, led development and implementation of training efforts and serves as a consultant.

*Screening.* All participants at the six targeted ECE sites were eligible for screenings. Screenings (called wellness surveys at Sheltering Arms) were conducted for depression (PHQ-9), alcohol (AUDIT), and drug use (DAST-10). With the help of the CQI project, Sheltering Arms implemented wellness survey events at each site where the family workers and C2C interns implemented surveys. In addition, they provided self-care activities, including satchel making, yoga, and hand massages. They were planning to provide two large wellness survey events and four smaller survey events at each site throughout the year. They also provided wellness surveys during tabling events. The CBO C2C CC and the ECE mental health clinical supervisor also planned to speak to caregivers about C2C and mental health support during caregiver orientations.

Whether a client indicated moderate, mild, or no symptoms, they were invited to attend PE workshops called Trauma Smart or Nurturing Parenting. All clients were asked if they would like a referral to an MHP. If a client indicated severe symptoms, staff administering the screening used MHFA's ALGEE skills to assess whether the client was in crisis and then staff contacted their immediate supervisor; if the client was not in crisis, they were offered a referral to an MHP and encouraged to attend a workshop (PE).

*Mental health first aid.* All ECE staff used MHFA in their day-to-day work with caregivers to identify risk factors and warning signs for mental health disorders and substance use disorders. These staff helped caregivers who appeared to be experiencing mental health challenges connect with the support team. In addition, staff helped each other connect to the services they learned about during MHFA.

*Motivational interviewing.* All staff conducting screenings used MI in their work to encourage the caregivers to agree to screenings and, as needed, to accept referrals to MHPs. Clients who screened positive received follow-up from staff using MI skills. Staff began by asking an open-ended question. For example, if a caregiver scored positive on the PHQ-9, they asked a question about the checked responses. "Can you tell me more about these feelings that you checked?"

*Psychoeducation.* The CBO C2C CC, ECE mental health clinical supervisor, C2C intern, fatherhood specialist, health service coordinator, one family worker, and one director provided the Trauma Smart curriculum. This curriculum helps inform caregivers about trauma-informed skills and resources for themselves and their children. All caregivers were invited to the group PE sessions. All caregivers regardless of whether they scored positive or not were invited to the

Trauma Smart workshops. The workshops were very interactive and allowed caregivers to do activities with their children to help them feel calm and regulated.

Another PE curriculum the program implemented was the Nurturing Parenting curriculum. It is a family-centered and trauma-informed initiative that teaches nurturing parenting skills. There are different programs depending on the needs of the families. The most relevant program for ECE families was community-based education in Nurturing Parenting. This program included ten independent lessons, including Understanding Feelings, Alternatives to Spanking, Communication with Respect, and Building Self-Worth in Children. Family service workers and C2C interns led Nurturing Parenting workshops with families at four of the C2C sites. Trauma Smart and Nurturing Parenting were very similar and were interwoven together.

*Referral pathway (warm handoff).* Caregivers were screened by family workers and C2C interns at the wellness survey events. After the surveys were completed, the CBO clinical supervisor and the CBO CC discussed referral sources in the neighborhood. Clients' names and numbers were written down. Caregivers were called within a week of the wellness event by a C2C support team member, the CBO CC, or the CBO mental health clinical supervisor, about a referral. Caregivers were provided the option of being accompanied to the clinic by the CBO CC and the C2C intern. The CBO mental health clinical supervisor provided the first appointment and then informed the caregiver about where they can continue services with an external provider.

Clients from the Malcolm X site were typically referred to the Sheltering Arms Jamaica Clinic. The family service worker could make a referral to the Jamaica Clinic or refer the caregiver to the CBO clinical supervisor or the CBO CC to make the referral. Clients at the Paul's House, Betances, Mother Hale, and Morningside sites were primarily referred to the Sheltering Arms Bronx Clinic. MHP LMSW saw families at any of the six C2C sites for a first appointment. A psychiatrist only saw families who needed wellness support at Paul's House. In addition, families could be referred from any of the six sites to Child and Family Treatment and Support Services, which provides in-home therapy for the child and family. There were many MHPs to meet the various needs of the families served.

The C2C CC was in continual contact with the various MHPs, the C2C support and supervisory Team, and the caregivers to coordinate referrals and support caregiver engagement in ongoing MH services. If a caregiver asked for specific help calling the MHP or going to an intake appointment at the provider, the CBO CC or C2C intern was available to accompany the client. If a client refused a referral after indicating moderate or severe symptoms on a screening, the C2C support team used MHFA and MI to encourage referral acceptance. If a client did not attend a scheduled mental health appointment, the CBO CC called the client to explore obstacles and barriers in attending their session and helps the client find solutions to these barriers.

*Care coordination.* Each site had access to a data management system that contained information about client attendance at MH services and the MHP's name. C2C support team members or the CBO CC conversed with the MHP or the caregiver within a week after the first appointment. The CBO CC followed up with the MHP or the caregiver once every 3 months for

up to a year. There were quarterly care coordination meetings between Sheltering Arms' CBO and MHP staff to review screening, referral, and care coordination data.

**Table A.10. Sheltering Arms Training, Coaching, Supervision, and Continuous Quality Improvement**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	8	C2C CC provides initial and ongoing training/coaching	Conducted by C2C CC Quarterly 45- to 60-minute coaching sessions as needed	Family workers
MHFA	All staff	57	MHP MH director, C2C CC ongoing booster sessions led by CC	As needed	All staff at six ECE sites
MI	Subset	7	MI Institute, MHP provide initial 2-day training and ongoing MI coaching	45- to 60-minute quarterly MI/reflective check-in	Family workers and directors
PE	Subset	11	C2C CC, trauma smart trainers initial and ongoing	45- to 60-minute quarterly coaching as needed	Family workers, C2C intern, director of Malcolm X, health service coordinator, fatherhood specialist

## STRIVE International

### STRIVE C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Union Settlement, on-site part-time; Silberman School of Social Work at Hunter College

**Program type:** Job training and employment

**On-site mental health counseling available at CBO:** Part-time

**C2C Initiative target group(s):** Unemployed or underemployed low-income working-age adults ages 18 and older

**CBO's target population(s):** Youth, the formerly incarcerated, public assistance recipients, noncustodial parents, the homeless, the long-term unemployed, the working poor and recovering from substance use disorder

**Target geographical area/s:** All NYC

**Target CBO programs for C2C implementation:** All programs

**Number of CBO sites providing C2C services:** One site

**Total CBO clients served by C2C (Y1–Y4 Q3):** 2,158

**Number of current staff and supervisors trained in one or more C2C modalities:** 32

**Number of staff receiving continuous coaching and supervision (Y4 average):** 22

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

STRIVE provides services to New Yorkers from all boroughs with the mission of helping individuals acquire the skills and attitudes they need to overcome challenging circumstances, find sustained employment, and become valuable contributors to their families, employers, and communities. STRIVE services include job training, parenting classes, and youth programs. STRIVE's service delivery model combines intense period of training in attitude, self-presentation, job skills, and job search techniques with rapid employment placement and long-term follow-up.<sup>12</sup>

STRIVE implemented C2C to provide clients with the skills necessary to cope with mental health challenges and thereby meet goals related to job training and employment. STRIVE's clients included youth, the formerly incarcerated, public assistance recipients, noncustodial parents, the homeless, the long-term unemployed, the working poor and those recovering from substance use, all groups at elevated risk for experiencing mental health challenges. C2C was implemented across the organization in the following STRIVE programs: Core Attitudinal and Job Readiness; vocational skills training; Strong Fathers, Strong Families; FOCUS job readiness (for formerly incarcerated individuals); and STRIVE Future Leaders (for justice-involved youth).

### *C2C Model Implementation*

*C2C staffing model.* Implementation of C2C skills was integrated into STRIVE programming and carried out primarily by case managers and the C2C program lead. The Silberman School of

---

<sup>12</sup> For more information, please refer to STRIVE, "STRIVE New York," webpage, undated.

Social Work (SSSW) provided initial training and ongoing consultation. Union Settlement (US), a licensed mental health clinic located in close proximity to STRIVE, received referrals and the MHP lead (LMSW) from US was on-site at the CBO 2 days a week to observe C2C implementation, provide brief trainings, and deliver C2C skills to clients. MHP clinical service interns aided in service delivery to clients by taking on short-term counseling under MHP lead supervision, following up with clients who scored positive on a wellness survey to help identify necessary services, conducting PE sessions throughout classes, modifying PE and service delivery to tailor directly to client needs, and assisting with resource identification and referrals as needed. The MHP provided group coaching sessions to CBO staff and supervisors, incorporating reflective supervision and direct observation of staff implementing C2C skills (Table A.11). Each coaching session also incorporated an experiential learning component, planned practice exercises, and role-plays. STRIVE also adapted a virtual gaming system to enhance knowledge of C2C skills and promote skill building. Staff also completed self-assessment process surveys to staff to solicit feedback about learning needs related to the core C2C skills. In addition to training in the four C2C skills, STRIVE also offered supplementary wellness trainings (e.g., mindfulness meditation) to staff.

*Screening.* Screening processes were customized to fit the program in which they were implemented. For the core program, STRIVE clients undergo an extensive intake and interview process before entering. They complete enrollment forms, fulfill education eligibility requirements, and meet with a case manager to complete an entrance interview. The entrance interviews primed clients for the MH screenings. Once a client was accepted into the core program, or any of the other participating programs, the case manager administered C2C screening in a group setting within a week of the program beginning. STRIVE clients were screened for depression, anxiety, and stress (DASS 21); PTSD (PC-PTSD); and substance use (AUDIT, DAST-10). If clients indicated moderate-to-severe mental health symptoms on any of the screening instruments, they were referred to the C2C program lead or MHP lead to discuss the possibility of referral to US and/or additional mental health services. Clients who declined screening were encouraged to discuss their decision with their case manager and reconsider at a later date.

*Mental health first aid.* Case managers and trainers used MHFA as needed when mental health symptoms interfered with a client's ability to engage in STRIVE activities.

*Motivational interviewing.* Case managers used MI as needed with clients in one-on-one meetings, and trainers implemented MI throughout core workshops. MI was used throughout conversations with clients in both group and individual settings. Particularly when clients demonstrated resistance to change or ambivalence, staff utilized principles of MI during these conversations to identify true willingness to change and help clients self-identify that desire for change. MI was also used through harm-reduction conversations, de-escalation, and career track identification.

*Psychoeducation.* All clients in the CORE workshops received weekly group PE sessions developed by the clinical service interns and CBO staff. Sessions focused on mental health



versus mental illness; stress management during job search; strategies to combat anxiety before, during, and after a job interview; and self-care and job performance. STRIVE adapted this curriculum for clients in the Future Leaders program after noticing particularly high scores on the PTSD screening among this group. PE sessions for this group included information and exercises to support participants in developing coping skills to manage trauma needs. The curriculum also incorporated elements of dialectical behavioral therapy, including mindfulness skills.

The curriculum and workshops were tailored to specific client populations to make the content more appealing and relevant. For example, the Future Leaders curriculum integrated “credible messengers” (e.g., well-known celebrities) to destigmatize and normalize mental health problems. Clients also received an “orientation to clinical services” module, so they were better prepared to receive clinical services at US or elsewhere. In addition, case managers provided individual PE on a range of mental health topics as needed with clients in weekly one-on-one meetings. Also, the underlying goal of all PE sessions was employability and job readiness.

*Referral pathway (warm handoff).* If clients indicated moderate or severe symptoms on any screening, their case managers referred them to the on-site MHP MSW interns. Interns met with participants to find out more about clinical needs, make a referral to US if needed/desired, and provide additional information about clinical services to ease the transition with the referral process. The interns worked closely with the MHP lead, who communicated directly with a US mental health services intake worker to obtain a date for an intake appointment. When possible, US’s intake was conducted on-site at STRIVE. If on-site intake was not possible, a STRIVE staff member offered to escort clients to the US clinic for intake. The MHP lead let the client and the client’s case manager know the date and time of the intake appointment as well as the kind of documentation the client needed to bring to the first appointment. If a client did not attend his or her intake appointment, the MHP lead was notified and followed up with the client to understand any barriers to attendance. At the time of intake, if the client agreed, a release of information was signed, so STRIVE and the clinic could exchange information verifying the client’s attendance at the clinic. Clients who screened positive and declined referrals to US or any other provider suggested by STRIVE were given a list of care providers. Assigned clinical service interns followed up with these clients to discern whether or not they wanted these services.

*Care coordination.* STRIVE-US care coordination meetings were held at least once per quarter and sometimes biweekly. In these meetings, CBO and MHP team members (including MSW interns) reviewed individual client needs as well as summary information on screening results referral outcomes, STRIVE training and advancement outcomes, and client retention in ongoing clinical care.

**Table A.11. STRIVE Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	8	SSSW and STRIVE staff	<p>Provided by MHP lead, C2C program lead</p> <p>Stand-alone individual coaching one per quarter</p> <p>Direct practice observation and individual supervision session once per quarter</p> <p>Staff self-assessment surveys twice per year</p>	<p>Clinical service interns</p> <p>Fatherhood case manager</p> <p>FOCUS career coach</p>
MHFA	All staff	17	SSSW staff, outside contractor	<p>Staff self-assessment surveys twice per year</p>	<p>Case managers</p> <p>Facilitators</p> <p>Job developers</p> <p>Retention coaches</p>
MI	All staff	31	SSSW, outside contractor, coaching sessions led in-house	<p>Provided by MHP lead, C2C program lead, and CBO advancement and retention coordinator</p> <p>Stand-alone group coaching one per quarter</p> <p>Direct practice observation and individual supervision session once per quarter</p> <p>Case conference supervision once per program cycle (varies based on program)</p> <p>Staff self-assessment surveys twice per year</p>	<p>All CBO client facing staff members</p>
PE	Subset	11	STRIVE staff	<p>Provided by MHP lead, C2C program lead</p> <p>Stand-alone group coaching one per quarter</p> <p>Direct practice observation and individual supervision session once per quarter</p> <p>Case conference supervision once per program cycle (varies based on program)</p> <p>Staff self-assessment surveys twice per year</p>	<p>All CBO client facing staff members</p>

## The Committee for Hispanic Children and Families

### CHCF C2C Program Snapshot (as of Y3 Q4)

**Mental health provider:** Urban Health Plan, Inc., Comunilife

**Program type:** Child and parent services

**On-site mental health counseling available at CBO:** None

**C2C initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4; unemployed or underemployed low-income working-age adults; out-of-school, out-of-work adults 16 to 24

**CBO's target population(s):** Low-income Latino families living in the Bronx

**Target geographical area/s:** Bronx

**Target CBO programs for C2C implementation:** Early Care and Education Institute services, youth development programs

**Number of CBO sites providing C2C services:** Multiple sites

**Total CBO clients served by C2C (Y1–Y3):** 370

**Number of current staff and supervisors trained in one or more C2C core skills (as of Y3 Q4):** 21

**Number of staff receiving continuous coaching and supervision (Y3 average):** 12

**NOTE: Discontinued participation in C2C at the end of implementation year 3.**

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2018.

### *Program Overview*

Since 1982, the mission of the Committee for Hispanic Children and Families (CHCF) has been to expand opportunities for children and families through education and advocacy, and to strengthen the voice of the Latino community in NYC. CHCF is a nonprofit that facilitates youth development and afterschool programs in partnership with K-12 public schools. CHCF's Early Care and Education Institute (ECEI) provides courses, workshops, and one-on-one support for parent/caregiver-serving educators in underserved communities, particularly those who run home-based childcare businesses. CHCF's advocacy work aimed at improving education and the well-being of Latino children. CHCF employs bilingual, bicultural staff with knowledge of and experience with the communities it serves.<sup>13</sup>

CHCF recognized that families seeking their services experience depression, anxiety and substance use, child abuse and neglect, and intimate partner violence. Although CHCF's original application for C2C proposed to infuse C2C into ECEI programming, the C2C Collaborative did not approve the design based on programmatic concerns related to the organizational structure, staffing, and service methods within CHCF's ECEI program; as such, the C2C Collaborative recommended that CHCF focuses only on the parents in its youth programming for their C2C program. CHCF aimed to bolster caregiver abilities to address stressors and understand and manage their mental health issues. CHCF integrated C2C into youth development afterschool programming, at three schools in the Bronx: The Community School of Technology (P.S. 59),

---

<sup>13</sup> For more information, please refer to CHCF, "About Us," webpage, undated.

Captain Manuel Rivera Jr. School (P.S./M.S. 279), and Bronx High School of Business. For the youth development component, C2C was primarily integrated into workshops for parents whose children attended youth development afterschool programming.

### *C2C Model Implementation*

*C2C staffing model.* CHCF initially partnered with Comunilife to serve as the C2C MHP. Comunilife is a multiservice nonprofit providing housing and culturally sensitive, bilingual (English/Spanish) mental health support services to individuals throughout NYC. In Year 2, Comunilife transitioned management of its outpatient mental health clinic to Urban Health Plan, Inc. (UHP). Following this transition, UHP became CHCF's MHP. UHP is a federally qualified community health center licensed as a diagnostic and treatment center under Article 28 of the New York State Public Health Law and Article 31 of the New York State Office of Mental Health. UHP provides comprehensive and affordable primary and specialty health care services to families in the Bronx, Harlem, and Queens. At CHCF, coordination of C2C was initially led by the CBO manager of parent engagement, who met with program staff, reviewed monthly progress reports, solicited feedback from program participants, and maintained regular communications with the MHP. Later in implementation, this coordination role was carried out by the CBO chief program officer. Comunilife provided some initial training to CHCF staff; after the MHP change, UHP staff provided training, coaching, consultation, and supervision.

*Screening.* Over the course of C2C implementation, C2C worked to implement a systematic screening workflow for parents of their participating youth but found it difficult given the structure of their model. CHCF's final approach to screening involved offering screening to all parents who participated in PE workshops. CHCF staff were also trained to offer screenings to families during individual conversations and interactions that occurred through their regular job duties. Individuals were screened for depression (PHQ-9) and anxiety (GAD-7).

*Mental health first aid.* CHCF implemented MHFA to develop awareness and enable staff members to show support for those experiencing mental health challenges. MHFA was delivered during crisis situations, in conjunction with required protocols for use within schools.

*Motivational interviewing.* All full-time youth development staff were trained in MI. Staff used MI in their interactions with students, parents, and fellow colleagues at the schools to encourage behavior change, as appropriate. MI was also used when sharing screening results with parents to encourage them to explore options and decide on follow-up actions.

*Psychoeducation.* CHCF implemented the *Parenting Journey* curriculum as their PE programming. Two trained CHCF staff facilitated the *Parenting Journey* workshops with parents at each of CHCF's three C2C implementation sites. *Parenting Journey* uses a combination of hands-on activities and guided discussions to help caregivers develop knowledge and skills that will support them as parents and role models. CHCF also hosted occasional wellness workshops that focused on additional mental health issues, with topics and content jointly developed by CHCF and the UHP.

*Referral pathway (warm handoff).* CHCF's protocol was to make referrals to individuals who indicated moderate or severe symptoms during screening. If the individual accepted the referral, CHCF explained the next steps in the referral process and submitted a referral form to UHP. Within 48 hours of receiving the referral, UHP reached out to the parent/caregiver to schedule a first appointment. For individuals who initially declined a referral offer or who failed to attend their first scheduled appointment with UHP, CHCF followed up by phone or in person to check in and continue to offer resources for support, including another connection to UHP.

*Care coordination.* CHCF and UHP staff met on a weekly basis to discuss referrals and address any scheduling challenges. In addition, CHCF shared monthly data reports (including screenings, referrals, etc.) with UHP and held calls to discuss trends in the reports and any action that might need to be taken to improve services. Case counseling was incorporated into biquarterly coaching and supervision meetings between CHCF and UHP staff.

**Discontinuation of C2C:** CHCF experienced a number of challenges related to staffing vacancies and transitions, changes in organizational leadership and C2C leadership, and other challenges that led to persistent difficulties in meeting programmatic implementation requirements. One particular challenge was that CHCF project leads, without mental health backgrounds, were uncertain of how to coordinate with and what to ask of the MHP, which delayed some of the initial implementation planning (e.g., CHCF project leads did not realize the scope of assistance they should be asking/receiving from their MHP until they received additional implementation guidance during year 2 of C2C implementation). After continued program issues in its first 3 years, CHCF's performance did not meet the program performance criteria for continuation funding beyond Year 3. They never reached full implementation of all required components, and the funder ended their participation in C2C after year 3.

## The Door

### The Door C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** University Settlement

**Program type:** Youth development

**On-site mental health counseling available at CBO:** Full-time

**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4; out-of-school, out-of-work young adults ages 16 to 24; and/or unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services

**CBO's target population(s):** At-risk youth, out-of-school, out-of-work young adults ages 16 to 24

**Target geographical area/s:** Citywide

**Target CBO programs for C2C implementation:** Runaway and Homeless Program, Center Space Program, Supportive Housing Program and Career and Education Programs

**Number of CBO sites providing C2C services:** Multiple sites

**Total CBO clients served by C2C (Y1–Y4 Q3):** 8,067

**Number of current staff and supervisors trained in one or more C2C modalities:** 95

**Number of staff receiving continuous coaching and supervision (Y4 average):** 60

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

The Door—A Center of Alternatives is a nonprofit multiservice youth development agency. The Door provides a range of free integrated services to young people (ages 12–21) in eight program areas: career and education; adolescent health center; legal services center; runaway and homeless youth; supportive housing; arts; food and nutrition; and a mental health services department supported by the MHP, University Settlement. The Door operates in four locations: lower Manhattan; the Bronx; and two supportive housing sites for young people with a mental health diagnosis and a history of homelessness. The agency serves nearly 10,000 young people annually, the majority of whom come from low-income families and are racial/ethnic minorities.<sup>14</sup>

C2C was implemented at The Door's Manhattan location, Bronx Center, and two supportive housing sites across four programs (Center Space, Career and Education, Runaway and Homeless Youth, and Supportive Housing) to empower clients by providing them with mental health–focused services in a nurturing, diverse space. Clients come to The Door with a wide range of stressors and mental health conditions—many have histories of trauma and/or family disruptions or experience other issues that affect their ability to accomplish their goals.

---

<sup>14</sup> For more information, please refer to The Door, “About the Door,” webpage, undated.

## *C2C Model Implementation*

*C2C staffing model.* The Door's supervisor of training and capacity building and the MHP's director of mental health and wellness served as the CBO and MHP program leads, respectively. Together, they developed C2C implementation and training plans, identified and tested solutions to implementation challenges, and served as the bridge between programmatic and mental health services (Table A.12). Program staff (including support staff) in the Runaway and Homeless Youth Program, Career and Education Department, Center Space and Supportive Housing were trained and coached in at least one of the four core C2C skills. The MHP's director of mental health and wellness was on-site at The Door between 2.5 and 3 days a week during the initial start-up phase of the project (first 4–6 months) and was available on an ad hoc basis, if needed. MHP training staff (seven staff members) were periodically on-site at The Door to deliver trainings.

*Screening.* Although all staff were trained in administering and debriefing screens, each program had the flexibility to determine who completed screens with clients. In many programs, direct service staff were responsible for administering screens. In some cases, designated staff took on the responsibility of administering screens and debriefing clients. Similarly, programs determined when in the program cycle clients were screened. In some programs, screening was part of the initial intake process. Other programs waited until they had established a stronger relationship with clients.

Clients were screened for depression (PHQ-9), alcohol and substance use (CRAFFT), and adverse childhood experiences/trauma (Adverse Childhood Experiences survey). The Adverse Childhood Experiences survey was only completed once with a client and the PHQ-9 and CRAFFT were completed quarterly (every 3 months) after the initial screen.

*Mental health first aid.* MHFA was integrated into the overall practices of the agency, with emphasis on the target C2C programs. The Door staff used MHFA assessment and skills with all clients to recognize mental health issues, proactively address behaviors and symptoms, and link clients more quickly to mental health services.

*Motivational interviewing.* Core principles and practices of MI were integrated into many aspects of work at The Door, with emphasis on the target C2C programs. Staff used MI with clients who screened positive to address issues that affected their ability to progress forward with goals. The Door integrated the use of MI tools, such as MI session logs, decisional balance worksheets, change plan worksheets, and SMART goal-setting worksheets.

*Psychoeducation.* Much of the PE provided to clients occurred in individual sessions with a client and a counselor or case worker as a part of sharing screening results and as a way to normalize and validate symptoms. Staff at The Door, including a mix of clinical and engagement personnel, provided specific PE group sessions geared toward addressing common needs of clients. For a time, sessions were based on the *Seeking Safety* curriculum; The Door piloted the *Project Alert* curriculum in Year 2 of implementation, then returned to *Seeking Safety*. PE was also incorporated into regular group programming such as art and recreation groups, during which staff discussed strategies for anger management, destigmatizing mental health, and stress



management techniques, among other topics. Staff also held PE sessions based on the *Seeking Safety* curriculum.

In addition to being trained in the four C2C skills, one cohort of staff members was trained in *SPARCs*, a 16-week evidence-based group model for adolescents who have experienced complex or chronic trauma. This training was provided to a variety of staff but has implemented mostly with the staff who facilitate The Door’s anger management group.

*Referral pathway (warm handoff).* On completing screenings, CBO staff used C2C skills to score screening results, assess for safety, engage in meaningful dialogue about the results of the screenings, and refer clients to the appropriate level of intervention: either to C2C integrated services within the organization (e.g., PE, counseling) or services at University Settlement. Clients who indicated more severe symptoms on any of the screeners were offered a mental health consult with an on-site counselor, usually the clinical director of The Door’s counseling program. These clients were escorted by the staff member who conducted the screening directly to the counselor who completed a more comprehensive assessment. The counselor then discussed options, including a referral to University Settlement’s Article 31 Satellite Clinic at The Door or other mental health services in the community.

University Settlement prioritized clients from The Door for intake and appointment scheduling. Staff at The Door call a representative at US with the client to help them arrange an appointment. If possible, an in-person introduction happened (for a year they had a social work intern who traveled between the two sites).

All referrals (both to University Settlement and off-site providers) were tracked for completion. Staff members who made and assisted with referrals were responsible for outreach to providers to determine if clients completed the referral process. The Door also hired an on-site care navigator for the C2C program to provide additional capacity for outreach and follow-up, helping troubleshoot challenges with clients who missed appointments.

*Care coordination.* The CBO and MHP program co-leads were jointly responsible for coordinating quarterly meetings with CBO and MHP staff members to review screening, referral, and care coordination data.

**Table A.12. The Door Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	65	MHP/CBO	<p>Provided by CBO</p> <p>There are multiple sessions offered throughout the month in which teams are mixed across programs. Coaching combines screening, MHFA, and psychoeducation.</p>	All staff

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
MHFA	All staff	46	MHP/CBO	<p>Provided by CBO</p> <p>There are multiple sessions offered throughout the month in which teams are mixed across programs. Coaching combines screening, MHFA, and psychoeducation.</p>	All staff
MI	Subset	58	MHP/CBO and MI Institute	<p>Provided by CBO</p> <p>Select leadership staff attend a monthly ongoing practice group at the Institute.</p> <p>Direct service staff and supervisors attend monthly coaching groups for 6 months after initial workshop and then ad hoc for refreshers after that.</p>	Staff who attended the 2-day MI workshop or staff members with equivalent MI knowledge are invited to coaching
PE	Subset	5	MHP/CBO and outside contractor	<p>Provided by CBO</p> <p>Integrated into monthly coaching sessions</p>	Open to all staff

## The HOPE Program

### HOPE C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Brookdale University Hospital and Medical Health Center; Institute for Family Health

**Program type:** Job training and employment

**On-site mental health counseling available at CBO:** Part-time

**C2C Initiative target group(s):** Unemployed or underemployed low-income working-age adults ages 18 and older receiving employment services

**CBO's target population(s):** Unemployed, low-income adults 18+

**Target geographical area/s:** Brooklyn, Bronx

**Target CBO programs for C2C implementation:** All

**Number of CBO sites providing C2C services:** Multiple sites

**Total CBO clients served by C2C (Y1–Y4 Q3):** 1,495

**Number of current staff and supervisors trained in one or more C2C modalities:** 32

**Number of staff receiving continuous coaching and supervision (Y4 average):** 27

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

The HOPE Program is a workforce development nonprofit agency that aims to empower New Yorkers living in poverty to achieve economic self-sufficiency through employment and career advancement. Each year, HOPE serves approximately 300 low-income clients facing significant barriers to employment, including homelessness (52 percent), histories of criminal justice involvement and substance use (47 percent), low educational attainment (27 percent), and poor work history. More than 90 percent of clients are black and/or Hispanic, 30 percent live in shelters or with friends or family, and 27 percent reside in substance use treatment facilities at the time of their enrollment in HOPE. HOPE's service population also varies by gender and age. Fifty-one percent of their green job trainees are women, whereas 49 percent identify as men. They also serve a wide age range, with 37 percent of their clients aged 18 to 29, 22 percent aged 30 to 39, 22 percent aged 40 to 49, and 19 percent aged 50 and older.

HOPE's core programming aims to connect unemployed individuals living in poverty with employment, long-term job retention, and successful entry into career pathways. HOPE has a comprehensive set of work-readiness services, with infrastructure for managing client engagement and retention and a referral protocol to connect clients to supplementary services, including childcare and mental health counseling. Their programs include a suite of life and job skills modules, including Work Wellness courses that emphasize stress management and interpersonal/conflict resolution skills training.<sup>15</sup> HOPE implemented C2C at both their Brooklyn and Bronx locations to build on their existing Work Wellness courses in hopes of addressing substance use, mood and anxiety disorders, sleeplessness, and other mental health issues faced by their clients aiming to seek employment.

---

<sup>15</sup> For more information, please refer to The HOPE Program, homepage, undated.

## *C2C Model Implementation*

*C2C staffing model.* HOPE partnered with Brookdale University Hospital and Medical Health Center in Brooklyn and the Institute for Family Health in the Bronx to implement C2C. C2C skills were integrated into existing services, including intake, classroom training, clients' one-on-one meetings with instructors and employment specialists, and career counseling for HOPE program graduates. The director of Work Wellness and the C2C coordinator provided full-time management of the program (Table A.13). Trained MHPs from the MHP were on-site at HOPE programs part-time—the mental health educator who was a licensed mental health clinician was on-site 14 hours per week, and the MHP lead (LCSW) was on-site 3 to 5 hours per week to provide supervision and oversight. In Brooklyn, the mental health educator was on-site 12 hours a week and the MHP lead was there 4 hours a week. This was a change due to need that the mental health educator at Brookdale was to fill in some staffing gaps. Prior to this, he was on-site 2.5 days a week. In the Bronx, the mental health educator was on-site every Wednesday from 9 a.m. to 5 p.m.

*Screening.* The program did a lot of experimenting with the screening process. They initially planned to administer the MSSSI (substance use) to all clients, but ultimately opted not to use this screening with most clients because many of them were already in treatment for substance use. Instead, they used MSSSI optionally if they suspected someone who was not in treatment may have substance use. For the last couple of years, they offered the PHQ-9, GAD-7, and PC-PTSD as their primary screening tools. They worked through a trauma-informed lens because they believed that their population had experienced a lot of trauma and that this was probably the cause of mental health symptoms. For that reason, they incorporated a trauma screen from the beginning. They usually did screens during the third week of class, and this was after two to three work wellness classes. At the Brooklyn site, they conducted one-on-one screenings, but at Bronx, screenings were conducted as a group because the clients were in transitional employment and not as readily available.

*Mental health first aid.* MHFA was delivered by direct service staff as needed. CBO staff delivered MHFA in crisis situations, such as explosive anger directed toward staff and/or other clients, verbal/physical conflicts between clients, inconsolable crying, and addiction relapse. All staff were trained in MHFA to ensure that anyone was equipped to respond. Once MHFA was used, the next step was to follow up with the client to discuss a referral to the MHP and implement the referral if the client agreed.

*Motivational interviewing.* MI was primarily provided by the CBO C2C coordinator but was delivered by direct service staff on an as-needed basis. MI skills could be used in any staff-client interactions, especially one-on-one encounters with clients (e.g., clients who report difficulties with job placement and discussions about referring clients to counseling). MI was conducted in the privacy of the staff member's office to address behavioral/performance concerns in the

classroom, at the internship site, and in employment situations; and also used in group settings, such as the classroom, to immediately resolve problems.

*Psychoeducation.* PE was delivered for 1 hour per week by the CBO C2C coordinator with assistance from the graduate counseling interns as part of the ongoing Work Wellness programming. HOPE added content on mental health (e.g., recognizing symptoms of depression, anxiety disorders; treatment options for mental health issues) to the Work Wellness module in both its HOPEworks and FOODworks programs. Over time, HOPE discontinued implementation in the FOODworks program. In addition, they transitioned from a 10-week class to a 5-week class model, with four 2-hour Work Wellness sessions included in programming. PE was also delivered individually to clients during screening and when a referral was recommended to a client. Last, brochures on specific mental health topics were distributed and also made available in HOPE’s existing resource shelf located in the Work Wellness area.

*Referral pathway (warm handoff).* If the screening process revealed that clients were experiencing significant mental health symptoms, the CBO C2C coordinator or other staff referred them to the MHP. Clients were offered written materials about the mental health condition for which they showed symptoms. Once the client agreed to the referral, the CBO staff member called one of the two designated intake coordinators at the MHP. Once an appointment was scheduled, the CBO staff member provided the client with a map and additional information about the appointment. Clients who declined a referral were invited to meet with the CBO C2C coordinator and graduate interns for follow-up and to speak with the MHP clinician on-site. Clients who had negative screens but requested to see a clinician were referred to the MHP, or other providers as needed (e.g., for substance use treatment). The CBO worked with the MHP to find appropriate external providers for these clients.

*Care coordination.* The MHP lead and CBO C2C coordinator comanaged and tracked the referral process using Epic and Salesforce. In Brooklyn, they met every Friday in person at HOPE to review current referrals. At the Bronx location, they met or talked regularly, but not necessarily on a weekly basis.

**Table A.13. HOPE Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	11	MHP and C2C coordinators	<p>Provided primarily by MH educator, with staff receiving 30 minutes of individual coaching/ supervision every other week.</p> <p>MH educator provided a brief group coaching and supervision four times per month as part of the</p>	Brooklyn: director of Brooklyn programs, clinical intake coordinator, employment specialists, director of recruitment, work readiness instructors, technology instructors, business development manager, retention associate,

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
				CBO's existing weekly case conference.	advancement manager, and graduate interns
				C2C coordinator provided coaching and supervision during weekly team meetings.	Bronx: director of Bronx programs, retention associate, employment specialists, administrative coordinator and admissions coordinator, director of digital literacy, digital literacy instructor, case manager, and horticultural superintendent
MHFA	All staff	32	ThriveNYC	Coaching is offered in all four modalities based on individualized staff needs.	Same as above
MI	Subset	5	MHP and an external trainer	Same as above	Same as above
PE	Subset	30	C2C coordinator; mental health educators	Same as above	Same as above

## Voces Latinas

### Voces Latinas C2C Program Snapshot (as of Y4 Q3)

**Mental health provider:** Catholic Charities Brooklyn and Queens  
**Program type:** Agency primarily serving immigrant Latinx populations  
**On-site mental health counseling available at CBO:** Part-time  
**C2C Initiative target group(s):** Expectant parents and parents or caregivers of children ages 0 to 4; unemployed or underemployed low-income working-age adults ages 18 and older  
**CBO's target population(s):** Low-income, Latinx immigrant natives of Queens, 18 to 40 years  
**Target geographical area/s:** Queens  
**Target CBO programs for C2C implementation:** Case management services in Domestic Violence and HIV Prevention programs: the Promotoras Program and HIV Testing and Linkage to Care Program  
**Number of CBO sites providing C2C services:** One site  
**Total CBO clients served by C2C (Y1–Y4 Q3):** 2,780  
**Number of current staff and supervisors trained in one or more C2C modalities:** 16  
**Number of staff receiving continuous coaching and supervision (Y4 average):** 5

SOURCE: C2C model summaries provided to RAND by CBO leaders in July 2019 and data from quarterly CBO reports provided to RAND staff, March 2016 to December 2019.

### *Program Overview*

Voces Latinas (Voces) “aims to reduce the rate of HIV transmission and violence among immigrant Latinas by empowering, educating, and providing leadership and advocacy training to enable them to make healthier decisions for themselves and their families” (Voces Latinas, webpage, undated). Through collaborative relationships, Voces tries to connect immigrant Latinx with culturally and linguistically sensitive services. Voces programs include domestic violence/intimate partner violence services, case management, HIV/sexually transmitted infection screening, C2C community mobilization, linkage to pep/prep, linkage to health insurance services, navigation services, mental health counseling, and skills-building classes.<sup>16</sup>

Voces implemented C2C to address depression, anxiety, trauma, and suicidality in a culturally competent manner using bilingual/bicultural staff that fully understand clients and their immigration experience. Voces clients are new immigrants; they are often survivors of violence and/or HIV positive. Many clients also participate in sex work to earn a living. C2C was embedded in all programs and services. It is currently part of the intake/assessment for all programs.

### *C2C Model Implementation*

*C2C staffing model.* Voces is a culturally specific organization with approximately 15 employees. All staff were trained in at least one of the C2Cs, but a core team of approximately five staff delivered most of the C2C skills. The director of programs provided oversight to C2C implementation and helped coordinate trainings and care coordination meetings.

---

<sup>16</sup> For more information, please refer to Voces Latinas, “About Us,” webpage, undated.



Voces partnered with Catholic Charities Brooklyn and Queens (CC), which offers more than 160 programs and services for children, youth, adults, seniors and those struggling with mental illness. The MHP therapist was on-site at Voces 1 day each week to provide clinical services to clients and meet with program staff regarding cases. The MHP clinical supervisor trained staff and provided supervision and coaching (Table A.14). Voces was in the process of reviewing proposals for new MHP candidates in summer and fall 2019.

**Table A.14. Voces Latinas Training, Coaching, and Supervision**

<b>C2C Skill</b>	<b>Who Received Training</b>	<b>Number of Staff Trained</b>	<b>Who Provided Training</b>	<b>Coaching and Supervision Plan</b>	<b>Who Receives Coaching and Supervision</b>
Screening	Subset	24	CC clinical supervisor and therapist (initial); Elmcors substance specialist (as part of ongoing training and refreshers); NYS Office of Addiction Services and Supports downstate office (ongoing)	Provided by CC clinical supervisor and therapist  Weekly group supervision, including reflective supervision  CC available for individual consult by request, including direct observation  Quarterly individual coaching	Women's services program manager, women's services coordinator, prevention coordinators, case manager, assistant director, patient navigators, outreach specialists
MHFA	Subset	20	MHFA USA (initial); CC clinical supervisor and therapist (ongoing)	Same as above	Same as above
MI	Subset	17	MI Institute (initial); NYC Department of Health Training HIV/AIDS Technical Assistance (ongoing)	Same as above	Same as above
PE	Subset	13	CC clinical supervisor and therapist (initial)	Same as above	Same as above

*Screening.* Voces' program assistant was the first contact clients had when they came to the organization requesting services. The program assistant administered a basic mental health assessment to all clients as part of the program intake process, then guided clients to the appropriate programs. Program staff (case manager or coordinator) administered screenings for depression (PHQ-9) and trauma (PCL-C); some clients also received screenings for alcohol and drug use (AUDIT-10 and DAST-10). Clients who indicated moderate-to-severe symptoms on any of the screenings were referred to an MHP.

*Mental health first aid.* All Voces staff, including reception, case managers, and Promotoras, utilized MHFA to identify signs and symptoms of mental illness and intervene in crises, as needed.

*Motivational interviewing.* MI was conducted by case managers and other staff in contact with clients after clients completed their initial program intakes, which now included the depression, trauma, and substance use screenings. MI was provided to clients who expressed hesitation or unwillingness to use mental health services/counseling sessions, to domestic violence survivors ambivalent about leaving their abuser, and to HIV testing clients expressing high-risk behaviors.

*Psychoeducation.* PE was provided to clients individually and/or in groups. As part of individual PE, program staff provided clients information that empowered them to understand and manage their mental health symptoms. PE topics included symptoms and signs of trauma, depression, isolation, anxiety, substance use, and mental health services. The MHP Voces Latinas coordinator of women's services implemented PE groups designed to address PTSD and substance use using the *Seeking Safety* curriculum. This curriculum was implemented with the domestic violence group.

*Referral pathway (warm handoff).* If a client's screening result indicated moderate-to-severe depression or trauma symptoms, Voces staff provided a warm handoff to Catholic Charities either on-site to MHP therapist or off-site to the Catholic Charities clinic. Also, at any point, if program staff felt a client was in need of more intense clinical services, they consulted with MHP staff to get the client to the MHP clinic for a psychiatric evaluation. MHP therapist provides care on-site at Voces to a limited number of Voces clients. Program staff were available to accompany clients to off-site appointments. Clients who did not accept referrals or other mental health services were given resources and offered a follow-up on their request.

*Care coordination.* CC provided monthly follow-up reports to Voces staff on clients who were referred for mental health services. Voces and CC staff consulted during weekly case conferences to develop service plans for clients. Quarterly interdisciplinary meetings were held with Voces and CC staff to review screening results, use of C2C skills, mental health plans, additional social services, and other topics.

## References

The Arab American Association of New York (AAANY), “Our History and Mission,” webpage, undated.

<https://www.arabamericanny.org/our-mission>

———, homepage, undated.

<https://www.arabamericanny.org/home-2>

Bedford Stuyvesant Restoration Corporation, “About Us,” webpage, undated.

<https://restorationplaza.org/about-us/>

CAMBA, “About Us,” webpage, undated.

<https://camba.org/about-us/>

Center for Employment Opportunities, homepage, undated.

<https://ceoworks.org/>

CHCF, “About Us,” webpage, undated.

<https://www.chcfinc.org/about-chcf/>

The Door, “About the Door,” webpage, undated.

<https://door.org/about-door/>

Hetrick-Martin Institute, homepage, undated.

<https://hmi.org/>

The HOPE Program, homepage, undated.

<https://www.thehopeprogram.org/>

Hudson Guild, homepage, undated.

<https://hudsonguild.org/>

NMIC, “NMIC Overview,” webpage, undated.

<https://www.nmic.org/about/overview/>

Red Hook Initiative, homepage, undated.

<https://rhicenter.org/>

Safe Horizon, homepage, undated.

<https://www.safehorizon.org/>

Sheltering Arms, “About Us,” webpage, undated.

<https://shelteringarmsny.org/about-us/>

STRIVE, “STRIVE New York,” webpage, undated.

<https://strive.org/nyc>

Traumatic Stress Institute, “Risking Connection® (RC) Training,” webpage, undated.

<https://traumaticstressinstitute.org/services/risking-connection-training/about-rc-training/>

Voces Latinas, “About Us,” webpage, undated.

<http://voceslatinas.org/about-us/>

## Appendix B. Implementation Evaluation Methods

---

*Michael Stephan Dunbar, Wing Yi Chan, Michele Abbott, and Vivian L. Towe*

### B.1. Overview of Implementation Evaluation Design and Methods

The goals of the C2C implementation evaluation were to examine how C2C is implemented within and across CBOs; whether CBO staff exhibit improved knowledge, behaviors, and attitudes about mental health issues and services; how C2C implementation changes CBO client access to mental health services; and the facilitators of and barriers to C2C implementation. The implementation evaluation used a mixed-method approach (i.e., collecting qualitative and quantitative data) and prospective design (i.e., follows the same group over time and includes multiple assessment waves over time). Specific analytic approaches are detailed in Chapters 4 to 6. The primary data sources for the implementation evaluation findings described in this report are (1) annual key informant interviews/focus groups with CBO and MHP leadership and staff, as well as with CBO clients who have participated in C2C; (2) annual staff surveys; and (3) CBO quarterly reports.

### B.2. Key Informant Interviews and Focus Groups

We conducted annual interviews with CBOs and their MHP partners and held separate key informant interviews/focus groups with leadership, staff, and clients. We developed separate interview guides for CBO leadership, MHP leadership, CBO staff, and CBO clients to collect qualitative information on a range of topics, including, but not limited to

- implementation challenges and areas for improvement
- implementation facilitators and successes
- experiences with training on C2C supports
- delivery of C2C supports to clients
- collaboration between CBOs and their MHPs
- client engagement in C2C and referrals to MHPs
- client perspectives on C2C experience/quality/satisfaction.

Interviews in 2017 and 2018 were conducted in person with 15 CBOs and their affiliated MHPs. In 2019, we conducted interviews with leaders from 14 CBOs/MHPs over the phone. Table B.1 provides information on the type of informant interviewed by year. CBO leaders included executive directors of organizations and C2C program directors, whereas MHP leaders were clinical directors and counselors. CBO frontline staff are defined as staff trained in and providing C2C skills to CBO clients. CBO clients are people who received C2C skills. In 2019,

**Table B.1. Number of Key Informants Interviewed by Year and Type**

Year	Type of Informant			
	CBO Leaders	MHP Leaders	CBO Frontline Staff	CBO Clients
2017	35	29	80	38
2018	36	26	61	35
2019	24	16	0	0
<b>Total</b>	95	71	141	73

phone interviews were held mainly to assess any changes in the implementation model since the previous round of data collection and to obtain specific information on program sustainment and QI practices.

Leadership and frontline staff interviewees included organizational leaders and program managers, psychologists, social workers, client intake specialists, case managers, job counselors, and life skills instructors, among others. These individuals were involved in roles such as coordination and oversight of C2C supports within the CBO, supervision and training of CBO staff, and direct delivery of C2C supports to clients.

Interviews were mainly conducted in the form of focus groups, with multiple interviewees attending per session. This format was chosen to reduce burden for participating interviewees, facilitate scheduling during 1- or 2-day site visits, and limit disruption to regular programming at CBOs and MHPs. Some interviews with CBO leaders and clients were conducted with a single interviewee because of availability and/or interviewee preferences. After obtaining consent from each interviewee, the interviews were audio recorded. If an interviewee consented to participate in the interview but declined to be audio recorded, the interview was not audio recorded. Interviews were conducted by two research staff: One led the interview, whereas the second captured as much of the conversation as possible in written notes in real time; audio recordings were used to confirm accuracy and completeness of real-time notes.

Different interview protocols were developed for CBO leaders, MHP leaders, CBO staff, and CBO clients. Below are examples of questions included in each protocol:

- CBO leaders:
  - How has C2C changed how your organization approaches client mental health or substance use issues?
  - Could you talk about ways in which the program has changed over the course of the past year?
  - Can you tell me a little bit about how the training process has gone over the past year?
  - How do you deliver each of the C2C modalities at your organization?
  - How well do you think the referral process is working at this stage?
  - What challenges have you encountered in working with the MHP?
  - What has worked well with respect to engaging clients in C2C?

- MHP leaders:
  - What has been difficult about implementing the C2C program, if anything?
  - What is your (MHP) role in supporting CBO staff in delivering each of the C2C modalities?
  - How are supervisors monitoring fidelity?
  - Can you tell me more about the collaboration between your organization and the CBO?
  - What things have been difficult in terms of keeping clients engaged once they have been referred to services?
  - Have you received any feedback from C2C clients who have been referred to your clinic on their experiences with the C2C program?
- CBO staff:
  - How has the C2C program changed the way that your organization serves clients?
  - What has your experience been with supervisors overseeing your delivery of C2C modalities to clients?
  - What aspects of training/coaching/supervision have been most helpful for you?
  - When and how often do you deliver C2C modalities to clients?
  - What has been challenging about implementing the C2C modalities in your work with clients?
  - How do clients typically respond when offered the C2C program?
  - What else could be done to improve the MHP referral process at your organization to help ensure that clients in need are able to access mental health services?
- CBO clients:
  - How you been offered any (mental health and wellness OR C2C services)? What specific types of services have you been offered?
  - Could you tell me a little bit more about some of your reasons for accepting or not accepting some of the services that you were offered?
  - Did CBO or MHP program staff help with your concerns or talk to you about any issues that might have initially prevented you from participating?
  - What did you think of the C2C services you received from the CBO and/or MHP?
  - What did you think of the staff who provided the C2C services?
  - If you knew someone who needed similar services, would you refer him or her to this program?

### B.3. Annual Staff Survey

RAND conducted the three waves of annual staff surveys in the summers (May–September) of 2017 to 2019 to gain a broader view on program implementation from the perspective of CBO program staff who were trained in at least one of the four C2C skills and provided services to clients. The purpose of the survey was to collect quantitative data on

- the educational and occupational backgrounds of CBO staff participating in C2C
- experiences with C2C training and supervision
- attitudes toward mental health, including mental health stigma
- organizational climate and access to resources



- helping behaviors toward clients with mental health issues
- level of confidence in ability to deliver C2C supports.

CBOs provided researchers with contact information for staff members who had completed training in at least one of the C2C supports. These individuals were invited by email to complete an online survey. In 2017, a total of 140 CBO staff members responded to the survey, for a response rate of 33 percent. A total of 252 staff members completed surveys in wave 2 (response rate 53 percent) and a total of 320 staff members completed surveys in wave 3 (response rate 51 percent). CBO staff who had ever received training in any of the four core mental health skills and who were still actively working at the CBO with a valid email address were eligible to participate. Staff surveys covered topics such as staff experiences with C2C training and service delivery, confidence in one's ability to administer C2C skills, knowledge about mental health issues, organizational climate, perceptions of the C2C program within the organization (e.g., organizational support for the C2C mission; communication), and staff use of specific resources and strategies during client interactions.

### *Demographics*

These questions included age, gender identity, race/ethnicity, language, education/degree, mental health, and substance use.

### *Background*

These questions included CBO/organization, occupation/job role, experience in the industry (less than 5 years, 5 to 10 years, more than 10 years), and job details (full-time paid employee, part-time paid employee, unpaid employee, intern).

### *Training and Use of Skills*

These items were developed by the evaluation team and assessed the following:

- ***training in modalities*** (behavioral health screening, MHFA, MI, PE)
- ***training duration*** (How many total hours of training for each of the C2C modalities?)
- ***manual or protocol*** (receipt of a written training manual or protocol)
- ***booster sessions/coaching*** (receipt of booster sessions, supervision or coaching in C2C modalities after initial training; type of coaching/supervision)
- ***satisfaction with training*** (satisfied with training in C2C modalities; satisfied with supervision; training in C2C modalities has improved my ability to help my clients with mental health problems; I could use additional training, coaching, and/or supervision in C2C mental health modalities)
- ***use of skills*** (With what proportion of clients have you used *any* of the C2C modalities?)
- ***delivery of C2C modalities*** (How often do you provide screening, MHFA, MI, PE?)
- ***confidence to administer C2C modalities*** (How confident are you in your ability to . . . administer behavioral health screening to clients? Provide PE to clients?
- Provide MHFA to clients? Provide MI to clients?).

### *Time Allocated to C2C*

These six items assessed the amount of time spent delivering C2C mental health supports to clients, the number of separate occasions (e.g., discrete service delivery sessions) in which staff delivered C2C supports to clients, and the amount of time spent with clients during a typical C2C service delivery session.

### Time Allocated to C2C

These items were developed by the evaluation team to assess time/effort devoted to C2C activities and included the following:

- *During the past year, how many hours per week did you typically work at this job?*
- *Out of the past 12 months, how many months did you work on the C2C program?*
- *In a typical week in the past month, how many hours did you spend working on C2C program activities?*
- *In a typical week in the past month, how did you allocate your time spent on C2C activities?*

Delivering C2C modalities to clients:

- screening
- MI
- MHFA
- PE
- referring C2C clients to behavioral health providers
- participation in technical assistance from RAND Corporation/NYU McSilver, including email, phone, webinar, or in-person interactions with RAND Corporation or NYU McSilver staff
- receiving or giving training on C2C modalities and referrals for C2C clients
- data collection and reporting to Mayor's Fund or C2C evaluator (RAND Corporation/NYU McSilver)
- supervising CBO staff on C2C program, coordinating with the MHP partner, and ensuring that the C2C program operates as expected
- clinical supervision of C2C modality delivery
- other activity.

### *Occasions per Modality Service Delivery*

*If you delivered behavioral health services or made referrals in a typical week in the past month, on how many separate occasions did you deliver one or more of the following behavioral health services?*

- behavioral health screening
- MI
- MHFA
- PE
- mental health and/or substance use counseling

- coping skills or stress management training
- case management for mental health/substance use treatment
- referring clients to behavioral health providers
- other.

*Time per Occasion of Modality Service Delivery*

*If you delivered behavioral health services or made referrals in a typical week in the past month, how much time (in minutes) did you spend on delivering one or more of the following behavioral health services on a typical occasion?*

- screening
- MHFA
- MI
- PE
- mental health and/or substance use counseling
- coping skills or stress management training
- case management for mental health/substance use treatment
- referring clients to behavioral health providers
- other.

**Stigma**

Twelve stigma survey questions were adapted from the devaluation-discrimination measures from Link et al.'s (1989) modified labeling theory. These items assess the extent to which respondents believe that most people will devalue or discriminate against a person with a history of psychiatric treatment. Items were answered with a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree). Items were summed (with six items reverse-scored [see below]) and averaged to generate a total score with scores ranging from 1 to 6. Higher scores indicated greater perceived community acceptance/lower stigma surrounding individuals with mental health conditions.

1. Most people would willingly accept someone with a history of behavioral health problems as a close friend.
2. Most people believe that someone with a history of behavioral health problems is just as intelligent as the average person.
3. Most people believe that someone with a history of behavioral health problems is just as trustworthy as the average citizen.
4. Most people would accept someone with a history of behavioral health problems as a teacher of young children in a public school.
5. Most people feel that entering a treatment facility of behavioral health problems is a sign of personal failure. (Reverse scored)
6. Most people would not hire someone with a history of behavioral health problems to take care of their children, even if he or she has been in recovery for some time. (Reverse scored)

7. Most people think less of someone with a history of behavioral health problems. (Reverse scored)
8. Most employers will hire someone with a history of behavioral health problems if he or she is qualified for the job.
9. Most employers will pass over the application of someone with a history of behavioral health problems in favor of another applicant. (Reverse scored)
10. Most people in my community would treat someone with a history of behavioral health problems just as they would treat anyone.
11. Most young people would be reluctant to date someone with a history of behavioral health problems. (Reverse scored)
12. Once they know a person has a history of behavioral health problems, most people will take his or her opinions less seriously. (Reverse scored)

### Mental Health Knowledge and Attitudes

Twelve items were adapted from the Mental Health Knowledge Schedule (Evans-Lacko et al., 2010). This scale assesses stigma-related mental health knowledge among the general public. Items were answered with a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

1. Most people with behavioral health problems want to have paid employment.
2. If a friend had a behavioral health problem, I know what advice to give them to get professional help.
3. Medication can be an effective treatment for people with behavioral health problems.
4. Psychotherapy (e.g., talking therapy or counseling) can be an effective treatment for people with behavioral health problems.
5. People with severe behavioral health problems can fully recover.
6. Most people with behavioral health problems go to a health care professional to get help.
7. Depression is a mental illness.
8. Stress is a mental illness.
9. Schizophrenia is a mental illness.
10. Bipolar disorder (manic depression) is a mental illness.
11. Drug addiction is a mental illness.
12. Grief is a mental illness.

### Organizational Climate and Support

Twenty-five survey items assessed organizational climate and support in three domains: access to resources, efficacy, and organizational climate. The access to resources and efficacy items were adapted from the Survey of Knowledge, Attitudes, and Gatekeeper Behaviors for Suicide Prevention in Schools (Wyman et al., 2008; Tompkins and Witt, 2009). Organizational climate questions were adapted from Lehman, Greener, and Simpson (2002). Access to resources and efficacy items were answered with a 6-point Likert scale from 1 (strongly disagree) to 6 (strongly agree); organizational climate items were answered with a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

### *Access to Resources*

1. I have easy access to the educational or resource materials I need to learn about behavioral health.
2. My organization has access to an adequate number of resources or people to whom I could refer clients experiencing behavioral health difficulties.
3. I can identify the places or people where I should refer clients experiencing behavioral health difficulties.

### *Efficacy*

1. My organization encourages me to ask clients about behavioral health difficulties.
2. I feel comfortable discussing behavioral health issues with clients.
3. I am aware of the warning signs of behavioral health problems.
4. I can recognize clients experiencing behavioral health difficulties by the way they behave.
5. My training to assist clients who are experiencing behavioral health issues is insufficient.
6. I do not have the necessary skills to discuss behavioral health issues with clients.
7. I know most clients well enough to question them about behavioral health issues.

### *Organizational Climate*

1. Ideas and suggestions from staff get fair consideration by program management.
2. The formal and informal communication channels here work very well.
3. Program staff are always kept well informed.
4. More open discussions about program issues are needed here.
5. Staff members always feel free to ask questions and express concerns in this program.
6. Some staff get confused about the main goals for this program.
7. Program staff understand how this program fits as part of the treatment system in your community.
8. Your duties are clearly related to the goals of this program.
9. This program operates with clear goals and objectives.
10. Management here has a clear plan for this program.
11. You are under too many pressures to do your job effectively.
12. Staff members often show signs of stress and strain.
13. The heavy workload here reduces program effectiveness.
14. Staff frustration is common here.
15. Frequent staff turnover is a problem for this program.

### *Staff Behaviors and Perceptions*

Additional items assessed staff intervention behaviors, important factors in referral decisions, and perceptions of clients' comfort with discussing mental health-related issues. The items assessing staff intervention behaviors were adapted from a survey of knowledge, attitudes, and gatekeeper behaviors for suicide prevention in schools. This survey was used to evaluate a gatekeeper training for university resident advisers aiming to improve detection and referral of at-risk students (Tompkins and Witt, 2009; Shaffer et al., 1991). Items were answered with a 5-point Likert scale from 1 (never) to 5 (always), with 0 = not applicable. For important factors

in referral decisions, items were answered with a 6-point Likert scale from 1 (not at all important) to 6 (very much important) and were developed by the RAND evaluation team. Items assessing staff perceptions of clients' comfort in discussing behavioral health-related concerns (also developed by the RAND evaluation team) were answered with a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Items assessing perceived client barriers to accepting referrals were adapted from existing survey items used in National Comorbidity Survey Replication study (Mojtabai et al., 2011).

### Intervention Behaviors

When you suspect a client is experiencing behavioral health issues, how often do you

1. ask the client about behavioral health issues
2. convince the client to seek help
3. escort a client to a counselor or other resource
4. get advice from a coworker
5. keep it a secret
6. leave him/her alone until he/she feels better
7. refer him/her to a behavioral health care provider (e.g., a psychologist)
8. provide the client with information (e.g., how to get help for behavioral health issues; education about behavioral health)
9. spend time listening to the client
10. talk to a supervisor about the client
11. other.

### Important Factors in Referral Decisions

Please rate how important each of the following factors are to you in deciding where to refer a client for behavioral health services:

1. Confidentiality
2. Convenience
3. Length of time expected to get an appointment
4. Policies of your organization
5. Quality of care
6. Other.

### Client Comfort

Please rate how much you agree or disagree with the following statements:

1. My clients do or would feel comfortable talking about their behavioral health issues with me.
2. My clients do or would feel comfortable accepting a referral to a behavioral health provider inside my organization.
3. My clients do or would feel comfortable accepting a referral to a behavioral health provider outside my organization (i.e., an external referral).

## Perceived Client Referral Barriers

Which of these statements explains why your clients do not accept behavioral health referrals? (Check all that apply)

- cannot afford the cost
- concerned that getting behavioral health services might cause friends, family, or community to have a negative opinion of them
- concerned that getting behavioral health services might have a negative effect on their job
- health insurance does not cover any behavioral health services
- health insurance does not pay enough for behavioral health services
- do not feel comfortable leaving the CBO to get behavioral health services
- concerned that the information they give the counselor might not be kept confidential
- concerned that they might be committed to a psychiatric hospital or might have to take medicine
- too difficult to schedule an appointment for behavioral health services
- too difficult to get time off work
- too difficult to arrange transportation
- too difficult to arrange for childcare
- too difficult to find a behavioral health provider who is culturally/linguistically competent
- other (specify): \_\_\_\_\_.

## B.4. CBO Quarterly Report Data

CBOs submitted quarterly report data to the C2C Collaborative once per quarter between March 2016 and September 2019. Reports included aggregate data on a range of implementation metrics, including staff training, supervision and coaching activities, delivery of C2C supports to clients, and client referrals (Table B.2). Reports were reviewed for completeness and accuracy by the C2C Collaborative as well as the RAND evaluation team. CBOs worked closely with the C2C Collaborative to resolve any errors in data entry.

**Table B.2. Quarterly Progress Report Data Elements**

Evaluation Area	Data Element
Staff training	<ul style="list-style-type: none"> <li>• Number of people currently employed by CBO</li> <li>• Number of CBO staff</li> <li>• Number of staff trained in at least one modality</li> <li>• Number of staff trained in each modality</li> <li>• Number of staff trained in all four modalities</li> <li>• Number of CBO supervisors</li> <li>• Number of supervisors trained</li> <li>• Number of supervisors trained in at least one modality</li> <li>• Number of supervisors trained in each modality</li> <li>• Number of supervisors trained in all four modalities</li> <li>• Total (staff and supervisors) trained for the first time</li> </ul>



Evaluation Area	Data Element
Staff coaching	<ul style="list-style-type: none"> <li>• Number (percent<sup>a</sup>) of current staff and supervisors trained in at least one modality</li> <li>• Number (percent<sup>a</sup>) of current staff and supervisors trained in each modality</li> <li>• Number of training hours by CBO staff</li> <li>• Number of training hours by MHP</li> </ul> <ul style="list-style-type: none"> <li>• Number of staff who received continuous coaching and supervision</li> <li>• Number of supervisors who received continuous coaching and supervision</li> <li>• Total (staff and supervisors) who received continuous coaching and supervision</li> <li>• Number of coaching and supervision hours provided by MHP and modality</li> <li>• Number of coaching and supervision hours provided by CBO and modality</li> </ul>
Client receipt of services	<ul style="list-style-type: none"> <li>• Number of CBO program participants</li> <li>• Number of new C2C participants</li> <li>• Number (percent<sup>a</sup>) of program participants who received a C2C modality</li> <li>• Number of program participants who received screening</li> <li>• Number of program participants who screened positive</li> <li>• Number of program participants who received PE</li> <li>• Number of program participants who were referred to the MHP partner</li> <li>• Number of program participants who accepted (declined) a referral to the MHP partner</li> <li>• Number (percent<sup>a</sup>) of program participants who completed a referral at the MHP partner</li> <li>• Number of program participants who were referred to an external mental or behavioral health provider</li> <li>• Number of program participants who accepted (declined) a referral to an external mental or behavioral health provider</li> <li>• Number (percent<sup>a</sup>) of program participants who completed a referral at the external provider</li> <li>• Number of participants who screened positive and were referred to the MHP or an external provider</li> </ul>
Client demographics	<ul style="list-style-type: none"> <li>• Gender</li> <li>• Age</li> <li>• Race/ethnicity</li> <li>• Education status</li> <li>• Employment status</li> </ul>

<sup>a</sup> Data elements were calculated based on CBO-reported data.

## References

- Evans-Lacko, S., K. Little, H. Meltzer, D. Rose, D. Rhydderch, C. Henderson, and G. Thornicroft, "Development and Psychometric Properties of the Mental Health Knowledge Schedule," *The Canadian Journal of Psychiatry*, Vol. 55, No. 7, 2010, 440–448.
- Lehman, W. E., J. M. Greener, and D. D. Simpson, "Assessing Organizational Readiness for Change," *Journal of Substance Abuse Treatment*, Vol. 22, No. 4, 2002, 197–209.
- Link, B. G., F. T. Cullen, A. Struening, P. E. Shrout, and B. P. Dohrenwend, "A Modified Labelling Theory Approach to Mental Disorders: An Empirical Assessment," *American Sociological Review*, Vol. 54, No. 3, 1989, pp. 400–423.
- Mojtabai, R., M. Olfson, N. A. Sampson, R. Jin, B. Druss, P. S. Wang, K. B. Wells, H. A. Pincus, and R. C. Kessler, "Barriers to Mental Health Treatment: Results from the National Comorbidity Survey Replication," *Psychological Medicine*, Vol. 41, No. 8, 2011, pp. 1751–1761.
- Shaffer, D., A. N. N. Garland, V. Vieland, M. Underwood, M., and C. Busner, "The Impact of Curriculum-Based Suicide Prevention Programs for Teenagers," *Journal of the American Academy of Child & Adolescent Psychiatry*, Vol. 30, No. 4, 1991, pp. 588–596.
- Tompkins, T. L., and J. Witt, "The Short-Term Effectiveness of a Suicide Prevention Gatekeeper Training Program in a College Setting with Residence Life Advisers," *The Journal of Primary Prevention*, Vol. 30, No. 2, 2009, pp. 131–149.
- Wyman, P. A., C. H. Brown, J. Inman, W. Cross, K. Schmeelk-Cone, J. Guo, and J. B. Pena, "Randomized Trial of a Gatekeeper Program for Suicide Prevention: 1-Year Impact on Secondary School Staff," *Journal of Consulting and Clinical Psychology*, Vol. 76, No. 1, 2008, p. 104.

## Appendix C. Impact Evaluation Methods

---

*Dana Schultz, Daniel Siconolfi, Lynsay Ayer, Joshua Snoke, Elie Ohana, and Emily Hoch*

The impact evaluation tested the extent to which C2C improves participants' access to mental health care and well-being on a variety of dimensions by comparing C2C clients with clients who received similar services, but not C2C services, from similar local CBOs. The impact evaluation used a quasi-experimental design, with longitudinal assessments administered at baseline, 6 months, and 12 months via a web-based data collection system and NYS and NYC agency administrative data. CBO program records were also utilized for participants in the C2C intervention arm. In this appendix, we describe the overall impact evaluation design (Section C1), client survey data collection (Section C2), CBO program data collection (Section C3), NYS and NYC administrative data collection (Section C4), development of our analytic database (Section C5), and our analytic approach (Section C6). We then provide details on study enrollment, retention (Section C7), and sample characteristics and results from subgroup analysis not included in the main body of the report (Section C8).

### C1. Overview of Impact Evaluation Design

The quasi-experimental design allowed for comparisons between the intervention group (C2C group) and a similar (comparison group) population without randomization of CBO clients to intervention or control conditions. With this design, we were able to examine the effect of C2C on participants at two levels: (1) pooled effect of C2C across all intervention participants compared with all comparison participants and (2) the effect of C2C on specific subgroups of participants, including the three C2C target groups (e.g., underemployed or unemployed adults, unemployed/out-of-school youth, caregivers of children ages 0–4) and on participants receiving different types of CBO services (e.g., job training and employment, youth development). We did not estimate intervention effects at each CBO individually, because the expected (and actual) sample sizes at many CBOs would provide insufficient statistical power to detect the expected small treatment effect sizes.

C2C was expected to serve more than 8,000 individuals per year. However, not all clients served were included in the impact evaluation. For each group (C2C and comparison), the target number of individuals who needed to be screened for study eligibility was approximately 3,125 over the study enrollment period. In most C2C CBOs, screening was the first C2C skill offered and delivered to clients. We assumed a 50-percent eligibility rate (i.e., have at least mild symptoms on one or more of the five mental health screeners [depression, anxiety, PTSD, alcohol use, drug use]), based on preliminary data from the C2C CBOs, the underserved nature of the C2C client

populations (e.g., homeless, domestic violence victims, recently incarcerated, etc.), and epidemiological data showing that approximately 44 percent of the general U.S. population ages 18 to 29 (a lower-risk population and higher threshold than the one used here for study eligibility) met full diagnostic criteria for a mood, anxiety, or substance disorder in the past 12 months (see National Comorbidity Survey, undated). Thus, the number of individuals expected to be study eligible was 1,563. In both groups, we assumed that there would be some attrition between the screening and the completion of the baseline assessment. Assuming that 80 percent of those who screened positive would consent to the study and complete the baseline assessment, target study enrollment (i.e., completion of the baseline assessment) for each group was about 1,250. Although evaluation best practices originally led us to target an 80-percent retention rate for the follow-up surveys, our sample of individuals seeking services at the participating CBOs had very low incomes, high unemployment, unstable housing, and recent incarceration. Other studies of underserved populations have had a diverse range of retention rates (Altena, Brilleslijper-Kater, and Wolf, 2010; Davis, Broome, and Cox, 2002; Leonard et al., 2003; Teague et al., 2018) suggesting more realistic benchmarks below 80 percent. Nonetheless with an 80-percent retention rate, we anticipated needing a sample size of 1,000 in each group at each follow-up to detect a small effect size ( $d \approx 0.20$ ).

### *C1.1. C2C and Comparison Group CBOs*

Thirteen of the 15 C2C CBOs participated in the impact evaluation (see Appendix A for a description of each C2C CBO). The impact evaluation conducted analyses of groups of CBOs (i.e., it did not examine findings at the individual CBO level), under the assumption that the interventions across C2C CBOs were similar to each other. Given this analytic assumption, it was not possible to include two organizations in the impact component of the evaluation. One CBO had contractual problems with its MHP that led to an extended delay to its implementation; the other launched implementation with an intervention model that was substantially different from the other CBOs in C2C.

We successfully recruited ten comparison group CBOs to participate in the impact evaluation (Table C.1). Comparison group participants were recruited from CBOs in NYC that served similar populations (e.g., geographic location, race/ethnicity, primary language, age) and provided similar services (e.g., job training and employment, youth development, homeless shelter, domestic violence shelter, immigrant-serving organization, parent/caregiver-serving organization) but were not implementing C2C or providing other mental health services. Initially, we approached potential comparison group CBOs suggested by C2C CBOs and the Mayor's Fund via email to explain the study and request a meeting. During the initial meeting, we provided a memo that described the study and detailed the roles and responsibilities of the comparison CBO and RAND related to developing data collection plans, collecting data, tracking study participants, and monitoring study recruitment and retention at each comparison group CBO. Once the CBO agreed to participate, we initiated a subcontract to compensate the

CBO for the time, effort, and resources spent participating in the study. We also conducted several follow-up meetings to further develop plans for data collection at each comparison group CBO. Prior to beginning data collection, RAND presented a brief informational session to staff at each comparison CBO. The presentation sought to raise staff awareness of the opportunity for clients to participate in the study. Booster informational sessions were provided on request or if a CBO indicated significant staff turnover since its original session. RAND data collectors conducted all study eligibility screenings and baseline surveys at the comparison CBOs (see Data Collection Procedures section below).

**Table C.1. Comparison Group CBOs**

<b>CBO</b>	<b>Location</b>	<b>Type of Services</b>
Goodwill Industries	One site in Bronx	Job training and employment program that offers job training and employment support to residents of neighboring housing developments
Eastside Settlement House	One site in Bronx	Job training and employment program that offers employment activities, financial services, and educational services
St. Nick's Alliance	One site in Brooklyn	Job training and employment program that partners with local employers for job coaching and training
Cypress Hills	One site in Brooklyn	Youth job training and internship program
Eckerd Connects	Two sites (Bronx, Queens)	Youth college or career preparation program that offers education and job training
Mosholu Montefiore Community Center	Two sites in Bronx	Parent/caregiver-serving organization that offers free and low-cost services to children younger than 5 and a youth development program that offers job training
Sanctuary for Families	One site in Bronx and one in Manhattan	Shelter program that offers transitional housing as well as case management and housing assistance, individual and group counseling, children's services, recreational activities, aftercare support, and on-site services
Violence Intervention Program	One site in Queens	Counseling, advocacy, legal, and housing support program for victims of domestic violence
Children's Aid Society	One site in Bronx and three in Manhattan	Parent/caregiver-serving organization that offers caregiver engagement
CAMBA King's Inn	One site in Queens	Temporary family homeless shelter that offers crisis intervention, case management, and transition to permanent housing

For both groups, CBOs were categorized by their primary offering or organizational type: job training and employment, youth development, parent/caregiver-serving organization, homeless shelters, domestic violence organizations, and agencies specializing in services for specific populations. The number of CBOs in each category is detailed in Table C.2. Many of the CBOs, both C2C and comparison, had multiple locations involved in the study. Across the 13 C2C CBOs, clients were enrolled at 24 locations. At the ten comparison CBOs, data were collected at 17 locations.

**Table C.2. CBO Information**

<b>CBO Service Type</b>	<b>C2C CBOs</b>	<b>Comparison CBOs</b>
Job training and employment	5	3 <sup>a</sup>
Youth development	3	3 <sup>a</sup>
Parent/caregiver-serving organizations	2	1 <sup>a</sup>
Homeless shelter	1	1
Domestic violence organization	1	1
Agency serving a specific population	1	1

<sup>a</sup> One comparison CBO recruited study participants from both a job training and employment program and a youth development program; one comparison CBO recruited study participants from both a job training and employment program and a parent/caregiver-serving organization.

### *C1.2. Power Analysis*

For the impact evaluation, our target retained sample size was 2,000 participants, with equal numbers coming from the treated and comparison groups (i.e., 1,000 per group). The study was designed to yield good power to detect effect sizes that are conventionally considered small (Cohen’s  $d = 0.2$ ). This more conservative approach would give us a higher level of confidence about whether C2C had at least a small effect on participants. Further, we would expect only small to very small effect sizes with a community-based, non-intensive intervention such as C2C. To estimate the average treatment effect on participants, we applied propensity score weights to individuals in the comparison group. This weighting process decreased the “effective sample size” somewhat, which can make the comparison sample statistically behave as though it were smaller in size than its nominal value.

Table C.3 shows the minimum detectable effect for a range of sample sizes, assuming 80-percent power and a 95-percent level of significance. We assumed that the effective sample size for the comparison sample would be half as large as the nominal sample size, which

**Table C.3. Minimum Detectable Effect Size with 80-Percent Power, Accounting for Propensity Score Adjustments**

<b>Number Treated</b>	<b>Minimum Detectable Effect Size</b>
50	0.70
100	0.49
200	0.35
300	0.29
400	0.25
500	0.22
600	0.20
800	0.19
900	0.18
1,000	0.16

experience suggested would be typical for propensity score applications of this type. Hence, our power calculations assumed that the analytic sample size for the comparison group would be half as large as the nominal value. The power analysis indicated that with a sample size of 1,000 per group, we would have the power to detect a small effect size of 0.16, which would be common for nonintensive mental health interventions.

## C2. Client Survey Data Collection

Study enrollment for the impact evaluation began in June 2017 and continued through March 2019. The primary inclusion criterion for the impact evaluation was meeting a minimum threshold on one or more of the eligibility screening measures for the common mental health conditions detailed below. We set eligibility thresholds lower than clinical thresholds (“cut points”) typically used to inform further screening diagnosis to be inclusive of persons with subclinical levels of mental health symptoms in addition to those with clinically significant symptoms. All eligibility screeners were conducted in person.

The baseline assessment was conducted after the eligibility screener and included measures of functioning, trauma history, barriers to accessing mental health care, and mental health service utilization. The follow-up assessment repeated the administration of the screening and baseline assessment measures in addition to asking questions about any services or supports received from CBO staff related to mood, thinking, or behavior. The baseline and follow-up surveys were conducted in person or via telephone in Spanish or English, with data collection continuing through February 2020.

The following subsections provide more details on client survey measures, study eligibility, data collection procedures, and enrollment and data collection timelines.

### *C2.1. Client Survey Measures*

To assess individual-level outcomes, we identified a standardized set of measures to capture background and contextual characteristics, and a broad array of outcomes domains, including depression, anxiety, PTSD, alcohol use, and substance use as well as functioning, barriers to mental health care, mental health service utilization, services or supports received from the CBO, and exposure to C2C (for C2C group). In selecting measures, our goal was to identify measures meeting the following criteria:

- To accommodate budgetary and staffing constraints, lay interviewers, not just highly trained clinicians, could administer the measure.
- To maximize credibility with CBOs and the ultimate audience for the evaluation results, the measure had been widely accepted and widely used in the field.
- The measure was brief so that the burden on participants could be minimized.
- Measures that had demonstrated sensitivity to change in prior intervention studies were prioritized because of the importance of being able to detect changes in the current evaluation.



- The measure had good reliability and validity in similar samples.
- The measure was available in Spanish, or translation was feasible.
- For screeners, we selected measures that assessed common types of mental health problems and prioritized measures that were already being used by C2C CBOs to screen clients to minimize client and staff burden.

The measure selection process involved identifying potential measures in each domain and then reviewing the measures to determine whether they met the criteria outlined above. Once we selected measures for each domain, we provided the Mayor's Fund and the C2C CBOs with a memo that described the source and content of each recommended measure. After reviewing stakeholder feedback, we finalized the list of measures.

### Screening Measures

The study eligibility screening survey, the 6-month survey, and the 12-month survey included the following mental health symptom measures.

**PHQ-8.** The PHQ-8 is an eight-item self-report measure of current depression that asks respondents to indicate how often they have been bothered by each symptom of depression in the previous 2 weeks. The measure can be used in clinical samples and in the general population. Items are coded 0 to 3, and scores are summed to generate a total score, ranging from 0 to 24, with higher scores indicating higher depressive symptoms. Scores greater than or equal to 10 indicate moderate depression. Prior research using the PHQ-8 provides evidence of good internal consistency, with Cronbach's alphas ranging from 0.86 to 0.89 and good sensitivity and specificity for identifying cases with diagnoses of major depressive disorder (Kroenke et al., 2010). In the present study, the Cronbach's alpha was 0.78 at baseline, 0.83 at 6 months, and 0.83 at 12 months.

**GAD-7.** The GAD-7 is a seven-item self-report measure of current anxiety that asks respondents to indicate how often they have been bothered by each symptom of anxiety in the previous 2 weeks. Scores range from 0 to 21 with scores of 0 to 4 considered minimal, 5 to 10 mild, 10 to 14 moderate, and 15 to 21 severe. The measure has been used in a wide range of populations and can be used in clinical samples and in the general population to screen and monitor (over repeated assessments) for symptoms of anxiety. The GAD-7 has been demonstrated to have strong internal consistency ( $\alpha = 0.89$ ) and good sensitivity and specificity for identifying cases with diagnosis of GAD (Löwe et al., 2008; Spitzer et al., 2006). In the present study, the Cronbach's alpha was 0.84 at baseline, 0.88 at 6 months, and 0.88 at 12 months.

**PCL-5.** The PCL-5 is a 20-item self-report measure of PTSD symptoms designed for use in primary care populations and has been used in a wide range of demographic groups among individuals ages 18 and older. Scores range from 0 to 80. Cut scores for predicting PTSD diagnostic status have not yet been established for the PCL-5 and range from 30 to 60 depending on the population, setting, and assessment goal (Blevins et al., 2015). A cut point of 31 to 33 is suggestive of PTSD diagnosis (National Center for PTSD, 2019). A provisional Diagnostic and

Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) PTSD diagnosis may be obtained by considering items rated moderately or higher as symptoms endorsed and following the DSM-5 diagnostic rule (at least one B, one C, two D, and two E symptoms present) (Blevins et al., 2015). Prior research shows that this measure demonstrates excellent internal consistency ( $\alpha = 0.94$ ), correlates highly with other scales of PTSD symptoms ( $r > 0.84$ ), and has good sensitivity and specificity for identifying cases with PTSD (Blevins et al., 2015). In the present study, the Cronbach's alpha was 0.93 at baseline, 0.94 at 6 months, and 0.95 at 12 months.

**AUDIT-10.** The AUDIT-10 is a ten-item self-report scale used to identify risky or harmful alcohol consumption as well as alcohol use disorders, and to assess the amount and frequency of alcohol intake, alcohol dependence, and problems related to alcohol consumption. Scores range from 0 to 40. The cutoff point for potentially hazardous alcohol intake is 8, although the cutoff score may differ depending on sex (i.e., men and women have different cutoff points). In prior research, the AUDIT-10 has been shown to have good sensitivity and specificity for identifying cases with alcohol use disorders (Babor et al., 1992; Berner et al., 2007). In the present study, the Cronbach's alpha was 0.89 at baseline, 0.86 at 6 months, and 0.86 at 12 months.

**DAST-10.** The DAST-10 is a self-report measure of problematic substance use that is utilized for clinical screening and research. The ten-item instrument has been used in a wide variety of populations, including adolescents and adults in a range of demographic groups. Scores range from 0 to 10. Scores greater than or equal to 3 indicate moderate substance use. The DAST-10 has strong internal consistency ( $\alpha = 0.74$ – $0.92$ ) and good test-retest reliability ( $r = 0.71$ ), and correlates very highly with the longer DAST-20 instrument ( $r = 0.98$ ). The scale also demonstrates good sensitivity and specificity for identifying cases with substance use/misuse disorders (Yudko, Lozhkina, and Fouts, 2007). In the present study, the Cronbach's alpha was 0.83 at baseline, 0.86 at 6 months, and 0.85 at 12 months.

#### Baseline and Follow-Up Assessment Measures<sup>1</sup>

**Kessler 6.** The Kessler-6 is a widely used measure of general psychological distress. The scale has six items and has been validated in primary care clinics, community mental health centers, and social welfare offices. Scores range from 0 to 24. Prior research shows that this measure demonstrates good test-retest reliability and convergent validity (Kessler et al., 2003). In the present study, the Cronbach's alpha was 0.85 at baseline, 0.86 at 6 months, and 0.87 at 12 months.

**BACEv2.** The 30-item BACEv2 is used as a measure of a range of different barriers to accessing mental health care in community populations and can be used to assess change in

---

<sup>1</sup> The client surveys (baseline, 6 months, and 12 months) that originally included additional items or measures (i.e., World Health Organization Disability Assessment Schedule, stressful events questions from the Life Experiences Survey, and the Attitudes Toward Seeking Professional Psychological Help Scale-Short Form) were removed in December of 2018 to streamline the surveys and further reduce participant burden.

barriers to care after the introduction of community interventions to increase care-seeking and service use. Prior research provides evidence of good test-retest reliability, and good convergent and construct validity (Clement et al., 2012). The BACEv2 has three subscales relevant to C2C. These include logistical barriers (e.g., cost), attitudinal barriers that are not related to stigma (e.g., concern about medication side-effects), and stigma-related barriers (e.g., concern about how others will react). In addition, the stigma barriers scale includes a single item assessing internalized stigma (feeling embarrassed or ashamed), which we also examined as an outcome given the salience of internalized stigma and shame as a barrier to mental health care.

We examined the strength of barrier endorsement using subscale averages because this approach allows for a wider continuum of potential change. The BACE can also be scored using dichotomized responses (e.g., summing the number of barriers endorsed “This has stopped, delayed or discouraged me A LOT”); however, this approach discards potentially meaningful heterogeneity captured by the continuum of the 4-point Likert-type response scale. Computing subscale averages allows for a much greater continuum of change. In the present study, the Cronbach’s alpha for logistical barriers was 0.79 at baseline, 0.81 at 6 months, and 0.82 at 12 months; for attitudinal barriers, it was 0.76 at baseline, 0.86 at 6 months, and 0.86 at 12 months; and for stigma-related barriers, it was 0.91 at baseline, 0.93 at 6 months, and 0.93 at 12 months.

**Mental health service utilization questions from the CPIC evaluation.** The utilization questions were previously utilized in an evaluation of community engagement versus technical assistance approaches to implement depression collaborative care in underserved communities in Los Angeles (Chung et al., 2014). Eight survey items assessing mental health service utilization and one item assessing emergency care utilization were administered to C2C participants. At baseline, participants indicated whether they had ever stayed overnight in a hospital for emotional, mental health, alcohol, or drug problems (with recall truncated to the past 6 months at the 6- and 12-month follow-ups). Participants also reported binary utilization of five additional indicators: whether they had attended any self-help or family support groups for people with emotional or mental health problems (excluding Alcoholics Anonymous-, Cocaine Anonymous-, or Narcotics Anonymous-type programs); had gone to any substance abuse agencies that have programs for people with drug or alcohol use problems or attend any self-help meetings such as AA, CA, or NA; had called a hotline for problems with emotions or nerves, mental, alcohol, or drug problems; had gone to any religious or spiritual places such as a church, mosque, temple, or synagogue for emotional, mental health, alcohol, or drug problems; and had gone to any parks and recreation or community centers for emotional, mental health, alcohol, or drug problems.

In addition, participants reported continuous indicators of utilization including the number of nights they had stayed overnight in a residential treatment program for alcohol or drug problems; the number of times they had gone to a hospital emergency room or an urgent care facility for any health reason; and the number of times they had gone to any MHP, including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors. In addition to treating these as

continuous indicators, we also created binary variables indicating any utilization during the recall period for these three originally continuous items.

For analysis of mental health care utilization, we combined data in two ways. First, sources of care were collapsed into four types of settings: *clinical outpatient settings* (clinical outpatient services); *nonclinical settings and sources* (self-help or family support groups, substance use agencies, or 12-step-type programs, calling a hotline, spiritual/religious places for mental health services, or parks/recreation centers for mental health services); *inpatient settings* (residential drug/alcohol treatment, or staying overnight in a hospital for mental health or substance use needs); and *emergency settings* (hospital, emergency room, or urgent care facility for any reason). Second, these utilization data from 6- and 12-month follow-up surveys were pooled into 1-year indicators of any use or frequency of use.

For the pooled 1-year utilization outcomes in the main analysis comparing the overall C2C group to the overall comparison group, imputation was performed for each individual for all missing data at either time point. Fully conditional specification, using the R package mice, was used to create ten imputations across all variables. The imputed outcome variables were then collapsed to create pooled outcomes for the year. We did not impute data for the subgroup differences (e.g., among job training and employment program clients) due to smaller sample sizes for these secondary analyses.

**Employment outcomes.** The client survey assessed three employment-related indicators that were examined as outcomes of C2C: full-/part-time employment versus unemployment, typical hours worked per week, and monthly employment income before deductions and taxes. First, employment status was assessed using a single item (“Are you currently employed full-time, part-time, unemployed, retired and not working, a student, a homemaker, or are you disabled or too ill to work?”). Response choices included these categories as well as an “Other” category and a free-text response field. Responses that could be recoded into the existing categories were recoded as such; other responses that were uninterpretable remained coded as “other” and were not utilized in analyses ( $n = 9, 4, 7$ , at baseline, 6 months, and 12 months, respectively). For analysis of change in the outcome of full-/part-time employment, only persons with an employment status of full-time, part-time, or unemployed at baseline and the follow-up time point were included in analysis of this outcome, because changes into or out of the other categories (retired and not working, student, homemaker, disabled) could not be definitively interpreted as positive or negative change without additional context. For the intervention outcome derived from this measure, we focused on the aggregate binary indicator of *employed full-/part-time* versus *unemployed*.

Second, participants who indicated full-time or part-time employment were asked to report the number of hours in a typical workweek (“At your current job [or at all current jobs combined], how many hours do you typically work during a week, from Sunday to Saturday?”). For our analysis of *hours worked per week* as an employment indicator, unemployed persons were coded as zero hours because they did not answer this question due to survey routing logic. Third,

monthly pay before taxes and deductions was derived from several questions. First, persons who were not currently full-/part-time employed at the survey time point were coded as zero because they did not answer this question due to survey routing logic. For participants with full- or part-time employment, their standardized monthly pay was derived from two additional questions. Participants reported the frequency of their pay (“Now think about the pay you receive from your current job [or all current jobs combined], what is the easiest way for you to report total pay BEFORE taxes and other deductions?”: Hourly, Weekly, Biweekly; Monthly; Annually; Other). Participants also reported their typical pay, at the interval selected in the previous question (“At your current job [or at all current jobs combined], how much do you earn [pay frequency] BEFORE taxes and other deductions?”). This amount was multiplied or divided by the frequency of pay to generate an estimate of monthly employment pay for each participant, which was examined as a C2C outcome. In exploratory analyses, we identified several respondents with unusually high incomes that were likely data entry errors (e.g., hourly pay rates resulting in monthly incomes in excess of \$15,000/month). We coded these values as missing for analysis ( $n = 8, 6,$  and  $2$  at baseline, 6 months, and 12 months).

**Housing outcomes.** From the client survey, we derived two indicators of housing status: current housing and recent homelessness. First, current housing was assessed with a single item (“Where do you currently live? [or probe if needed: what type of housing is the place you usually live and sleep?]”). Response categories were grouped for analysis into four categories: stably housed (apartment or house that you own; room, apartment, or house that you rent; permanent supportive housing for formerly homeless persons; group home or other supervised residential care facility); staying with someone else (in a friend’s or family member’s room, apartment, or house); transitional/temporary housing (transitional housing for homeless persons, psychiatric hospital or other psychiatric facility, substance abuse treatment facility or other detox facility; hospital (nonpsychiatric); jail, prison, or juvenile detention facility; half-way or three-quarter-way home for persons with criminal offenses; foster care home or foster care group home); and homeless/unstably housed (emergency shelter, including hotel or motel voucher paid for by a social service or charitable organization; hotel or motel paid for without emergency shelter voucher; place not meant for human habitation [street, car, park, etc.]). Additional response choices included Other, Don’t know, and Refusal. All responses to Other at baseline and 6 months were able to be recoded into existing categories. We retained the stand-alone *staying with someone else* category, rather than collapsing it into the *transitional/temporary* category because of the very large portion of persons in this group at baseline and because the question/answer choice wording for this category could not differentiate between truly unstable/transitional housing (e.g., couch surfing) versus long-term de facto residency with family members who owned the unit or were responsible for rent. For the intervention outcome derived from this measure, we focused on the aggregate binary indicator of *stably housed or staying with someone else* versus *transitional/temporary housing, unstable housing, or homelessness*.

Second, recent homelessness was assessed with a single item (“During the last [#] months or since [date], did you have a period of time when you did not have a place to sleep at night?”). The baseline survey specified a recall of the past 12 months, whereas the 6- and 12-month surveys each specified the past 6 months. To permit comparisons given these discrepant recall periods, we pooled the 6- and 12-month responses, such that an affirmative response in either the 6- or 12-month surveys was coded as *any homelessness in the past year*. For the pooled 1-year outcome in the main analysis comparing the overall C2C group to the overall comparison group, imputation was performed for each individual for all missing data at either time point (see description of Mental Health Utilization measures).

**Education outcomes.** From the survey, we derived two outcomes related to education: completion of high school or a GED and having begun or completed additional education beyond their baseline level. At each survey time point, participants were asked, “What is the highest grade in school or year of college that you have completed? (Less than high school, completed high school or GED, some college, completed college, some graduate or professional school, completed graduate or professional school).” For the intervention outcome derived from this measure, we focused on the aggregate binary variable indicating completed high school diploma, GED, or greater, versus not having completed high school or a GED.

**Incarceration outcomes.** The survey assessed a single outcome related to criminal justice involvement: recent incarceration. Participants were asked, “During the last 12 months or since [date], did you spend time in a correctional facility, such as a jail or prison?” At 6- and 12-month follow-up, the recall period was 6 months. To permit comparisons given these discrepant recall periods, we pooled the 6- and 12-month responses, such that an affirmative response in either the 6- or 12-month surveys was coded as *incarceration in the past year*. For the pooled 1-year outcome in the main analysis comparing the overall C2C group to the overall comparison group, imputation was performed for each individual for all missing data at either time point (see description of Mental Health Utilization measures).

**Services or supports received from the CBO.** On the 6- and 12-month follow-up surveys, respondents were asked about different services or supports they might have received from the CBO, including vocational training or job readiness classes, adult education or GED classes, ESL classes, afterschool programs, academic support or GED classes (e.g., tutoring), postsecondary support services (e.g., college counseling and prep), housing assistance and/or income support, parenting programs, legal services, support groups, immigration service, health and wellness education and services, community organizing, community organizing, HIV/acquired immunodeficiency syndrome services, and case management. These variables were included for descriptive purposes only, to better characterize the sample.

**Exposure to C2C skills.** On the 6- and 12-month follow-up surveys, participants in both groups were asked a few questions to assess their level of exposure to the different C2C skills, including screening (“Did staff ask you a series of questions about any signs and symptoms you may have been experiencing related to your mood, thinking, or behavior?”), MI (“Did staff



talk with you about ways to change any specific aspects of your mood or behavior (for example, feeling less anxious or down, quitting smoking or drinking)?”), PE (“Did you attend a session or receive information from staff about any problems you may have with mood, thinking or behavior, and what solutions might help you overcome them?”), and referrals for mental health services (“Did staff refer you to a social worker, mental health/substance use counselor, or other provider to get help with your mood, thinking, or behavior?). These items were designed to reflect the core of each C2C skill, using layman’s terminology rather than the formal skill names. For the items reflecting the C2C skills of screening, PE, and MI, participants who reported receiving a given skill were asked an additional question regarding the number of times that they had received that skill in the past 6 months (one time, two to three times, four or more times). Participants who reported that they had received a referral were asked a follow-up question regarding the number of times they met with a social worker, mental health/substance use counselor, or other provider (zero times, one time, two to five times, six to ten times, 11 or more times).

## C2.2. Study Eligibility

The primary inclusion criterion for the impact evaluation was a minimum symptom threshold for one or more of the following mental health conditions: depression, anxiety, PTSD, alcohol use, or substance use. The study eligibility criteria are shown in Table C.4, along with published scoring criteria for each measure. As shown in the table, the evaluation eligibility criteria utilized a relatively low symptom threshold. Other eligibility criteria included the ability to provide informed consent, aged 16 or older, and oral fluency in English or Spanish.

**Table C.4. Impact Evaluation Eligibility Criteria on Screening Measures**

Screening Measure	Impact Evaluation Eligibility	Published Scoring Criteria	Reference
PHQ-8	Total score $\geq 5$	0–4 = none to minimal depression 5–9 = mild depression 10–14 = moderate depression 15–19 = moderately severe depression 20–24 = severe depression	Kroenke, Spitzer, and Williams, 2001
GAD-7	Total score $\geq 5$	5 = mild anxiety 10 = moderate anxiety 15 = severe anxiety	Löwe et al., 2008; Spitzer et al., 2006
PCL-5	Total score $\geq 28$	$\geq 33$ = provisional PTSD diagnosis	Blevins et al., 2015
AUDIT-10	Total score $\geq 8$	$\geq 8$ = harmful or hazardous drinking $\geq 13$ (female, transgender woman, gender-queer), $\geq 15$ (male, transgender man) = alcohol dependence	Babor et al., 1992; Berner et al., 2007
DAST-10	Total score $\geq 1$	0 = none 1–2 = low 3–5 = intermediate 6–8 = substantial 9–10 = severe	Yudko et al., 2007

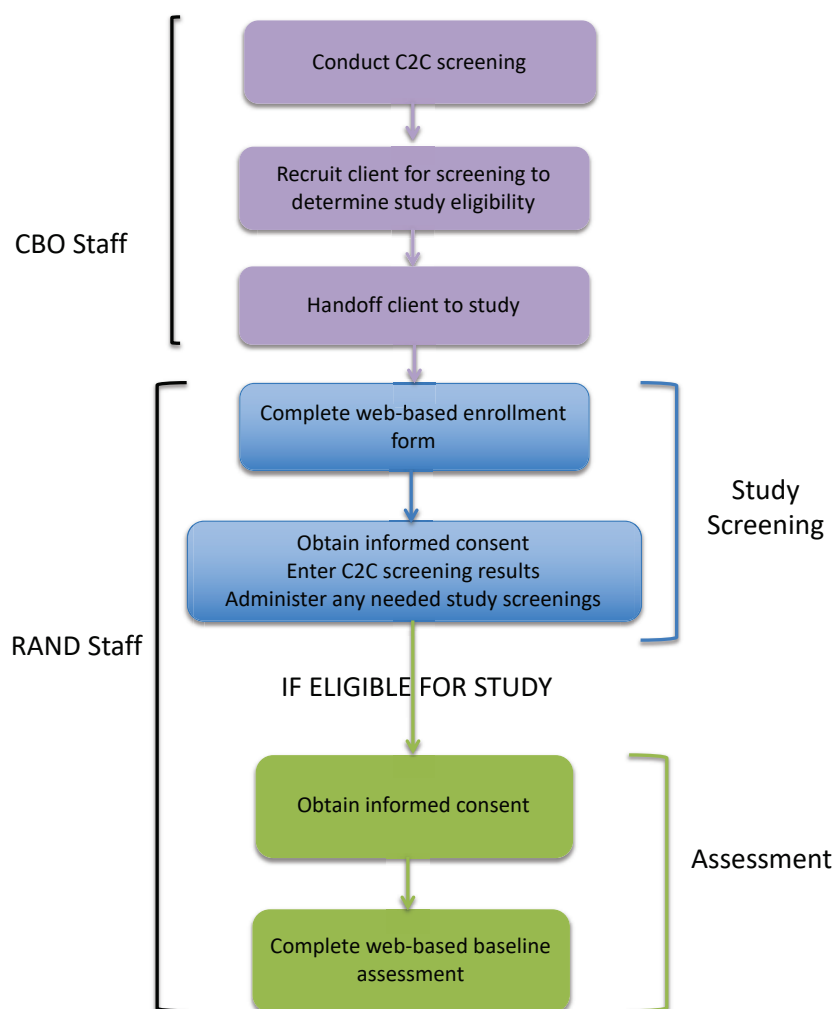


### C2.3. Data Collection Procedures

For the C2C CBOs, RAND data collection staff worked closely with program staff to integrate the study data collection procedures into their client workflow. Most CBOs followed the process depicted in Figure C.1. Within their client populations, C2C CBOs made decisions about whom to target based on the clients they served and programs they offered. Some CBOs offered C2C to those within specific programs, whereas others opted to deliver C2C skills organization wide to all clients because staff and programs were intertwined, so serving only a subset was not feasible.

The target group was new clients or existing clients beginning new programs at the CBOs. Screening protocols varied by site, based on their C2C implementation plans. This is detailed in the Implementation chapters (see Chapter 3 and Appendix A). However, clients generally enrolled in the C2C study within 2 weeks of beginning services or programming at the CBO.

**Figure C.1. Data Collection Process at C2C CBOs**



First, CBO staff administered their CBO-specific C2C screenings, explained the opportunity to participate in the C2C impact evaluation, and provided them with recruitment materials. Clients who were interested in participating in the study were referred by CBO staff to RAND data collection staff, who obtained informed consent to administer the eligibility screening. If the CBO conducted their C2C screening using one or more of the five impact evaluation eligibility screening measures, CBO staff provided the RAND data collection staff with the score(s) from their C2C screenings to be used for study eligibility determination so that clients did not need to repeat those measures for study purposes. Data collection staff entered results from the C2C screening instruments into the web-based eligibility screener and administered any of the nonoverlapping eligibility screeners. If a client's scores on any of the screening measures deemed them eligible to participate in the study, RAND data collection staff advised the client that he or she was eligible to participate in the C2C impact evaluation. If the client was interested in participating in the study, RAND data collection staff obtained informed consent for the baseline assessment and administered the web-based baseline survey to the client. These procedures varied across organizations depending on their preferred workflow (e.g., CBO staff administered the study screening and then referred eligible clients to RAND data collection staff). Because of the variability across sites in terms of the screening measures administered, and because the CBO-administered screenings were part of their larger C2C implementation, C2C clients did not receive an incentive for the study eligibility screener. C2C study participants received a \$20 gift card for completing the baseline assessment.

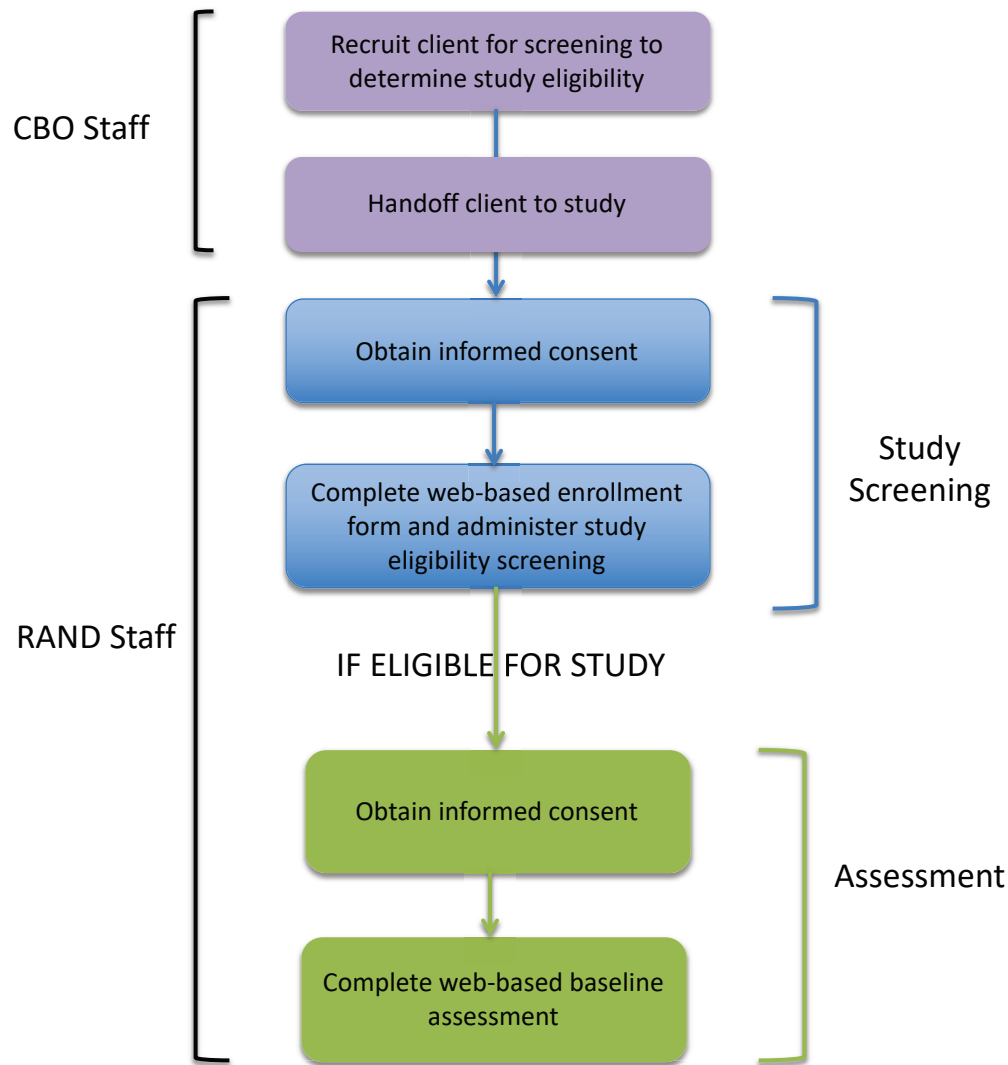
The recruitment flow at comparison sites differed from the C2C approach because comparison sites were not conducting C2C screenings. Therefore, comparison site participants were initially recruited with support from CBO staff and completed all screenings with RAND data collectors because there was no overlap in already-administered screening measures. For the comparison CBOs, CBO staff supported the early stages of study recruitment (e.g., through recruitment events, referring clients to the study during program intake, posting or distributing recruitment flyers), and RAND data collection staff administered the study screening and baseline assessment for those eligible for the study (Figure C.2). Comparison group participants received a \$10 gift card for completing the eligibility screening and a \$20 gift card for the baseline assessment. For both comparison and C2C participants, incentive gift cards at the 6- and 12-month follow-ups were valued at \$40 and \$60, respectively.<sup>2</sup>

After eligibility screening, the data collection procedures were the same for those in the comparison and C2C groups. The baseline assessment included the collection of contact information from study participants so that evaluators could maintain contact and locate them for their 6-month follow-up assessment.

---

<sup>2</sup> Originally, the participant incentive for the 6 and 12-month follow-up assessment was \$20. We increased to \$40 at 6 months and \$60 at 12 months in March of 2018 to provide further incentive for study participation.

Figure C.2. Data Collection Process at Comparison CBOs



For both groups, RAND data collection staff implemented a range of strategies to recruit study participants, including providing food, beverages, and C2C promotional materials (e.g., branded stress balls, pens) at recruitment events, tailoring recruitment materials for each CBO, offering phone-based baseline interviews, offering off-site baseline interviews (e.g., in participant’s home, at the public library). RAND data collection staff also worked directly with the CBOs on study recruitment with strategies such as

- collaborating with CBOs on a tailored recruitment and screening process to generate staff buy-in
- providing CBOs and staff with additional plain-language “FAQ” documents to support their conversations with clients about the study opportunity

- working with CBOs to make Spanish- and English-speaking data collectors available at optimal times for recruitment that were also convenient for CBO staff, including evenings and weekends
- conducting group screenings when possible
- hiring data collectors who were already staff/interns at CBOs and thus trusted by and familiar with the organization and its processes
- collecting ongoing feedback from CBO staff and sometimes clients about how to improve recruitment
- providing monthly updates to CBOs regarding enrollment and updated monthly pace needed to reach target
- meeting with individual CBOs on their request or when RAND identified potential improvements to the strategy at that CBO.

RAND's interim contact activities included sending postcards and advance letters, emailing, texting, and calling study participants at specified intervals to remind them about the study and alert them that someone would be reaching out about their next follow-up assessment. Between the baseline and 6-month surveys, and between the 6- and 12-month surveys, clients also received a self-administered brief survey via email asking for any updated contact information and/or received a phone call from study staff to request any updated contact information. For the first 16 months of the study, RAND data collection staff also attempted to reach alternate contact persons provided by the participant (e.g., a trusted friend or family member identified by the participant) if unable to reach the participant via phone or email. However, RAND data collectors ceased alternate contact activities (including soliciting this information from participants) in November 2018 because these alternate contacts were often difficult to reach, or when the contact was successful, most alternates refused to provide new contact information for the participant.

All participants who completed a baseline survey were eligible for the 6- and 12-month follow-up survey. For these follow-up surveys, RAND data collection staff attempted to schedule and complete each follow-up assessment within a 2.5-month window. The window began 2 weeks before the exact 6- or 12-month target date for the follow-up assessment and ended 2 months after that date. Partway through data collection, an internal scheduling team was formed with specialized training and shifts for making scheduling calls. As noted earlier, the baseline assessment included the collection of comprehensive tracking information, including phone numbers (home, work, mobile), mailing address, and email addresses. The impact evaluation team maintained a toll-free study phone number and study email address to allow incoming communication from participants. To schedule each follow-up assessment, multiple methods were used (e.g., text, email, phone call) to locate the participant and schedule the survey in person or over the phone. RAND data collection staff offered to conduct interviews via

phone<sup>3</sup> or at alternate locations (e.g., in homes, public library, etc.), and offered to schedule 6-month follow-up appointments at the time of the baseline interview. Once scheduled, appointment reminders (via email, text message, and/or phone calls) were conducted 1 and 3 days prior to the scheduled appointment. To support retention, participants also received a mailing shortly before their 6- or 12-month follow-up window opening. This mailing reminded participants of the C2C and RAND brand and provided RAND contact information for persons who wanted to proactively start their follow-up survey.

In February 2019, the impact evaluation team transitioned all follow-up survey data collection to RAND's Survey Research Group (SRG). Accordingly, all 6- and 12-month follow-up surveys moved to phone-based interviewing and data collection. Participants then received their incentives via email or postal mail after completing the phone-based follow-up survey. After the transition to RAND's SRG, two non-SRG RAND employees remained on C2C evaluation staff to continue other participant retention-related activities. These included the interim contact activities described earlier, in addition to monitoring incoming messages from study participants via email and voicemail. This ensured that RAND's SRG received the most up-to-date contact information for each participant on a monthly basis.

On a monthly basis, SRG was provided a datafile containing the contact information for participants whose 6- or 12-month follow-up windows were opening in the following month. A team of trained interviewers in the RAND SRG conducted follow-up phone calls that began on or after the date of a given participant's follow-up window. RAND's SRG maintained one to two calling shifts 5 days of the week, typically between the hours of 11:00 a.m. and 8:00 p.m. Eastern Time on weekdays and 10:00 a.m. to 5:00 p.m. on weekends with 4-hour shifts on alternating shifts on different days. Participant status was tracked using participant management and scheduling software that permitted prioritization of specific cases based on "close date" for follow-up window or number of prior attempts (e.g., flagging persons who had not completed their 6-month survey and the closing date of their follow-up window was approaching as highest priority) and scheduled callbacks for participants who requested a specific date or time for their phone survey. For participants with disconnected phone numbers, SRG also attempted public records research using Lexis Nexis and U.S. Postal Service National Change of Address databases. If new contact information was found, SRG attempted to reach the participant using that phone number.

The impact evaluation team and RAND data collection staff also worked closely with each CBO on strategies to support follow-up data collection. These efforts included monthly updates to CBOs with details on retention progress and monthly paces to reach target, ongoing discussions with CBO staff about how to improve retention, and monthly contact with CBO staff about specific study participants whose windows were closing.

---

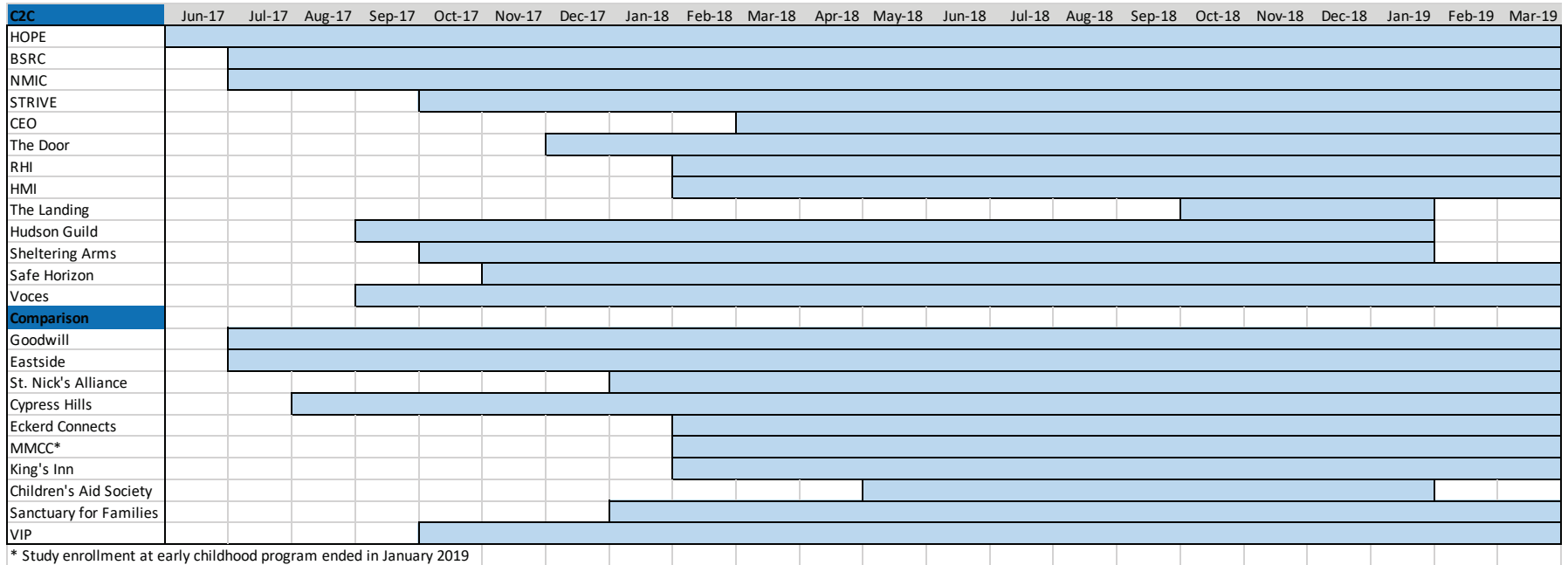
<sup>3</sup> We began offering telephone-based follow-up interviews in March 2018 to reduce burden on study participants.

#### *C2.4 Enrollment and Data Collection Timelines*

The overall study enrollment period spanned 22 months from June 2017 through March 2019 with CBOs enrolling participants for an average of 16 months for both groups (Figure C.3). After carefully considering study progress at each CBO, we decided to stop study enrollment 3 months early at several CBOs (all of the parent/caregiver-serving CBOs and homeless shelters) to reallocate data collection capacity and resources for the last few months of study enrollment. During the transition, RAND data collection staff continued to meet with individuals whom we had already engaged (e.g., those who had already expressed interest in completing the eligibility screening), completed any already-scheduled baseline appointments, and maintained any already-scheduled recruitment events. It is important to note that all of the study participants from these CBOs remained in the study and we continued to conduct follow-up surveys with them.

Data collection extended through February 2020 so that we could attempt to complete 12-month surveys with all participants enrolled through March 2019. We ended 12-month data collection 4 weeks earlier than originally planned to enable sufficient time for analyses prior to the end of the project in fall 2020. However, all participant follow-up windows were open for at least 4 weeks, which allowed us sufficient time for multiple contacts with each participant to attempt to complete the survey. Finally, we suspended data collection at all sites for about 2 weeks in February 2019 because of contractual issues with the Mayor's Fund that were unrelated to the study protocol.

**Figure C.3. Study Enrollment Timeline by CBO**



NOTES: MMCC = Mosholu Montefiore Community Center; VIP = Violence Intervention Program.



### C3. CBO Program Data Collection

The impact evaluation data collection originally included CBO program data requested from CBOs on program participants. These individual-level data on receipt of C2C skills were intended to be used to address the secondary research question about whether program effectiveness varied within the C2C group depending on the degree of exposure to C2C skills. However, quantity and quality issues with these CBO program data made them unusable for the intended analysis.

### C4. Administrative Data Collection from New York City and State Agencies

The impact evaluation data collection also originally included administrative data from NYC and NYS agencies on specific data elements (e.g., Medicaid claims, emergency department visits, unemployment benefits, homeless shelter stays) for C2C program and comparison group participants who consented to participate in this aspect of the study. Initially, we planned to request administrative data from agencies and organizations such as the New York State Department of Labor, the New York City Health and Hospitals Corporation, and the New York State Office of Medicaid. However, bureaucratic issues slowed down the process of receiving these data, and then additional challenges related to COVID meant that these agencies did not have the capacity to provide these data for our impact evaluation.

### C5. Development of an Analytic Database

#### C5.1 *Data Processing and Cleaning*

The analytic dataset for the impact evaluation was composed of client survey data (screening, baseline, 6 months, and 12 months). These data were merged into a final analytic dataset using a C2C study ID number linked to each participant. The dataset preparation is shown as a schematic in Figure C.4.

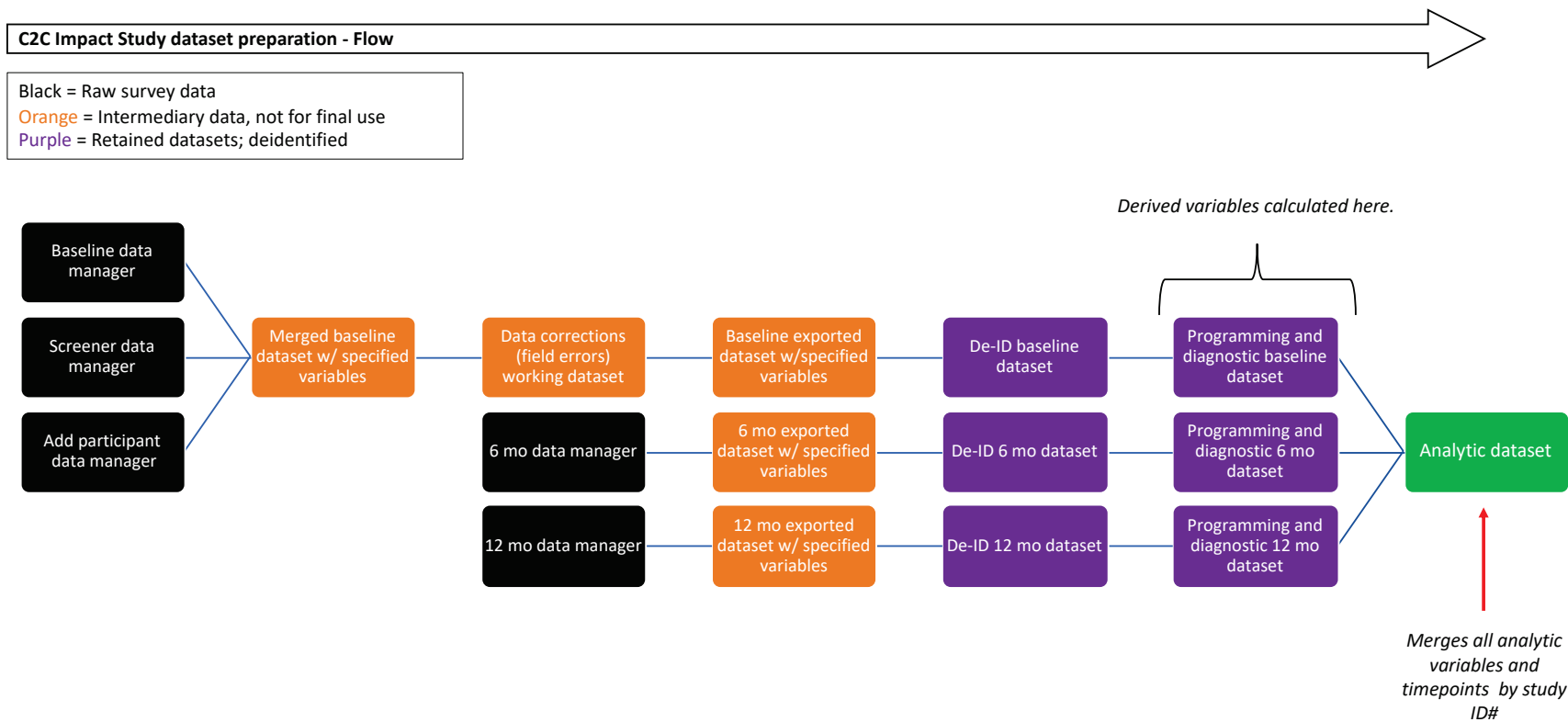
**Client survey data.** Baseline client survey data consisted of three sequential datasets created by the study enrollment workflow within the web-based data collection system. First, individuals who consented to the study screening were assigned a unique study ID number using an electronic *Add Participant* form. This form also captured preload values that were piped into subsequent survey questions or routing logic across the baseline and follow-up time points (e.g., CBO name piped into questions about services the participant had received at their home CBO). Second, the *screening survey* included basic demographics and the mental health screening measures used for eligibility criteria. Third, clients who screened eligible and consented to participate in the study then completed the *baseline survey*.

As shown in Figure C.4, the baseline dataset was composed of data from these three datasets, merged on a unique study ID number for each participant. Based on the level of complexity and relevance to survey programming, field-based data entry errors were either corrected shortly

after the error (e.g., choosing an incorrect CBO assignment for a participant) or logged for later filtering at the point when baseline data were compiled (e.g., known duplicates). In addition, at the conclusion of study enrollment, the impact evaluation team undertook checks for duplicate participants who had either accidentally or intentionally enrolled in the study more than once. These duplicate checks included dates of birth, and also exact and “fuzzy” ( $\geq 90$  percent) matching of names. For cases identified as duplicates, the first observation was retained. After this cleaning process, the compiled baseline dataset served as the gold standard record for matching clients’ 6- and 12-month client surveys to their baseline.

The 6- and 12-month datasets were self-contained (i.e., they were not composed of multiple incremental datasets), and therefore each time point was only a single export of data. In cases where a duplicate participant had already completed a follow-up survey before they were detected as a duplicate, only the follow-up survey that matched the gold standard baseline case was retained for follow-up analysis.

Figure C.4. Impact Study Analytic Database Development Process



## C6. Analytic Approach

Overall, the impact evaluation examined the effectiveness of the intervention across all sites. The main analyses answered the primary research questions:

- Do C2C program participants have increased mental health care access to and utilization relative to comparison group members? (Chapter 7)
- Do C2C program participants have improved mental health symptoms relative to comparison group members? (Chapter 8)
- Do C2C program participants have improved educational attainment, housing, employment, and criminal justice system involvement relative to comparison group members? (Chapter 9)

Because of the impact evaluation's quasi-experimental design, we used propensity score weighting to account for potential confounders (e.g., age, race/ethnicity, income, baseline mental health symptoms). We modeled the probability that each individual received C2C (vs. services as usual) as a function of pre-C2C characteristics to estimate propensity scores. We used inverse propensity score weights to control for potential group differences. Our primary analysis considers within- and between-group changes over time. Within-group differences were estimated separately at 6 and 12 months for both C2C and non-C2C participants. Between-group differences, that is, the average effect of C2C, were then estimated using a simple weighted regression model that incorporated propensity score weights and, as a single covariate, an indicator of whether the individual received C2C services. We also included the potential confounders as covariates in another propensity score weighted outcome model, in what is termed a doubly robust model (Lunceford and Davidian, 2004). Outcome variables were individual-level differences between baseline and follow-up measures, for both the C2C group and comparison group. Analyzing these differences cancels out the effect of time-invariant factors and is a type of difference-in-differences analysis.

In addition to the primary C2C effects described above, subgroup analyses by target population and select CBO services types were also performed as a secondary research question in each chapter. For these analyses, propensity scores were re-estimated for each subgroup, checking balance as described above for the full sample. Although these C2C effect estimates are less precise than the overall estimates, they still provide information on subpopulations for which the intervention is more or less effective.

### *C6.1. Propensity Score Weighting*

We used propensity score weighting to improve comparability between individuals in the treatment and comparison groups. In particular, we estimated propensity scores using a generalized boosted model to estimate the average treatment effect on treated individuals (McCaffrey, Ridgeway, and Morral, 2004). The generalized boosted model is a flexible, nonparametric machine learning algorithm that has been found to substantially outperform

more standard approaches like logistic regression in propensity score applications (Lee, Lessler, and Stuart, 2010). After applying the propensity score weights, the distributions of potentially confounding variables should be well balanced between the treatment and control samples. Separate sets of weights were generated for baseline, 6-month, and 12-month analyses and for each subgroup used. A separate set of weights was also generated for the non-mental health outcomes, because these outcomes were used as control covariates in the other analyses. As shown in the tables below, all propensity score weights included demographic variables (age, gender, race/ethnicity, income level, education level, employment status, housing status, incarceration status, target population, and CBO service type) and outcome variables (depression, anxiety, PTSD, alcohol use, substance use, psychological distress, logistical barriers, attitudinal barriers, and stigma barriers).

Assessing balance of potential confounders in this way helped evaluate the internal validity of the results. The propensity score weighting was used for the analytic models for primary outcomes of interest: We estimated treatment effects via propensity score weighted regressions. Any baseline covariates that were not brought into sufficient balance via propensity score weights were still included as covariates in the outcomes model (Lunceford and Davidian, 2004), which minimizes any potential bias in these doubly robust models. The propensity score weighted models also contained fixed effects for the CBO service type. This allowed us to account for clustering at the CBO level to the extent that distributions of unobserved confounders are the same between the treatment and comparison group (Li, Zaslavsky, and Landrum, 2013). In some cases, several CBOs of one type were compared with a single CBO of the corresponding type for comparison. The CBO service types were job training and employment program, youth development program, homeless shelter, parent/caregiver-serving organization, domestic violence agency, and Latino/Hispanic agency. Because we modeled the change in outcomes over time as our outcome of interest, the propensity score modeled for 6 and 12 months also include baseline outcome values to control for potential imbalance among participants in their baseline outcome values.

As with all propensity score methods, the weighting process can only account for observed variables. Hence, there is the potential for unobserved confounders (i.e., pretreatment variables that are imbalanced between the treatment and comparison groups and that are associated with outcomes of interest) to bias treatment effect estimates and to compromise internal validity. We addressed this concern in two ways. First, we recorded differences between pre- and posttreatment outcomes, so that time-invariant confounders were removed from the analysis (a type of difference-in-differences analysis). Second, we attempted to identify and measure as many potential confounders as possible to include in the weighting process. The primary assumptions of the propensity score analysis were that there are no unobserved confounders beyond those that are accounted for by the group-level fixed effects and that each individual has some chance of having been in the treatment versus comparison condition (i.e., no propensity scores are 0 or 1). Propensity score analyses also depend on the “stable unit treatment value assumption,” which says that the outcome for one individual does not depend on the treatment status of any other

individual. Our flexible propensity score model does not make parametric assumptions about the functional form of the propensity score model, but our outcomes model assumes that means or log OR is linear in the covariates included in the outcomes model.

We used the “ps” function in the “twang” software package in the R language to estimate the propensity scores (Ridgeway et al., 2015). This nonparametric approach only produces estimated propensity scores and does not produce interpretable parameter estimates. In the propensity score weighting analyses, we included potential confounders measured at baseline that were expected to be related to the key outcomes (Brookhart et al., 2006). This included baseline demographic characteristic, including age (Kessler et al., 2010), gender (Breslau et al., 1997), race/ethnicity (Wells et al., 2013), income level (Bassuk et al., 1998; Goodman and Huang, 2002), education level, housing status, incarceration status, target population (adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4), and CBO service type, and baseline levels of the key outcomes (i.e., mental health symptoms, barriers).

We tested for successful balance using Kolmogorov-Smirnov statistics and compared standardized mean differences between the two samples, using a scale in which standardized mean differences below 0.2 are considered indicators of good balance. Overall, the weight generated for the primary analyses showed good levels of covariate balance, minimizing any potential bias in the results. For categorical variables, the standardized mean differences were evaluated for each value (e.g., the difference in percentage of females, males, and other) between groups were evaluated separately. With the baseline propensity score weights, all control variables had standardized mean differences below 0.2 (see Tables C.5 and C.6). With the 6-month propensity score weights, all but five control values (females, males, baseline unemployment status, baseline transitional housing status, and baseline PTSD status) had standardized differences of greater than 0.2, and the largest was 0.266 (see Tables C.7 and C.8). This represents less than 5 percent of all of the control variables.

With the 12-month propensity score weights, all but seven control values (females, males, baseline unemployment status, baseline transitional housing status, baseline PTSD status, 12-month recent homelessness status, and baseline incarceration statuses) had standardized differences of greater than 0.2, and the largest was 0.256 (see Tables C.9 and C.10). This represents 6 percent of all of the control variables.

For both 6 and 12 months, the K-S test statistics produced p-values which were reasonably balanced. Assuming a uniform distribution of p-values under the null, we would expect roughly two of the p-values to fall below 0.05. For the 6-month statistics, six were below 0.05 and for 12 months four p-values were below 0.05. This shows that although we were not able to achieve perfect balance, it was reasonably close. Because of the computational limitations of weighting, it is not always possible to achieve perfect balance. The implications of this are a small potential for bias from unbalanced covariates in the non-doubly robust models. Propensity score weights

were also generated for each of the subgroup analyses. Because of the much smaller sample sizes of the subgroups, there was a degradation of the overall balance. This means there was slightly more potential for bias in the subgroup analyses due to unbalanced covariates.

For our outcomes model, we used the “svyglm” function in the “survey” package in R (Lumley, 2014). The outcome model incorporated the propensity score weights. The included covariates were the treatment indicator, fixed effects for CBO service type, and all pretreatment covariates to ensure a doubly robust model as described above. Only the parameter estimate related to the treatment indicator is of direct interest. It can be interpreted as either a difference in means (for continuous outcomes) or as an OR (for binary outcomes converted from log odds). For within-group changes, we tabulate the outcomes using the “svyby” function of the “survey” package, which again incorporates the propensity score weights.



**Table C.5. Balance Table for Propensity Score Weighting of Study Participants at Baseline, Demographic Characteristics**

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 1,838)	C2C (n = 1,232)	Comparison (n = 606)	p-Value	Overall	C2C	Comparison	p-Value
<b>Age (mean, SD)</b>	30.1, 12.5	29.8, 12.1	30.7, 13.2	0.204	30.1, 12.5	29.8, 12.1	30.7, 13.2	0.204
<b>Gender (% , n)</b>	–	–	–	<.001	–	–	–	0.425
Male	44, 809	49.4, 609	33, 200	–	44.2%	45.7%	42.4%	–
Female	54.2, 996	48.4, 596	66, 400	–	54.2%	52.3%	56.3%	–
Transgender, genderqueer, or other	1.6, 30	2, 25	0.8, 5	–	1.5%	1.9%	1.2%	–
<b>Race/ethnicity (% , n)</b>	–	–	–	0.281	–	–	–	0.419
Hispanic	42.3, 777	41.4, 510	44.1, 267	–	43.2%	42.2%	44.4%	–
Black	47.2, 867	47.3, 583	46.9, 284	–	47.1%	47.1%	47.2%	–
White	3.1, 57	3.5, 43	2.3, 14	–	2.7%	3.1%	2.2%	–
Other	6.9, 127	7.4, 91	5.9, 36	–	6.4%	7.2%	5.6%	–
<b>Income level (% , n)</b>	–	–	–	0.186	–	–	–	0.993
Less than \$5,000	42.9, 789	44.5, 548	39.8, 241	–	43.4%	43.6%	43%	–
\$5,000–10,000	11.3, 207	11.6, 143	10.6, 64	–	10.9%	11.1%	10.7%	–
\$10,001–20,000	8.7, 159	8.9, 110	8.1, 49	–	8.3%	8.7%	7.9%	–
\$20,001–30,000	4.6, 84	4.2, 52	5.3, 32	–	5%	4.8%	5.2%	–
\$30,001–40,000	3.1, 57	3.1, 38	3.1, 19	–	3.3%	3.1%	3.5%	–
More than \$40,000	2.1, 39	1.8, 22	2.8, 17	–	1.8%	1.8%	1.9%	–
<b>Education level (% , n)</b>	–	–	–	0.051	–	–	–	0.901
Less than high school	30.6, 562	32.1, 395	27.6, 167	–	31.6%	30.9%	32.3%	–
Completed high school diploma or GED	33.7, 620	34.3, 422	32.7, 198	–	33.3%	34%	32.4%	–
Some college	22, 405	20.3, 250	25.6, 155	–	21.4%	20.8%	22%	–
Completed college	6.8, 125	7.1, 88	6.1, 37	–	6.4%	7.1%	5.6%	–
Some graduate or professional school	0.6, 11	0.6, 8		–	0.8%	0.6%	0.9%	–
Completed graduate or professional school	1.5, 28	1.5, 19	1.5, 9	–	1.8%	1.6%	1.9%	–
<b>Employment status (% , n)</b>	–	–	–	<.001	–	–	–	0.595
Unemployed	57.7, 1,060	63.6, 783	45.7, 277	–	57.8%	59.1%	56.3%	–
Student	11.2, 205	11.3, 139	10.9, 66	–	11%	11.4%	10.5%	–
Employed part-time	14.5, 266	12.7, 157	18, 109	–	14.6%	14%	15.3%	–

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 1,838)	C2C (n = 1,232)	Comparison (n = 606)	p-Value	Overall	C2C	Comparison	p-Value
Employed full-time	7, 129	5.7, 70	9.7, 59	–	7.2%	6.8%	7.7%	–
Retired and not working	1.1, 21	0.5, 6	2.5, 15	–	0.9%	0.7%	1.2%	–
Homemaker	1, 18	0.6, 7	1.8, 11	–	1%	0.9%	1.1%	–
Disabled or too ill to work	2.1, 39	0.8, 10	4.8, 29	–	2%	1.5%	2.6%	–
Other	0.5, 10	0.6, 8		–	0.5%	0.6%	0.3%	–
<b>Housing status (% , n)</b>	–	–	–	<.001	–	–	–	0.111
Stably housed	41.1, 755	39.2, 483	44.9, 272	–	42.3%	40.9%	43.9%	–
Staying with someone else	33.9, 623	32.8, 404	36.1, 219	–	34.2%	33.3%	35.3%	–
Transitional/temporary	9, 166	11.6, 143	3.8, 23	–	7.7%	9.7%	5.4%	–
Homeless/unstably housed	10.2, 187	11.3, 139	7.9, 48	–	9.7%	10.1%	9.2%	–
Past-year homelessness	18.4, 338	20.9, 257	13.4, 81	<.001	18%	19.4%	16.4%	0.381
<b>Incarcerations status</b>	–	–	–	<.001	–	–	–	0.132
No	82.1, 1,509	79.7, 982	87, 527	–	83.1%	81.4%	85%	–
Yes	13.3, 245	16.5, 203	6.9, 42	–	12.2%	14.1%	10.2%	–
<b>Target population</b>	–	–	–	–	–	–	–	–
Young adults ages 16 to 24 who are not in school and not employed	24.5, 451	25.2, 310	23.3, 141	0.636	23.6%	24.1%	22.9%	0.592
Adults age 18 or older who are unemployed (or underemployed)	65.5, 1,204	69, 850	58.4, 354	<.001	65.6%	65.7%	65.3%	0.937
Caregivers and parents who are expecting or who have children up to the age of 4	14.3, 262	13.1, 162	16.5, 100	0.033	15.4%	13.8%	17.1%	0.226
<b>CBO service type</b>	–	–	–	<.001	–	–	–	0.253
Job training and employment program	64, 1,177	70, 862	52, 315	–	65.6%	66%	65.2%	–
Youth development program	22.8, 419	17.2, 212	34.2, 207	–	21.9%	21%	22.9%	–
Homeless shelter	1.1, 21		3, 18	–	1%	0.5%	1.5%	–
Parent/caregiver-serving organizations	3.5, 65	2.9, 36	4.8, 29	–	3.6%	3.7%	3.6%	–
Domestic violence agency	5.1, 93	5.5, 68	4.1, 25	–	4.9%	5.2%	4.6%	–
Latino/Hispanic agency	3.4, 63	4.1, 51	2, 12	–	2.9%	3.6%	2.2%	–

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.6. Balance Table for Propensity Score Weighting of Study Participants at Baseline, Mental Health Symptoms**

Outcomes	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 1,838)	C2C (n = 1,232)	Comparison (n = 606)	p-Value	Overall	C2C	Comparison	p-Value
<b>Mental health symptoms</b>								
<b>Depression (% , n)</b>	–	–	–	<.001	–	–	–	<.001
None—minimal	30.2, 555	35.2, 434	20, 121	–	26.1%	33.4%	17.9%	–
Mild	32.5, 597	29.1, 359	39.3, 238	–	34.8%	30.1%	40.1%	–
Moderate	22.1, 406	20.9, 258	24.4, 148	–	22.3%	21.9%	22.6%	–
Moderately severe	9.6, 176	8.6, 106	11.6, 70	–	11.2%	8.7%	14%	–
Severe	4.2, 78	4.8, 59	3.1, 19	–	3.9%	4.6%	3.1%	–
<b>Anxiety (% , n)</b>	–	–	–	0.183	–	–	–	0.072
Mild	61.9, 1,138	62.8, 774	60.1, 364	–	60.7%	61.9%	59.4%	–
Moderate	21.6, 397	20.7, 255	23.4, 142	–	22.9%	21.2%	24.9%	–
Severe	15.7, 288	15.9, 196	15.2, 92	–	15.4%	16.4%	14.2%	–
<b>PTSD (% , n)</b>	–	–	–	0.516	–	–	–	0.518
Positive screen	47.7, 876	47.2, 581	48.7, 295	–	47.6%	47.2%	47.9%	–
No positive screen	52.2, 960	52.7, 649	51.3, 311	–	52.3%	52.6%	52.1%	–
<b>Alcohol use (% , n)</b>	–	–	–	0.098	–	–	–	0.885
None	78.4, 1,441	76.9, 947	81.5, 494	–	78.4%	77.9%	78.9%	–
Harmful/hazardous drinking	9.7, 178	10, 123	9.1, 55	–	10.2%	10%	10.5%	–
Alcohol dependence	10.3, 190	11.4, 140	8.3, 50	–	9.9%	10.5%	9.3%	–
Other	–	–	–	–	–	–	–	–
<b>Substance use (% , n)</b>	–	–	–	<.001	–	–	–	0.069
None	36.8, 677	33.3, 410	44.1, 267	–	37.7%	35.2%	40.6%	–
Low	36.3, 667	37.1, 457	34.7, 210	–	36.6%	36.7%	36.6%	–
Intermediate	16.1, 296	17, 210	14.2, 86	–	15.6%	16.6%	14.5%	–
Substantial	6.7, 123	8, 99	4, 24	–	6%	7.6%	4.2%	–
Severe	2.4, 44	3.2, 39	0.8, 5	–	2.2%	2.6%	1.6%	–
<b>Psychological distress</b>	–	–	–	0.29	–	–	–	0.650
Percentage with none/low	27.3%, 502	27.8%, 343	26.2%, 159	–	27.5%	27.3%	27.7%	–
Percentage with moderate psychological distress	44.1%, 810	44%, 542	44.2%, 268	–	44.6%	43.4%	46%	–
Percentage with severe mental illness	23.4%, 430	23.6%, 291	22.9%, 139	–	22.8%	24%	21.4%	–
<b>Access</b>	–	–	–	–	–	–	–	–
Logistical (mean, SD)	0.7, 0.6	0.7, 0.6	0.7, 0.7	0.316	0.7, 0.6	0.7, 0.6	0.7, 0.7	0.316
Attitudinal (mean, SD)	1, 0.6	1, 0.6	1, 0.6	0.0892	1, 0.6	1, 0.6	1, 0.6	0.089
Stigma (mean, SD)	0.8, 0.8	0.8, 0.8	0.8, 0.8	0.074	0.8, 0.8	0.8, 0.8	0.8, 0.8	0.074

NOTE: SD = standard deviation.

**Table C.7. Balance Table for Propensity Score Weighting of Retained Study Participants at 6 Months, Baseline Demographic Characteristics**

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 688)	C2C (n = 443)	Comparison (n = 245)	p-Value	Overall	C2C	Comparison	p-Value
<b>Age (mean, SD)</b>	31.4, 13.0	30.9, 12.5	32.4, 13.8	0.152	31.3, 12.8	31, 12.7	31.7, 13	0.507
<b>Gender (% , n)</b>	–	–	–	<.001	–	–	–	0.013
Male	36.9, 254	45.4, 201	21.6, 53	–	34.9%	40.7%	27.9%	–
Female	60.8, 418	51.9, 230	76.7, 188	–	62.6%	56.7%	69.6%	–
Transgender, genderqueer, or other	2.3, 16	2.7, 12		–	2.5%	2.5%	2.5%	–
<b>Race/ethnicity (% , n)</b>	–	–	–	0.481	–	–	–	0.502
Hispanic	42.3, 291	43.1, 191	40.8, 100	–	42.4%	43.8%	40.7%	–
Black	46.1, 317	44.5, 197	49, 120	–	46.2%	44.1%	48.7%	–
White	2.9, 20	3.2, 14	2.4, 6	–	2.7%	2.9%	2.4%	–
Other	8, 55	8.8, 39	6.5, 16	–	8%	8.8%	7%	–
<b>Income level (% , n)</b>	–	–	–	0.486	–	–	–	0.826
Less than \$5,000	39.2, 270	40.2, 178	37.6, 92	–	40.1%	39.7%	40.6%	–
\$5,000–10,000	12.8, 88	13.3, 59	11.8, 29	–	12.7%	13.6%	11.6%	–
\$10,001–20,000	11.2, 77	11.7, 52	10.2, 25	–	11.1%	11.8%	10.4%	–
\$20,001–30,000	4.1, 28	3.4, 15	5.3, 13	–	4%	3.7%	4.4%	–
\$30,001–40,000	3.8, 26	4.1, 18	3.3, 8	–	3.5%	3.9%	3%	–
More than \$40,000	3.1, 21	2.3, 10	4.5, 11	–	2.8%	2.1%	3.8%	–
<b>Education level (% , n)</b>	–	–	–	0.428	–	–	–	0.771
Less than high school	28.3, 195	28.7, 127	27.8, 68	–	29.2%	28.5%	30%	–
Completed high school diploma or GED	34, 234	36.1, 160	30.2, 74	–	32.4%	34.4%	29.9%	–
Some college	24.7, 170	22.3, 99	29, 71	–	24.7%	23.2%	26.6%	–
Completed college	9.9, 68	10.2, 45	9.4, 23	–	10.2%	10.8%	9.4%	–
Some graduate or professional school	0.7, 5			–	0.8%	0.8%	0.8%	–
Completed graduate or professional school	2.2, 15	1.8, 8	2.9, 7	–	2.7%	2.1%	3.3%	–
<b>Employment status (% , n)</b>	–	–	–	<.001	–	–	–	0.662
Unemployed	56.5, 389	63.7, 282	43.7, 107	–	55%	60%	48.9%	–
Student	12.8, 88	11.5, 51	15.1, 37	–	13%	12.1%	14.1%	–

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 688)	C2C (n = 443)	Comparison (n = 245)	p-Value	Overall	C2C	Comparison	p-Value
Employed part-time	15.8, 109	13.8, 61	19.6, 48	–	17.1%	15.1%	19.5%	–
Employed full-time	9, 62	7.9, 35	11, 27	–	9.1%	8.9%	9.3%	–
Retired and not working	1.5, 10		3.3, 8	–	1.3%	0.6%	2.2%	–
Homemaker	1.3, 9		2, 5	–	1.3%	1.1%	1.6%	–
Disabled or too ill to work	2.5, 17	1.1, 5	4.9, 12	–	2.6%	1.5%	4%	–
Other				–	0.6%	0.8%	0.5%	–
<b>Housing status (% , n)</b>	–	–	–	<.001	–	–	–	0.021
Stably housed	45.6, 314	42.2, 187	51.8, 127	–	47.1%	44.5%	50.3%	–
Staying with someone else	35, 241	35.4, 157	34.3, 84	–	35%	34.7%	35.3%	–
Transitional/temporary	8.7, 60	11.7, 52	3.3, 8	–	7.4%	10.5%	3.6%	–
Homeless/unstably housed	9.7, 67	10.2, 45	9, 22	–	9.5%	9.9%	9.1%	–
Past-year homelessness	15.1, 104	18.3, 81	9.4, 23	0.00148	13.6%	16.6%	10%	0.028
<b>Incarcerations status</b>	–	–	–	<.001	–	–	–	0.097
No	89.7%, 617	86.5%, 234	95.5%, 383	–	90.7%	88.4%	93.5%	–
Yes	10%, 69	13.3%, 59	4.1%, 10	–	9%	11.4%	6%	–
<b>Target population</b>	–	–	–	–	–	–	–	–
Young adults ages 16 to 24 who are not in school and not employed	21.1%, 145	21.4%, 95	20.4%, 50	0.750	19.8%	19.9%	19.7%	0.947
Adults age 18 or older who are unemployed (or are underemployed)	67.3%, 463	71.8%, 318	59.2%, 145	–	67.2%	69.6%	64.2%	0.163
Caregivers and parents who are expecting or who have children up to the age of 4	23.1%, 159	22.3%, 99	24.5%, 60	0.664	23.6%	23.8%	23.4%	0.322
<b>CBO service type</b>	–	–	–	–	–	–	–	0.365
Job training and employment program	61.3%, 422	66.8%, 296	51.4%, 126	–	59.1%	62.6%	54.9%	–
Youth development program	23%, 158	19%, 84	30.2%, 74	–	24%	21.3%	27.2%	–
Homeless shelter	1.2%, 8		2.4%, 6	–	1.3%	0.8%	2%	–
Parent/caregiver-serving organizations	6.4%, 44	5.6%, 25	7.8%, 19	–	6.8%	7%	6.5%	–
Domestic violence agency	4.7%, 32	4.5%, 20	4.9%, 12	–	5.1%	4.7%	5.6%	–
Latino/Hispanic agency	3.5%, 24	3.6%, 16	3.3%, 8	–	3.7%	3.7%	3.8%	–

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.8. Balance Table for Propensity Score Weighting of Retained Study Participants at 6 Months, Baseline Mental Health Symptoms**

Outcomes	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 688)	C2C (n = 443)	Comparison (n = 245)	p-Value	Overall	C2C	Comparison	p-Value
<b>Depression (% , n)</b>	–	–	–	<.001	–	–	–	<.001
None—minimal	28.3, 195	34.1, 151	18, 44	–	25.2%	30.7%	18.6%	–
Mild	34, 234	29.1, 129	42.9, 105	–	37.6%	32.2%	44.2%	–
Moderate	21.9, 151	21.7, 96	22.4, 55	–	21%	21.6%	20.2%	–
Moderately severe	9.9, 68	9, 40	11.4, 28	–	10.6%	9.5%	11.9%	–
Severe	4.7, 32	5.2, 23	3.7, 9	–	4.4%	5.1%	3.7%	–
<b>Anxiety (% , n)</b>	–	–	–	0.248	–	–	–	0.359
Mild	60.5, 416	60.3, 267	60.8, 149	–	60.6%	60.4%	60.9%	–
Moderate	24.3, 167	24.6, 109	23.7, 58	–	24.7%	24.7%	24.6%	–
Severe	14.2, 98	14.7, 65	13.5, 33	–	13.7%	14.5%	12.8%	–
<b>PTSD (% , n)</b>	–	–	–	0.352	–	–	–	0.427
Positive screen	50.1, 345	51.5, 228	47.8, 117	–	49.9%	51.4%	48.1%	–
No positive screen	49.9, 343	48.5, 215	52.2, 128	–	50.1%	48.6%	51.9%	–
<b>Alcohol use (% , n)</b>	–	–	–	0.259	–	–	–	0.629
None	81.5, 561	79.2, 351	85.7, 210	–	82.7%	81%	84.8%	–
Harmful/hazardous drinking	9.6, 66	10.8, 48	7.3, 18	–	9.4%	10.2%	8.5%	–
Alcohol dependence	7.8, 54	8.6, 38	6.5, 16	–	7%	7.6%	6.2%	–
Other				–	0.2%	0.4%	0%	–
<b>Substance use (% , n)</b>	–	–	–	<.001	–	–	–	0.036
None	45.1, 310	39.7, 176	54.7, 134	–	46.7%	44%	50.1%	–
Low	31.7, 218	33.2, 147	29, 71	–	32.5%	32.5%	32.4%	–
Intermediate	14.7, 101	16.5, 73	11.4, 28	–	13.1%	14.8%	11%	–
Substantial	5.4, 37	7.2, 32		–	4.2%	5.9%	2.2%	–
Severe	2.2, 15	2.9, 13		–	2%	2.3%	1.5%	–
<b>Psychological distress</b>	–	–	–	0.781	–	–	–	0.890
% with none/low	26.9%, 185	26%, 115	28.6%, 70	–	27.7%	26.9%	28.8%	–
% with moderate psychological distress	46.7%, 321	47.2%, 209	45.7%, 112	–	46.3%	46.9%	45.6%	–
% with severe mental illness	25.7%, 177	26%, 115	25.3%, 62	–	25.2%	25.3%	25.1%	–
<b>Access</b>	–	–	–	–	–	–	–	–
Logistical (mean, SD)	0.8, 0.7	0.8, 0.7	0.7, 0.7	0.223	0.7, 0.7	0.8, 0.7	0.7, 0.7	0.532
Attitudinal (mean, SD)	1, 0.6	1, 0.6	0.9, 0.6	0.0402	1, 0.6	1, 0.6	0.9, 0.6	0.240
Stigma (mean, SD)	0.8, 0.8	0.8, 0.8	0.8, 0.8	0.651	0.8, 0.8	0.8, 0.8	0.8, 0.8	0.976

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.9. Balance Table for Propensity Score Weighting of Retained Study Participants at 12 Months, Baseline Demographic Characteristics**

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 732)	C2C (n = 464)	Comparison (n = 268)	p-Value	Overall	C2C	Comparison	p-Value
<b>Age (mean, SD)</b>	31.6, 13.4	30.9, 12.6	33, 14.6	0.054	31.7, 13.3	31, 12.8	32.6, 13.8	0.138
<b>Gender (% , n)</b>	–	–	–	<.001	–	–	–	0.013
Male	35, 256	43.3, 201	20.5, 55	–	33.5%	38.5%	27.6%	–
Female	62.7, 459	53.7, 249	78.4, 210	–	64.2%	58.5%	70.9%	–
Transgender, gender queer, or other	2.3, 17	3, 14		–	2.3%	2.9%	1.5%	–
<b>Race/ethnicity (% , n)</b>	–	–	–	0.164	–	–	–	0.392
Hispanic	41.3, 302	39.7, 184	44, 118	–	41.7%	40.7%	43%	–
Black	47.5, 348	47, 218	48.5, 130	–	47.6%	46.6%	48.9%	–
White	2.3, 17	2.6, 12	1.9, 5	–	2.3%	2.5%	2.1%	–
Other	8.5, 62	10.3, 48	5.2, 14	–	8%	10%	5.6%	–
<b>Income level (% , n)</b>	–	–	–	0.590	–	–	–	0.879
Less than \$5,000	43.4, 318	44.4, 206	41.8, 112	–	44%	44.3%	43.6%	–
\$5,000–10,000	12.7, 93	13.6, 63	11.2, 30	–	11.8%	13.1%	10.3%	–
\$10,001–20,000	10.2, 75	10.1, 47	10.4, 28	–	10.5%	10.5%	10.5%	–
\$20,001–30,000	4.5, 33	4.3, 20	4.9, 13	–	4.5%	4.3%	4.7%	–
\$30,001–40,000	3.4, 25	3.9, 18	2.6, 7	–	3.6%	3.7%	3.4%	–
More than \$40,000	3, 22	2.4, 11	4.1, 11	–	2.9%	2.3%	3.6%	–
<b>Education level (% , n)</b>	–	–	–	0.808	–	–	–	0.869
Less than high school	27, 198	27.4, 127	26.5, 71	–	27.5%	27.4%	27.6%	–
Completed high school with diploma or GED	33.7, 247	34.7, 161	32.1, 86	–	33.1%	34.1%	31.8%	–
Some college	25.3, 185	23.5, 109	28.4, 76	–	24.6%	23%	26.4%	–
Completed college	10.7, 78	11.4, 53	9.3, 25	–	11%	12.1%	9.7%	–
Some graduate or professional school	0.7, 5			–	0.8%	0.7%	0.9%	–
Completed graduate or professional school	2.3, 17	2.2, 10	2.6, 7	–	2.7%	2.3%	3.2%	–
<b>Employment status (% , n)</b>	–	–	–	<.001	–	–	–	0.086
Unemployed	56.6, 414	65.5, 304	41, 110	–	55%	60.3%	48.7%	–
Student	12.3, 90	10.8, 50	14.9, 40	–	12.7%	11.5%	14.2%	–



Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 732)	C2C (n = 464)	Comparison (n = 268)	p-Value	Overall	C2C	Comparison	p-Value
Employed part-time	15.3, 112	13.4, 62	18.7, 50	–	15.9%	15.2%	16.8%	–
Employed full-time	9, 66	7.5, 35	11.6, 31	–	9.4%	8.5%	10.5%	–
Retired and not working	2, 15		4.9, 13	–	1.8%	0.7%	3.2%	–
Homemaker	1.2, 9		2.2, 6	–	1.3%	1.1%	1.6%	–
Disabled or too ill to work	3.1, 23	1.5, 7	6, 16	–	3.4%	2.5%	4.4%	–
Other				–	0.1%	0%	0.2%	–
<b>Housing status (% , n)</b>	–	–	–	<.001	–	–	–	0.054
Stably housed	46.4, 340	43.8, 203	51.1, 137	–	48%	45.5%	51.1%	–
Staying with someone else	33.7, 247	33.4, 155	34.3, 92	–	33.5%	33.1%	34%	–
Transitional/temporary	7.5, 55	10.1, 47	3, 8	–	6.4%	9%	3.3%	–
Homeless/unstably housed	11.2, 82	11.9, 55	10.1, 27	–	11%	11.5%	10.4%	–
Past-year homelessness	14.8, 108	16.4, 76	11.9, 32	0.155	14.2%	15.3%	13%	0.358
<b>Incarcerations status</b>	–	–	–	<.001	–	–	–	0.023
No	90, 659	86, 399	97, 260	–	91.4%	88.3%	95.1%	–
Yes	9.8, 72	13.8, 64	3, 8	–	8.5%	11.5%	4.9%	–
<b>Target population</b>	–	–	–	–	–	–	–	–
Young adults aged 16 to 24 who are not in school and not employed	21.3, 156	22.4, 104	19.4, 52	0.272	20%	21%	18.9%	0.454
Adults age 18 or older who are unemployed (or are underemployed)	66.7, 488	72.4, 336	56.7, 152	<.001	66.4%	69.4%	62.8%	0.202
Caregivers and parents who are expecting or have children up to age 4	23.4, 171	23.3, 108	23.5, 63	0.971	24.5%	25%	23.8%	0.740
<b>CBO service type</b>	–	–	–	<.001	–	–	–	0.195
Job training and employment program	21.9, 160	17.2, 80	29.9, 80	–	59.7%	61.5%	57.5%	–
Youth development program	1.4, 10		3, 8	–	22.5%	19.9%	25.5%	–
Homeless shelter	6.1, 45	5, 23	8.2, 22	–	1.3%	0.7%	2.1%	–
Parent/caregiver-serving organizations	5.3, 39	5.8, 27	4.5, 12	–	7%	7%	7%	–
Domestic violence agency	4.1, 30	5.2, 24	2.2, 6	–	5.7%	6%	5.3%	–
Latino/Hispanic agency	21.9, 160	17.2, 80	29.9, 80	–	3.8%	4.9%	2.4%	–

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.10. Balance Table for Propensity Score Weighting of Retained Study Participants at 12 Months, Baseline Outcomes**

Outcomes	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 732)	C2C (n = 464)	Comparison (n = 268)	p-Value	Overall	C2C	Comparison	p-Value
<b>Depression (% , n)</b>	–	–	–	0.024	–	–	–	0.157
None—minimal	27.5, 201	31.7, 147	20.1, 54	–	24.6%	28.6%	19.8%	–
Mild	33.9, 248	31.2, 145	38.4, 103	–	35.7%	33.3%	38.6%	–
Moderate	23.1, 169	21.3, 99	26.1, 70	–	23.5%	22.4%	24.8%	–
Moderately severe	9.7, 71	9.7, 45	9.7, 26	–	11%	9.9%	12.2%	–
Severe	4.6, 34	5, 23	4.1, 11	–	4.2%	4.7%	3.6%	–
<b>Anxiety (% , n)</b>	–	–	–	0.607	–	–	–	0.750
Mild	59.8, 438	59.1, 274	61.2, 164	–	58.7%	57.9%	59.6%	–
Moderate	25.1, 184	25.4, 118	24.6, 66	–	27.1%	27.1%	27.1%	–
Severe	14.3, 105	15.1, 70	13.1, 35	–	13.7%	14.7%	12.6%	–
<b>PTSD (% , n)</b>	–	–	–	0.054	–	–	–	0.205
Positive screen	51, 373	53.7, 249	46.3, 124	–	51.4%	53.8%	48.6%	–
No positive screen	49, 359	46.3, 215	53.7, 144	–	48.6%	46.2%	51.4%	–
<b>Alcohol use (% , n)</b>	–	–	–	0.219	–	–	–	0.601
None	80.9, 592	78.9, 366	84.3, 226	–	81.6%	80.7%	82.7%	–
Harmful/hazardous drinking	8.7, 64	9.9, 46	6.7, 18	–	8.7%	9.2%	8.2%	–
Alcohol dependence	9.4, 69	9.9, 46	8.6, 23	–	8.9%	8.9%	8.9%	–
Other	–	–	–	–	–	–	–	–
<b>Substance use (% , n)</b>	–	–	–	<.001	–	–	–	0.185
None	42.9, 314	37.7, 175	51.9, 139	–	43.9%	39.7%	48.8%	–
Low	32.4, 237	34.1, 158	29.5, 79	–	32.2%	33.9%	30.2%	–
Intermediate	14.6, 107	15.7, 73	12.7, 34	–	14.4%	15.2%	13.6%	–
Substantial	7, 51	8.8, 41	3.7, 10	–	6.5%	8.1%	4.6%	–
Severe	2.2, 16	2.8, 13	–	–	1.8%	2.2%	1.2%	–
<b>Psychological distress</b>	–	–	–	0.736	–	–	–	0.867
% with none/low	24.9, 182	23.7, 110	26.9, 72	–	24.5%	23.6%	25.6%	–
% with moderate psychological distress	48.8, 357	48.9, 227	48.5, 130	–	49.6%	49.5%	49.7%	–
% with severe mental illness	25.4, 186	26.3, 122	23.9, 64	–	25%	25.7%	24.1%	–
<b>Access (mean, SD)</b>	–	–	–	–	–	–	–	–
Logistical (mean, SD)	0.8, 0.7	0.8, 0.6	0.7, 0.7	0.104	0.8, 0.7	0.8, 0.6	0.7, 0.7	0.644
Attitudinal (mean, SD)	1, 0.6	1.1, 0.6	0.9, 0.6	<.001	1, 0.6	1, 0.6	0.9, 0.6	0.063
Stigma (mean, SD)	0.8, 0.8	0.9, 0.8	0.8, 0.8	0.030	0.8, 0.8	0.9, 0.8	0.8, 0.8	0.183

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.11. Balance Table for Propensity Score Weighting of Retained Study Participants at Either 6 or 12 Months, Baseline Demographic Characteristics, Unmet Need Sample for Pooled 1-Year Utilization-Related Outcomes**

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 756)	C2C (n = 498)	Comparison (n = 258)	p-Value	Overall	C2C	Comparison	p-Value
<b>Age (mean, SD)</b>	31.1, 12.9	30.7, 12.2	31.9, 14.1	0.257	31, 12.7	30.5, 12.3	31.7, 13.2	0.263
<b>Gender (% , n)</b>	–	–	–	<.001	–	–	–	0.023
Male	37.2, 281	44.4, 221	23.3, 60	–	35.8%	41%	29.7%	–
Female	60.6, 458	52.6, 262	76, 196	–	62.1%	56.2%	69%	–
Transgender, genderqueer, or other	2.2, 17	3, 15		–	2.1%	2.8%	1.3%	–
<b>Race/ethnicity (% , n)</b>	–	–	–	0.580	–	–	–	0.725
Hispanic	40.9, 309	40.8, 203	41.1, 106	–	42.4%	41.7%	43.3%	–
Black	47, 355	46.2, 230	48.4, 125	–	45.4%	45.3%	45.4%	–
White	3, 23	3.6, 18	1.9, 5	–	3%	3.7%	2.2%	–
Other	8.3, 63	8.8, 44	7.4, 19	–	8.4%	8.8%	8%	–
<b>Income level (% , n)</b>	–	–	–	0.537	–	–	–	0.728
Less than \$5,000	43.8, 331	43.6, 217	44.2, 114	–	45.2%	43.8%	46.8%	–
\$5,000–10,000	13.5, 102	14.1, 70	12.4, 32	–	12.6%	13.9%	11.1%	–
\$10,001–20,000	10.2, 77	11.4, 57	7.8, 20	–	10.3%	11.4%	9%	–
\$20,001–30,000	3.3, 25	3, 15	3.9, 10	–	4.1%	3.4%	5%	–
\$30,001–40,000	3.4, 26	3.4, 17	3.5, 9	–	4%	3.5%	4.6%	–
More than \$40,000	2.8, 21	2.2, 11	3.9, 10	–	2.3%	2%	2.7%	–
<b>Education level (% , n)</b>	–	–	–	0.247	–	–	–	0.620
Less than high school	27.8, 210	27.1, 135	29.1, 75	–	29.1%	27.1%	31.5%	–
Completed high school with diploma or GED	34.4, 260	35.1, 175	32.9, 85	–	34.5%	35.8%	32.9%	–
Some college	26.3, 199	24.3, 121	30.2, 78	–	25.6%	24.6%	26.9%	–
Completed college	9.4, 71	11, 55	6.2, 16	–	8.8%	10.2%	7%	–
Some graduate or professional school				–	0.5%	0.6%	0.3%	–
Completed graduate or professional school	1.5, 11	1.6, 8		–	1.4%	1.5%	1.3%	–
<b>Employment status (% , n)</b>	–	–	–	<.001	–	–	–	0.612
Unemployed	59, 446	65.9, 328	45.7, 118	–	58.1%	60.7%	55%	–
Student	11.8, 89	10.4, 52	14.3, 37	–	11.6%	11.3%	11.8%	–

Participant Demographic Characteristic	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 756)	C2C (n = 498)	Comparison (n = 258)	p-Value	Overall	C2C	Comparison	p-Value
Employed part-time	14.8, 112	14.5, 72	15.5, 40	–	15.7%	15.2%	16.3%	–
Employed full-time	7.4, 56	6.2, 31	9.7, 25	–	7.4%	7.3%	7.5%	–
Retired and not working	1.6, 12		3.9, 10	–	1.3%	0.7%	2%	–
Homemaker	0.9, 7			–	1.2%	1.2%	1.3%	–
Disabled or too ill to work	3.7, 28	1.4, 7	8.1, 21	–	3.8%	2.8%	5.1%	–
Other	0.7, 5			–	0.6%	0.8%	0.5%	–
<b>Housing status (% , n)</b>	–	–	–	<.001	–	–	–	0.014
Stably housed	45.8, 346	43.6, 217	50, 129	–	48.1%	45.5%	51.2%	–
Staying with someone else	34.8, 263	33.7, 168	36.8, 95	–	34.5%	33.9%	35.3%	–
Transitional/temporary	7.8, 59	10.8, 54	1.9, 5	–	5.9%	9%	2.2%	–
Homeless/unstably housed	11, 83	11.4, 57	10.1, 26	–	10.8%	11.2%	10.2%	–
Past-year homelessness	17.6, 133	20.5, 102	12, 31	0.001	16.4%	18.2%	14.3%	0.092
Incarcerations status	–	–	–	0.001	–	–	–	0.162
No	88.9, 672	85.9, 428	94.6, 244	–	89.9%	87.9%	92.4%	–
Yes	10.8, 82	13.9, 69	5, 13	–	9.8%	11.9%	7.2%	–
<b>Target population</b>	–	–	–	–	–	–	–	–
Young adults aged 16 to 24 who are not in school and not employed	22.9, 173	22.3, 111	24, 62	0.589	22.3%	21.7%	23%	0.715
Adults age 18 or older who are unemployed (or are underemployed)	68, 514	73.5, 366	57.4, 148	<.001	68.7%	69.3%	68%	0.736
Caregivers and parents who are expecting or have children up to age 4	21.3, 161	22.1, 110	19.8, 51	0.692	21.2%	22.5%	19.7%	0.435
<b>CBO service type</b>	–	–	–	<.001	–	–	–	0.042
Job training and employment program	62.4, 472	67.3, 335	53.1, 137	–	62.9%	63.5%	62.1%	–
Youth development program	22.8, 172	17.3, 86	33.3, 86	–	22.6%	20.6%	24.9%	–
Homeless shelter	1.2, 9		3.5, 9	–	1%	0%	2.3%	–
Parent/caregiver-serving organization	4.2, 32	4.2, 21	4.3, 11	–	4.4%	5.2%	3.6%	–
Domestic violence agency	5.2, 39	6, 30	3.5, 9	–	5.1%	5.9%	4.1%	–
Latino/Hispanic agency	4.2, 32	5.2, 26	2.3, 6	–	4%	4.8%	3%	–

NOTES: Cells shaded in gray indicate a sample size less than 5. SD = standard deviation.

**Table C.12. Balance Table for Propensity Score Weighting of Retained Study Participants at Either 6 or 12 Months, Baseline Outcomes, Unmet Need Sample for Pooled 1-Year Utilization-Related Outcomes**

Outcomes	Unweighted Sample				Propensity Score Weighted Sample			
	Overall (n = 756)	C2C (n = 498)	Comparison (n = 258)	p-Value	Overall	C2C	Comparison	p-Value
<b>Utilization</b>	–	–	–	–	–	–	–	–
Visits to outpatient MH provider <sup>a</sup> (mean, SD)	4.1, 10	4.5, 10.8	3.3, 8.2	0.100	4, 9.4	4.3, 10.4	3.6, 8.1	0.358
Nights in residential treatment program for alcohol or drug problems <sup>a</sup> (mean, SD)	3.8, 22.2	5.5, 27.1	0.4, 4.2	<.001	2.5, 18	4.5, 24.2	0.2, 3.1	<.001
<b>Nonclinical providers</b>	–	–	–	–	–	–	–	–
Used any nonclinical settings or resources (includes self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs) <sup>a</sup>	37.2, 281	41.4, 206	29.1, 75	0.004	36.3%	39.1%	32.9%	0.273
<b>Inpatient settings</b>								
Stayed in inpatient setting (includes one or more nights in a residential treatment program for alcohol or drug problems or stayed overnight in a hospital for emotional, mental health, alcohol, or drug problems) <sup>b</sup>	29.9, 226	33.5, 167	22.9, 59	0.010	27.1%	32%	21.3%	0.012
<b>Emergency settings</b>	–	–	–	–	–	–	–	–
Went to a hospital, emergency room, urgent care facility, any health reasons <sup>a</sup>	40.7, 308	40.6, 202	41.1, 106	0.120	41.5%	41.4%	41.6%	0.126

NOTE: SD = standard deviation.

<sup>a</sup> Past 6 months.

<sup>b</sup> One or more nights in residential treatment program for alcohol/drug problem (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

## *Subgroup Balance Tables*

Available on request.

### *C6.2. Avoiding False Discovery with Multiple Comparisons*

When conducting large numbers of simultaneous hypothesis tests, as was done in this study, it is important to account for the possibility that some results will achieve statistical significance simply by chance. Using a traditional 95% CI, for example, RAND expects 1 in 20 comparisons to achieve statistical significance as a result of random error or chance alone. Adjustments were therefore made to account for false positives (or Type I errors) due to large numbers of comparisons having been made.

We addressed false positives using the false discovery rate method (Benjamini and Hochberg, 1995), which allows the analyst to bound the expected fraction of rejected null hypotheses that are mistakenly rejected (i.e., “false discoveries”). The rejection decision for each hypothesis in the family of tests is a simple function of the rank of the p-value of the test, the total number of tests, and the chosen false discovery rate.

As described above, we specified confirmatory and exploratory hypotheses. Assessments of statistical significance were based on applying the false discovery rate procedure separately to all of the confirmatory and exploratory outcome tests in this report using a false discovery rate of 0.05. We also applied the false discovery rate procedure separately for different groups of outcomes as well as the different subgroup analyses. Although this slightly raises the chance of false discovery, the false discovery rate procedure assumes all tests are independent. This was clearly not the case, so if we were to control for all tests simultaneously, we would expect our tests to be underpowered. Accordingly, we ran the procedure within analytic subsets, and we control the rate of errors within each subset. Thus, the p-values used to determine significance differ for each set of analyses, depending on the number of tests conducted. In each case, we give information about the p-values required to determine significance. However, information is also presented about nonsignificant trends observed between  $p < 0.05$  and the false discovery rate cutoff to indicate those results that are approaching statistical significance.

### *C6.3. Interpretation of Analysis Results*

We first conducted descriptive analyses to summarize the sample baseline characteristics and the outcome variables. We tested for differences in characteristics between the C2C and comparison groups using *t*-tests and chi-squared tests. We also examined whether those participants who were lost to follow-up differed in any systematic way from those who were retained, using *t*-tests and chi-squared tests.

For the *primary research question in each outcome chapter*, we conducted the following series of analyses for each outcome using propensity score weights.

**Differences within groups at baseline and each follow-up assessment.** We examined differences within the C2C group and comparison group at baseline and each follow-up assessment for all of the outcomes. Although this method cannot show intervention effects, it can show the

magnitude and direction of changes within both C2C and comparison groups and thus is useful for describing the type of change observed. We tested for differences within group using paired *t*-tests for continuous outcomes and McNemar's test for binary outcomes.

**Differences between groups over time.** We examined differences between groups over time using chi-squared tests, linear regression, and logistic regression models. For the regression models, we present the propensity score weighted models when the sample size is more than 10 per group, outcome pair, and we present the doubly robust models when the sample size is more than 20 per group, outcome pair. These models were weighted using the inverse propensity score weights and the coefficient corresponding to the treatment indicator was tested for significance using *t*-tests.

**Intervention effects over time.** We examined intervention effects over time using an intent-to-treat approach in which we compared all individuals in the C2C group with all those in the comparison group, regardless of the actual amount of intervention that the C2C group received.

- **Propensity score weighted models.** Because any change in outcomes observed can potentially be the result of a time trend observed in all individuals in the study, we used a difference-in-differences method with the propensity score weights to assess C2C's unadjusted impact (when the sample is at least ten per group, outcome pairing). With continuous outcomes, the unadjusted difference in differences is the difference between the average change in an individual's outcome from baseline to follow-up between the C2C and comparison groups. For binary outcomes, the unadjusted difference in differences is the change in the proportion between baseline and follow-up, contrasted between the C2C and comparison groups, which is transformed and interpreted as an odd ratio.
- **Doubly robust models.** At the 6- and 12-month follow-ups, we also conducted multiple linear regressions on the continuous outcomes and linear probability regressions on the binary outcomes to test for the difference in differences via main effects and the interaction between intervention status and time after controlling for demographic characteristics at baseline and follow-up (age, gender, race/ethnicity, income, employment status, education level, housing status, recent homelessness, and incarceration status) and subgroup (target population, CBO service type). We also included baseline outcome values for the corresponding outcome models to control for any potential differences in changes based on individuals' starting values. We selected these characteristics to correct for any potential imbalance in the groups by relevant demographic or other characteristics. We present the doubly robust models when the sample size is more than 20 per group. For continuous outcomes, we report Cohen's *d* as the standardized effect size. For binary outcomes, we report the OR as the effect size. The standardized effect size was always derived from the doubly robust model.

For the *secondary research question of whether C2C program effectiveness varied for different target populations (e.g., adults age 18 or older who are unemployed or underemployed, young adults ages 16–24 who are not in school and are not employed, and parents/primary caregivers who are expecting or who have children up to the age of 4) or CBO service types (e.g., job training and employment program, youth development program)*, we conducted this same series of analyses using propensity score weighting recomputed for each subgroup analysis.



#### C6.4. Power analysis

**Power analysis.** For the client survey, we retained a total of 689 participants in the study at 6 months and 732 at 12 months. Given the sample size, there was sufficient power to detect an intervention effect of size 0.223 at 6 months and 0.215 at 12 months, which are medium-sized effects according to Cohen’s effect size classification (Cohen, 1988). For the pooled utilization analysis that combined 6- and 12-month data, there was sufficient power to detect a small intervention effect size (0.215).

### C7. Study Enrollment, Retention, and Sample Characteristics

#### C7.1. Participant Enrollment and Retention

As described earlier, to be eligible, participants must have screened positive on at least one of the five screeners using the lower study eligibility thresholds. Overall, 2,600 C2C eligibility screenings were completed, 64 percent of which were from the C2C group and 36 percent from the comparison group (Table C.13). This total number of screenings fell below the target of 3,125.

**Table C.13. Final Study Enrollment**

	Total	C2C Group	Comparison Group
Completed study eligibility screenings	2,600	1,657	943
Eligible based on screenings	2,106	1,359	747
Percentage screened → eligible	81	82	79
Completed baseline surveys	1,838 <sup>a</sup>	1,232	606
Percentage eligible → completed baselines	87	91	81

<sup>a</sup> Initially, there were 1,860 completed baseline surveys. After data cleaning and processing, the total decreased to 1,838 usable surveys.

Recruitment for participants from the C2C CBOs typically started earlier than comparison CBOs, because the latter entered into agreements with us later in the course of the project. Overall, 81 percent of individuals screened were eligible for the study, meaning scores met the minimum threshold for at least one of the five measures on the eligibility screener (see Table C.13). Individuals who screened as eligible were offered the opportunity to participate in the study. Subsequent baseline surveys were completed for 87 percent of eligible screenings overall, above the target of 80 percent of eligibility screenings. The baseline completion rate was somewhat higher at C2C CBOs (91 percent) than comparison group CBOs (81 percent).

Some of the client-level challenges to completing study screenings and enrolling participants in the study included competing demands for attention (e.g., participating in CBO classes), time constraints (e.g., parents from parent/caregiver-serving organization sites being approached at drop-off or pickup), and fatigue/disinterest in the client survey after in-depth psychosocial intake processes at some C2C sites, especially those serving youth. Other structural issues contributed

to lower-than-anticipated recruitment and enrollment. These included low client turnover at some CBOs (e.g., homeless shelters, parent/caregiver-serving organizations), small client populations at comparison CBOs, and a smaller pool of C2C participants due to C2C program enrollment lower than originally estimated, or delays in approval to recruit certain groups of clients within the CBO (e.g., parolees).

At both C2C and comparison CBOs, other recruitment challenges related to the data collection process, including a need for customization and ongoing adjustments to the data collection process at each site (e.g., messaging, workflow, staff training), limited private space to conduct screenings, variable staff buy-in and support, and high CBO staff turnover that resulted in breaks in continuity for data collection activities. Further, at C2C CBOs, there was often only a small window of time to conduct the baseline assessment before clients received more in-depth C2C services. The data collection workflow was also sometimes seen as extraneous to C2C implementation by CBO staff. Finally, there was a 2-week data collection suspension of study enrollment because of contractual issues with the Mayor’s Fund.

Table C.14 shows the enrollment by group, comparing the actual enrollment with the target enrollment needed for power, using our initial assumption of an 80-percent retention rate. With total enrollment of 1,838, the study enrolled less than the sample size required to detect a small intervention effect (74 percent of target). The overall retention rates at 6 and 12 months meant that it retained a total of 688 participants in the study at 6 months and 732 at 12 months, which was below the number necessary (34 and 37 percent, respectively) to have an 80-percent chance of detecting a small intervention effect ( $d \approx 0.20$ ). Given the sample size, there was sufficient power to detect an intervention effect of size 0.223 at 6 months and 0.215 at 12 months, according to Cohen’s effect size classification (Cohen, 1988).

**Table C.14. Required Versus Actual Enrollment for a Small Effect Size**

<b>Requirement</b>	<b>Total</b>	<b>C2C Group</b>	<b>Comparison Group</b>
Enrolled sample needed for power	2,500	1,250	1,250
Total enrollment	1,838	1,232	606
Percentage of needed enrollment	74	99	48
Retained sample needed for power	2,000	1,000	1,000
Retained sample, 6 months	688	443	245
Percentage of needed retention, 6 months	34	44	25
Retained sample, 12 months	732	464	268
Percentage of needed retention, 12 months	37	46	27
Retained at one or more time points (pooled 6 and 12 months)	904	584	320
Percentage of needed retention, pooled 6- and 12-month analysis	45	58	32

As noted above, the study enrolled a total of 1,838 participants in the study, with 1,232 in the intervention group and 606 in the comparison group. In Table C.15, we present the number and

percentage of all enrollees who were eligible for participation at each data collection time point. As shown, 36 percent of the participants in the C2C group and 40 percent of the participants in the comparison group were retained for the 6-month assessment. Retention for participants at 12 months was 38 percent for the C2C group and 44 percent for the comparison group.

**Table C.15. Retention of Participants Eligible to Participate at Each Time Point**

<b>Participants</b>	<b>6 Months</b>	<b>12 Months</b>	<b>1 Year (Pooled 6 and 12 Months)</b>
Intervention (C2C)			
Completed	443	464	584
Eligible	1,232	1,232	1,232
Retention rate (%)	36	38	47
Comparison			
Completed	245	268	320
Eligible	606	606	606
Retention rate (%)	40	44	53
Total			
Completed	688	732	904
Eligible	1,838	1,838	1,838
Retention rate (%)	37	40	49

Retention-related challenges included the

- inability to reach participants by phone due to disconnected numbers, temporarily suspended numbers, changed phone numbers, or full voicemail boxes
- Inability to reach participants by email due to participant typographical errors in provided email addresses
- participants who did not recognize the C2C evaluation brand or their prior study participation because of differences in C2C messaging, branding, and implementation across CBOs
- participants who no longer engaged with CBO at time of follow-up
- participants dissatisfied with CBO experience who tended to decline or discontinue participation in the evaluation.

Across the three time points, 28 percent of study participants completed all three assessments (Table C.16). About one-fifth of the sample completed only the 6-month follow-up (9 percent) or only the 12-month follow-up (12 percent).

We also faced challenges because the assessment was time intensive (45–60 minutes) and covered sensitive and possibly distressing topics. Further, study contacts (e.g., scheduling calls, reminder emails and texts) competed with a surge in spam messages and “robo” phone calls. Recent studies suggest that telephone survey response rates have been slowly declining for reasons such as using caller ID to screen calls, growth in cell phone usage, increase in solicitations, and other factors (Czajka and Beyler, 2016).

**Table C.16. Study Participants by Time Point**

Time Point	Total		C2C Group		Comparison Group	
	<i>n</i>	percentage	<i>n</i>	percentage	<i>n</i>	percentage
Baseline only	934	51	648	53	286	47
Baseline + 6 months only	172	9	120	10	52	9
Baseline + 12 months only	216	12	141	11	75	12
Baseline + 6 months + 12 months	516	28	323	26	193	32
Baseline + one or more follow-up time points	904	49	584	47	320	53

Although we based our initial power analysis on a target 80-percent retention rate, study participants had very low income with high unemployment rates, unstable housing, and recent incarcerations. Other longitudinal studies, including those with disadvantaged populations, have had retention rates ranging from about 20 percent to nearly 100 percent (Altena et al., 2010; Davis, Broome, and Cox, 2002; Leonard et al., 2003; Teague et al., 2018).

We examined sample characteristics by study retention at 6 months to compare characteristics of the study participants at baseline with the sample retained at each follow-up. At 6 months, there were differences between those retained and those lost to follow-up by gender, age, educational attainment, and income (Table C.17). Study participants who were not surveyed at 6 months were more likely to be male (particularly in the comparison group), younger, have lower education levels, and have lower income (particularly the C2C group) at baseline. At 12 months, there were differences between those retained and those lost to follow-up by gender, age, educational attainment, employment status, and housing status (Table C.18). Study participants who were not surveyed at 12 months were more likely to be male, younger, have lower educational attainment, to have been unemployed, and to be less than stably housed at baseline.

**Table C.17. Baseline Sample Characteristics by Study Retention at 6 Months (Unweighted)**

Characteristics	Total			C2C Group			Comparison Group		
	Retained Sample at 6 Months (n = 688)	Sample Lost to Follow-Up at 6 Months (n = 1150)	p-Value	Retained Sample at 6 Months (n = 443)	Sample Lost to Follow-Up at 6 Months (n = 789)	p-Value	Retained Sample at 6 Months (n = 245)	Sample Lost to Follow-Up at 6 Months (n = 361)	p-Value
<b>Gender</b>			<.001			0.059			<.001
Male	36.9%	48.4%		45.4%	51.8%		21.6%	40.8%	
Female	60.8%	50.4%		51.9%	46.5%		76.7%	58.9%	
Transgender, genderqueer, or other	2.3%	1.2%		2.7%	1.7%		1.6%	0.3%	
<b>Age (mean, SD)</b>	31.4 (3.0)	29.3 (12.1)	.001	30.9 (12.5)	29.3 (11.9)	0.020	32.4 (13.8)	29.5 (12.8)	0.013
<b>Race/ethnicity</b>			0.516			0.286			0.649
Hispanic	42.6%	42.4%		43.3%	40.6%		41.3%	46.5%	
Black	46.4%	48%		44.7%	49.1%		49.6%	45.7%	
White	2.9%	3.2%		3.2%	3.7%		2.5%	2.2%	
Other	8.1%	6.3%		8.8%	6.6%		6.6%	5.6%	
<b>Education level</b>			0.001			0.029			0.015
Less than high school	28.4%	34.5%		28.7%	36.2%		27.8%	30.6%	
Completed high school with diploma or GED	34.1%	36.3%		36.2%	35.4%		30.2%	38.3%	
Some college	24.7%	22.1%		22.4%	20.4%		29%	25.9%	
Completed college	9.9%	5.4%		10.2%	5.8%		9.4%	4.3%	
Some graduate or professional school	0.7%	0.6%		0.7%	0.7%		0.8%	0.3%	
Completed or some graduate or professional school	2.2%	1.2%		1.8%	1.5%		2.9%	0.6%	
<b>Employment status</b>			0.169			0.386			0.357
Unemployed, looking for work	56.5%	63.3%		63.7%	68%		43.7%	52.6%	
Student	12.8%	11%		11.5%	11.9%		15.1%	9%	
Employed part-time	15.8%	14.8%		13.8%	13%		19.6%	18.9%	

Characteristics	Total			C2C Group			Comparison Group		
	Retained Sample at 6 Months (n = 688)	Sample Lost to Follow-Up at 6 Months (n = 1150)	p-Value	Retained Sample at 6 Months (n = 443)	Sample Lost to Follow-Up at 6 Months (n = 789)	p-Value	Retained Sample at 6 Months (n = 245)	Sample Lost to Follow-Up at 6 Months (n = 361)	p-Value
Employed full-time	9%	6.3%		7.9%	4.7%		11%	9.9%	
Retired and not working	1.5%	1%		0.5%	0.5%		3.3%	2.2%	
Homemaker	1.3%	0.8%		0.9%	0.4%		2%	1.9%	
Disabled or too ill to work	2.5%	2.1%		1.1%	0.7%		4.9%	5.3%	
Other	0.6%	0.6%		0.7%	0.7%		0.4%	0.3%	
<b>Individual income level</b>			0.001			0.011			0.222
Less than \$5,000	52.9%	62.9%		53.6%	63.7%		51.7%	61.1%	
\$5,000–10,000	17.3%	14.4%		17.8%	14.5%		16.3%	14.3%	
\$10,001–20,000	15.1%	9.9%		15.7%	10%		14%	9.8%	
\$20,001–30,000	5.5%	6.8%		4.5%	6.4%		7.3%	7.8%	
\$30,001–40,000	5.1%	3.8%		5.4%	3.4%		4.5%	4.5%	
More than \$40,000	4.1%	2.2%		3%	2.1%		6.2%	2.5%	
<b>Housing status</b>			0.336			0.526			0.238
Stably housed	46%	42%		42.4%	40.7%		52.7%	45.2%	
Staying with someone else	35.3%	36.4%		35.6%	33.9%		34.9%	42.1%	
Transitional/temporary	8.8%	10.1%		11.8%	12.5%		3.3%	4.7%	
Homeless/unstably housed	9.8%	11.4%		10.2%	12.9%		9.1%	8.1%	

NOTE: SD = standard deviation.

**Table C.18. Baseline Sample Characteristics by Study Retention at 12 Months (Unweighted)**

	Total			C2C Group			Comparison Group		
	Retained Sample at 12 Months (n = 732)	Sample Lost to Follow-Up at 12 Months (n = 1,106)	p-Value	Retained Sample at 12 Months (n = 464)	Sample Lost to Follow-Up at 12 Months (n = 768)	p-Value	Retained Sample at 12 Months (n = 268)	Sample Lost to Follow-Up at 12 Months (n = 338)	p-Value
<b>Gender</b>			<.001			0.001			<.001
Male	35%	50.1%		43.3%	53.3%		20.5%	43%	
Female	62.7%	48.7%		53.7%	45.3%		78.4%	56.4%	
Transgender, gender queer, or other	2.3%	1.2%		3%	1.4%		1.1%	0.6%	
<b>Age (mean, SD)</b>	31.6 (13.4)	29.1 (11.8)	<.001	30.9 (12.6)	29.2 (11.8)	0.011	33.0 (14.6)	28.8 (11.8)	0.001
<b>Race/ethnicity</b>			0.072			0.011			0.779
Hispanic	41.4%	43.2%		39.8%	42.6%		44.2%	44.6%	
Black	47.7%	47.2%		47.2%	47.7%		48.7%	46.1%	
White	2.3%	3.6%		2.6%	4.1%		1.9%	2.7%	
Other	8.5%	5.9%		10.4%	5.6%		5.2%	6.6%	
<b>Education level</b>			<.001			<.001			0.025
Less than high school	27.1%	35.7%		27.4%	37.3%		26.6%	31.8%	
Completed high school with diploma or GED	33.8%	36.5%		34.8%	36.3%		32.2%	37.1%	
Some college	25.3%	21.5%		23.5%	19.6%		28.5%	26.2%	
Completed college	10.7%	4.6%		11.4%	4.9%		9.4%	4%	
Some graduate or professional school	0.7%	0.6%		0.6%	0.7%		0.7%	0.3%	
Completed or some graduate or professional school	2.3%	1.1%		2.2%	1.3%		2.6%	0.7%	
<b>Employment status</b>			0.001			0.064			0.002
Unemployed, looking for work	56.7%	63.5%		65.7%	66.8%		41.2%	55.5%	
Student	12.3%	11.3%		10.8%	12.4%		15%	8.6%	
Employed part-time	15.3%	15.1%		13.4%	13.2%		18.7%	19.6%	
Employed full-time	9%	6.2%		7.6%	4.9%		11.6%	9.3%	



	Total			C2C Group			Comparison Group		
	Retained Sample at 12 Months (n = 732)	Sample Lost to Follow-Up at 12 Months (n = 1,106)	p-Value	Retained Sample at 12 Months (n = 464)	Sample Lost to Follow-Up at 12 Months (n = 768)	p-Value	Retained Sample at 12 Months (n = 268)	Sample Lost to Follow-Up at 12 Months (n = 338)	p-Value
Retired and not working	2.1%	0.6%		0.4%	0.6%		4.9%	0.7%	
Homemaker	1.2%	0.9%		0.6%	0.6%		2.2%	1.7%	
Disabled or too ill to work	3.2%	1.6%		1.5%	0.4%		6%	4.3%	
Other	0.1%	0.9%		0%	1.1%		0.4%	0.3%	
<b>Individual income level</b>			0.224			0.483			0.366
Less than \$5,000	56.2%	61.2%		56.4%	62.4%		55.7%	58.4%	
\$5,000–10,000	16.4%	14.8%		17.3%	14.6%		14.9%	15.4%	
\$10,001–20,000	13.3%	10.9%		12.9%	11.5%		13.9%	9.5%	
\$20,001–30,000	5.8%	6.6%		5.5%	5.8%		6.5%	8.6%	
\$30,001–40,000	4.4%	4.2%		4.9%	3.6%		3.5%	5.4%	
More than \$40,000	3.9%	2.2%		3%	2%		5.5%	2.7%	
<b>Housing status</b>			0.020			0.247			0.091
Stably housed	47%	41.2%		44.1%	39.5%		51.9%	45.3%	
Staying with someone else	34.1%	37.3%		33.7%	35.1%		34.8%	42.6%	
Transitional/temporary	7.6%	11%		10.2%	13.5%		3%	5%	
Homeless/unstably housed	11.3%	10.4%		12%	11.8%		10.2%	7%	

NOTE: SD = standard deviation.

## *C7.2. Sample Characteristics*

Table C.19 provides a summary of baseline demographics for the sample of study participants (totals may add up to more than 100 percent due to rounding).

Overall, 54 percent identified as female; 44 percent as male; and 2 percent as transgender, genderqueer, or another gender identity. The two groups differed significantly at baseline, with 50 percent of the C2C group identifying as male compared with 66 percent for the comparison group.

The average age of study participants at baseline was 30.1 years of age. About 44 percent of the study participants were 18 to 24 at the time of the baseline survey, 15 percent were 25 to 30 years of age, and 16 percent were 31 to 39 years of age; just more than one-fifth (21 percent) of the study participants were 40 or older at the time of the baseline survey. A small percentage of study participants (5 percent) were younger than 18 years at baseline. Although the mean age was similar for the two groups, the distribution across age categories differed significantly with more of the C2C group younger than 18 and more of the comparison group 18 to 24 years of age.

A substantial minority (43 percent) of the study participants identified as Hispanic/Latino. Forty-seven percent of study participants identified as Black/African American non-Hispanic, with smaller percentages identifying as White/Caucasian non-Hispanic (3 percent) and American Indian or Alaskan Native, Asian or Pacific Islander, or some other race/ethnicity (7 percent).

The education level of participants at baseline ranged from less than high school completion (32 percent) to completed graduate or professional school (2 percent). More than one-third (35 percent) had completed high school with a diploma or GED at the time of the baseline survey, 23 percent had completed some college, and 7 percent had completed college.

Seven percent of study participants had full-time employment and 15 percent had part-time employment at the time of the baseline survey. However, nearly two-thirds (61 percent) were unemployed and looking for work. Small percentages of participants were retired, students, homemakers, disabled or too ill to work, or had some other employment status. There were significant differences between groups by employment status, with many more C2C participants unemployed compared with comparison group participants (66 percent vs. 49 percent).

The majority of study participants (59 percent) reported an individual income under \$5,000 per year. Another 27 percent reported annual incomes between \$5,000 and \$20,000. Eleven percent reported income between \$20,001 and \$40,000 per year.

Many study participants were stably housed at baseline (44 percent), meaning that they were owners, renters, or lived in permanent supportive housing, a group home, or supervised residential facility. More than one-third (36 percent) were staying with someone else; 10 percent were in transitional or temporary housing such as a psychiatric facility, substance abuse treatment facility, correctional facility, or halfway house; and another 11 percent were homeless or otherwise unstably housed, meaning that they lived in a shelter or had no place to live. Again, there were significant differences by group, with many more C2C participants in transitional or temporary housing (12 vs. 4 percent) and homeless or otherwise unstably housed (12 vs. 9 percent) than comparison group participants.

**Table C.19. Sample Characteristics: Full Unweighted Sample at Baseline**

Participant Demographic Characteristic	Full Baseline Sample			p-Value
	Overall (n = 1,838)	C2C (n = 1,232)	Comparison (n = 606)	
<b>Age (mean, SD)</b>	30.1, 12.5	29.8, 12.1	30.7, 13.2	0.279
<b>Age (% , n)</b>				
Less than 18	4.6, 84	5.8, 71	2.1, 13	0.010
18–24	43.7, 803	42.4, 522	46.4, 281	
25–30	15.2, 280	15.3, 189	15, 91	
31–39	15.6, 286	15.7, 193	15.3, 93	
40 or older	20.9, 385	20.9, 257	21.1, 128	
<b>Gender (% , n)</b>				<.001
Male	44.1, 809	49.5, 609	33.1, 200	
Female	54.3, 996	48.5, 596	66.1, 400	
Transgender, genderqueer, or other	1.6, 30	2, 25	0.8, 5	
<b>Race/ethnicity (% , n)</b>				0.280
Hispanic	42.5, 777	41.6, 510	44.4, 267	
Black	47.4, 867	47.5, 583	47.3, 284	
White	3.1, 57	3.5, 43	2.3, 14	
Other	6.9, 127	7.4, 91	6, 36	
<b>Income level (% , n)</b>				0.440
Less than \$5,000	59.1, 789	60, 548	57.1, 241	
\$5,000–10,000	15.5, 207	15.7, 143	15.2, 64	
\$10,001–20,000	11.9, 159	12, 110	11.6, 49	
\$20,001–30,000	6.3, 84	5.7, 52	7.6, 32	
\$30,001–40,000	4.3, 57	4.2, 38	4.5, 19	
More than \$40,000	2.9, 39	2.4, 22	4, 17	
<b>Education level (% , n)</b>				0.115
Less than high school	32.1, 562	33.4, 395	29.3, 167	
Completed high school with diploma or GED	35.4, 620	35.7, 422	34.8, 198	
Some college	23.1, 405	21.2, 250	27.2, 155	
Completed college	7.1, 125	7.4, 88	6.5, 37	
Some graduate or professional school	0.6, 11	0.7, 8	0.5, 3	
Completed graduate or professional school	1.6, 28	1.6, 19	1.6, 9	
<b>Employment status (% , n)</b>				<.001
Unemployed	60.6, 1,060	66.4, 783	48.8, 277	
Student	11.7, 205	11.8, 139	11.6, 66	
Employed part-time	15.2, 266	13.3, 157	19.2, 109	
Employed full-time	7.4, 129	5.9, 70	10.4, 59	
Retired and not working	1.2, 21	0.5, 6	2.6, 15	
Homemaker	1, 18	0.6, 7	1.9, 11	
Disabled or too ill to work	2.2, 39	0.8, 10	5.1, 29	
Other	0.6, 10	0.7, 8	0.4, 2	
<b>Housing status (% , n)</b>				<.001
Stably housed	43.6, 755	41.3, 483	48.4, 272	
Staying with someone else	36, 623	34.6, 404	39, 219	
Transitional/temporary	9.6, 166	12.2, 143	4.1, 23	
Homeless/unstably housed	10.8, 187	11.9, 139	8.5, 48	

NOTE: SD = standard deviation.

For mental health utilization outcomes (Chapter 5), we isolated analyses to the subsample of persons with unmet need at baseline. Unmet mental health need at baseline was defined as evidencing one or more screening scores above the moderate or intermediate threshold for the baseline mental health indicators (depression, generalized anxiety, psychological distress, PTSD, alcohol use, and substance use). At baseline, 81.3 percent of participants had unmet mental health need ( $n = 1,494$ ). This subsample is described in Table C.20. The distribution of demographic characteristics was very similar to the overall sample's distribution. Statistically significant differences between the C2C group and comparison group were found for the same characteristics as those at baseline (age, gender, employment status, and housing status). In addition, there was a difference between groups in educational attainment.

**Table C.20. Sample Characteristics: Full Unweighted Subsample with Unmet Mental Health Need at Baseline**

Participant Demographic Characteristic	Full Baseline Sample			p-Value
	Overall ( $n = 1,494$ )	C2C ( $n = 1,017$ )	Comparison ( $n = 477$ )	
<b>Age (mean, SD)</b>	30.0, 12.2	30.0, 11.9	30.0, 12.7	0.829
<b>Age (% , n)</b>				
Less than 18	4.2, 63	5.5, 56	1.5, 7	0.001
18–24	44.0, 658	41.6, 423	49.3, 235	
25–30	15.5, 231	15.4, 157	15.5, 74	
31–39	16, 239	16.9, 172	14.0, 67	
40 or older	20.3, 303	20.6, 209	19.7, 94	
<b>Gender (% , n)</b>				
Male	43.6, 651	48.7, 495	32.7, 156	<.001
Female	54.5, 814	48.8, 496	66.7, 318	
Transgender, genderqueer, or other	1.9, 28	2.5, 25	0.6, 3	
<b>Race/ethnicity (% , n)</b>				
Hispanic	42.5, 631	41.8, 423	44, 208	0.299
Black	46.4, 689	46.2, 468	46.7, 221	
White	3.6, 53	4.2, 42	2.3, 11	
Other	7.5, 112	7.8, 79	7.0, 33	
<b>Income level (% , n)</b>				
Less than \$5,000	59.5, 658	60.3, 458	57.8, 200	0.330
\$5,000–10,000	16.1, 178	15.9, 121	16.5, 57	
\$10,001–20,000	11.9, 132	12.6, 96	10.4, 36	
\$20,001–30,000	5.3, 59	4.6, 35	6.9, 24	
\$30,001–40,000	4.4, 49	4.3, 33	4.6, 16	
More than \$40,000	2.7, 30	2.2, 17	3.8, 13	
<b>Education level (% , n)</b>				
Less than high school	31.6, 457	32.7, 323	29.4, 134	0.038
Completed high school with diploma or GED	35.4, 511	35.3, 349	35.5, 162	
Some college	23.9, 345	21.8, 215	28.5, 130	
Completed college	7, 101	7.8, 77	5.3, 24	
Some graduate or professional school	0.6, 9	0.7, 7	0.4, 2	
Completed graduate or professional school	1.5, 21	1.7, 17	0.9, 4	

Participant Demographic Characteristic	Full Baseline Sample			p-Value
	Overall (n = 1,494)	C2C (n = 1,017)	Comparison (n = 477)	
<b>Employment status (% , n)</b>				
Unemployed	61.3, 885	66.3, 656	50.4, 229	<.001
Student	11.6, 167	11.7, 116	11.2, 51	
Employed part-time	14.8, 214	13.4, 133	17.8, 81	
Employed full-time	6.9, 100	5.5, 54	10.1, 46	
Retired and not working	1.2, 17	0.6, 6	2.4, 11	
Homemaker	1.0, 15	0.6, 6	2.0, 9	
Disabled or too ill to work	2.4, 35	1.0, 10	5.5, 25	
Other	0.7, 10	0.8, 8	0.4, 2	
<b>Housing status (% , n)</b>				
Stably housed	42.5, 606	40.7, 398	46.2, 208	<.001
Staying with someone else	36.2, 517	34.4, 336	40.2, 181	
Transitional/temporary	9.7, 139	12.5, 122	3.8, 17	
Homeless/unstably housed	11.6, 165	12.4, 121	9.8, 44	

NOTE: SD = standard deviation.

**Table C.21. Baseline Barriers to Seeking Professional Care for a Mental Health Problem—  
Individual Barrier Endorsement (Weighted)**

Endorsement of Individual Barriers Within Each Domain	Full Sample	C2C Group	Comparison Group	p-Value
	Percent Endorsed	Percent Endorsed	Percent Endorsed	p-Value
<b>Logistical barriers</b>				
Being unsure where to go to get professional care	46.6	47.5	45.6	0.520
Problems with transport or traveling to appointments	39.1	37.5	40.9	0.226
Not being able to afford the financial costs involved	55.7	57.1	54.2	0.300
Professionals from my own ethnic or cultural group not being available	28.1	28.5	27.7	0.758
Being too unwell to ask for help	36.3	34.6	38.3	0.188
Difficulty taking time off work	41.1	43.1	38.8	0.169
Having problems with childcare while I receive professional care	29.6	30.2	29.1	0.751
Having no one who could help me get professional care	38.6	39.3	37.9	0.632
<b>Attitudinal barriers</b>				
Wanting to solve the problem on my own	76.7	77.2	76.0	0.614
Fear of being put in hospital against my will	46.2	47.1	45.1	0.491
Thinking the problem would get better by itself	63.0	65.7	59.9	0.036
Preferring to get alternative forms of care (e.g., traditional/religious healing or alternative/complementary therapies)	41.6	41.8	41.4	0.885
Thinking that professional care probably would not help	51.9	50.7	53.3	0.364
Dislike of talking about my feelings, emotions, or thoughts	66.4	66.9	65.9	0.690

<b>Endorsement of Individual Barriers Within Each Domain</b>	<b>Full Sample</b>	<b>C2C Group</b>	<b>Comparison Group</b>	<b>p-Value</b>
Concerns about the treatments available (e.g., medication side effects)	59.0	59.6	58.3	0.649
Having had previous bad experiences with professional care for mental health	31.7	32.7	30.4	0.413
Preferring to get help from family or friends	45.9	45.9	45.9	0.986
Thinking I did not have a problem	52.0	54.0	49.7	0.142
<b>Stigma barriers</b>				
Concern that I might be seen as weak for having a mental health problem	46.2	48.0	44.1	0.180
Concern that it might harm my chances when applying for jobs	46.9	48.7	45.0	0.209
Concern about what my family might think, say, do, or feel	49.9	49.8	50.0	0.944
Feeling embarrassed or ashamed ( <b>internalized stigma</b> )	49.3	51.2	47.1	0.151
Concern that I might be seen as “crazy”	45.6	45.4	45.8	0.893
Concern that people I know might find out	37.7	39.1	36.1	0.290
Concern that people might not take me seriously if they found out I was having professional care	45.6	47.5	43.4	0.155
Concern that I might be seen as a bad parent	40.4	42.3	38.5	0.303
Not wanting a mental health problem to be on my medical records	47.0	47.7	46.3	0.628
Concern that my children may be taken into care or that I may lose access or custody without my agreement	37.8	37.7	37.8	0.980
Concern about what my friends might think, say, or do	33.9	34.4	33.3	0.686
Concern about what people at work might think, say, or do	33.6	34.5	32.7	0.552

## C8. Additional Analysis Results

### C8.1. 6-month Analysis Results

#### C8.1.1. Barriers to Mental Health Care

**Table C.22. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	401	-0.293	0.034	<.001
	Comparison	226	-0.285	0.050	<.001
Attitudinal barriers	C2C	401	-0.385	0.036	<.001
	Comparison	226	-0.340	0.044	<.001
Stigma barriers	C2C	400	-0.330	0.039	<.001
	Comparison	226	-0.353	0.053	<.001
Internalized stigma	C2C	382	-0.417	0.070	<.001
	Comparison	214	-0.482	0.097	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.23. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	-0.008	0.060	0.892	0.012	0.052	0.813	0.018
Attitudinal barriers	-0.045	0.057	0.433	0.016	0.054	0.772	0.023
Stigma barriers	0.023	0.065	0.722	0.016	0.062	0.802	0.020
Internalized stigma	0.065	0.120	0.588	0.094	0.090	0.296	0.069

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.



C8.1.2. Mental Health Symptoms

**Table C.24. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	421	-1.45	0.29	<.001
	Comparison	236	-1.81	0.36	<.001
Generalized anxiety (score range 0–21)	C2C	419	-1.90	0.28	<.001
	Comparison	236	-1.62	0.34	<.001
PTSD (score range 0–80)	C2C	419	-7.75	0.83	<.001
	Comparison	236	-7.09	1.13	<.001
Alcohol use (score range 0–40)	C2C	414	-1.47	0.24	<.001
	Comparison	234	-0.94	0.37	0.011
Substance use (score range 0–10)	C2C	409	-0.97	0.10	<.001
	Comparison	228	-0.42	0.10	<.001
Psychological distress (score range 0–24)	C2C	403	-2.63	0.27	<.001
	Comparison	231	-2.21	0.37	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.25. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.355	0.461	0.442	-0.157	0.403	0.697	-0.027
Generalized anxiety	-0.286	0.439	0.515	-0.183	0.395	0.643	-0.033
PTSD	-0.660	1.41	0.639	-0.478	1.29	0.711	-0.029
Alcohol use	-0.532	0.442	0.228	-0.100	0.281	0.722	-0.019
Substance use	-0.544	0.134	<.001	-0.147	0.103	0.154	-0.075
Distress	-0.420	0.456	0.358	0.033	0.393	0.934	0.006

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.26. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change)	C2C	421	27.88	0.582
	Comparison	236	30.01	
Generalized anxiety (clinically significant change)	C2C	419	8.35	0.461
	Comparison	236	6.77	
Generalized anxiety (reliable change)	C2C	419	31.26	0.211
	Comparison	236	26.46	
PTSD (clinically significant change)	C2C	419	41.26	0.392
	Comparison	236	37.66	
PTSD (reliable change)	C2C	419	53.51	0.873
	Comparison	236	52.82	
Alcohol use (change to below positive screen threshold)	C2C	414	12.61	0.265
	Comparison	234	9.43	
Substance use (change to below positive screen threshold)	C2C	409	16.36	0.021 <sup>a</sup>
	Comparison	228	9.55	
Psychological distress (change to below threshold for serious mental illness)	C2C	403	25.78	0.785
	Comparison	231	24.74	
Psychological distress (change to below threshold for moderate distress)	C2C	403	69.65	0.398
	Comparison	231	66.21	

<sup>a</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

C8.1.3. Employment, Education, Housing, and Incarceration

**Table C.27. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference (%)	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	29.92	61.04	31.13	<.001
	Comparison	40.28	63.29	23.01	<.001

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline.

**Table C.28. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-value
Hours worked per week	C2C	298	11.29	1.22	<.001
	Comparison	145	9.31	2.04	<.001
Current monthly pay before taxes and deductions	C2C	263	\$650 USD	90	<.001
	Comparison	121	\$688 USD	123	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6 months for each group separately.

**Table C.29. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome		Housing at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference (%)	p-Value
Aggregate current housing Stably housed or staying with someone else <sup>a</sup>	C2C	78.61	85.13	6.52	<.001
	Comparison	85.82	90.31	4.49	<.001

<sup>a</sup> Versus *transitional/temporary or homeless/unstably housed*.

**Table C.30. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome		Educational Attainment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference (%)	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	74.52	78.90	4.38	0.002
	Comparison	73.47	80.37	6.90	<.001

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.31. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 0.957	[0.65–1.41]	0.536	OR = 1.30	[0.78–2.16]	0.482	–
Change in hours worked per week	1.98	2.38	0.405	1.73	1.69	0.310	0.081
Change in current monthly pay before taxes and deductions	–37.49	152	0.806	128	127	0.314	0.096
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)	OR = 0.606	[0.35–1.05]	0.076	OR = 0.900	[0.35–2.34]	0.829	–
<b>Education</b>							
Completed high school or greater <sup>d</sup>	OR = 0.904	[0.59–1.39]	0.649	OR = 0.442	[0.19–1.03]	0.058	–

NOTES: SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Among persons ages 18 and older at baseline.

### C8.3. Subgroup Analysis Results

#### C8.3.1. CBO Type: Job training and Employment Program

##### Chapter 7 Mental Health Care Access and Utilization

**Table C.32. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	263	-0.348	0.042	<.001
	Comparison	117	-0.345	0.082	<.001
Attitudinal barriers	C2C	263	-0.416	0.046	<.001
	Comparison	117	-0.298	0.070	<.001
Stigma barriers	C2C	263	-0.345	0.050	<.001
	Comparison	117	-0.314	0.080	<.001
Internalized stigma	C2C	250	-0.391	0.092	<.001
	Comparison	108	-0.421	0.151	0.006

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.33. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	293	-0.487	0.038	<.001
	Comparison	134	-0.466	0.072	<.001
Attitudinal barriers	C2C	296	-0.584	0.041	<.001
	Comparison	134	-0.417	0.074	<.001
Stigma barriers	C2C	294	-0.476	0.042	<.001
	Comparison	132	-0.438	0.074	<.001
Internalized stigma	C2C	280	-0.542	0.075	<.001
	Comparison	124	-0.641	0.130	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.34. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	-0.003	0.092	0.972	0.006	0.068	0.929	0.009
Attitudinal barriers	-0.118	-0.118	-0.118	-0.118	-0.118	-0.118	-0.118
Stigma barriers	-0.031	0.094	0.739	0.016	0.086	0.856	0.020
Internalized stigma	0.030	0.177	0.866	0.096	0.141	0.496	0.069

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.35. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	-0.021	0.082	0.801	0.008	0.046	0.870	0.011
Attitudinal barriers	-0.166	0.085	0.051	-0.068	0.060	0.253	-0.096
Stigma barriers	-0.039	0.085	0.649	0.018	0.055	0.736	0.025
Internalized stigma	0.099	0.150	0.511	0.138	0.088	0.121	0.109

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.36. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	35.44	36.31	+0.88	0.833
	Comparison	27.04	30.19	+3.15	0.331
Used any nonclinical settings or resources <sup>a,c</sup>	C2C	38.69	30.76	-7.93	0.006
	Comparison	32.96	25.89	-7.07	0.035 <sup>d</sup>
Stayed in inpatient setting <sup>e</sup>	C2C	35.90	8.06	-27.84	<.001
	Comparison	22.13	5.31	-16.82	<.001
Used emergency settings <sup>a,f</sup>	C2C	40.19	40.57	+0.38	0.971
	Comparison	38.81	44.43	+5.62	0.124

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.37. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year			
		N	Estimate	SE	p-Value
Number of times went to any outpatient MHP <sup>a</sup>	C2C	309	2.33	0.904	0.010
	Comparison	131	1.14	0.951	0.233
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	311	-3.83	1.55	0.014
	Comparison	131	-0.394	0.320	0.219
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	311	-0.054	0.180	0.766
	Comparison	131	0.230	0.245	0.349

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.



**Table C.38. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>c</sup>	1.37	[0.850–2.22]	0.196	1.50	[0.740–3.04]	0.262
Used any nonclinical settings or resources <sup>d</sup>	1.25	[0.769–2.03]	0.370	1.19	[0.549–2.59]	0.659
Stayed in inpatient setting <sup>e</sup>						
Used emergency settings <sup>f</sup>	0.853	[0.541–1.34]	0.492	0.830	[0.405–1.70]	0.610

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>d</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problem (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.39. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome	Group-Level Comparison of Changes in Utilization over 1 Year						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Number of times went to any outpatient MHP <sup>a,b</sup>	1.19	1.31	0.364	0.152	1.37	0.912	0.011
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	-3.43	1.58	0.030 <sup>c</sup>	-0.015	0.903	0.987	-0.0006
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	-0.284	0.304	0.351	-0.308	0.263	0.243	-0.104

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.40. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	279	-0.477	0.374	0.202
	Comparison	122	-1.86	0.590	0.002
Generalized anxiety (score range 0–21)	C2C	277	-1.67	0.349	<.001
	Comparison	122	-1.73	0.493	0.001
PTSD (score range 0–80)	C2C	277	-8.14	1.11	<.001
	Comparison	122	-8.13	2.03	<.001
Alcohol use (score range 0–40)	C2C	275	-2.18	0.367	<.001
	Comparison	121	-1.57	0.752	0.039 <sup>b</sup>
Substance use (score range 0–10)	C2C	270	-1.19	0.137	<.001
	Comparison	115	-0.372	0.189	0.051
Psychological distress (score range 0–24)	C2C	266	-2.57	0.355	<.001
	Comparison	117	-1.94	0.556	0.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.<sup>b</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.**Table C.41. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	305	-1.07	0.381	0.005
	Comparison	138	-2.45	0.460	<.001
Generalized anxiety (score range 0–21)	C2C	303	-2.40	0.370	<.001
	Comparison	138	-1.98	0.453	<.001
PTSD (score range 0–80)	C2C	304	-11.14	1.11	<.001
	Comparison	138	-10.04	1.63	<.001
Alcohol use (score range 0–40)	C2C	302	-2.24	0.400	<.001
	Comparison	137	-1.90	0.533	0.001
Substance use (score range 0–10)	C2C	300	-1.31	0.143	<.001
	Comparison	133	-0.927	0.189	<.001
Psychological distress (score range 0–24)	C2C	296	-3.12	0.340	<.001
	Comparison	136	-1.96	0.533	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.42. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	1.39	0.699	0.048 <sup>c</sup>	-0.191	0.604	0.752	-0.032
Generalized anxiety	0.054	0.604	0.929	-0.579	0.558	0.300	-0.101
PTSD	-0.010	2.31	0.997	-1.55	2.03	0.444	-0.088
Alcohol use	-0.613	0.837	0.464	-0.746	0.394	0.059	-0.123
Substance use	-0.817	0.233	0.001	-0.255	0.176	0.149	-0.112
Distress	-0.634	0.660	0.337	0.031	0.569	0.957	0.006

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.43. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	1.38	0.597	0.021 <sup>c</sup>	0.264	0.534	0.622	0.043
Generalized anxiety	-0.421	0.585	0.472	-0.214	0.549	0.698	-0.035
PTSD	-1.10	1.97	0.577	-0.749	1.71	0.661	-0.040
Alcohol use	-0.344	0.666	0.606	-1.08	0.460	0.019 <sup>c</sup>	-0.168
Substance use	-0.385	0.237	0.105	-0.233	0.179	0.196	-0.103
Distress	-1.15	0.633	0.069	-0.542	0.544	0.320	-0.094

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.44. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	279	23.41	0.136
	Comparison	122	31.53	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	277	7.99	0.786
	Comparison	122	7.19	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	277	31.97	0.396
	Comparison	122	27.20	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	277	43.07	0.711
	Comparison	122	40.82	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	277	54.45	0.856
	Comparison	122	55.54	
Alcohol use (change to below positive screen threshold)	C2C	275	16.71	0.274
	Comparison	121	11.78	
Substance use (change to below positive screen threshold)	C2C	270	19.78	0.133
	Comparison	115	12.08	
Psychological distress (change to below threshold for serious mental illness)	C2C	266	23.73	0.744
	Comparison	117	25.56	
Psychological distress (change to below threshold for moderate distress)	C2C	266	70.88	0.226
	Comparison	117	64.07	

**Table C.45. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	305	28.08	0.637
	Comparison	138	30.49	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	303	13.34	0.051
	Comparison	138	6.70	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	303	33.59	0.150
	Comparison	138	26.09	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	304	49.42	0.770
	Comparison	138	47.76	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	304	65.60	0.042 <sup>a</sup>
	Comparison	138	54.51	
Alcohol use (change to below positive screen threshold)	C2C	302	18.43	0.149
	Comparison	137	11.89	
Substance use (change to below positive screen threshold)	C2C	300	22.89	0.373
	Comparison	133	18.46	
Psychological distress (change to below threshold for serious mental illness)	C2C	296	23.84	0.640
	Comparison	136	21.52	
Psychological distress (change to below threshold for moderate distress)	C2C	296	69.65	0.442
	Comparison	136	65.63	

<sup>a</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.46. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	19.24	57.69	38.45	<.001
	Comparison	34.28	66.64	32.35	<.001

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.47. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	227	14.83	1.36	<.001
	Comparison	73	13.92	3.62	<.001
Current monthly pay before taxes and deductions	C2C	205	719	94.9	<.001
	Comparison	59	924	214	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6 months for each group separately.

**Table C.48. Within-Group Differences in FT/PT Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	19.90	60.89	+40.99	<.001
	Comparison	36.58	59.10	+22.53	<.001

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.49. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	228	16.85	1.39	<.001
	Comparison	74	6.94	2.21	0.002
Current monthly pay before taxes and deductions	C2C	208	983	120	<.001
	Comparison	62	540	142	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12-month scores for each group separately.

**Table C.50. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome		Housing at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Aggregate current housing Stably housed or staying with someone else <sup>a</sup>	C2C	78.43	86.83	+8.40	<.001
	Comparison	89.19	94.72	+5.53	0.003

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.51. Within-Group Differences in Housing at 12 Months (Weighted)**

Outcome		Housing at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Aggregate current housing Stably housed or staying with someone else <sup>a</sup>	C2C	81.52	88.29	+6.76	0.002
	Comparison	89.79	92.94	+3.15	0.184

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.52. Within-Group Changes in Homelessness over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Homeless, past year	C2C	16.81	16.46	-0.35	0.944
	Comparison	13.81	3.07	-10.74	<.001

**Table C.53. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome		Educational Attainment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	77.13	80.02	+2.89	0.083
	Comparison	71.03	76.67	+5.64	0.004

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.54. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

Outcome		Educational Attainment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	77.86	80.89	+3.03	0.123
	Comparison	73.03	72.21	-0.82	0.827

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.55. Within-Group Changes in Incarceration over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Incarcerated, past year	C2C	16.36	4.97	-11.39	<.001
	Comparison	9.62	3.17	-6.45	<.001



**Table C.56. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 0.773	[0.447–1.34]	0.357	OR = 1.32	[0.584–2.97]	0.507	—
Change in hours worked per week	0.907	3.87	0.815	0.612	2.78	0.826	0.029
Change in current monthly pay before taxes and deductions	-205	234	0.382	-131	162	0.421	-0.098
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)	OR = 0.361	[0.143–0.911]	0.032 <sup>d</sup>	OR = 1.52	[0.360–6.42]	0.569	—
<b>Education</b>							
Completed high school or greater <sup>e</sup>	OR = 1.20	[0.701–2.05]	0.508	OR = 0.239	[0.059–0.962]	0.045 <sup>d</sup>	—

NOTES: SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 6 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> Among persons ages 18 and older at baseline.

**Table C.57. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.11	[0.641–1.93]	0.706	OR = 1.94	[0.870–4.35]	0.106	—
Change in hours worked per week	9.91	2.61	0.004	7.50	2.08	<.001	0.369
Change in current monthly pay before taxes and deductions	443	186	0.018	304	150	0.044 <sup>d</sup>	0.196
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>e</sup>							—
<b>Recent homelessness—over 1 year</b>							
Homeless							—
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>f</sup>	OR = 1.60	[0.945–2.72]	0.081	OR = 1.93	[0.713–5.23]	0.196	—
<b>Incarceration—over 1 year</b>							
Incarcerated							—

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> Versus *transitional/temporary or homeless/unstably housed*

<sup>f</sup> Among persons 18 and older at baseline

C8.3.2. CBO Type: Youth Development Program

Chapter 7 Mental Health Care Access and Utilization

**Table C.58. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	81	-0.257	0.082	0.002
	Comparison	68	-0.284	0.087	0.002
Attitudinal barriers	C2C	81	-0.401	0.074	<.001
	Comparison	68	-0.500	0.079	<.001
Stigma barriers	C2C	81	-0.285	0.075	<.001
	Comparison	68	-0.463	0.092	<.001
Internalized stigma	C2C	78	-0.511	0.139	<.001
	Comparison	66	-0.549	0.166	0.002

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.59. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	75	-0.211	0.072	0.004
	Comparison	78	-0.420	0.075	<.001
Attitudinal barriers	C2C	76	-0.521	0.070	<.001
	Comparison	78	-0.463	0.076	<.001
Stigma barriers	C2C	75	-0.481	0.079	<.001
	Comparison	78	-0.485	0.082	<.001
Internalized stigma	C2C	74	-0.715	0.139	<.001
	Comparison	75	-0.506	0.164	0.003

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.60. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.027	0.120	0.824	0.048	0.123	0.698	0.068
Attitudinal barriers	0.099	0.108	0.363	0.156	0.120	0.199	0.239
Stigma barriers	0.178	0.119	0.137	0.078	0.132	0.554	0.109
Internalized stigma	0.038	0.217	0.863	0.153	0.200	0.446	0.119

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.61. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.209	0.104	0.045 <sup>c</sup>	0.093	0.077	0.231	0.154
Attitudinal barriers	-0.058	0.103	0.571	0.012	0.087	0.894	0.019
Stigma barriers	<.001	0.114	0.973	-0.034	0.081	0.675	-0.053
Internalized stigma	-0.209	0.215	0.332	0.067	0.145	0.644	0.053

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.62. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	54.42	53.57	-0.85	0.996
	Comparison	34.04	26.51	-7.53	0.125
Used any nonclinical settings or resources <sup>a,c</sup>	C2C	47.45	35.89	-11.56	0.024 <sup>d</sup>
	Comparison	28.19	23.56	-4.63	0.411
Stayed in inpatient setting <sup>e</sup>	C2C	34.62	5.17		
	Comparison	27.42	4.44		
Used emergency settings <sup>a,f</sup>	C2C	40.80	38.55	-2.25	0.762
	Comparison	43.84	35.35	-8.49	0.106

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problem (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.63. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year			
		N	Estimate	SE	p-Value
Number of times went to any outpatient MHP <sup>a</sup>	C2C	82	2.42	1.53	0.117
	Comparison	82	0.196	1.01	0.846
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	83	-2.20	1.64	0.185
	Comparison	82	0.115	0.094	0.225
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	83	0.084	0.260	0.747
	Comparison	82	0.025	0.331	0.941

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

**Table C.64. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>c</sup>	3.10	[1.54–6.26]	0.002			
Used any nonclinical settings or resources <sup>d</sup>	1.99	[0.966–4.09]	0.064			
Stayed in inpatient setting <sup>e</sup>						
Used emergency settings <sup>f</sup>	1.22	[0.627–2.36]	0.563	0.989	[0.236–4.15]	0.988

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>d</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problem (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.65. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome	Group-Level Comparison of Changes in Utilization over 1 Year						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Number of times went to any outpatient MHP <sup>a,b</sup>	2.23	1.83	0.226	-1.84	1.75	0.299	-0.158
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	-2.31	1.65	0.162	-0.153	0.168	0.365	-0.011
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	0.060	0.421	0.888	-0.261	0.382	0.496	-0.105

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

**Table C.66. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	83	-3.14	0.514	<.001
	Comparison	70	-1.93	0.714	0.009
Generalized anxiety (score range 0–21)	C2C	83	-2.36	0.613	0.003
	Comparison	70	-1.96	0.638	<.001
PTSD (score range 0–80)	C2C	83	-7.51	1.60	<.001
	Comparison	70	-10.29	1.99	<.001
Alcohol use (score range 0–40)	C2C	81	-0.214	0.396	0.590
	Comparison	69	-1.43	0.480	0.004
Substance use (score range 0–10)	C2C	81	-0.808	0.170	<.001
	Comparison	69	-0.787	0.209	<.001
Psychological distress (score range 0–24)	C2C	81	-3.16	0.525	<.001
	Comparison	70	-3.33	0.694	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.**Table C.67. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	78	-3.92	0.534	<.001
	Comparison	80	-2.19	0.691	0.002
Generalized anxiety (score range 0–21)	C2C	78	-2.66	0.675	<.001
	Comparison	80	-3.00	0.568	<.001
PTSD (score range 0–80)	C2C	77	-9.23	1.98	<.001
	Comparison	80	-14.47	2.09	<.001
Alcohol use (score range 0–40)	C2C	75	-0.343	0.447	0.445
	Comparison	80	-1.93	0.602	0.002
Substance use (score range 0–10)	C2C	76	-1.01	0.248	<.001
	Comparison	80	-0.769	0.228	0.001
Psychological distress (score range 0–24)	C2C	77	-3.78	0.700	<.001
	Comparison	78	-4.39	0.662	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.



**Table C.68. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	-1.21	0.880	0.170	0.198	0.802	0.805	0.040
Generalized anxiety	-0.393	0.885	0.658	0.571	0.941	0.545	0.106
PTSD	2.78	2.56	0.279	3.81	2.41	0.118	0.262
Alcohol use	1.22	0.623	0.053	0.761	0.617	0.220	0.197
Substance use	-0.021	0.270	0.937	0.013	0.262	0.959	0.009
Distress	0.176	0.870	0.840	0.906	1.04	0.385	0.180

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.69. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	-1.73	0.873	0.049 <sup>c</sup>	-1.51	0.759	0.050 <sup>c</sup>	-0.298
Generalized anxiety	0.335	0.882	0.705	0.379	0.808	0.640	0.075
PTSD	5.25	2.88	0.070	4.56	2.38	0.058	0.288
Alcohol use	1.59	0.750	0.036 <sup>c</sup>	0.370	0.530	0.487	0.081
Substance use	-0.237	0.336	0.482	-0.089	0.239	0.709	-0.046
Distress	0.602	0.963	0.533	0.080	1.02	0.938	0.015

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.70. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	83	33.61	0.690
	Comparison	70	30.47	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	83	9.30	0.834
	Comparison	70	8.30	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	83	34.32	0.632
	Comparison	70	30.56	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	83	42.42	0.705
	Comparison	70	45.58	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	83	53.06	0.317
	Comparison	70	61.32	
Alcohol use (change to below positive screen threshold)	C2C	81	8.05	0.776
	Comparison	69	9.34	
Substance use (change to below positive screen threshold)	C2C	81	14.57	0.850
	Comparison	69	15.71	
Psychological distress (change to below threshold for serious mental illness)	C2C	81	34.20	0.969
	Comparison	70	34.51	
Psychological distress (change to below threshold for moderate distress)	C2C	81	73.33	0.886
	Comparison	70	74.40	

**Table C.71. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	78	36.40	0.856
	Comparison	80	34.96	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	78	10.26	0.822
	Comparison	80	9.15	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	78	32.81	0.454
	Comparison	80	38.76	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	77	42.64	0.028
	Comparison	80	61.12	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	77	60.55	0.105
	Comparison	80	73.48	
Alcohol use (change to below positive screen threshold)	C2C	75	5.29	0.077
	Comparison	80	14.36	
Substance use (change to below positive screen threshold)	C2C	76	19.74	0.985
	Comparison	80	19.61	
Psychological distress (change to below threshold for serious mental illness)	C2C	77	37.32	0.893
	Comparison	78	38.44	
Psychological distress (change to below threshold for moderate distress)	C2C	77	78.19	0.556
	Comparison	78	81.99	

**Table C.72. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	61.48	72.69	+11.20	0.235
	Comparison	41.91	73.42	+31.52	<.001

NOTES: FT, full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.73. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	30	2.37	3.18	0.462
	Comparison	46	11.53	2.97	<.001
Current monthly pay before taxes and deductions	C2C	25	174	350	0.624
	Comparison	38	751	159	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6 months for each group separately.

**Table C.74. Within-Group Differences in FT/PT Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	69.57	67.90	-1.77	0.992
	Comparison	35.41	60.66	+25.25	0.002

NOTES: FT, full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.75. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	30	-0.428	4.19	0.919
	Comparison	50	9.74	3.11	0.003
Current monthly pay before taxes and deductions	C2C	27	-30.07	321	0.926
	Comparison	42	990	454	0.035 <sup>b</sup>

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12 months for each group separately.

<sup>b</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.76. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome		Housing at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	88.28	89.78		
	Comparison	98.34	98.34		

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.77. Within-Group Differences in Housing at 12 Months (Weighted)**

Outcome		Housing at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	89.52	88.39		
	Comparison	97.50	97.50		

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.78. Within-Group Changes in Homelessness over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Homeless, past year	C2C	17.96	14.50	-3.46	0.387
	Comparison	13.31	11.78		

**Table C.79. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome		Educational Attainment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	63.31	73.73	+10.42	0.023 <sup>b</sup>
	Comparison	80.27	94.61	+14.34	0.001

<sup>a</sup> Among persons ages 18 and older at baseline.

<sup>b</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.80. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

Outcome		Educational Attainment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	65.58	83.30	+17.72	<.001
	Comparison	80.54	88.27		

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.81. Within-Group Changes in Incarceration over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Incarcerated, past year	C2C	0.00	1.19		
	Comparison	1.15	2.49		

**Table C.82. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 0.785	[0.347–1.78]	0.563				–
Change in hours worked per week	–9.16	4.35	0.039 <sup>d</sup>	–1.16	3.10	0.709	–0.057
Change in current monthly pay before taxes and deductions	–577	385	0.139	–28.52	239	0.906	–0.020
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)							
<b>Education</b>							
Completed high school or greater <sup>e</sup>							

NOTES: SE = standard error; FT, full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 6 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> Among persons ages 18 and older at baseline.

**Table C.83. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.20	[0.542–2.66]	0.653				—
Change in hours worked per week	-10.17	5.21	0.055	-2.65	5.07	0.604	-0.113
Change in current monthly pay before taxes and deductions	-1,020	556	0.071	-525	426	0.227	-0.274
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>d</sup>							—
<b>Recent homelessness—over 1 year</b>							
Homeless							—
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>e</sup>							—
<b>Incarceration—over 1 year</b>							
Incarcerated							—

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error; FT, full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Versus *transitional/temporary or homeless/unstably housed*.

<sup>e</sup> Among persons 18 and older at baseline.



C8.3.3. Target Population: Adults Age 18 or Older Who Are Unemployed or Underemployed

Chapter 7 Mental Health Care Access and Utilization

**Table C.84. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	285	-0.284	0.043	<.001
	Comparison	135	-0.327	0.073	<.001
Attitudinal barriers	C2C	286	-0.377	0.044	<.001
	Comparison	135	-0.334	0.060	<.001
Stigma barriers	C2C	286	-0.288	0.050	<.001
	Comparison	135	-0.325	0.079	<.001
Internalized stigma	C2C	270	-0.377	0.090	<.001
	Comparison	125	-0.438	0.139	0.002

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.85. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	320	-0.432	0.037	<.001
	Comparison	148	-0.460	0.061	<.001
Attitudinal barriers	C2C	323	-0.553	0.042	<.001
	Comparison	148	-0.427	0.065	<.001
Stigma barriers	C2C	321	-0.493	0.042	<.001
	Comparison	147	-0.510	0.067	<.001
Internalized stigma	C2C	303	-0.548	0.074	<.001
	Comparison	135	-0.688	0.127	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.86. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.043	0.084	0.612	0.035	0.064	0.581	0.051
Attitudinal barriers	-0.043	0.075	0.562	0.089	0.067	0.186	0.126
Stigma barriers	0.037	0.094	0.693	0.079	0.075	0.295	0.098
Internalized stigma	0.061	0.165	0.710	0.128	0.113	0.259	0.091

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.87. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.028	0.072	0.701	-0.019	0.045	0.665	-0.029
Attitudinal barriers	-0.126	0.077	0.103	-0.106	0.055	0.054	-0.151
Stigma barriers	0.018	0.079	0.825	0.017	0.049	0.733	0.022
Internalized stigma	0.141	0.147	0.339	0.227	0.085	0.008 <sup>c</sup>	0.174

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.88. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	37.90	37.49	-0.41	0.947
	Comparison	32.83	37.22	+4.38	0.135
Used any nonclinical settings or resources <sup>a,c</sup>	C2C	43.37	31.77	-11.60	<.001
	Comparison	35.63	24.29	-11.35	0.001
Stayed in inpatient setting <sup>d</sup>	C2C	36.93	6.65	-30.28	<.001
	Comparison	25.77	3.68	-22.09	<.001
Used emergency settings <sup>a,e</sup>	C2C	39.53	37.44	-2.10	0.521
	Comparison	37.94	41.34	+3.40	0.342

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>e</sup> Hospital emergency room or an urgent care facility for any health reason.

<sup>f</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.89. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year			
		N	Estimate	SE	p-Value
Number of times went to any outpatient MHP <sup>a</sup>	C2C	341	2.17	0.788	0.006
	Comparison	144	1.93	1.04	0.066
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	342	-3.12	1.35	0.021
	Comparison	144	0.044	0.036	0.218
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	342	-0.155	0.156	0.319
	Comparison	144	0.204	0.218	0.350

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

**Table C.90. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>c,d</sup>	1.04	[0.664–1.63]	0.860	0.891	[0.492–1.62]	0.706
Used any nonclinical settings or resources <sup>c,e</sup>	1.43	[0.892–2.29]	0.138	1.06	[0.571–1.96]	0.860
Stayed in inpatient setting <sup>f</sup>						
Used emergency settings <sup>c,g</sup>	0.857	[0.555–1.33]	0.489	0.817	[0.450–1.48]	0.506

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>d</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>e</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>f</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>g</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.91. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome	Group-Level Comparison of Changes in Utilization over 1 Year						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Number of times went to any outpatient MHP <sup>c,d</sup>	0.245	1.31	0.851	0.452	1.23	0.713	0.033
Number of nights in a residential treatment program for alcohol or drug problems	-3.17	1.35	0.019 <sup>e</sup>	0.400	0.780	0.609	0.016
Number of times went to a hospital, emergency room, urgent care facility for any health reason	-0.359	0.267	0.180	-0.192	0.210	0.361	-0.069

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>d</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>e</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.92. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	302	-1.37	0.36	<.001
	Comparison	139	-2.14	0.48	<.001
Generalized anxiety (score range 0–21)	C2C	300	-2.00	0.36	<.001
	Comparison	139	-1.98	0.46	<.001
PTSD (score range 0–80)	C2C	300	-7.94	1.07	<.001
	Comparison	139	-8.16	1.50	<.001
Alcohol use (score range 0–40)	C2C	298	-1.85	0.33	<.001
	Comparison	137	-1.62	0.45	<.001
Substance use (score range 0–10)	C2C	293	-1.15	0.13	<.001
	Comparison	135	-0.58	0.15	<.001
Psychological distress (score range 0–24)	C2C	288	-2.80	0.33	<.001
	Comparison	136	-1.90	0.47	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.**Table C.93. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	330	-2.28	0.353	<.001
	Comparison	151	-2.74	0.443	<.001
Generalized anxiety (score range 0–21)	C2C	328	-2.94	0.357	<.001
	Comparison	151	-2.37	0.458	<.001
PTSD (score range 0–80)	C2C	329	-11.29	1.13	<.001
	Comparison	151	-11.71	1.43	<.001
Alcohol use (score range 0–40)	C2C	327	-2.06	0.332	<.001
	Comparison	150	-1.95	0.470	<.001
Substance use (score range 0–10)	C2C	325	-1.33	0.126	<.001
	Comparison	148	-1.10	0.176	<.001
Psychological distress (score range 0–24)	C2C	321	-3.49	0.338	<.001
	Comparison	149	-2.90	0.496	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.94. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.767	0.599	0.201	-0.027	0.498	0.957	-0.005
Generalized anxiety	-0.017	0.586	0.977	0.014	0.523	0.979	0.002
PTSD	0.224	1.84	0.903	0.251	1.65	0.880	0.015
Alcohol use	-0.230	0.557	0.680	-0.071	0.320	0.825	-0.013
Substance use	-0.561	0.195	0.004 <sup>c</sup>	-0.143	0.140	0.308	-0.065
Distress	-0.898	0.575	0.119	0.231	0.482	0.632	0.043

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.95. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.455	0.566	0.422	-0.364	0.469	0.438	-0.060
Generalized anxiety	-0.569	0.581	0.328	-0.356	0.523	0.496	-0.059
PTSD	0.422	1.82	0.817	-0.052	1.45	0.971	-0.003
Alcohol use	-0.114	0.575	0.843	-0.405	0.349	0.246	-0.068
Substance use	-0.230	0.216	0.288	-0.063	0.126	0.619	-0.028
Distress	-0.585	0.600	0.330	-0.131	0.482	0.785	-0.022

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.96. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	302	27.28	0.347
	Comparison	139	31.93	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	300	10.86	0.275
	Comparison	139	7.51	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	300	32.32	0.635
	Comparison	139	29.93	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	300	40.33	0.950
	Comparison	139	39.99	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	300	53.50	0.609
	Comparison	139	56.31	
Alcohol use (change to below positive screen threshold)	C2C	298	14.81	0.347
	Comparison	137	11.12	
Substance use (change to below positive screen threshold)	C2C	293	19.44	0.099
	Comparison	135	12.20	
Psychological distress (change to below threshold for serious mental illness)	C2C	288	27.12	0.416
	Comparison	136	23.15	
Psychological distress (change to below threshold for moderate distress)	C2C	288	72.34	0.264
	Comparison	136	66.63	



**Table C.97. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	330	34.18	0.665
	Comparison	151	36.41	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	328	15.62	0.047 <sup>a</sup>
	Comparison	151	8.95	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	328	36.14	0.425
	Comparison	151	32.10	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	329	48.69	0.365
	Comparison	151	53.56	
PTSD (reliable change of – point or greater decrease in scores)	C2C	329	63.74	0.936
	Comparison	151	63.33	
Alcohol use (change to below positive screen threshold)	C2C	327	15.32	0.619
	Comparison	150	13.34	
Substance use (change to below positive screen threshold)	C2C	325	22.90	0.551
	Comparison	148	20.13	
Psychological distress (change to below threshold for serious mental illness)	C2C	321	26.25	0.377
	Comparison	149	22.11	
Psychological distress (change to below threshold for moderate distress)	C2C	321	72.18	0.929
	Comparison	149	71.75	

<sup>a</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.98. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	18.43	57.58	39.15	<.001
	Comparison	33.16	59.29	26.13	<.001

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.99. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	256	14.24	1.27	<.001
	Comparison	119	11.13	2.39	<.001
Current monthly pay before taxes and deductions	C2C	230	833	93.9	<.001
	Comparison	103	728	143	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6 months for each group separately.

**Table C.100. Within-Group Differences in FT/PT Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
FT or PT employment (versus unemployed) <sup>a</sup>	C2C	19.20	57.24	38.04	<.001
	Comparison	26.30	50.00	23.69	<.001

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.101. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	266	14.84	1.32	<.001
	Comparison	119	8.57	1.69	<.001
Current monthly pay before taxes and deductions	C2C	243	986	115	<.001
	Comparison	104	638	154	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12 months for each group separately.

**Table C.102. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome	Housing at 6 Months				
	Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value	
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	74.63	83.05	+8.42	<.001
	Comparison	85.44	88.42	+2.98	0.046 <sup>b</sup>

<sup>a</sup> Versus *transitional/temporary or homeless/unstably housed*.

<sup>b</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.103. Within-Group Differences in Housing at 12 Months (Weighted)**

Outcome	Housing at 12 Months				
	Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value	
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	77.91	87.25	+9.34	<.001
	Comparison	84.16	87.74	+3.58	0.095

<sup>a</sup> Versus *transitional/temporary or homeless/unstably housed*.

**Table C.104. Within-Group Changes in Homelessness over 1 Year (Weighted)**

Outcome	Within-Group Difference over 1 Year				
	Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value	
Homeless, past year	C2C	16.17	13.75	-2.41	0.227
	Comparison	12.78	3.92	-8.86	<.001

**Table C.105. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome	Educational Attainment at 6 Months				
	Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value	
Completed high school or GED or greater <sup>a</sup>	C2C	78.50	81.06	+2.57	0.065
	Comparison	77.00	81.59	+4.59	0.009

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.106. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

<b>Outcome</b>		<b>Educational Attainment at 12 Months</b>			
		<b>Baseline Percentage (Retained Sample)</b>	<b>12 Months (%)</b>	<b>Difference</b>	<b>p-Value</b>
Completed high school or GED or greater <sup>a</sup>	C2C	79.75	83.10	+3.35	0.053
	Comparison	78.23	79.27	+1.04	0.702

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.107. Within-Group Changes in Incarceration over 1 Year (Weighted)**

<b>Outcome</b>		<b>Within-Group Difference over 1 Year</b>			
		<b>Baseline Percentage (Retained Sample)</b>	<b>1 Year (%)</b>	<b>Difference</b>	<b>p-Value</b>
Incarcerated, past year	C2C	13.76	4.18	-9.57	<.001
	Comparison	10.35	1.90	-8.44	<.001

**Table C.108. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 0.932	[0.586–1.48]	0.766	OR = 1.65	[0.855–3.18]	0.137	—
Change in hours worked per week	3.11	2.70	0.251	1.94	1.88	0.304	0.094
Change in current monthly pay before taxes and deductions	105	171	0.541	150	148	0.313	0.118
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)	OR = 0.630	[0.328–1.21]	0.523	OR = 1.38	[0.514–3.70]	0.166	—
<b>Education</b>							
Completed high school or greater <sup>d</sup>	OR = 0.951	[0.533–1.70]	0.865	OR = 0.327	[0.055–1.94]	0.219	—

NOTES: SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 6 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Among persons ages 18 and older at baseline.

**Table C.109. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.34	[0.834–2.15]	0.537	OR = 1.01	[0.547–1.85]	0.651	—
Change in hours worked per week	6.27	2.14	0.004	1.65	1.72	0.338	0.082
Change in current monthly pay before taxes and deductions	348	192	0.071	59.90	169	0.723	0.035
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>d</sup>	OR = 0.956	[0.480–1.90]	0.898				—
<b>Recent homelessness—over 1 year</b>							
Homeless	3.92	[1.89–8.14]	<.001				—
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>e</sup>	OR = 1.27	[0.726–2.21]	0.406	OR = 1.65	[0.673–4.04]	0.275	—
<b>Incarceration—over 1 year</b>							
Incarcerated							

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Versus *transitional/temporary or homeless/unstably housed*.

<sup>e</sup> Among persons 18 and older at baseline.

C8.3.4. Target Population: Young Adults Ages 16 to 24 Who Are Not in School and Are Not Employed

Chapter 6 Mental Health Care Access and Utilization

**Table C.110. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	85	-0.322	0.069	<.001
	Comparison	47	-0.210	0.097	0.036 <sup>b</sup>
Attitudinal barriers	C2C	86	-0.478	0.077	<.001
	Comparison	47	-0.318	0.128	0.017
Stigma barriers	C2C	86	-0.383	0.074	<.001
	Comparison	47	-0.330	0.113	0.006
Internalized stigma	C2C	79	-0.556	0.154	0.001
	Comparison	45	-0.953	0.278	0.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

<sup>b</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.111. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	96	-0.344	0.056	<.001
	Comparison	52	-0.375	0.087	<.001
Attitudinal barriers	C2C	97	-0.648	0.066	<.001
	Comparison	52	-0.424	0.101	<.001
Stigma barriers	C2C	97	-0.630	0.073	<.001
	Comparison	52	-0.412	0.112	0.001
Internalized stigma	C2C	93	-0.830	0.135	<.001
	Comparison	50	-0.779	0.261	0.004

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.



**Table C.112. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	-0.112	0.119	0.347	-0.190	0.142	0.186	-0.301
Attitudinal barriers	-0.160	0.149	0.287	-0.124	0.145	0.395	-0.172
Stigma barriers	-0.053	0.135	0.696	-0.077	0.156	0.620	-0.109
Internalized stigma	0.397	0.318	0.214	0.210	0.199	0.294	0.148

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.113. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.031	0.103	0.767	0.008	0.067	0.910	0.014
Attitudinal barriers	-0.224	0.120	0.066	-0.196	0.089	0.031 <sup>c</sup>	-0.284
Stigma barriers	-0.218	0.134	0.105	-0.091	0.082	0.269	-0.137
Internalized stigma	-0.051	0.294	0.863	0.082	0.199	0.683	0.060

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.114. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need			
		Baseline Percentage (Retained Sample)	1 Year Percentage	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	41.78	27.50	-14.28	0.006
	Comparison	28.31	20.38	-7.93	0.085
Used any nonclinical settings or resources <sup>a,c</sup>	C2C	35.89	20.31	-15.58	0.003
	Comparison	27.08	13.82	-13.26	0.012
Stayed in inpatient setting <sup>d</sup>	C2C	41.47	5.96	-35.51	<.001
	Comparison	35.35	7.26	-29.10	<.001
Used emergency settings <sup>a,e</sup>	C2C	41.84	30.05	-11.79	0.026 <sup>f</sup>
	Comparison	56.43	48.09	-8.34	0.169

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>e</sup> Hospital emergency room or an urgent care facility for any health reason.

<sup>f</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.115. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year			
		N	Estimate	SE	p-Value
Number of times went to any outpatient MHP <sup>a</sup>	C2C	103	-0.093	0.938	0.921
	Comparison	60	-0.592	0.865	0.496
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	103	-4.37	2.71	0.110
	Comparison	60	0.137	0.098	0.168
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	103	-0.469	0.355	0.189
	Comparison	60	0.036	0.225	0.874

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

**Table C.116. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>c,d</sup>	1.50	[0.640–3.51]	0.353			
Used any nonclinical settings or resources <sup>c,e</sup>	1.76	[0.710–4.38]	0.224			
Stayed in inpatient setting <sup>f</sup>						
Used emergency settings <sup>c,g</sup>	0.469	[0.223–0.987]	0.048 <sup>h</sup>	0.436	[0.077–2.48]	0.351

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>d</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>e</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>f</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up)

<sup>g</sup> Hospital emergency room or an urgent care facility for any health reason.

<sup>h</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.117. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous Weighted**

Continuous (No. of Times) Outcome	Group-Level Comparison of Changes in Utilization over 1 Year						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Number of times went to any outpatient MHP <sup>c</sup>	0.499	1.28	0.696	1.41	1.33	0.290	0.156
Number of nights in a residential treatment program for alcohol or drug problems	-4.51	2.71	0.099	-0.172	0.214	0.422	-0.008
Number of times went to a hospital, emergency room, urgent care facility for any health reason	-0.505	0.420	0.231	-0.013	0.258	0.961	-0.004

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

**Table C.118. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	92	-1.17	0.549	0.036 <sup>b</sup>
	Comparison	47	-0.33	0.792	0.678
Generalized anxiety (score range 0–21)	C2C	90	-2.49	0.546	<.001
	Comparison	47	-1.44	0.815	0.085
PTSD (score range 0–80)	C2C	90	-9.24	1.81	<.001
	Comparison	47	-5.90	1.99	0.005
Alcohol use (score range 0–40)	C2C	89	-1.33	0.497	0.009
	Comparison	47	-1.72	0.463	0.001
Substance use (score range 0–10)	C2C	88	-1.04	0.212	<.001
	Comparison	47	-0.465	0.244	0.063
Psychological distress (score range 0–24)	C2C	86	-3.19	0.538	<.001
	Comparison	46	-2.55	0.628	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.<sup>b</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.**Table C.119. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	104	-2.22	0.556	<.001
	Comparison	52	-2.50	0.821	0.004
Generalized anxiety (score range 0–21)	C2C	102	-2.97	0.512	<.001
	Comparison	52	-2.90	0.649	<.001
PTSD (score range 0–80)	C2C	102	-14.50	1.74	<.001
	Comparison	52	-11.59	2.54	<.001
Alcohol use (score range 0–40)	C2C	102	-1.22	0.492	0.015
	Comparison	52	-0.949	0.597	0.118
Substance use (score range 0–10)	C2C	100	-1.72	0.203	<.001
	Comparison	52	-0.881	0.239	0.001
Psychological distress (score range 0–24)	C2C	100	-4.55	0.614	<.001
	Comparison	52	-2.91	0.788	0.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.120. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	-0.837	0.964	0.386	-1.80	0.701	0.012 <sup>c</sup>	-0.340
Generalized anxiety	-1.05	0.981	0.286	-1.83	0.675	0.008 <sup>c</sup>	-0.336
PTSD	-3.33	2.69	0.217	-2.06	2.00	0.306	-0.129
Alcohol use	0.394	0.680	0.563	0.524	0.446	0.244	0.120
Substance use	-0.577	0.323	0.076	-0.427	0.238	0.076	-0.230
Distress	-0.644	0.827	0.438	0.053	0.738	0.943	0.011

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.121. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.287	0.991	0.773	-0.090	0.616	0.884	-0.016
Generalized anxiety	-0.070	0.827	0.933	-0.215	0.776	0.782	-0.044
PTSD	-2.91	3.08	0.345	0.012	2.16	0.996	0.001
Alcohol use	-0.268	0.773	0.729	-0.119	0.501	0.813	-0.024
Substance use	-0.291	0.314	0.355	0.088	0.190	0.643	0.046
Distress	-1.64	0.999	0.103	-1.99	0.897	0.029 <sup>c</sup>	-0.352

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.122. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	92	22.80	0.207
	Comparison	47	13.72	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	90	6.97	0.857
	Comparison	47	7.83	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	90	36.24	0.532
	Comparison	47	30.47	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	90	42.02	0.364
	Comparison	47	33.53	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	90	59.09	0.489
	Comparison	47	52.25	
Alcohol use (change to below positive screen threshold)	C2C	89	19.07	0.649
	Comparison	47	15.24	
Substance use (change to below positive screen threshold)	C2C	88	24.22	0.167
	Comparison	47	13.95	
Psychological distress (change to below threshold for serious mental illness)	C2C	86	29.90	0.745
	Comparison	46	27.17	
Psychological distress (change to below threshold for moderate distress)	C2C	86	73.46	0.577
	Comparison	46	78.56	

**Table C.123. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	104	32.70	0.524
	Comparison	52	38.64	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	102	11.17	0.127
	Comparison	52	4.38	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	102	36.49	0.592
	Comparison	52	31.49	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	102	57.54	0.942
	Comparison	52	56.85	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	102	74.15	0.290
	Comparison	52	65.03	
Alcohol use (change to below positive screen threshold)	C2C	102	14.46	0.454
	Comparison	52	9.54	
Substance use (change to below positive screen threshold)	C2C	100	22.70	0.830
	Comparison	52	24.53	
Psychological distress (change to below threshold for serious mental illness)	C2C	100	34.17	0.875
	Comparison	52	35.61	
Psychological distress (change to below threshold for moderate distress)	C2C	100	71.53	0.392
	Comparison	52	79.23	

**Table C.124. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	N/A, inclusion criteria	52.50		
	Comparison	N/A, inclusion criteria	57.44		

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.125. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	75	16.38	2.08	<.001
	Comparison	42	16.95	3.32	<.001
Current monthly pay before taxes and deductions	C2C	71	842	139	<.001
	Comparison	40	875	188	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6 months for each group separately.

**Table C.126. Within-Group Differences in FT/PT Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	N/A, inclusion criteria			
	Comparison	N/A, inclusion criteria			

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.



**Table C.127. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	77	19.55	2.33	<.001
	Comparison	44	12.07	2.73	<.001
Current monthly pay before taxes and deductions	C2C	77	1,213	189	<.001
	Comparison	41	811	255	0.003

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12 months for each group separately.

**Table C.128. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome		Housing at 6 Months		
		Baseline (Retained Sample) Percentage	6 Months (%)	Difference p-Value
Aggregate current housing Stably housed or staying with someone else <sup>a</sup>	C2C	79.53	90.43	
	Comparison	95.35	89.30	

<sup>a</sup> Versus *transitional/temporary or homeless/unstably housed*.

**Table C.129. Within-Group Differences in Housing at 12 Months Weighted**

Outcome		Housing at 12 Months		
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference p-Value
Aggregate current housing Stably housed or staying with someone else <sup>a</sup>	C2C	84.22	92.02	
	Comparison	92.49	86.75	

<sup>a</sup> Versus *transitional/temporary or homeless/unstably housed*.

**Table C.130. Within-Group Changes in Homelessness over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year		
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference p-Value
Homeless, past year	C2C	18.89	12.29	-6.61 0.042 <sup>a</sup>
	Comparison	16.74	9.10	

<sup>a</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.131. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome		Educational Attainment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	73.30	73.11	-0.19	0.817
	Comparison	71.21	81.26		

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.132. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

Outcome		Educational Attainment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	76.30	78.02	+1.71	0.822
	Comparison	75.48	76.21		

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.133. Within-Group Changes in Incarceration over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Incarcerated, past year	C2C	13.92	3.93		
	Comparison	13.43	3.60		

**Table C.134. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 0.819	[0.350–1.91]	0.646				–
Change in hours worked per week	–0.574	3.91	0.884	–1.12	3.08	0.718	–0.062
Change in current monthly pay before taxes and deductions	–32.99	234	0.888	–154	171	0.370	–0.137
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)							
<b>Education</b>							
Completed high school or greater <sup>d</sup>							

NOTES: SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 6 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Among persons ages 18 and older at baseline.

**Table C.135. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.70	[0.740–3.91]	0.213				—
Change in hours worked per week	7.48	3.59	0.039 <sup>d</sup>	-1.96	4.19	0.641	-0.100
Change in current monthly pay before taxes and deductions	402	317	0.208	-572	462	0.220	-0.324
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>e</sup>							—
<b>Recent homelessness—over 1 year</b>							
Homeless							—
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>f</sup>							—
<b>Incarceration—1 year</b>							
Incarcerated							—

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Not statistically significant at p<.05 after adjusting for multiple comparisons.

<sup>e</sup> Versus transitional/temporary or homeless/unstably housed.

<sup>f</sup> Among persons 18 and older at baseline.

C8.3.5. Target Population: Parents/Primary Caregivers Who Are Expecting or Who Have Children up to Age 4

Chapter 7 Mental Health Care Access and Utilization

**Table C.136. Within-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	92	-0.345	0.060	<.001
	Comparison	55	-0.409	0.081	<.001
Attitudinal barriers	C2C	92	-0.491	0.071	<.001
	Comparison	55	-0.484	0.082	<.001
Stigma barriers	C2C	91	-0.409	0.077	<.001
	Comparison	55	-0.566	0.099	<.001
Internalized stigma	C2C	87	-0.690	0.145	<.001
	Comparison	51	-0.766	0.194	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.

**Table C.137. Within-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Logistical barriers	C2C	103	-0.485	0.062	<.001
	Comparison	60	-0.397	0.090	<.001
Attitudinal barriers	C2C	104	-0.494	0.077	<.001
	Comparison	59	-0.474	0.103	<.001
Stigma barriers	C2C	103	-0.558	0.064	<.001
	Comparison	59	-0.576	0.109	<.001
Internalized stigma	C2C	97	-0.643	0.124	<.001
	Comparison	56	-0.772	0.191	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.138. Between-Group Mean Changes in Barriers to Care at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	0.063	0.100	0.530	0.031	0.083	0.706	0.051
Attitudinal barriers	-0.007	0.109	0.947	0.011	0.110	0.920	0.018
Stigma barriers	0.157	0.126	0.212	0.080	0.123	0.518	0.114
Internalized stigma	0.076	0.242	0.754	0.075	0.118	0.524	0.053

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.139. Between-Group Mean Changes in Barriers to Care at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Logistical barriers	-0.088	0.109	0.420	0.001	0.075	0.994	0.001
Attitudinal barriers	-0.020	0.128	0.878	0.058	0.101	0.568	0.079
Stigma barriers	0.018	0.127	0.885	0.059	0.093	0.527	0.083
Internalized stigma	0.129	0.227	0.571	0.118	0.157	0.454	0.092

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.140. Within-Group Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome		Utilization Among Persons with Baseline Unmet Need			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Went to any outpatient MHP <sup>a,b</sup>	C2C	32.67	34.60	+1.93	0.838
	Comparison	29.66	22.72	-6.94	0.377
Used any nonclinical settings or resources <sup>a,c</sup>	C2C	32.10	24.21	-7.90	0.191
	Comparison	38.09	25.22	-12.87	0.043 <sup>d</sup>
Stayed in inpatient setting <sup>e</sup>	C2C	28.78	3.47	-25.31	<.001
	Comparison	17.50	4.59	-12.91	0.019 <sup>d</sup>
Used emergency settings <sup>a,f</sup>	C2C	43.53	25.60	-17.92	0.005
	Comparison	42.10	50.54	+8.44	0.394

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>c</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>d</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

<sup>e</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>f</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.141. Within-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome		Within-Group Mean Change over 1 Year			
		N	Estimate	SE	p-Value
Number of times went to any outpatient MHP <sup>a</sup>	C2C	103	0.672	1.11	0.546
	Comparison	49	0.037	1.22	0.976
Number of nights in a residential treatment program for alcohol or drug problems <sup>a</sup>	C2C	104	-1.69	0.774	0.031 <sup>b</sup>
	Comparison	49	0.090	0.110	0.415
Number of times went to a hospital, emergency room, urgent care facility for any health reason <sup>a</sup>	C2C	104	-0.970	0.362	0.009
	Comparison	49	0.636	0.460	0.174

NOTE: SE = standard error.

<sup>a</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>b</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.



**Table C.142. Between-Group Binary Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Binary (Weighted)**

Binary (Yes or No) Outcome	Group-Level Comparison of Utilization over 1 Year					
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>		
	OR	95% CI	p-Value	OR	95% CI	p-Value
Went to any outpatient MHP <sup>c,d</sup>	1.91	[0.861–4.24]	0.114			
Used any nonclinical settings or resources <sup>d,e</sup>	0.916	[0.367–2.29]	0.851			
Stayed in inpatient setting <sup>f</sup>						
Used emergency settings <sup>c,g</sup>	0.342	[0.161–0.723]	0.006			

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>d</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

<sup>e</sup> Self-help or family support groups, substance use agencies, or 12-step-type programs, called a hotline, or attended religious/spiritual places, parks and recreation, or community centers for mental health needs.

<sup>f</sup> One or more nights in residential treatment program for alcohol/drug problems (past 6 months) or overnight stay in a hospital for emotional, mental health, alcohol, or drug problems (lifetime at baseline, past 6 months at each follow-up).

<sup>g</sup> Hospital emergency room or an urgent care facility for any health reason.

**Table C.143. Between-Group Mean Changes in Mental Health Care Utilization over 1 Year Among Persons with Need at Baseline—Continuous (Weighted)**

Continuous (No. of Times) Outcome	Group-Level Comparison of Changes in Utilization over 1 Year						
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			Standardized Effect Size for Doubly Robust Model
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Number of times went to any outpatient MHP <sup>c</sup>	0.635	1.65	0.701	1.89	1.55	0.229	0.169
Number of nights in a residential treatment program for alcohol or drug problems	-1.78	0.781	0.024 <sup>c</sup>	-0.053	0.206	0.798	-0.008
Number of times went to a hospital, emergency room, urgent care facility for any health reason	-1.61	0.586	0.007	-1.84	0.425	<.001	-0.484

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model. Past 6 months at baseline; follow-up uses pooled 6- and 12-month data reflecting using over the prior year.

<sup>c</sup> Including psychiatrists, psychologists, social workers, psychiatric nurses, or counselors.

**Table C.144. Within-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	96	-2.60	0.575	<.001
	Comparison	57	-2.26	0.687	0.002
Generalized anxiety (score range 0–21)	C2C	96	-2.64	0.488	<.001
	Comparison	57	-2.28	0.644	0.001
PTSD (score range 0–80)	C2C	95	-9.57	1.64	<.001
	Comparison	57	-7.66	2.40	0.002
Alcohol use (score range 0–40)	C2C	93	-2.25	0.535	<.001
	Comparison	56	-1.19	0.622	0.060
Substance use (score range 0–10)	C2C	93	-0.789	0.195	<.001
	Comparison	55	-0.371	0.137	0.001
Psychological distress (score range 0–24)	C2C	91	-3.38	0.519	<.001
	Comparison	56	-2.87	0.747	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 6-month scores for each group separately.**Table C.145. Within-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Depression (score range 0–24)	C2C	107	-2.64	0.579	<.001
	Comparison	62	-2.69	0.802	0.001
Generalized anxiety (score range 0–21)	C2C	107	-3.09	0.572	<.001
	Comparison	62	-2.53	0.798	0.002
PTSD (score range 0–80)	C2C	107	-11.61	1.78	<.001
	Comparison	62	-9.91	2.23	<.001
Alcohol use (score range 0–40)	C2C	105	-2.27	0.491	<.001
	Comparison	61	-1.83	0.633	0.005
Substance use (score range 0–10)	C2C	105	-0.804	0.174	<.001
	Comparison	60	-0.499	0.190	0.011
Psychological distress (score range 0–24)	C2C	104	-3.49	0.519	<.001
	Comparison	62	-3.31	0.841	<.001

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between the baseline and 12-month scores for each group separately.

**Table C.146. Between-Group Mean Changes in Mental Health Symptoms at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	-0.340	0.895	0.704	-0.605	0.721	0.404	-0.109
Generalized anxiety	-0.365	0.809	0.652	-0.081	0.785	0.918	-0.017
PTSD	-1.91	2.91	0.513	-0.362	2.56	0.888	-0.022
Alcohol use	-1.06	0.820	0.198	-0.679	0.458	0.142	-0.128
Substance use	-0.419	0.238	0.081	-0.062	0.161	0.699	-0.035
Distress	-0.506	0.910	0.579	-0.307	0.811	0.706	-0.060

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

**Table C.147. Between-Group Mean Changes in Mental Health Symptoms at 12 Months (Weighted)**

Outcome	Group-Level Comparison of Mean Changes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate	SE	p-Value	Estimate	SE	p-Value	
Depression	0.045	0.990	0.964	0.738	0.789	0.352	0.125
Generalized anxiety	-0.568	0.982	0.564	0.684	0.805	0.398	0.117
PTSD	-1.70	2.85	0.553	5.14	2.36	0.032 <sup>c</sup>	0.293
Alcohol use	-0.442	0.802	0.582	0.248	0.315	0.434	0.047
Substance use	-0.305	0.258	0.238	0.086	0.194	0.657	0.050
Distress	-0.187	0.989	0.850	0.257	0.778	0.741	0.046

NOTE: SE = standard error.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Estimate was not statistically significant at p<.05 after adjusting for multiple comparisons.

**Table C.148. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 6 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	96	34.08	0.684
	Comparison	57	30.76	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	96	7.16	0.625
	Comparison	57	5.17	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	96	30.21	0.927
	Comparison	57	29.49	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	95	43.29	0.517
	Comparison	57	37.77	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	95	57.82	0.348
	Comparison	57	49.72	
Alcohol use (change to below positive screen threshold)	C2C	93	15.00	0.267
	Comparison	56	8.71	
Substance use (change to below positive screen threshold)	C2C	93	13.07	0.097
	Comparison	55	4.16	
Psychological distress (change to below threshold for serious mental illness)	C2C	91	24.22	0.780
	Comparison	56	22.15	
Psychological distress (change to below threshold for moderate distress)	C2C	91	68.00	0.780
	Comparison	56	65.69	

**Table C.149. Clinically Significant/Reliable Change for Mental Health Symptoms and Group-Level Comparison at 12 Months**

Outcome		Group-Level Comparison of Percentage with Change		
		N	Percentage with Change	p-Value
Depression (clinically significant change of 10-point or greater decrease in scores)	C2C	107	37.08	0.975
	Comparison	62	37.33	
Generalized anxiety (clinically significant change of 10-point or greater decrease in scores)	C2C	107	15.53	0.291
	Comparison	62	9.71	
Generalized anxiety (reliable change of 5-point or greater decrease in scores)	C2C	107	33.63	0.696
	Comparison	62	36.71	
PTSD (clinically significant change of 10-point or greater decrease in scores)	C2C	107	52.56	0.278
	Comparison	62	43.50	
PTSD (reliable change of 5-point or greater decrease in scores)	C2C	107	63.00	0.552
	Comparison	62	58.16	
Alcohol use (change to below positive screen threshold)	C2C	105	17.72	0.201
	Comparison	61	10.08	
Substance use (change to below positive screen threshold)	C2C	105	13.93	0.319
	Comparison	61	8.09	
Psychological distress (change to below threshold for serious mental illness)	C2C	104	21.95	0.948
	Comparison	62	22.40	
Psychological distress (change to below threshold for moderate distress)	C2C	104	65.26	0.931
	Comparison	62	65.94	

**Table C.150. Within-Group Differences in FT/PT Employment at 6 Months (Weighted)**

Outcome		Employment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	27.73	57.26	29.53	<.001
	Comparison	30.07	48.07	17.99	0.010

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.151. Within-Group Mean Changes in Hours Worked and Employment Income at 6 Months (Weighted)**

Outcome		Individual Mean Change at 6 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	68	10.5	2.53	<.001
	Comparison	37	3.33	2.48	0.188
Current monthly pay before taxes and deductions	C2C	62	755	194	<.001
	Comparison	33	340	153	0.033 <sup>b</sup>

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 6-month scores for each group separately.

<sup>b</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

**Table C.152. Within-Group Differences in FT/PT Employment at 12 Months (Weighted)**

Outcome		Employment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
FT or PT employment (vs. unemployed) <sup>a</sup>	C2C	24.81	56.53	+31.72	<.001
	Comparison	32.72	46.04	+13.32	0.077

NOTES: FT = full-time; PT = part-time.

<sup>a</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and follow-up.

**Table C.153. Within-Group Mean Changes in Hours Worked and Employment Income at 12 Months (Weighted)**

Outcome		Individual Mean Change at 12 Months <sup>a</sup>			
		N	Estimate	SE	p-Value
Hours worked per week	C2C	83	13.00	2.28	<.001
	Comparison	36	5.00	2.66	0.069
Current monthly pay before taxes and deductions	C2C	75	894	197	<.001
	Comparison	34	481	203	0.024

NOTE: SE = standard error.

<sup>a</sup> Within-individual mean changes between baseline and 12-month scores for each group separately.

**Table C.154. Within-Group Differences in Housing at 6 Months (Weighted)**

Outcome		Housing at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	67.45	74.91	+6.69	0.067
	Comparison	73.85	80.54	+7.45	0.069

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.155. Within-Group Differences in Housing at 12 Months (Weighted)**

Outcome		Housing at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Aggregate current housing					
Stably housed or staying with someone else <sup>a</sup>	C2C	72.21	87.82	+15.62	<.001
	Comparison	76.39	87.47	+11.08	0.009

<sup>a</sup> Versus transitional/temporary or homeless/unstably housed.

**Table C.156. Within-Group Changes in Homelessness over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Homeless, past year	C2C	15.87	15.84		
	Comparison	10.52	10.29		

**Table C.157. Within-Group Differences in Educational Attainment at 6 Months (Weighted)**

Outcome		Educational Attainment at 6 Months			
		Baseline Percentage (Retained Sample)	6 Months (%)	Difference	p-Value
Completed high school or GED or greater <sup>a</sup>	C2C	73.97	73.95	+0.02	0.775
	Comparison	71.77	74.58	-2.81	0.215

<sup>a</sup> Among persons ages 18 and older at baseline.



**Table C.158. Within-Group Differences in Educational Attainment at 12 Months (Weighted)**

Outcome		Educational Attainment at 12 Months			
		Baseline Percentage (Retained Sample)	12 Months (%)	Difference	p-Value
Completed high school or general educational or greater <sup>a</sup>	C2C	74.87	74.98	+0.11	0.800
	Comparison	72.20	76.89	+4.68	0.293

<sup>a</sup> Among persons ages 18 and older at baseline.

**Table C.159. Within-Group Changes in Incarceration over 1 Year (Weighted)**

Outcome		Within-Group Difference over 1 Year			
		Baseline Percentage (Retained Sample)	1 Year (%)	Difference	p-Value
Incarcerated, past year	C2C	11.46	2.60		
	Comparison	5.98	5.39		

**Table C.160. Between-Group Differences in Employment, Housing, Education, and Incarceration at 6 Months (Weighted)**

Outcome	Group-Level Comparison of Differences						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.38	[0.640–2.96]	0.414	OR = 0.749	[0.191–2.93]	0.679	
Change in hours worked per week	7.14	3.54	0.046 <sup>d</sup>	-0.817	3.94	0.837	-0.042
Change in current monthly pay before taxes and deductions	415	247	0.096	-0.795	342	0.998	-0.001
<b>Aggregate current housing</b>							
Stably housed or staying with someone else (vs. transitional or homeless)	OR = 0.919	[0.316–2.67]	0.877				
<b>Education</b>							
Completed high school or greater <sup>e</sup>	OR = 0.967	[0.428–2.19]	0.936				

NOTES: SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 6 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Estimate was not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> Among persons ages 18 and older at baseline.

**Table C.161. Between-Group Differences in Employment, Housing, Education, and Incarceration at 12 Months and 1 Year (Weighted)**

Outcome	Group-Level Comparison of Outcomes						Standardized Effect Size for Doubly Robust Model
	Propensity Score Weighted Model <sup>a</sup>			Doubly Robust Model <sup>b</sup>			
	Estimate or OR	SE or 95% CI	p-Value	Estimate or OR	SE or 95% CI	p-Value	
<b>Employment at 12-month follow-up</b>							
FT/PT employment (vs. unemployment) <sup>c</sup>	OR = 1.30	[0.621–2.74]	0.485	OR = 0.704	[0.227–2.18]	0.546	
Change in hours worked per week	8.00	3.50	0.024 <sup>d</sup>	3.89	3.46	0.265	0.199
Change in current monthly pay before taxes and deductions	413	282	0.146	134	245	0.587	0.080
<b>Current housing at 12-month follow-up</b>							
Stably housed or staying with someone else <sup>e</sup>							–
<b>Recent homelessness—over 1 year</b>							
Homeless							–
<b>Education at 12-month follow-up</b>							
Completed high school or greater <sup>f</sup>	OR = 0.952	[0.431–2.10]	0.903				–
<b>Incarceration—over 1 year</b>							
Incarcerated							

NOTES: Change estimates are not shown when the group size is fewer than ten, and comparisons are not shown when the group size is fewer than ten for either group. Doubly robust model results are not shown when the group size is fewer than 20 for either group. Affected cells are shaded in gray. SE = standard error; FT = full-time; PT = part-time.

<sup>a</sup> Group-level comparison of within-individual mean changes from baseline to 12 months in propensity score weighted models where the comparison group is weighted to “look like” the C2C group through propensity score weights.

<sup>b</sup> Propensity score weighted model with additional (double) control for baseline age, gender, race/ethnicity, education level, employment status, housing status, and incarceration status in the model.

<sup>c</sup> Among persons who were employed full-time, employed part-time, or unemployed/looking for work at baseline and 12 months. Does not include persons who were students, retired and not working, homemakers, disabled or too ill to work, or other.

<sup>d</sup> Not statistically significant at  $p < .05$  after adjusting for multiple comparisons.

<sup>e</sup> Versus *transitional/temporary or homeless/unstably housed*

<sup>f</sup> Among persons 18 and older at baseline

## References

- Altena, A. M., S. N. Brilleslijper-Kater, and J. L. Wolf, "Effective Interventions for Homeless Youth: A Systematic Review," *American Journal of Preventive Medicine*, Vol. 38, No. 6, 2010, pp. 637–645.
- Babor, T. F., J. R. La Fuente, J. Saunders, and M. Grant, AUDIT, the Alcohol Use Disorders Identification Test: Guidelines for Use in Primary Health Care. Geneva: Substance Abuse Department, World Health Organization, 1992.
- Bassuk, E. L., J. C. Buckner, J. N. Perloff, and S. S. Bassuk, "Prevalence of Mental Health and Substance Use Disorders Among Homeless and Low-Income Housed Mothers," *American Journal of Psychiatry*, Vol. 155, No. 11, 1998, pp. 1561–1564.
- Benjamini, Y., and Y. Hochberg, "Controlling the False Discovery Rate—A Practical and Powerful Approach to Multiple Testing," *Journal of the Royal Statistical Society Series B-Methodological*, Vol. 57, No. 1, 1995, pp. 289–300.
- Berner, M. M., L. Kriston, M. Bentele, and M. Harter, "The Alcohol Use Disorders Identification Test for Detecting At-Risk Drinking: A Systematic Review and Meta-Analysis," *Journal of Studies on Alcohol and Drugs*, Vol. 68, No. 3, 2007, pp. 461–473.
- Blevins, C. A., F. W. Weathers, M. T. Davis, T. K. Witte, and J. L. Domino, "The Posttraumatic Stress Disorder Checklist for DSM-5 (PCL-5): Development and Initial Psychometric Evaluation," *J Trauma Stress*, Vol. 28, No. 6, 2015, pp. 489–498.
- Breslau, N., G. C. Davis, P. Andreski, E. L. Peterson, and L. R. Schultz, "Sex Differences in Posttraumatic Stress Disorder," *Archives of General Psychiatry*, Vol. 54, No. 11, 1997, pp. 1044–1048.
- Brookhart, M. A., S. Schneeweiss, K. J. Rothman, R. J. Glynn, J. Avorn, and T. Sturmer, "Variable Selection for Propensity Score Models," *American Journal of Epidemiology*, Vol. 163, No. 12, 2006, pp. 1149–1156.
- Chung, B., M. Ong, S. L. Ettner, F. Jones, J. Gilmore, M. McCreary, C. Sherbourne, V. Ngo, P. Koegel, L. Tang, E. Dixon, J. Miranda, T. R. Belin, and K. B. Wells, "12-Month Outcomes of Community Engagement Versus Technical Assistance to Implement Depression Collaborative Care: A Partnered, Cluster, Randomized, Comparative Effectiveness Trial," *Annals of Internal Medicine*, Vol. 161, No. 10, 2014, pp. S23–S34.
- Clement, S., E. Brohan, D. Jeffery, C. Henderson, S. L. Hatch, and G. Thornicroft, "Development and Psychometric Properties the Barriers to Access to Care Evaluation Scale (BACE) Related to People with Mental Ill Health," *BMC Psychiatry*, 12, 2012, p. 36.
- Cohen, J. *Statistical Power Analysis for the Behavioural Sciences*, 2nd ed., Hillsdale, NJ: Erlbaum, 1988.

- Czajka, J. L., and A. Beyler. Background Paper Declining Response Rates in Federal Surveys: Trends and Implications. Washington, DC: Mathematica Policy Research, 2016.
- Davis, L. L., M. E. Broome, and R. P. Cox, “Maximizing Retention in Community-Based Clinical Trials,” *Journal of Nursing Scholarship*, Vol. 34, No. 1, 2002, pp. 47–53.
- Goodman, E., and B. Huang, “Socioeconomic Status, Depressive Symptoms, and Adolescent Substance Use,” *Archives of Pediatrics & Adolescent Medicine*, Vol. 156, No. 5, 2002, pp. 448–453.
- Kessler, R. C., P. R. Barker, L. J. Colpe, J. F. Epstein, J. C. Gfroerer, E. Hiripi, and A. M. Zaslavsky, “Screening for Serious Mental Illness in the General Population,” *Archives of General Psychiatry*, Vol. 60, No. 4, 2003, pp. 184–189.
- Kessler, R. C., H. G. Birnbaum, V. Shahly, E. Bromet, I. Hwang, K. A. McLaughlin, N. Sampson, L. H. Andrade, G. de Girolamo, K. Demyttenaere, J. M. Haro, A. N. Karam, S. Kostyuchenko, V. Kovess, C. Lara, D. Levinson, H. Matschinger, Y. Nakane, M. O. Browne, J. Ormel, J. Posada-Villa, R. Sagar, and D. J. Stein, “Age Differences in the Prevalence and Co-Morbidity of DSM-IV Major Depressive Episodes: Results from the WHO World Mental Health Survey Initiative,” *Depression and Anxiety*, Vol. 27, No. 4, 2010, pp. 351–364.
- Kroenke, K., R. L. Spitzer, and J. B. W. Williams, “The PHQ-9: Validity of a Brief Depression Severity Measure,” *Journal of General Internal Medicine*, Vol. 16, No. 9, 2001, pp. 606–613.
- Kroenke, K., R. L. Spitzer, J. B. Williams, and B. Löwe. “The Patient Health Questionnaire Somatic, Anxiety, and Depressive Symptom Scales: A Systematic Review.” *General Hospital Psychiatry*, Vol. 32, No. 4, 2010, pp. 345–359.
- Lee, B. K., J. Lessler, and E. A. Stuart, “Improving Propensity Score Weighting Using Machine Learning,” *Statistics in Medicine*, Vol. 29, No. 3, 2010, pp. 337–346.
- Leonard, N. R., P. Lester, M. J. Rotheram-Borus, K. Mattes, M. Gwadz, and B. Ferns, “Successful Recruitment and Retention of Participants in Longitudinal Behavioral Research,” *AIDS Education and Prevention*, Vol. 15, No. 3, 2003, pp. 269–281.
- Li, F., A. M. Zaslavsky, and M. B. Landrum, “Propensity Score Weighting with Multilevel Data,” *Statistics in Medicine*, Vol. 32, No. 19, 2013, pp. 3373–3387.
- Löwe, B., O. Decker, S. Muller, E. Brahler, D. Schellberg, W. Herzog, and P. Y. Herzberg, “Validation and Standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the General Population,” *Medical Care*, Vol. 46, No. 3, 2008, pp. 266–274.
- Lumley, T., Survey: Analysis of Complex Survey Samples, R Package Version 3.30, 2014.
- Lunceford, J. K., and M. Davidian, “Stratification and Weighting via the Propensity Score in Estimation of Causal Treatment Effects: A Comparative Study,” *Statistics in Medicine*, Vol. 23, No. 19, 2004, pp. 2937–2960.

- McCaffrey, D. F., G. Ridgeway, and A. R. Morral, "Propensity Score Estimation with Boosted Regression for Evaluating Causal Effects in Observational Studies," *Psychological Methods*, Vol. 9, No. 4, 2004, pp. 403–425.
- National Center for PTSD. *Using the PTSD Checklist for DSM-5 (PCL-5)*, 2019.  
<https://www.ptsd.va.gov/professional/assessment/adult-sr/ptsd-checklist.asp>
- National Comorbidity Survey, homepage, undated.  
<http://www.hcp.med.harvard.edu/ncs/>
- Ridgeway, G., D. McCaffrey, A. R. Morral, B. Griffin, and L. Burgette, *twang: Toolkit for Weighting and Analysis of Nonequivalent Group*, R Package Version 1.4-9.5, 2015.  
<https://CRAN.R-project.org/package=twang>
- Spitzer, R. L., K. Kroenke, J. B. Williams, and B. Lowe, "A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7," *Archives of Internal Medicine*, Vol. 166, No. 10, 2006, pp. 1092–1097.
- Teague, S., G. J. Youssef, J. A. Macdonald, E. Sciberras, A. Shatte, M. Fuller-Tyszkiewicz, C. Greenwood, J. McIntosh, C. A. Olsson, D. Hutchinson, and Seed Lifecourse Sciences Theme, "Retention Strategies in Longitudinal Cohort Studies: A Systematic Review and Meta-Analysis," *BMC Medical Research Methodology*, Vol. 18, No. 1, 2018, p. 151.
- Wells, T. S., J. L. Horton, C. A. LeardMann, I. G. Jacobson, and E. J. Boyko, "A Comparison of the PRIME-MD PHQ-9 and PHQ-8 in a Large Military Prospective Study, the Millennium Cohort Study." *Journal of Affective Disorders*, Vol. 148, No. 1, 2013, pp. 77–83.
- Yudko, E., O. Lozhkina, and A. Fouts, "A Comprehensive Review of the Psychometric Properties of the Drug Abuse Screening Test," *Journal of Substance Abuse Treatment*, Vol. 32, No. 2, 2007, pp. 189–198.

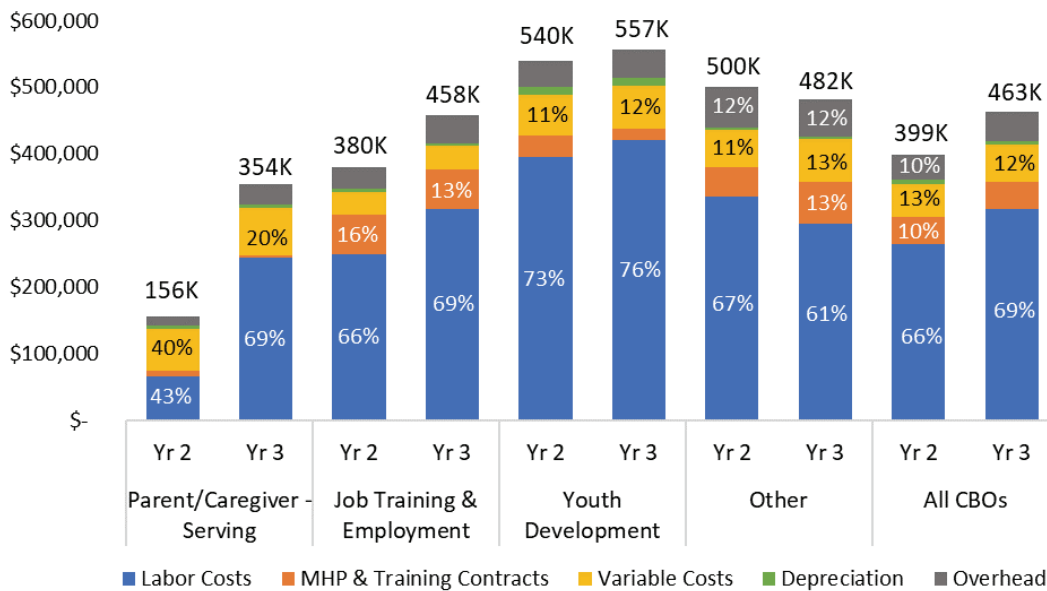
# Appendix D. Cost Evaluation and Sensitivity Analyses

*Michele Abbott and Harry Liu*

For the first sensitivity analysis, we used the indirect rate charged on C2C project invoices to calculate the total overhead cost per CBO. In general, this method decreased overhead costs as well as the average total program cost per CBO. Across all CBOs in year 2, the average total program cost decreased from \$437,546 in the main analysis to \$399,374 in the sensitivity analysis. The percentage of program costs spent on overhead in year 2 decreased from 17 to 10 percent. In year 3, the average total program cost decreased from \$514,142 in the main analysis to \$462,522 in the sensitivity analysis. The percentage of program costs spent on overhead in year 3 decreased from 18 to 9 percent.

Findings from the results of the main analysis remain robust to this sensitivity analysis. For example, the overall C2C cost per client under this sensitivity specification is \$489 in year 2 (9 percent less compared with a cost per client of \$536 in the main analysis) and \$433 in year 3 (10 percent less compared with \$482). These reductions demonstrate that the externally set indirect rates based on federally negotiated indirect cost rate agreements tend to be lower than the true overhead costs incurred by the CBOs.

**Figure D.1. Average Annual Program Cost per CBO Using Invoice-Based Overhead Cost Rates, by Cost Component, Project Year, and CBO Type**



SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017 and 2018; financial statements 2016 to 2018; project invoices.

NOTE: Percentages are not labeled for components of 10 percent or less.

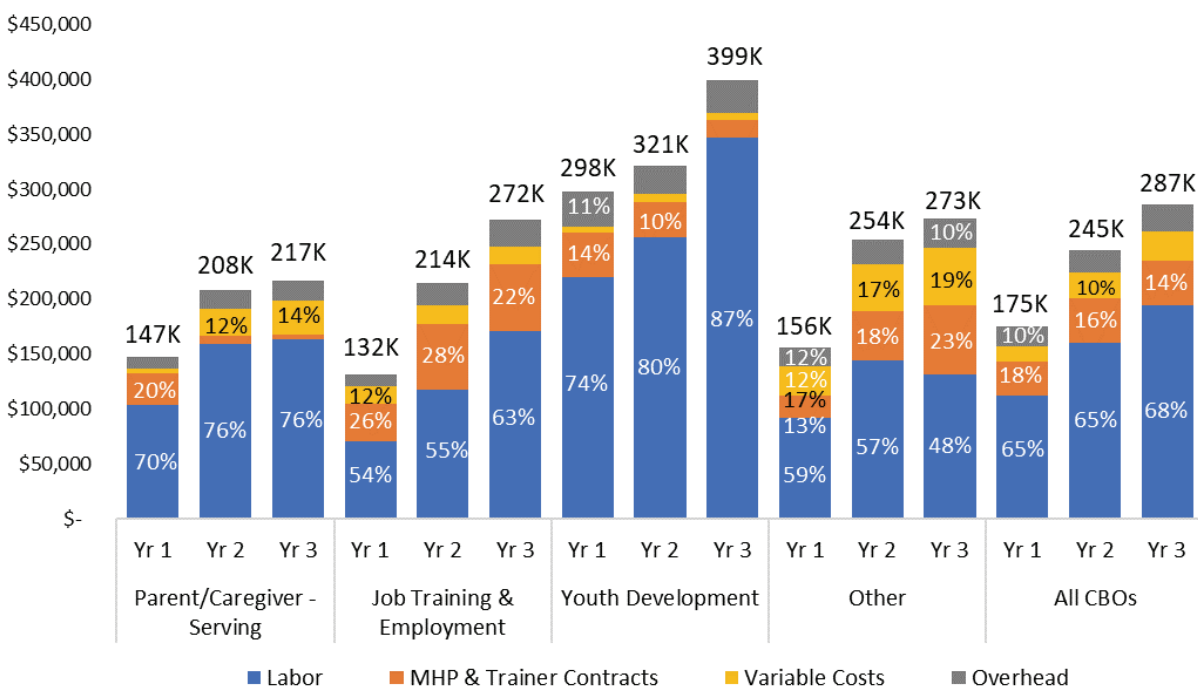


The second sensitivity analysis measured only the program costs charged by CBOs on the C2C project invoices, and therefore, the only costs the CBOs were reimbursed for. We find that the program costs billed on invoices are substantially less than those estimated using staff surveys and financial statements.

As shown in Figure D.2 below, overall, CBOs spent an average of \$174,741 in year 1, \$244,870 in year 2 (compared with \$437,546 in the main analysis), and \$286,582 in year 3 (compared with \$514,142 in the main analysis). Thus, on average, billable program costs increased by 40 percent from year 1 to year 2 and an additional 17 percent in year 3. Average invoice-based program costs were about 40 percent less than program costs in the main analysis both in year 2 and year 3.

The distribution of program costs also differed by CBO type. Parent/caregiver-serving CBOs spent the least in year 3 (\$216,778) on average and most of the costs were spent on labor (76 percent) and variable expenses (14 percent). Conversely, the average youth development CBO spent the most in year 3 (\$398,883), with 87 percent of program costs spent on labor and 7 percent on overhead. In year 3, job training and employment and other CBOs spent, on average, \$271,872 and \$273,099, respectively. However, these CBOs tended to spend less on labor (63 percent for job training and employment CBOs and 48 percent for other CBOs) and

**Figure D.2. Average Annual Program Cost per CBO Based on Invoices, by Cost Component, Project Year, and CBO Type**



SOURCE: Project invoices.

NOTE: Percentages are not labeled for components less than 10 percent.

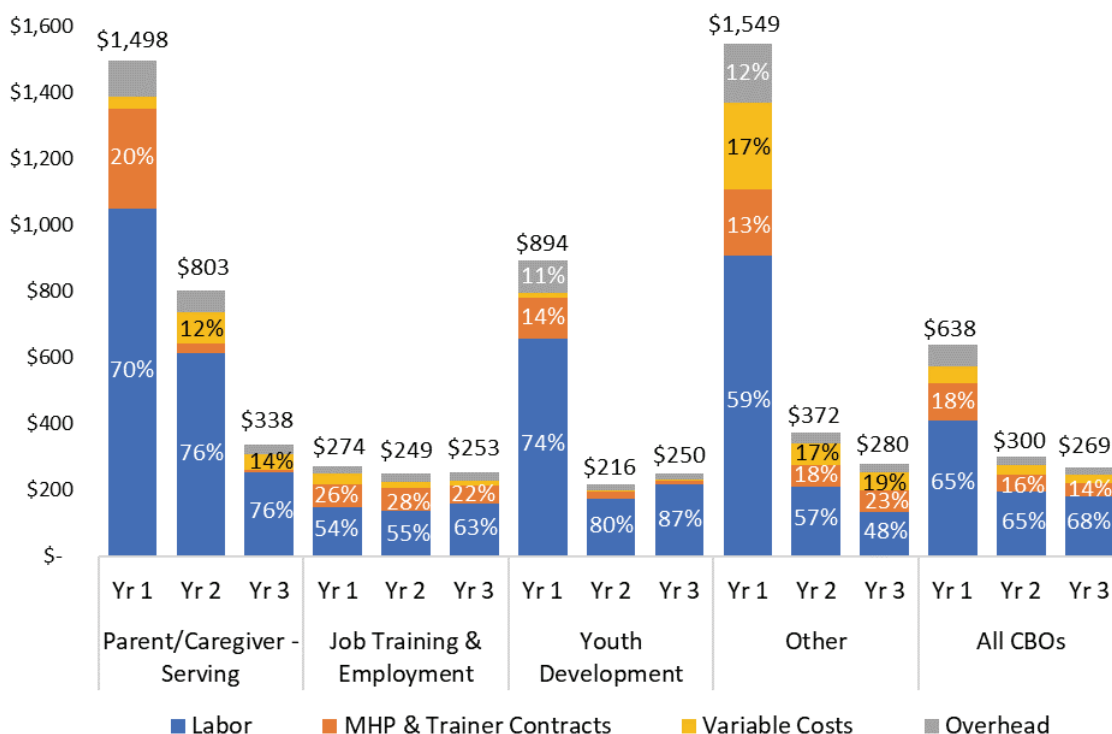
more on MHP contracts (22 and 23 percent, respectively) and variable costs (6 and 19 percent, respectively), compared with the parent/caregiver-serving and youth development CBOs.

Continuing with the second sensitivity analysis, we estimated an invoice-based cost per client served by dividing the total program costs based on invoices for each CBO type by the total number of clients served for each CBO type. As illustrated below in Figure D.3, the cost per client in year 1 (\$638) was over twice as high than in years 2 and 3 (\$300 and \$269, respectively). This is due to the smaller number of clients served during the start-up phase of the C2C Initiative. Across all CBOs, the average cost per client was about 40 percent less in the invoice-based analysis than in the main analysis (Figure 8.10) in year 2 and year 3.

Though parent/caregiver-serving CBOs spent, on average, the least amount of total program costs, the cost per client served was the largest among CBO types in year 3 (\$338; range: \$164–\$1,593). The average cost per client served among the remaining CBO types in year 3 was \$253 for job training and employment CBOs (range: \$131–\$534), \$250 for youth development CBOs (range: \$137–\$510), and \$280 for other CBOs (range: \$116–\$524).

For the third sensitivity analysis, we adjusted staff labor to estimate the marginal increase in labor hours and cost related to implementing C2C. We assumed a 5- to 25-percent increase in

**Figure D.3. Average Program Cost per Client Served Based on Invoices, by Cost Component, Project Year, and CBO Type**



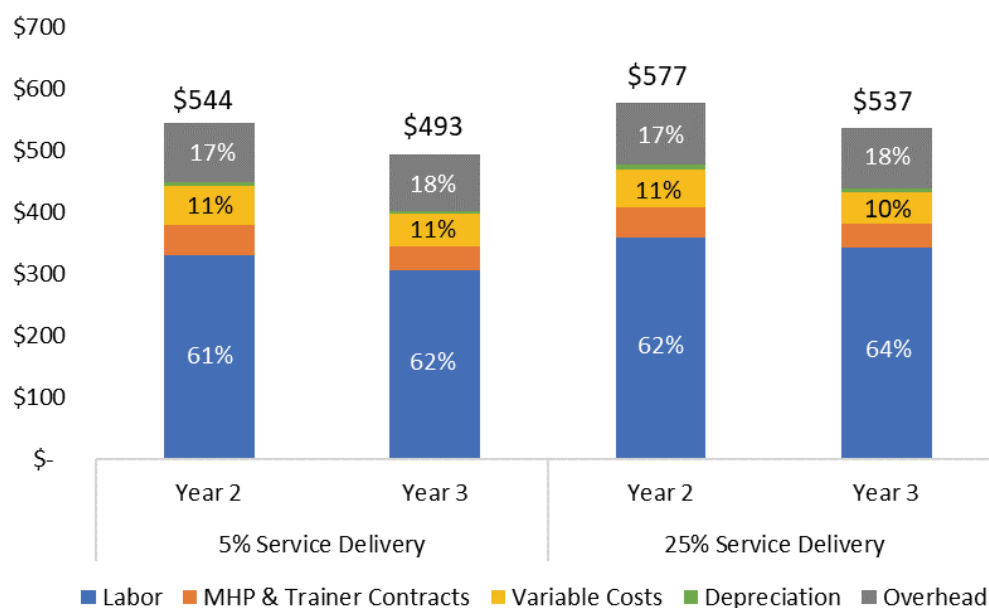
SOURCE: Project invoices; quarterly reports.

NOTES: Total number of clients served in year 1, not reported in the main text, are as follows: 295 for parent/caregiver-serving CBOs (average: 98), 2,406 for job training and employment CBOs (average: 481), 1,001 for youth development CBOs (average: 334), 404 for other CBOs (average: 101), and 4,106 across all CBOs (average: 274). Percentages are not labeled for components 10 percent or less.

labor hours associated with service delivery based on qualitative interviews with CBO staff and leadership. In year 2, CBOs spent an average of \$438,348 to \$465,520 on C2C (compared with \$437,546 in the main analysis) and \$520,339 to \$567,216 in year 3 (compared with \$512,449 in the main analysis). These costs represent a 0.2- to 6.4-percent increase in average program cost in year 2 and a 1.4- to 10.7-percent increase in year 3, compared with the main analysis.

Figure D.4 shows the average program costs per client across CBOs, by percentage increase in time spent on service delivery and project year. Using these labor-adjusted program costs, the average cost per client served was \$544 to \$577 in year 2 and \$493 to \$537 in year 3 (compared with main analysis results of \$536 in year 2 and \$481 in year 3). In conclusion, assuming that implementing C2C included a 5-percent increase in time spent on service delivery increased the average cost per client by \$8 in year 2 and \$12 in year 3. Assuming a 25-percent increase in time spent on service delivery increased the average cost per client by \$41 in year 2 and \$56 in year 3.

**Figure D.4. Average Annual Program Cost per Client Served, Adjusted for Incremental Time Spent on Delivering CBO Services Due to Utilizing C2C Skills, by Cost Component and Project Year**

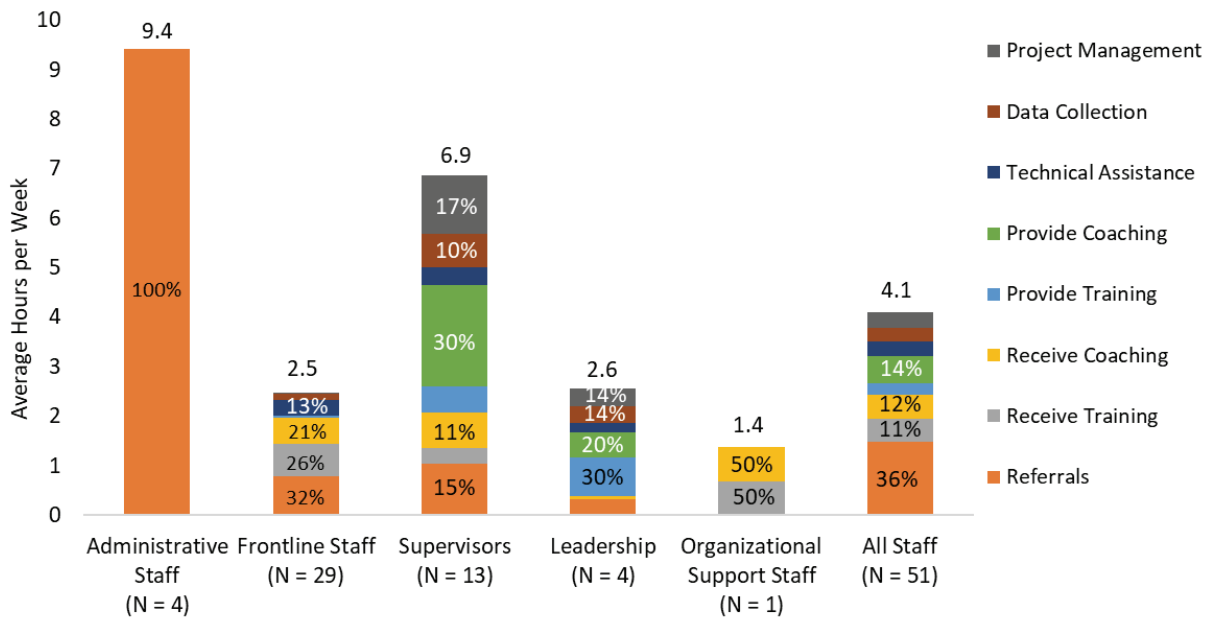


SOURCE: Staff surveys; compensation survey 2018; annual nonlabor reports 2017, 2018; financial statements 2016 to 2018; project invoices; CBO quarterly reports.

NOTE: Percentages are not labeled for components that are 10 percent or less

As shown in Figure D.5 below, we observed an increase in the amount of time for referrals (17 percent) and providing coaching (75 percent), but a decrease in receiving training (65 percent), receiving coaching (57 percent), providing training (15 percent), technical assistance (21 percent), data collection (46 percent), and project management (48 percent). However, it is important to note that although we had almost all survey respondents estimate the total number of hours worked on C2C (Figure D.6), we got a worse response rate for the questions on breakdown of

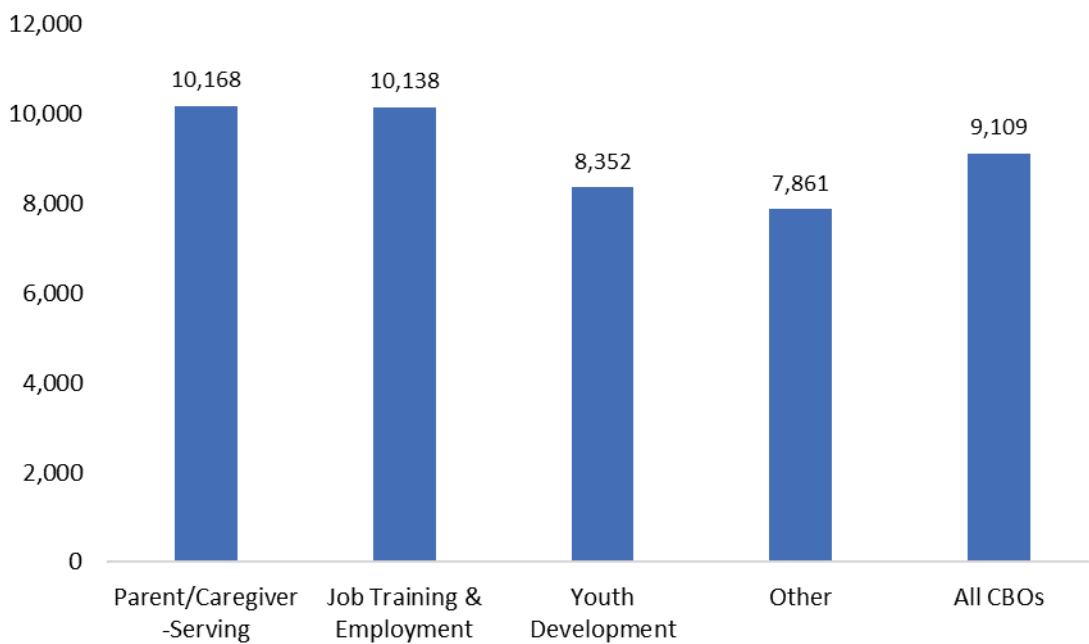
**Figure D.5. Average Weekly Labor Hours per Staff Member in Year 4, by Job Category and C2C Activity**



SOURCE: The staff surveys in year 4.

NOTES: Because we were unable to collect job category information for all nonrespondents, results reflect the average staff who responded to the staff survey and were not weighted for the total number of staff. Given a small number of staff who responded to the labor-hour questions in the year 4 staff survey, the results may not be reliable. Percentages are not labeled for components that are less than 10 percent.

**Figure D.6. Average Annual Labor Hours per CBO in Year 4, by CBO Type**



SOURCE: The staff survey in year 4.

labor hours by C2C activity, demonstrated in the figure below. Thus, the numbers below (especially, e.g., the hours spent on referrals for administrative staff) cannot be considered as representative of the full CBO staff working on C2C.

The staff survey in year 4 shows that the total labor hours for all CBOs decreased by 12 percent, compared with year 3, to 9,109 annual labor hours (median: 7,522; range: 1,305–22,549). This number has been weighted for survey nonresponse. Annual labor cost in year 4 decreased by 16 percent compared with year 3 to \$265,329 (median: \$242,661; range: \$38,013–\$714,096).