2012 Report

# Understanding Child Injury Deaths

*from the*

New York City Child Fatality Review Advisory Team

NYC Health

NEW YORK CITY DEPARTMENT OF
HEALTH AND MENTAL HYGIENE
Thomas Farley, MD, MPH
*Commissioner*

Dear Fellow New Yorker,

The death of a child is a tragic event and an overwhelming loss for family, friends, and the greater community. Death from injury is particularly distressing as it often seems to happen by accident or at random. However, understanding the causes and circumstances of these tragedies offers key lessons for preventing future injuries and protecting the safety of children at risk.

In 2006, the New York City Council established a multidisciplinary Child Fatality Review Advisory Team to examine child injury deaths and to identify strategies for prevention. This year's report presents 10 years of data from 2001 through 2010 on children aged 1 to 12 as well as youth aged 13 to 17. While injuries are the most common cause of death among New York City children and youth, our injury fatality rate is much lower than national rates for these age groups. However, certain types of injury are concerning. Gun violence among black male youth, in particular, persists as a leading cause of death in the 13 to 17 age group. Report findings indicate that further prevention efforts are needed to lower risks, especially for injuries caused by motor vehicles, fires, and gun violence.

This report also offers recommendations for parents and caregivers, health care providers, community-based organizations, and policy-makers to supplement current child safety initiatives implemented throughout the city. All New Yorkers have a role in keeping the City's children and youth safe. I hope this report will inform and inspire its readers to take action.

Sincerely,

Thomas Farley, MD, MPH
*Commissioner*
New York City Department of Health and Mental Hygiene

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### Acknowledgments

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### Suggested Citation

DiGrande L, Yau R, Fortin P. 2012 Report from the New York City Child Fatality Review Advisory Team: Understanding Child Injury Deaths. New York City Department of Health and Mental Hygiene: December 2012.

# Summary of Key Findings

## Children Aged 1 to 12

1. In New York City (NYC), injury is the leading cause of death among children aged 1 to 12.
   - From 2001 through 2010, an annual average of 48 injury deaths, unintentional and intentional, occurred among children aged 1 to 12.
   - Unintentional injuries accounted for 72% of these child injury deaths, homicides accounted for 25%, and suicides accounted for 3%.
2. Though injury is the leading cause of death among children aged 1 to 12 in NYC, the City's rate is less than half that of the United States (US) (3.9 deaths per 100,000 NYC children vs 8.1 deaths per 100,000 US children).
   - From 2001 through 2010, the difference in child injury death rates was largely due to fewer motor vehicle passenger deaths in NYC than in the US (0.2 deaths per 100,000 NYC children vs 1.1 deaths per 100,000 US children).
3. While NYC motor vehicle child passenger death rates are much lower than US rates, transportation deaths still make up the largest category of child injury deaths in NYC.
   - From 2001 through 2010, there were 144 transportation deaths among children aged 1 to 12.
   - Of these, 93 children (65%) were killed as pedestrians.
   - Driver inattention and children emerging from between parked vehicles were the most common contributing factors to child pedestrian deaths.
4. Fire deaths are the second most common mechanism of injury deaths among children in NYC.
   - Ninety-one fire-related child deaths occurred from 2001 through 2010.
   - The most common ignition sources were the use of matches or lighters by children, followed by the overloading of electrical outlets, extension cords, and power strips.
   - In only 19% of child fire deaths, a smoke detector was documented as present and operational.
5. Injury death rates in NYC are higher among younger children, boys, black children, and children living in Brooklyn.
   - From 2001 through 2010, younger children, aged 1 to 4, were more likely to die from unintentional injuries and homicides than older children.

## Youth Aged 13 to 17

1. In New York City, injury is the leading cause of death among youth aged 13 to 17.
   - From 2001 through 2010, an annual average of 59 injury deaths occurred among youth aged 13 to 17.
   - Homicides accounted for 50% of these youth injury deaths, unintentional injuries accounted for 34%, and suicides accounted for 16%.
2. Though injury is the leading cause of death among youth aged 13 to 17 in NYC, the City's rate is less than half that of the US (11.6 deaths per 100,000 NYC youth vs 25.7 deaths per 100,000 US youth).
   - The difference in youth injury death rates was largely due to the lower rate of motor vehicle occupant deaths in NYC than in the US (0.3 deaths per 100,000 NYC youth vs 6.2 deaths per 100,000 US youth).
   - NYC's youth suicide rate was less than half the US youth suicide rate (1.8 deaths per 100,000 NYC youth vs 4.3 deaths per 100,000 US youth).
3. NYC's youth homicide rate (5.8 deaths per 100,000 NYC youth) is higher than the youth homicide rate in the US overall, but is more than 40% lower than the rate seen in other populous urban areas (4.4 deaths per 100,000 US youth and 9.9 per 100,000 youth in other populous urban areas).
   - In NYC and nationally, firearms are the most common mechanism of youth homicide, accounting for 68% of youth homicides in NYC, 82% in the US, and 90% in other populous urban areas.
   - Although there were 202 firearm deaths among youth aged 13 to 17 from 2001 through 2010, the youth firearm homicide rate in NYC was less than half the rate of other populous urban areas (4.0 vs 8.8 per 100,000 youth).
   - Firearm-related youth homicide rates vary by NYC neighborhood. The areas with the highest rates included East New York, Bedford Stuyvesant-Crown Heights, and Downtown-Heights-Slope in Brooklyn; Rockaway in Queens; East Harlem in Manhattan; and Hunts Point-Mott Haven in the Bronx.

# Introduction

Injuries are the leading cause of death among children in the United States (US). Injuries are often seen as "accidents"; however, most injuries are preventable. Raising awareness, educating parents and caregivers, and enacting policies designed to protect children can influence the circumstances that lead to fatal injuries and reduce their occurrence.

The New York City Child Fatality Review Advisory Team (CFRAT) – a multidisciplinary committee of representatives from city agencies as well as child welfare and medical experts appointed by the Mayor, the City Council Speaker and the Public Advocate – was formed in 2006 by Local Law 115 to review and report on injuries as preventable causes of death among NYC children under the age of 13.

This report presents data from a CFRAT 10-year retrospective review of fatal injuries among children aged 1 to 12. These types of injury included those that occurred unintentionally ("accidentally"), such as injuries resulting from motor vehicle crashes, and those that were intentional homicides and suicides. This report also presents data on fatal injuries among NYC youth aged 13 to 17, as well as a comparison of NYC injury deaths to national data. The report also offers recommendations to help prevent future injury deaths.

# Methods

Death certificates maintained by the NYC Department of Health and Mental Hygiene's (DOHMH's) Bureau of Vital Statistics were the primary data source used to identify fatal injuries among children and youth. Deaths were identified using the International Classification of Disease Code (ICD-10), which categorizes natural and unnatural causes of death. This report uses the following overarching nomenclature to describe injury deaths with a known intent:

- Unintentional – Fatal injury that occurred without intent to harm or cause death, often called an accident.
- Homicide – Fatal injury sustained through an act of violence committed by another person aimed at causing fear, harm, or death.
- Suicide – Fatal injury from an intentional, self-inflicted act committed to do self-harm or kill oneself.

Data were abstracted from the death certificates for children aged 1 to 12 who died from 2001 through 2010 and were residents of New York City. The CFRAT also matched files from the NYC Office of Chief Medical Examiner (OCME) to verify and augment death certificate information. OCME files contain autopsy or external examination reports, toxicology and other postmortem special studies, and police reports. Data was abstracted from OCME files using a form adapted from the National Center for Child Death Review Case Report. Some OCME files could not be reviewed due to pending legal investigations and court cases. The special section on injury deaths among youth aged 13 to 17 includes only death certificate data. The CFRAT Coordinator and members of the NYC DOHMH's Injury Surveillance and Prevention Program performed analysis with SAS 9.2.

Single-year data for specific mechanisms of injury death must be interpreted with caution due to variation in small numbers from one year to the next. Single-year data are reported in the Appendix of this report. Other "unnatural" deaths, including those of undetermined manner and therapeutic complications (death resulting from a medical or surgical intervention while treating disease), are excluded in the main section of the report, but are included in the Appendix. Deaths due to the 9/11 World Trade Center attacks were also excluded. For all deaths, only de-identified narrative and aggregate data were presented and discussed at quarterly CFRAT meetings.

Lastly, the Technical Appendix contains information on terms and calculation methods used throughout this report, as well as ICD-10 codes for specific types of unintentional injuries, homicides, and suicides.

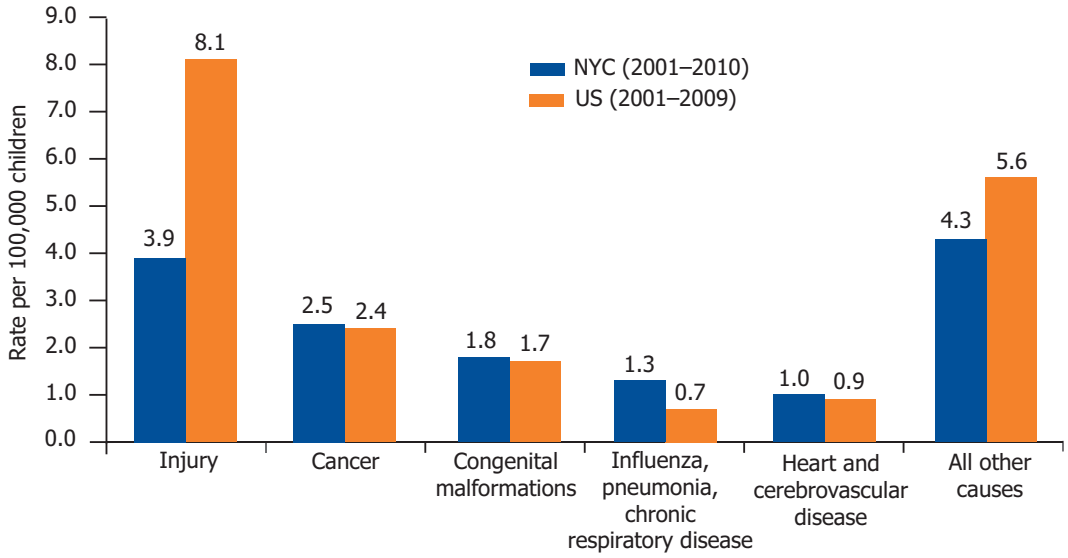
# Results

## Injury Deaths Among Children Aged 1 to 12

### Leading causes of death

From 2001 through 2010, a total of 1,822 deaths occurred among NYC children aged 1 to 12. Of these, 476 deaths were due to known unintentional and intentional injuries, representing 26% of all deaths and an overall injury death rate of 3.9 per 100,000 children. The US rate of 8.1 deaths per 100,000 (2001–2009) in this age group was more than twice the rate in New York City (Figure 1). At both city and national levels, child injury death rates are higher than rates of other causes such as cancer, congenital malformations, influenza/pneumonia/chronic respiratory disease, and heart/cerebrovascular disease.

**Figure 1: Leading causes of death, Children aged 1–12, NYC vs US**

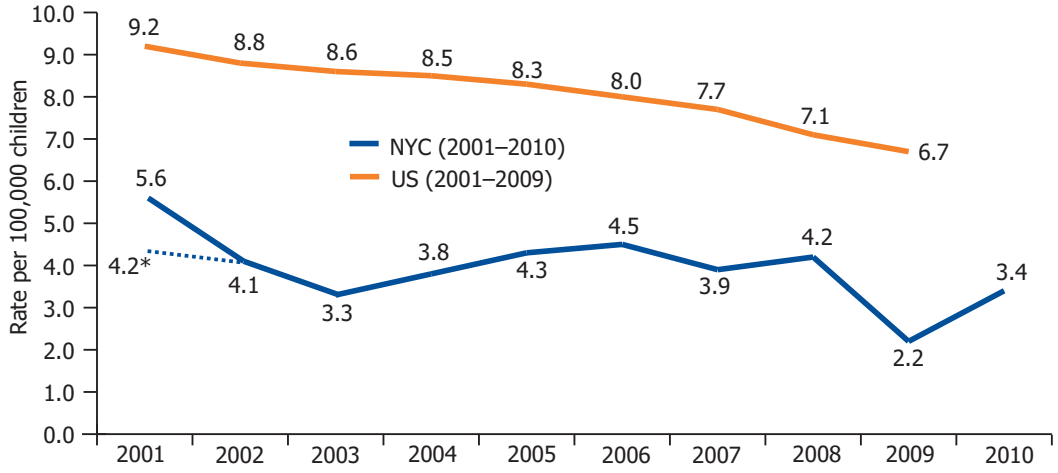



*Sources: NYC DOHMH's Bureau of Vital Statistics, NYC Office of Chief Medical Examiner, CDC's WISQARS, and CDC's WONDER.*

## Injury death over time

From 2001 through 2010, the annual average number of deaths due to injury among children aged 1 to 12 was 48 (3.9 deaths per 100,000) (Figure 2). Though the rate has varied from year to year, there has been a slight downward trend and during most years, the NYC rate was less than half the national rate.

**Figure 2: Injury death rate, Children aged 1–12, NYC vs US**

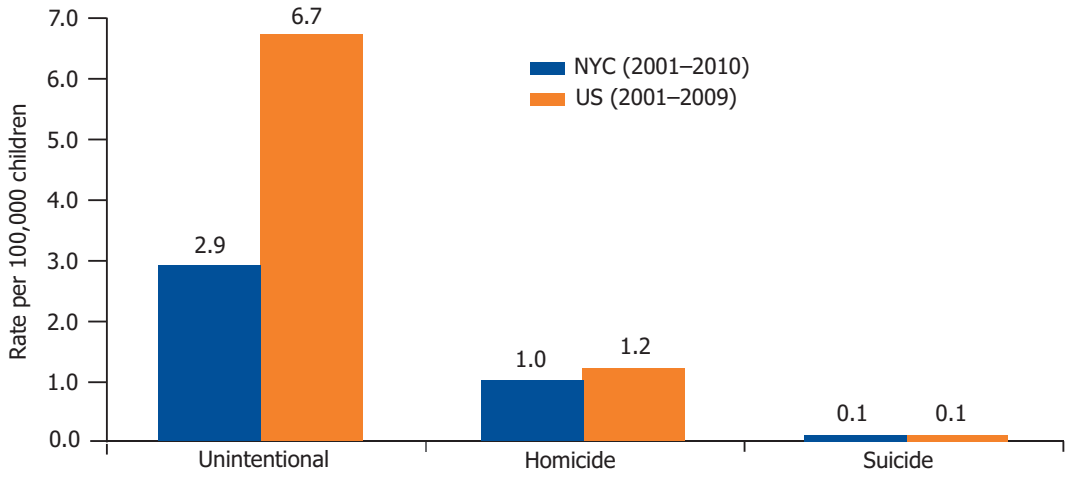



** 2001 rate excluding single airplane crash that resulted in 18 child deaths.*
*Sources: NYC DOHMH's Bureau of Vital Statistics and CDC's WONDER.*

## Type of injury death

From 2001 through 2010, of the 476 injury deaths among NYC children aged 1 to 12 years, 72% (345) were unintentional and 28% were intentional (118 homicides and 13 suicides). The rate of death due to unintentional injury was less than half the national rate (2.9 vs 6.7 per 100,000) (Figure 3). The homicide rate among NYC children was similar to the national rate (1.0 vs 1.2 per 100,000); the suicide rate was 0.1 per 100,000 children both in NYC and nationally.

**Figure 3: Type of injury death, Children aged 1–12, NYC vs US**




*Sources: NYC Office of Chief Medical Examiner, CDC's WISQARS, and CDC's WONDER*

## Description of children killed by injuries

Across all child unintentional injury deaths, children between the ages of 1 and 4, males, black, non-Hispanic children, and children living in Brooklyn were at higher risk compared to other children. More than half of all homicides were among girls, children ages 1 to 4, and black, non-Hispanic children. Children living in Brooklyn and the Bronx were also at highest risk of homicide deaths (Table 1).

# Specific Causes

## Unintentional injury death

Compared to the US, NYC children died less frequently from all types of unintentional injuries except for falling from a height.

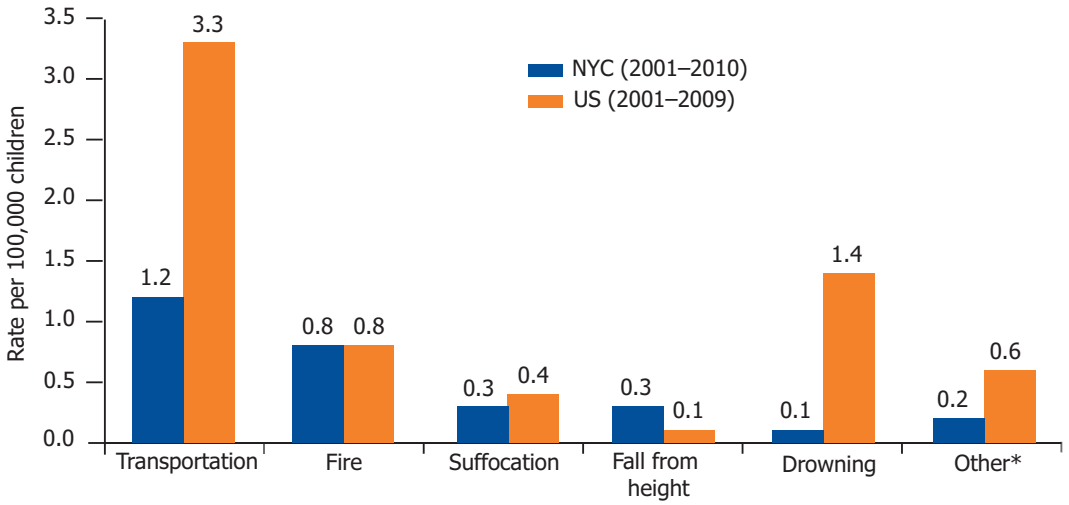
Transportation-related injuries contributed to more than 41% of unintentional injury deaths (n=144, 1.2 per 100,000). The remaining unintentional injury deaths were caused by fire (n=91, 26%, 0.8 per 100,000), suffocation or asphyxia (n=35, 10%, 0.3 per 100,000), falling from height (n=33, 10%, 0.3 per 100,000), drowning (n=14, 4%, 0.1 per 100,000), or other mechanisms (n=28, 8%, 0.2 per 100,000) (Figure 4).

## Table 1: Injury deaths by age, gender, race/ethnicity, and borough, Children aged 1–12, NYC, 2001-2010

| | Unintentional | | | Homicide | | | Suicide | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* | N | % | Rate* | N | % | Rate* |
| **Age** | | | | | | | | | | | | |
| 1-2 | 82 | 24% | 3.9 | 51 | 43% | 2.4 | 0 | 0% | 0.0 | 133 | 30% | 6.3 |
| 3-4 | 69 | 20% | 3.3 | 26 | 22% | 1.3 | 0 | 0% | 0.0 | 95 | 20% | 4.6 |
| 5-9 | 116 | 34% | 2.4 | 27 | 23% | 0.6 | 1 | 8% | 0.0 | 144 | 30% | 3.0 |
| 10-12 | 78 | 23% | 2.5 | 14 | 12% | 0.5 | 12 | 92% | 0.4 | 104 | 22% | 3.4 |
| **Gender** | | | | | | | | | | | | |
| Male | 222 | 64% | 3.6 | 53 | 45% | 0.9 | 5 | 38% | 0.1 | 280 | 59% | 4.5 |
| Female | 123 | 36% | 2.1 | 65 | 55% | 1.1 | 8 | 62% | 0.1 | 196 | 41% | 3.3 |
| **Race/ethnicity** | | | | | | | | | | | | |
| Black, non-Hispanic | 146 | 42% | 4.4 | 72 | 61% | 2.2 | 4 | 31% | 0.1 | 222 | 47% | 6.8 |
| White, non-Hispanic | 80 | 23% | 2.6 | 6 | 5% | 0.2 | 2 | 15% | 0.1 | 88 | 18% | 2.9 |
| Hispanic | 94 | 27% | 2.2 | 34 | 29% | 0.8 | 5 | 38% | 0.1 | 133 | 28% | 3.1 |
| Asian | 23 | 7% | 1.8 | 4 | 3% | 0.3 | 1 | 8% | 0.1 | 28 | 6% | 2.2 |
| Other | 0 | 0% | 0.0 | 2 | 2% | 0.7 | 1 | 8% | 0.4 | 3 | 1% | 1.1 |
| Unknown | 2 | 1% | - | 0 | 0% | - | 0 | 0% | - | 2 | 0% | - |
| **Borough**** | | | | | | | | | | | | |
| Brooklyn | 151 | 44% | 3.7 | 50 | 42% | 1.2 | 6 | 46% | 0.1 | 207 | 43% | 5.1 |
| Bronx | 72 | 21% | 2.8 | 31 | 26% | 1.2 | 2 | 15% | 0.1 | 105 | 22% | 4.1 |
| Manhattan | 32 | 9% | 1.9 | 13 | 11% | 0.8 | 0 | 0.% | 0.0 | 45 | 9% | 2.7 |
| Queens | 68 | 20% | 2.2 | 15 | 13% | 0.5 | 4 | 31 % | 0.1 | 87 | 18% | 2.8 |
| Staten Island | 22 | 6% | 3.0 | 9 | 8% | 1.2 | 1 | 8% | 0.1 | 32 | 7% | 4.4 |
| **Total** | **345** | **72%** | **2.9** | **118** | **25%** | **1.0** | **13** | **3%** | **0.1** | **476** | **100%** | **3.9** |

** Rate per 100,000 children;** based on residence. Percents may not add up to 100 due to rounding.*
*Source: NYC Office of Chief Medical Examiner.*

## Figure 4: Leading mechanisms of unintentional injury death, Children aged 1–12, NYC vs US




** Other mechanisms include poisoning, weapon, and being struck by an object.*
*Sources: NYC DOHMH's Bureau of Vital Statistics, NYC Office of Chief Medical Examiner, CDC's WISQARS, and CDC's WONDER*

**Transportation deaths.** While the rate of child fatalities from transportation accidents in NYC is only one third of the US rate, these fatalities are still the leading mechanisms of injury-related death among NYC children, with an average of 13 deaths per year from motor vehicle crashes. Among the 144 fatalities due to transportation accidents, 88% were motor vehicle-related (n=126). Most transportation deaths were among child pedestrians (65%, n=93). Child passengers in motor vehicles accounted for 14% (n=20) of deaths, and cyclists hit by a motor vehicle accounted for 9% (n=13). Thirteen percent (n=18) of transportation deaths were due to a single airplane crash that occurred in Queens in 2001. Year-to-year data are presented in the Appendix, but should be interpreted with caution due to fluctuations in small numbers (Table 2).

**Table 2: Type of transportation death, Children aged 1 to 12, NYC vs US**

| | NYC (2001-2010) | | | US (2001-2009) | | |
|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* |
| **Motor vehicle-related** | **126** | **88%** | **1.0** | **13,860** | **95%** | **3.2** |
| Pedestrian | 93 | 65% | 0.8 | 4,207 | 29% | 1.0 |
| Motor vehicle passenger | 20 | 14% | 0.2 | 4,855 | 33% | 1.1 |
| Pedal cyclist** | 13 | 9% | 0.1 | 679 | 5% | 0.2 |
| Other motor vehicle-related | 0 | 0% | 0.0 | 4,119 | 28% | 0.9 |
| **Other transport** | **18** | **13%** | **0.1** | **817** | **6%** | **0.2** |
| **Total** | **144** | **100%** | **1.2** | **14,647** | **100%** | **3.3** |

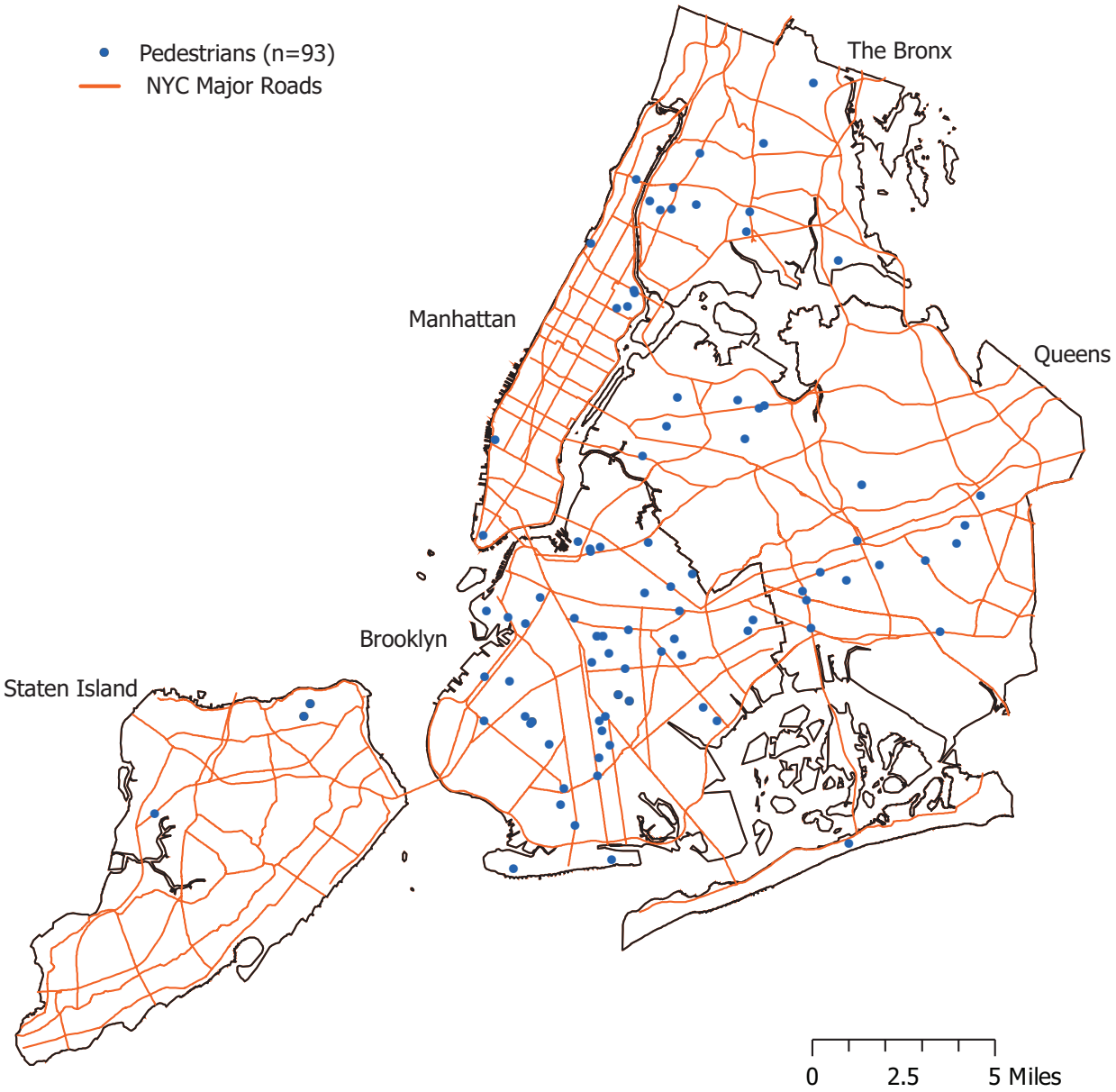
** Rate per 100,000 children; ** Includes 3 scooter deaths. Percents may not add up to 100 due to rounding.*
*Sources: NYC DOHMH's Bureau of Vital Statistics, NYC Office of Chief Medical Examiner, and CDC's WISQARS.*

Fatal injuries to child pedestrians occurred most commonly in the boroughs of Brooklyn, Queens, and the Bronx (Figure 5).

Police reports listing major contributing factors for motor vehicle-related deaths (including child pedestrians, cyclists, and occupants) were available in 81% (n=102) of the OCME files reviewed. Driver error was identified as the leading contributing factor in more than half (55%, n=69) of the incidents reviewed and included driver inattention/distraction, failure to yield, and speeding. Pedestrian error also was identified in approximately one quarter of reviewed cases (28%, n=35), including child pedestrians emerging between parked cars, crossing against a signal, and pedestrian inattention. Among pedestrian and cyclist deaths, the most common type of vehicles involved were passenger cars and SUVs.

**Fire deaths.** From 2001 through 2010, a total of 57 fires contributed to 91 child deaths in NYC. OCME records indicated that all deaths by fire occurred in private residences, with the majority occurring in the home of the child (88%, n=80). A child

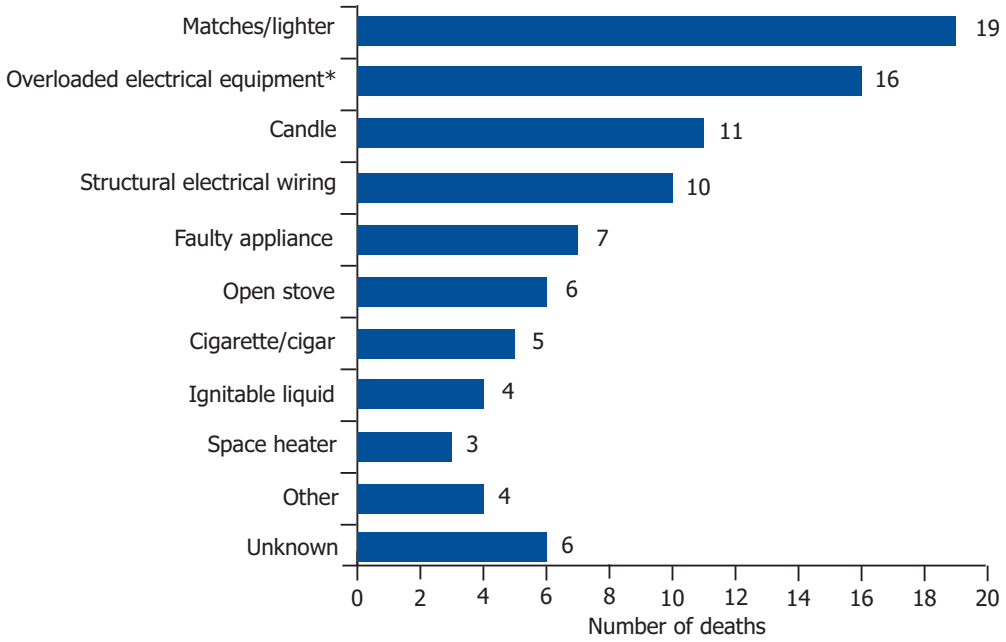
**Figure 5: Location of fatal pedestrian incidents, Children aged 1–12, NYC, 2001-2010**




*Source: NYC Office of Chief Medical Examiner.*

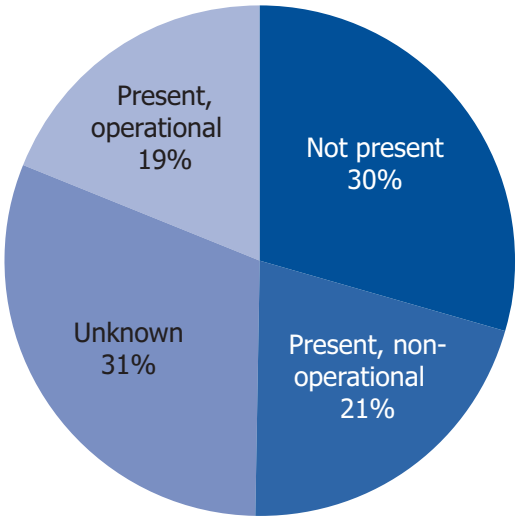
playing with matches or a lighter was the leading ignition source for fires that led to child deaths (21%, n=19), followed by the overload of an extension cord, power strip, or electrical outlet (17%, n=16) (Figure 6). In 27 of the 91 fire deaths (30%), a smoke detector was not present. In 19 of the fire deaths (21%), a smoke detector was present but nonoperational. Smoke detector presence was unknown in 31% of fire deaths (Figure 7). Year-to-year data are presented in the Appendix, but should be interpreted with caution due to fluctuations in small numbers.

## Figure 6: Ignition source in fire deaths, Children aged 1-12, NYC, 2001-2010




** Includes electrical outlets, extension cords, and power strips.*
*Source: NYC Office of Chief Medical Examiner.*

## Figure 7: Presence of smoke detector in fire deaths, Children aged 1-12, NYC, 2001-2010




*Source: NYC Office of Chief Medical Examiner.*

### Homicide and suicide

From 2001 through 2010, there were 118 homicides among children aged 1 to 12, accounting for approximately 25% of all injury deaths. Blunt impact or blunt force trauma was the most common mechanism of child homicide (25%, 0.2 per 100,000 children; n=30). There were 16 homicides (14%) due to firearm wounds; 15 (13%) due to fatal child abuse syndrome, meaning that the child showed evidence of being battered over time; 14 (12%) due to intentionally set fires; and 13 (11%) due to stab wounds (Table 3). Data from previous years of work by the NYC Domestic Violence Fatality Review Committee indicates that from 2001 through 2008, 90% of the family-related homicides among children aged 1 to 12 were perpetrated by a parent (including mother, father, or stepfather).

**Table 3: Leading mechanisms of homicide, Children aged 1 to 12, NYC vs US**

| Cause | NYC (2001-2010) | | | US (2001-2009) | | |
|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* |
| Blunt impact | 30 | 25% | 0.2 | 63 | 1% | 0.0 |
| Firearm | 16 | 14% | 0.1 | 1,287 | 24% | 0.3 |
| Fatal child abuse | 15 | 13% | 0.1 | 757 | 14% | 0.2 |
| Smoke inhalation** | 14 | 12% | 0.1 | 244 | 5% | 0.1 |
| Stab wound | 13 | 11% | 0.1 | 265 | 5% | 0.1 |
| Suffocation/strangulation | 7 | 6% | 0.1 | 364 | 7% | 0.1 |
| Drowning | 5 | 4% | <0.1 | 145 | 3% | <0.1 |
| Poisoning | 5 | 4% | <0.1 | 172 | 3% | <0.1 |
| Scald burn | 2 | 2% | <0.1 | 19 | 0% | <0.1 |
| Other*** | 11 | 9% | 0.1 | 1,966 | 37% | 0.4 |
| **Total** | **118** | **100%** | **1.0** | **5,282** | **100%** | **1.2** |

** Rate per 100,000 children; ** with or without burns, including carbon monoxide; ***includes mechanisms like shaking/whiplash, dehydration, hyperthermia, sepsis, and homicides of unknown cause. Percents may not add up to 100 due to rounding.*
*Sources: NYC Office of Chief Medical Examiner, CDC's WISQARS, and CDC's WONDER.*

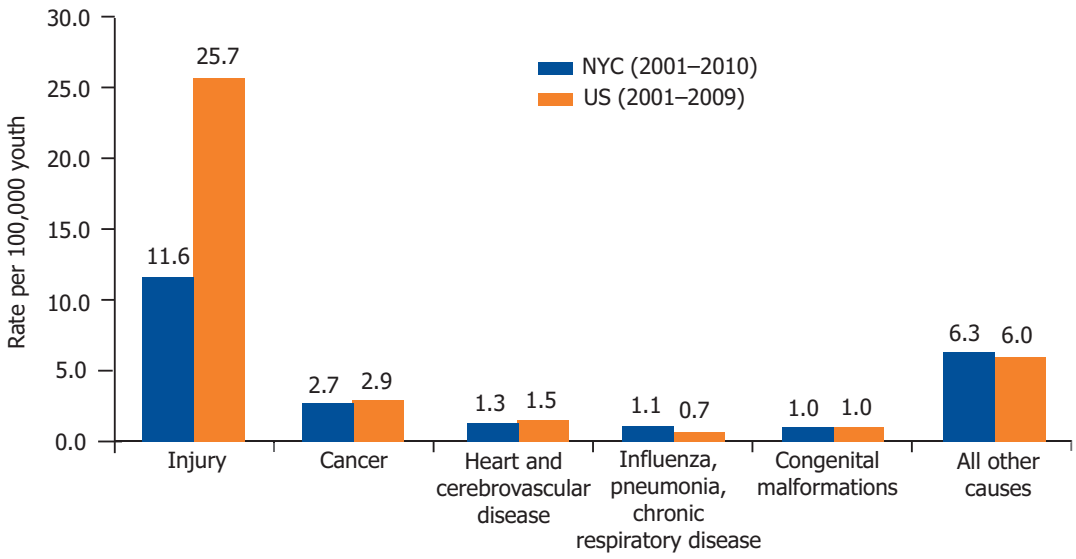
Thirteen children aged 9 to 12 died by suicide from 2001 through 2010, comprising 3% of all child injury deaths in NYC. Rates for both child homicide and suicide were similar in NYC and the US.

## Injury Deaths Among Youth Aged 13 to 17

### Leading causes of death

Between 2001 and 2010, a total of 1,219 deaths occurred among NYC youth aged 13 to 17. Of these, 590 deaths were due to unintentional and intentional injuries representing almost 50% of all deaths and an overall injury death rate of 11.6 per 100,000 youth. The US rate of 25.7 deaths per 100,000 youth (2001-2009), was more than twice the NYC rate (Figure 8). At both city and national levels, injury death rates are higher than those from other causes such as cancer, congenital malformations, influenza/ pneumonia/chronic respiratory disease, and heart/cerebrovascular disease.

**Figure 8: Leading causes of death, Youth 13–17, NYC vs US**

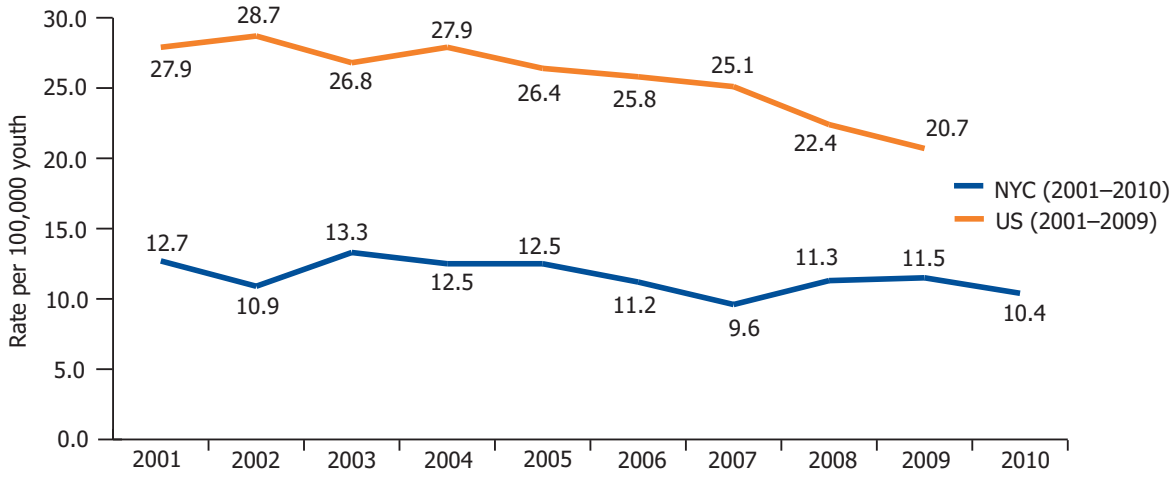



*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

## Injury death over time

Between 2001 and 2010, the average annual number of deaths due to injury among NYC youth aged 13 to 17 was 59, translating to a rate of 11.6 per 100,000 youth. During most years, this rate was less than half the national rate (Figure 9). Data show a slight downward trend for injury deaths among NYC youth from 2001 through 2010.

**Figure 9: Injury death rate, Youth 13–17, NYC vs US**

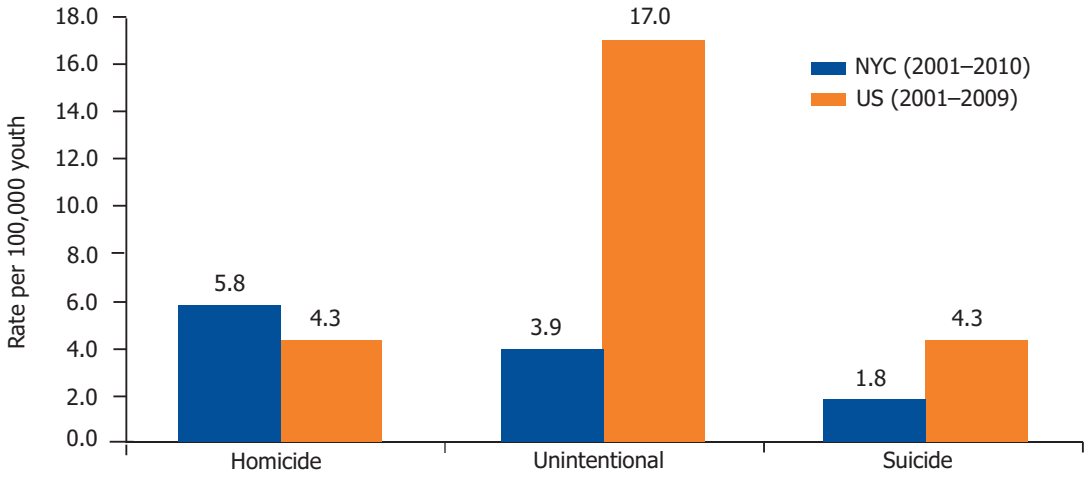



*Sources: NYC DOHMH's Bureau of Vital Statistics and CDC's WONDER.*

## Type of injury death

From 2001 through 2010, there were 297 homicides, 200 unintentional injury deaths, and 93 suicides among youth aged 13 to 17. The rate of homicides among NYC youth was higher than the national rate (5.8 vs 4.3 per 100,000), while the rate of deaths due to unintentional injury was 4 times lower than the US rate (3.9 vs 17.0 per 100,000) (Figure 10). The suicide rate among NYC youth was less than half the national rate (1.8 vs 4.3 per 100,000).

**Figure 10: Type of injury death, Youth 13–17, NYC vs US**




*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

## Description of youth killed by injuries

Across all youth injury deaths, 15- to 17-year-olds, males, black and Hispanic youth, and youth living in the boroughs of Brooklyn and the Bronx were at highest risk compared to other youth. The highest homicide rates occurred among 15- to 17-year-olds, males, black, non-Hispanic youth, and youth living in Brooklyn and the Bronx. The highest unintentional injury death rates occurred among 15- to 17-year-olds, males, white, non-Hispanic and black, non-Hispanic youth, and youth living in Staten Island. Among suicides, the highest rates occurred among 15- to 17-year-olds and males; rates for suicide were similar across race/ethnicity and borough of residence (Table 4).

# Specific causes

## Homicide

While NYC's youth homicide rate (5.8 per 100,000 NYC youth) was higher than that of the US, it was lower than other populous urban areas[1] (4.4 per 100,000 US youth and

[1] No comparable city level homicide data for youth age 13-17 were available. Populous urban areas represent eight US counties that contain major cities, excluding New York City, with a population greater than one million.

### Table 4: Injury deaths by age, gender, race/ethnicity, and borough, Youth aged 13–17, NYC, 2001-2010

| | Homicide | | | Unintentional | | | Suicide | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* | N | % | Rate* | N | % | Rate* |
| **Age** | | | | | | | | | | | | |
| 13-14 | 29 | 10% | 1.4 | 49 | 25% | 2.4 | 16 | 17% | 0.8 | 94 | 16% | 4.6 |
| 15-17 | 268 | 90% | 8.7 | 151 | 76% | 4.9 | 77 | 83% | 2.5 | 496 | 84% | 16.2 |
| **Gender** | | | | | | | | | | | | |
| Male | 252 | 85% | 9.7 | 135 | 68% | 5.2 | 66 | 71% | 2.5 | 453 | 77% | 17.5 |
| Female | 45 | 15% | 1.8 | 65 | 33% | 2.6 | 27 | 29% | 1.1 | 137 | 23% | 5.5 |
| **Race/ethnicity** | | | | | | | | | | | | |
| Black, non-Hispanic | 192 | 65% | 12.8 | 71 | 36% | 4.7 | 28 | 30% | 1.9 | 291 | 49% | 19.4 |
| White, non-Hispanic | 15 | 5% | 1.3 | 61 | 31% | 5.2 | 27 | 29% | 2.3 | 103 | 17% | 8.8 |
| Hispanic | 78 | 26% | 4.4 | 54 | 27% | 3.0 | 28 | 30% | 1.6 | 160 | 27% | 9.0 |
| Asian | 5 | 2% | 0.9 | 10 | 5% | 1.8 | 8 | 9% | 1.5 | 23 | 4% | 4.2 |
| Other | 2 | 1% | 2.1 | 1 | 1% | 1.1 | 2 | 2% | 2.1 | 5 | 1% | 5.3 |
| Unknown | 5 | 2% | - | 3 | 2% | - | 0 | 0% | - | 8 | 1% | - |
| **Borough**** | | | | | | | | | | | | |
| Brooklyn | 128 | 43% | 7.5 | 70 | 35% | 4.1 | 24 | 26% | 1.4 | 222 | 38% | 12.9 |
| Bronx | 83 | 28% | 7.8 | 35 | 18% | 3.3 | 28 | 30% | 2.6 | 146 | 25% | 13.7 |
| Manhattan | 35 | 12% | 5.4 | 14 | 7% | 2.2 | 14 | 15% | 2.2 | 63 | 11% | 9.7 |
| Queens | 45 | 15% | 3.4 | 57 | 29% | 4.3 | 20 | 22% | 1.5 | 122 | 21% | 9.2 |
| Staten Island | 6 | 2% | 1.8 | 24 | 12% | 7.4 | 7 | 8% | 2.2 | 37 | 6% | 11.4 |
| **Total** | **297** | **50%** | **5.8** | **200** | **34%** | **3.9** | **93** | **16%** | **1.8** | **590** | **100%** | **11.6** |

** Rate per 100,000 youth; ** based on residence. Percents may not add up to 100 due to rounding.*
*Source: NYC DOHMH's Bureau of Vital Statistics.*

9.9 per 100,000 youth in populous urban areas) (Table 5). In addition, a greater proportion of youth homicides were firearm-related nationally (82%) and in other populous urban areas (90%) compared with NYC (68%).

Firearms were the most common mechanism of youth homicide in NYC (n=202, 4.0 per 100,000 youth). The remaining homicides were by cutting instruments (n=70, 1.4 per 100,000 youth) or other mechanisms (n=25, 0.5 per 100,000 youth). The firearm-related youth homicide rate in NYC was higher than the national rate (4.0 vs 3.7 per

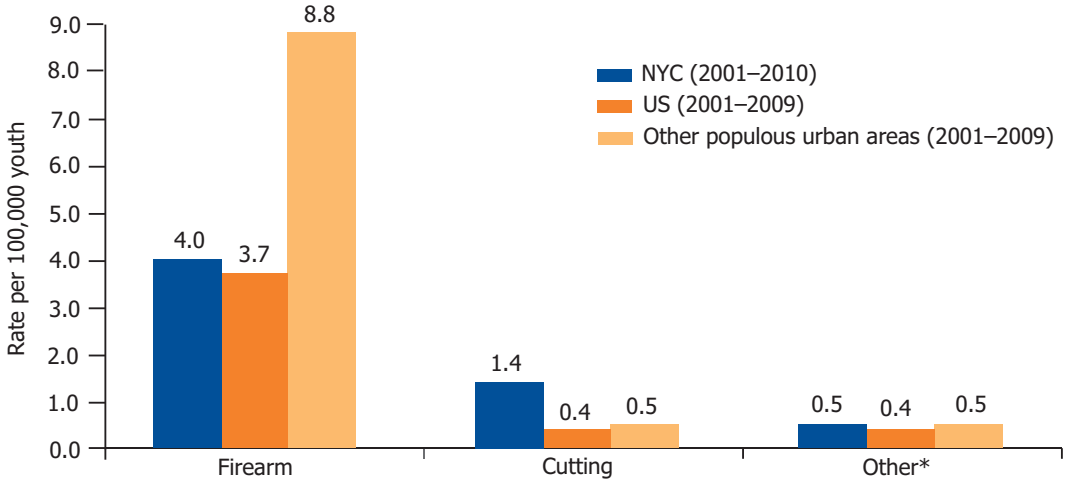
### Table 5: Comparison of leading mechanisms of homicide, Youth aged 13 to 17

| | NYC (2001-2010) | | | US (2001-2009) | | | Populous urban areas (2001-2009)** | | |
|---|---|---|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* | N | % | Rate* |
| Firearm | 202 | 68% | 4.0 | 6,924 | 82% | 3.7 | 1,783 | 90% | 8.8 |
| Cutting | 70 | 24% | 1.4 | 696 | 8% | 0.4 | 99 | 4% | 0.5 |
| Other*** | 25 | 8% | 0.5 | 774 | 9% | 0.4 | 107 | 5% | 0.5 |
| **Total** | **297** | **100%** | **5.8** | **8,394** | **100%** | **4.4** | **1,989** | **100%** | **9.9** |

** Rate per 100,000 youth; **Represents eight US counties that contain cities with populations greater than 1 million *** Includes hanging/strangulation, maltreatment, push from high places, and homicides of unknown mechanism. Percents may not add up to 100 due to rounding.*
*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

100,000 youth), but it was less than half the rate of other populous urban areas (4.0 vs 8.8 per 100,000 youth) (Figure 11). Further detail is presented in the Appendix.

**Figure 11: Leading mechanisms of homicide, Youth aged 13–17, NYC vs US vs Other populous urban areas**



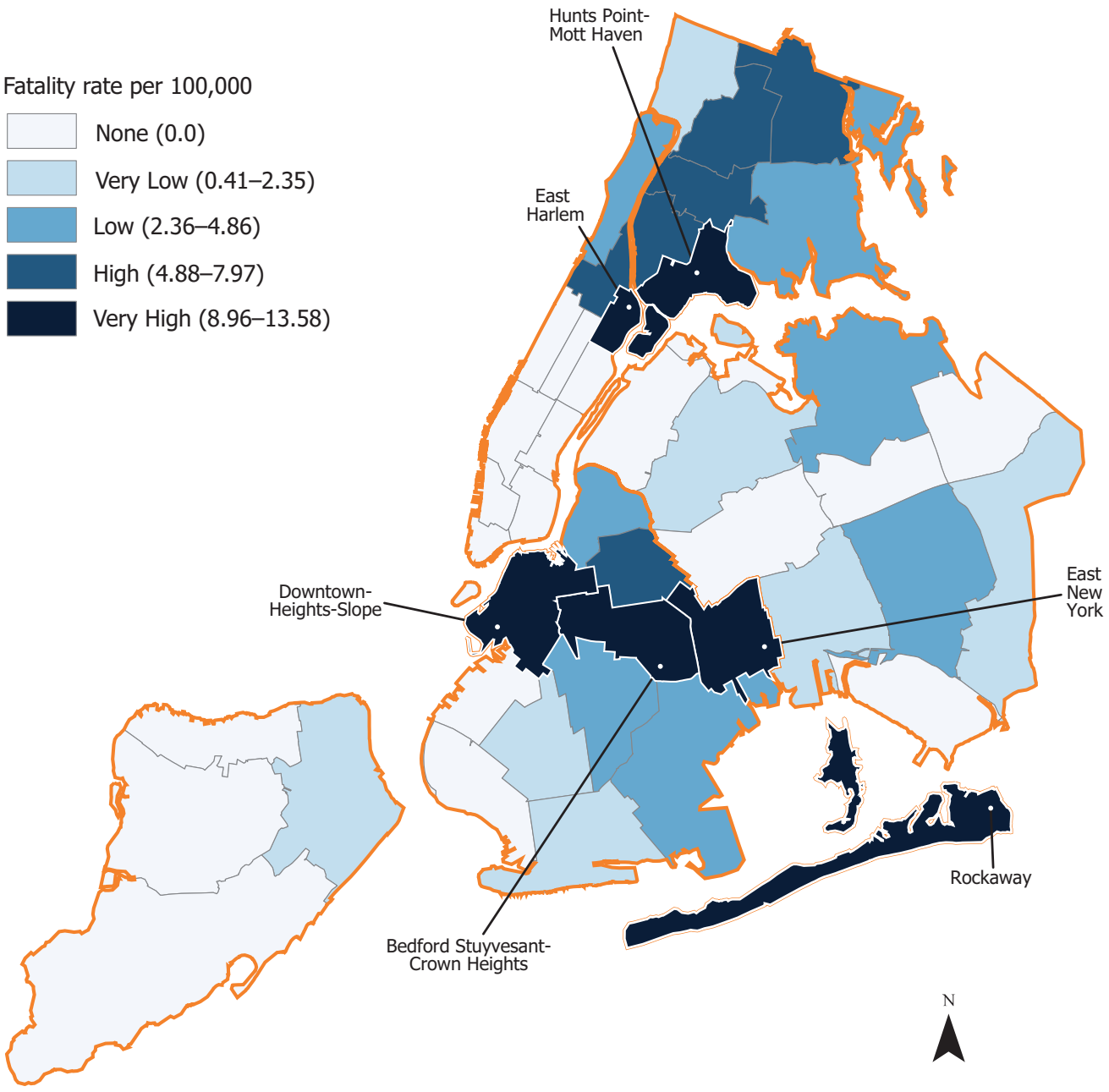

** Includes hanging/strangulation, maltreatment, push from high places, and homicides of unknown mechanism.*
*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

A closer look at the location of residence of youth who died from firearm-related homicides shows that more youth who lived in East New York, Brooklyn, were killed by firearms than any other neighborhood in NYC (n=29 deaths, all homicide, 13.6 per 100,000 youth). Other neighborhoods with very high rates of youth killed by firearms were Rockaway in Queens; Bedford Stuyvesant-Crown Heights and Downtown-Heights-Slope in Brooklyn; East Harlem in Manhattan; and Hunts Point-Mott Haven in The Bronx. In contrast, 16 neighborhoods experienced no deaths among youths from firearms during this period of time (Figure 12). Further detail is presented in the Appendix.

## Unintentional injury death

Deaths that resulted from unintentional injuries constituted 34% (n=200) of the 590 injury deaths among youth aged 13 to 17. Transportation deaths made up 63% of these deaths (n=125, 2.5 per 100,000 youth) (Table 6). The remaining mechanisms of unintentional injury deaths were evenly distributed by rate. While most unintentional deaths among NYC youth were transportation-related, the rate was only one fifth that of the US rate.

**Figure 12: Firearm-related homicide, by neighborhood of residence, Youth aged 13 to 17, NYC, 2001-2009**




*Sources: NYC DOHMH's Bureau of Vital Statistics and United Hospital Fund.*

**Transportation deaths.** Among the 125 transportation-related deaths, 38% were among pedestrians (n=48) (Table 7). Youth who were motor vehicle occupants accounted for 12% of transportation deaths (n=15), and youth cyclists were involved in 11% of transportation deaths (n=14). Year-to-year data are presented in the Appendix, but should be interpreted with caution due to fluctuations in small numbers.

### Table 6: Leading mechanisms of unintentional injury death, Youth aged 13 to 17, NYC vs US

| | NYC (2001-2010) | | | US (2001-2009) | | |
|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* |
| Transportation | 125 | 63% | 2.5 | 24,871 | 78% | 13.2 |
| Poisoning | 16 | 8% | 0.3 | 2,052 | 6% | 1.1 |
| Fire | 15 | 8% | 0.3 | 576 | 2% | 0.3 |
| Drowning | 12 | 6% | 0.2 | 2,038 | 6% | 1.1 |
| Fall | 11 | 6% | 0.2 | 391 | 1% | 0.2 |
| Other** | 21 | 11% | 0.4 | 2,063 | 6% | 1.1 |
| **Total** | **200** | **100%** | **3.9** | **31,991** | **100%** | **17.0** |

** Rate per 100,000 youth; ** includes suffocation, natural/environmental, firearm, struck by object, and accident caused by machinery; Percents may not add up to 100 due to rounding.*
*Sources: NYC DOHMH's Bureau of Vital Statistics and CDC's WISQARS.*

### Table 7: Type of transportation death, Youth aged 13 to 17, NYC vs US

| | NYC (2001-2010) | | | US (2001-2009) | | |
|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* |
| Pedestrian | 48 | 38% | 0.9 | 2,266 | 9% | 1.2 |
| Motor vehicle occupant | 15 | 12% | 0.3 | 11,760 | 47% | 6.2 |
| Pedal cyclist** | 14 | 11% | 0.3 | 659 | 3% | 0.3 |
| Motorcyclist | 7 | 6% | 0.1 | 607 | 2% | 0.3 |
| Other transport | 41 | 33% | 0.8 | 9,579 | 39% | 5.1 |
| **Total** | **125** | **100%** | **2.5** | **24,871** | **100%** | **13.2** |

** Rate per 100,000 youth; ** includes scooter. Percents may not add up to 100 due to rounding.*
*Sources: NYC DOHMH's Bureau of Vital Statistics and CDC's WISQARS.*

## Suicide

From 2001 through 2010, there were 93 youth suicides, accounting for approximately 16% of all youth injury deaths. Hanging/strangulation was the most common mechanism of youth suicide (n=34; 37%, 0.7 per 100,000 youth). There were 21 suicides (23%) due to injuries from jumps from high places and 19 suicides (20%) due to firearms. Compared to the US, NYC youth died less frequently from suicides (1.8 vs 4.3 per 100,000 youth, respectively). More NYC youth suicides were due to jumps from high places compared with the US rate (0.4 vs 0.1 per 100,000 youth, respectively), but the NYC gun-related youth suicide rate was less than one quarter of the US rate (0.4 vs 1.8 per 100,000 youth, respectively) (Table 8).

### Table 8: Leading mechanisms of suicide, Youth aged 13 to 17, NYC vs US

| | NYC (2001-2010) | | | US (2001-2009) | | |
|---|---|---|---|---|---|---|
| | N | % | Rate* | N | % | Rate* |
| Hanging | 34 | 37% | 0.7 | 3,858 | 47% | 2.0 |
| Jump from high place | 21 | 23% | 0.4 | 126 | 2% | 0.1 |
| Firearm | 19 | 20% | 0.4 | 3,398 | 42% | 1.8 |
| Overdose (medication) | 10 | 11% | 0.2 | 394 | 5% | 0.2 |
| Other** | 9 | 10% | 0.2 | 388 | 5% | 0.2 |
| **Total** | **93** | **100%** | **1.8** | **8,164** | **100%** | **4.3** |

**Rate per 100,000 youth; ** Includes drowning and jumping or lying before a moving object. Percents may not add up to 100 due to rounding.*
*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

# Recommendations

## For parents and caregivers

- Supervise young children closely when they play and when they are around streets.
- Teach children to observe the pedestrian and traffic signals and other traffic signs, to look both ways and listen before crossing the street, to cross the street at crosswalks or at the corner, and to keep looking as they cross.
- Make sure your child wears a helmet when bicycling. It's the safest way to go – and it's the law for children aged 13 and younger.
- Drive safely: pay attention while driving, obey the speed limit, never drink and drive, text and drive, or talk on a cell phone while driving.
- Keep matches and lighters out of the reach of children. Check your smoke alarms once a month and change batteries every spring and fall when you change your clocks for daylight savings time.
- Make safety a priority when choosing caregivers and discuss all safety considerations thoroughly with them.
- Get help when the stresses of parenting are overwhelming. For support, call the 24-Hour Prevention and Parent Helpline at 1-800-CHILDREN (1-800-244-5373).
- Do not keep firearms in the home. If there must be any kind of weapon in your home, keep it locked away where children cannot touch it; keep it unloaded and use a trigger lock.
- Teach your child non-violent approaches to conflict resolution and that the consequences of violence can be severe; become familiar with anti-violence activities in your community and at your child's school.
- Seek medical and mental health counseling for your adolescent if he/she appears depressed or expresses thoughts of suicide. 1-800-LIFENET is available 24 hours a day for assistance.

## For health care providers

- Counsel parents about the need for appropriate supervision based on child's age, development, and exposure to possible hazards. Provide information on choosing appropriate caregivers.
- Discuss traffic and home safety with parents. Counsel parents about teaching children to follow traffic rules and safeguarding their homes to prevent child injuries.
- Discuss problems that may compromise positive parenting. Assist parents in getting the help they need to deal with these problems.
- Ask teenagers about their emotional/psychological health. Conduct a brief mental health screening and make referrals for counseling and services where appropriate.

## For community-based organizations and schools

- Distribute traffic and fire safety information to families of young children. Incorporate traffic and fire safety workshops or lessons into existing programs for children and families.
- Support infrastructure and engineering improvements that promote safer streets. Measures may include pedestrian islands, bicycle lanes, or new traffic patterns.
- Offer programs that keep youth engaged in positive activities and away from potentially violent situations.
- Promote safe parenting practices by distributing information, offering workshops, and incorporating lessons into existing programs for children and families.

## For policy-makers

- Support infrastructure and engineering efforts that promote safer streets.
- Expand pilot programs to reduce traffic speeds on residential streets.
- Advocate for state legislation authorizing use of speed-enforcement cameras and expanded use of red-light enforcement cameras.
- Maintain and expand proven violence prevention programs and other youth development services into high-violence communities in NYC.
- Support educational and policy efforts to reduce access to illegal guns, such as improving the background checks and closing purchasing loopholes, to better prevent crime and violence caused by illegal guns.

# Appendix of Supplemental Data

## Leading mechanisms of injury death by year, NYC, 2001-2010

### Children aged 1 to 12, N (Rate per 100,000)

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Transportation | 29 (2.2) | 16 (1.2) | 10 (0.8) | 18 (1.5) | 15 (1.3) | 14 (1.2) | 11 (0.9) | 11 (0.9) | 10 (0.9) | 10 (0.9) |
| Motor vehicle related | 11 (0.8) | 16 (1.2) | 10 (0.8) | 18 (1.5) | 15 (1.3) | 14 (1.2) | 11 (0.9) | 11 (0.9) | 10 (0.9) | 10 (0.9) |
| *Pedestrian* | 9 (0.7) | 12 (0.9) | 7 (0.6) | 15 (1.2) | 12 (1.0) | 11 (0.9) | 8 (0.7) | 5 (0.4) | 7 (0.6) | 7 (0.6) |
| *Motor vehicle passenger* | 1 (0.1) | 4 (0.3) | 1 (0.1) | 2 (0.2) | 2 (0.3) | 1 (0.1) | 1 (0.1) | 2 (0.2) | 3 (0.3) | 2 (0.2) |
| *Pedal cyclist* | 1 (0.1) | 0 (0.0) | 2 (0.2) | 1 (0.1) | 0 (0.0) | 2 (0.2) | 2 (0.2) | 4 (0.3) | 0 (0.0) | 1 (0.1) |
| Other transport | 18 (1.4) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| Fire/burn | 11 (0.8) | 15 (1.2) | 9 (0.7) | 5 (0.4) | 11 (0.9) | 5 (0.4) | 17 (1.2) | 10 (0.9) | 3 (0.3) | 5 (0.4) |

*Sources: NYC DOHMH's Bureau of Vital Statistics and NYC Office of Chief Medical Examiner.*

### Youth aged 13 to 17, N (Rate per 100,000)

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Transportation | 14 (2.7) | 19 (3.7) | 16 (3.1) | 16 (3.1) | 16 (3.1) | 9 (1.8) | 9 (1.8) | 7 (1.4) | 10 (2.0) | 9 (1.8) |
| *Pedestrian* | 8 (1.6) | 8 (1.6) | 4 (0.8) | 5 (1.0) | 3 (0.6) | 3 (0.6) | 2 (0.4) | 4 (0.8) | 5 (1.0) | 6 (1.2) |
| *Motor vehicle occupant* | 3 (0.6) | 0 (0.0) | 3 (0.6) | 1 (0.2) | 4 (0.8) | 0 (0.0) | 1 (0.2) | 2 (0.4) | 0 (0.0) | 1 (0.2) |
| *Pedal cyclist* | 1 (0.2) | 3 (0.6) | 1 (0.2) | 3 (0.6) | 3 (0.6) | 0 (0.0) | 3 (0.6) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| *Motorcyclist* | 0 (0.0) | 1 (0.2) | 2 (0.4) | 2 (0.4) | 1 (0.2) | 0 (0.0) | 1 (0.2) | 0 (0.0) | 0 (0.0) | 0 (0.0) |
| *Other transport* | 2 (0.4) | 7 (1.4) | 6 (1.2) | 5 (1.0) | 5 (1.0) | 6 (1.2) | 2 (0.4) | 1 (0.2) | 5 (1.0) | 2 (0.4) |
| Homicide | 33 (6.5) | 25 (4.9) | 35 (6.8) | 28 (5.5) | 22 (4.3) | 33 (6.5) | 28 (5.5) | 35 (6.9) | 26 (5.2) | 32 (6.4) |
| *Firearm* | 25 (4.9) | 15 (2.9) | 26 (5.1) | 17 (3.3) | 15 (2.9) | 21 (4.1) | 22 (4.3) | 22 (4.3) | 20 (4.0) | 19 (3.8) |
| *Cutting* | 6 (1.2) | 6 (1.2) | 5 (1.0) | 7 (1.4) | 7 (1.4) | 8 (1.6) | 4 (0.8) | 12 (2.4) | 5 (1.0) | 10 (2.0) |
| *Hanging/strangulation* | 1 (0.2) | 0 (0.0) | 0 (0.0) | 3 (0.6) | 0 (0.0) | 1 (0.2) | 0 (0.0) | 1 (0.2) | 0 (0.0) | 0 (0.0) |
| *Other* | 1 (0.2) | 4 (0.8) | 4 (0.8) | 1 (0.2) | 0 (0.0) | 3 (0.6) | 2 (0.4) | 0 (0.0) | 1 (0.2) | 3 (0.6) |

*Source: NYC DOHMH's Bureau of Vital Statistics.*

## Firearm and cutting homicide by populous urban areas, 2001-2009

### Youth aged 13 to 17

| | | Firearm | | | Cutting | | | All Homicide | |
|---|---|---|---|---|---|---|---|---|---|
| | | Number | Rate* | % due to firearms | Number | Rate* | % due to cutting | Number | Rate* |
| US Counties | City Included | | | | | | | | |
| Philadelphia (PA) | Philadelphia | 131 | 13.7 | 84% | 11 | ** | 7% | 156 | 16.3 |
| Cook (IL) | Chicago | 429 | 12.9 | 90% | 18 | ** | 4% | 478 | 14.4 |
| Los Angeles (CA) | Los Angeles | 729 | 11.0 | 94% | 31 | 0.5 | 4% | 779 | 11.7 |
| Harris (TX) | Houston | 158 | 6.2 | 87% | ** | ** | ** | 181 | 7.1 |
| Maricopa (AZ) | Phoenix | 136 | 5.9 | 86% | 10 | ** | 6% | 159 | 6.9 |
| Dallas (TX) | Dallas | 92 | 6.1 | 90% | ** | ** | ** | 102 | 6.8 |
| Bexar (TX) | San Antonio | 45 | 4.3 | 87% | ** | ** | ** | 52 | 5.0 |
| San Diego (CA) | San Diego | 63 | 3.4 | 77% | 13 | ** | 16% | 82 | 4.5 |
| Total | | 1,783 | 8.8 | 90% | 99 | 0.5 | 5% | 1,989 | 9.9 |

**Rate per 100,000 youth **Data are suppressed or unreliable*
*Source: CDC's WONDER*

## Firearm-related homicides by neighborhood of residence, Youth aged 13 to 17, NYC, 2001-2009

| Neighborhoods | Rate* | Neighborhoods | Rate* |
|---|---|---|---|
| **Bronx** | | Upper West Side | 0.00 |
| Kingsbridge-Riverdale | 2.35 | Upper East Side | 0.00 |
| Northeast Bronx | 6.04 | Chelsea-Clinton | 0.00 |
| Fordham-Bronx Park | 4.88 | Gramercy Park-Murray Hill | 0.00 |
| Pelham-Throgs Neck | 4.47 | Greenwich Village-Soho | 0.00 |
| Crotona-Tremont | 7.21 | Union Square-Lower East Side | 0.00 |
| High Bridge-Morrisania | 6.76 | Lower Manhattan | 0.00 |
| Hunts Point-Mott Haven | 8.96 | | |
| | | **Queens** | |
| **Brooklyn** | | Long Island City-Astoria | 0.00 |
| Greenpoint | 2.40 | West Queens | 0.41 |
| Downtown-Heights-Slope | 10.55 | Flushing-Clearview | 2.49 |
| Bedford Stuyvesant-Crown Heights | 10.69 | Bayside-Little Neck | 0.00 |
| East New York | 13.58 | Ridgewood-Forest Hills | 0.00 |
| Sunset Park | 0.00 | Fresh Meadows | 0.00 |
| Borough Park | 0.46 | Southwest Queens | 1.83 |
| East Flatbush-Flatbush | 4.86 | Jamaica | 3.81 |
| Canarsie-Flatlands | 3.75 | Southeast Queens | 1.55 |
| Bensonhurst-Bay Ridge | 0.00 | Rockaway | 12.58 |
| Coney Island-Sheepshead Bay | 0.60 | | |
| Williamsburg-Bushwick | 6.91 | **Staten Island** | |
| | | Port Richmond | 0.00 |
| **Manhattan** | | Stapleton-St. George | 1.43 |
| Washington Heights-Inwood | 2.36 | Willowbrook | 0.00 |
| Central Harlem-Morningside Heights | 7.97 | South Beach-Tottenville | 0.00 |
| East Harlem | 10.96 | | |

** Rate per 100,000 youth*
*Sources: NYC DOHMH's Bureau of Vital Statistics and United Hospital Fund.*

## Unnatural deaths of undetermined manner

| | NYC (2001-2010) | | US (2001-2009) | |
|---|---|---|---|---|
| | N | Rate* | N | Rate* |
| Children aged 1 to 12 | 29 | 0.2 | 814 | 0.2 |
| Youth aged 13 to 17 | 37 | 0.7 | 740 | 0.4 |

** Rate per 100,000*
*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

## Unnatural deaths due to therapeutic complication

| | NYC (2001-2010) | | US (2001-2009) | |
|---|---|---|---|---|
| | N | Rate* | N | Rate* |
| Children aged 1 to 12 | 5 | <0.1 | 293 | 0.1 |
| Youth aged 13 to 17 | 8 | 0.2 | 124 | 0.1 |

** Rate per 100,000*
*Sources: NYC DOHMH's Bureau of Vital Statistics, CDC's WISQARS, and CDC's WONDER.*

# Technical Appendix

**Injury deaths.** Death certificates of all persons who died in NYC are collected and maintained by the NYC Department of Health and Mental Hygiene's Bureau of Vital Statistics (BVS). For the years 2001 through 2010, injury deaths of New York City-dwelling children aged 1 to 12 and youth aged 13 to 17 were identified by underlying cause of death with International Classification of Disease Codes, Version 10 (ICD- 10; http://www.who.int/classifications/icd/en/). CFRAT staff abstracted de-identified demographic, accident, and injury information from death certificates among children aged 1 to 12 for the purpose of aggregate data analysis. For youth aged 13 to 17, data were abstracted from a de-identified electronic dataset supplied by BVS. Deaths due to injuries with a known intent were identified using the following definitions and ICD-10 codes:

***Unintentional injury.*** Fatal injury or poisoning that occurred without intent to harm or cause death, also called accident. Unintentional injury deaths were identified using ICD-10 Codes V01-X59.

- Transportation. A subcategory of unintentional injuries in which the victim was a passenger in or was injured by a transportation vehicle (car, plane, train). ICD-10 Codes include V01-V99.
- Non-transportation. A subcategory of unintentional injuries that encompasses a variety of injuries not associated with any mode of transportation, such as a fall, drowning, and house fire. ICD-10 Codes include W00-X59.

***Homicide.*** Intentional injury death resulting from injuries sustained through an act of violence committed by another person aimed at causing fear, harm, or death. Homicide deaths were identified using ICD-10 Codes X85-Y09. Deaths from legal intervention are excluded from homicide counts. For more information on homicide designation, please see page 48 of the NYC Department of Health and Mental Hygiene Summary of Vital Statistics, 2010 Report at http://www.nyc.gov/html/doh/downloads/pdf/vs/vs-population-and-mortality-report.pdf.

***Suicide.*** Intentional injury death from injury or poisoning from an intentional, self-inflicted act committed to kill oneself. Suicides were identified using ICD-10 Codes X60-X84.

**Other causes of death.** Per the CFRAT mandate and/or the elected topic this year, non-injury causes of death were excluded from descriptive analyses, except when placing injury deaths in the context of other leading causes of death among children aged 1 to 12 and youth aged 13 to 17. These comprise natural causes (ICD-10 Codes A00-R99); events of undetermined intent (ICD-10 Codes Y10-Y34); legal intervention (ICD-10 Codes Y35-Y36); complications of medical and surgical care (ICD-10 Codes Y40-Y84); and sequelae of external causes (ICD 10 Codes Y85-Y89).

**Medical Examiner files.** Based on a unique identifier found on the death certificate, NYC Office of Chief Medical Examiner (OCME) files were matched and reviewed for injury deaths of children aged 1 to 12. A data abstraction form was created using Microsoft Access. Documents examined in OCME records included autopsy, external examination, toxicology and other post-mortem studies, investigative, police, and hospital reports. Cases that were subjects of any investigation/criminal/family court proceedings were restricted from case review as per Local Law 115.

**US comparison data.** National data come from the CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) detailed mortality files and the CDC's National Center for Injury Prevention and Control Web-based Injury Statistics Query and Reporting System (WISQARS). Data were accessed May 2012 at http://wonder.cdc.gov/ and http://www.cdc.gov/injury/wisqars/index.html. 2009 data were the most recent available at time of data access.

**US urban area comparison data.** No comparable city level homicide data for youth aged 13 to 17 was available. Comparison areas chosen in the analysis were the eight US counties containing cities with populations greater than 1 million, excluding NYC. City population size was assessed based on US Census Bureau data, which were accessed November 2012 at http://www.census.gov/popest/data/index.html. Comparison data come from the CDC's Wide-ranging Online Data for Epidemiologic Research (WONDER) detailed mortality files. Data were analyzed through 2009 to be consistent with US data.

**Data analysis and mapping.** Locations of pedestrian fatalities (Figure 5) were geocoded and mapped using ArcGIS 10.0. Fatalities that denoted something other than a geocoded intersection or street address were coded for the midblock location. Major roads in the NYC area provided by NYC Office of Emergency Management, 2006.

The United Hospital Fund classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes. Firearm homicide rates were computed for each of New York City's neighborhoods and ranked. Rate computation was based on existing intercensal estimates that were available 2001–2009 only at the zip code level. The ranked list of 42 neigborhoods was divided into five groups (those with zero and the rest in quartiles).

**Limitations of the data.** This CFRAT report has some important limitations. The limited number of injury-related deaths in NYC's children and youth, while encouraging and lower than the national average, reduced our ability to examine their commonalities and trends in detail. Small numbers also reduced our ability to make statements about statistically significant differences or inferences concerning causality. In addition, several characteristics that may influence injury risk are not formally captured by death certificates or OCME files, such as level of parental or guardian supervision, use of safety devices, certain environmental hazards, family conditions or stressors, history of depression or mental health conditions, and so on. These factors may play a critical role in mitigating injury outcomes.

**CFRAT meetings.** Meetings are closed to the public. All team members must sign a confidentiality statement before participating in the review process. The confidentiality statement specifically defines the conditions of participation and assures that members will not divulge information discussed in team meetings. To further maintain confidentiality, identifying information in data and research reports has been omitted.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