

Health Disparities in New York City



New York City Department of Health and Mental Hygiene

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Health Disparities in Life Expectancy and Death

MIND THE GAP: What are health disparities?

Health disparities are differences in health outcomes between groups that reflect social inequalities. Health disparities result in more avoidable illnesses and deaths in one group of people than another and arise from a variety of causes, not all of which are fully understood. Some factors hypothesized to influence disparities include:

- Social and physical environmental conditions, opportunities, and stressors that impact health
- Limited access to primary and preventive health care
- Quality of health care received

Differences in health based on race, ethnicity, or economics can be reduced. Reducing health disparities requires government policymakers, health professionals, researchers, and community groups to work together. Specific and achievable goals must be set across a range of disciplines, including but not limited to health, housing, education and criminal justice.

This issue of “Health Disparities in New York City” focuses on health differences among racial/ethnic and income groups using three general measures of population health—life expectancy, overall mortality (or death), and premature death. This report concludes with strategies to help reduce these health disparities.

Health Disparities in New York City is a new publication series from the Health Department. The goals for this series are to inspire action by documenting current health disparities in the city, as well as changes over time, and identifying community- and policy-based solutions to close the health gaps among New Yorkers.

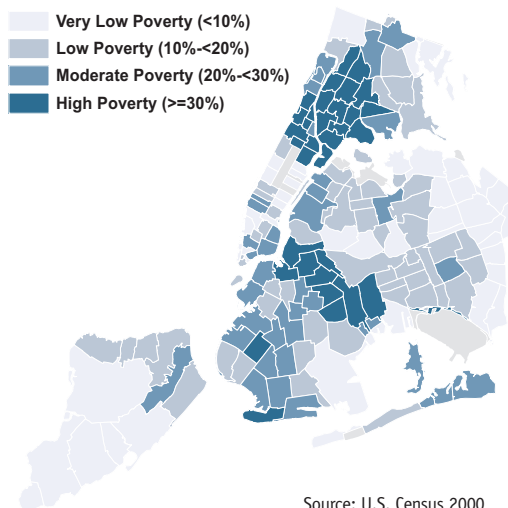
Coming Next:

- *Disparities in Breast, Colorectal, and Cervical Cancers*

POVERTY AND RACE IN NEW YORK CITY

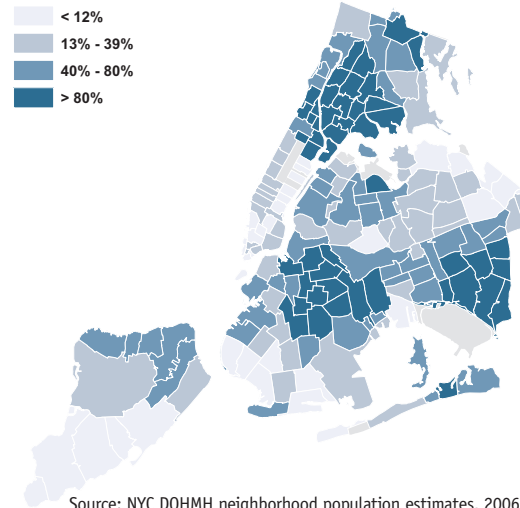
New York City residents are, on average, poorer than people nationwide. In 2000, the city's poverty rate was nearly twice the national rate (21% vs. 12%). Poverty in NYC is concentrated geographically, with the poorest neighborhoods in the South Bronx, East and Central Harlem, and North and Central Brooklyn.* These areas also have the highest proportions of black and Hispanic residents.

Percent of residents living in poverty



Source: U.S. Census 2000

Percent of black and Hispanic residents (quartiles)



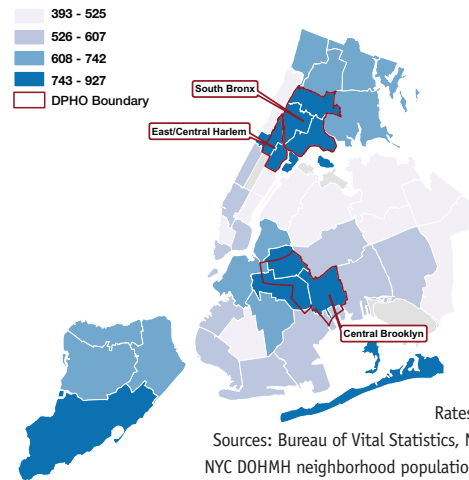
Source: NYC DOHMH neighborhood population estimates, 2006.

*For a description of how *neighborhood poverty* is defined, please see the methodology section on page eight.

Death rates are almost 30% higher in the poorest New York City neighborhoods than in wealthier neighborhoods

- Death rates describe the number of deaths per 100,000 people that occur in a population. In New York City, the overall death rate decreased 36% between 1990 and 2006 (958 vs. 610 deaths per 100,000 New Yorkers).
- Death rates are highest in the poorest NYC neighborhoods—South Bronx, East and Central Harlem, and North and Central Brooklyn—ranging from 700 to 927 deaths per 100,000 residents.
- Death rates vary across NYC in a pattern similar to that of poverty. However, the deaths rates of Staten Island neighborhoods are moderate to high, while poverty is relatively low.

Death rates per 100,000 residents by New York City neighborhood, 2006 (quartiles)



How poverty is related to health

Living in poverty makes it difficult to know about, find or access a variety of resources that promote health and prevent illness. For example, people living in poor neighborhoods may have access to fewer opportunities to exercise and buy healthy food. Living with limited resources also increases stress and anxiety, which can, in turn, lead to unhealthy habits, like smoking and drug use. In the other direction, poor health can prevent people from completing their education and obtaining well-paying jobs, which can lead to subsequent poverty.

DEFINE THE GAP: How are differences in health measured?

Examining disparities requires measuring the size of the difference or gap, in a health condition, illness, or death between two groups. Differences between groups can be expressed in two ways: an absolute or a relative difference.

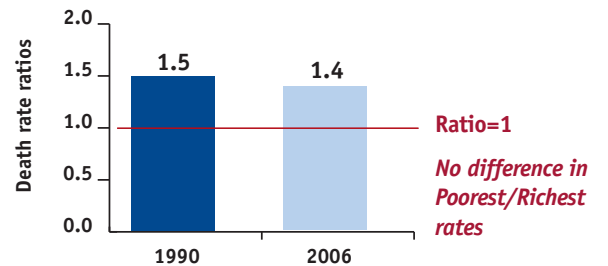
ABSOLUTE DISPARITY is the actual difference in the number of illnesses or deaths between two groups. For example: *Poor rate – Rich rate = # of extra deaths*. If equal to zero, the rates are equal and there is no disparity.

- In 1990, there were 414 more deaths per 100,000 people in the poorest neighborhoods than in the richest areas. These “excess” deaths to residents in poor neighborhoods decreased to 223 in 2006—a large improvement in the absolute gap between rich and poor neighborhoods.

RELATIVE DISPARITY is the difference between two groups by using one as the “base” or comparison and can be measured with a ratio. For example: *Poor rate/Rich rate = rate ratio*. If equal to one, the rates are equal and there is no disparity.

- The 1990 death rate in the poorest neighborhoods was 1.5 times higher than the rate in the richest areas. This relative gap decreased moderately by 2006, when the rate in poor neighborhoods was 1.4 times the rate in the richest areas.

Ratio of Poorest/Richest neighborhood death rates, New York City, 1990 and 2006



Death rates / 100,000 residents			
Neighborhoods	1990	2006	Change in disparities over time:
Poorest	1,198	758	
Richest	784	535	
Absolute Gap	414	223	7% decrease
Relative Gap	1.5	1.4	

Sources: Bureau of Vital Statistics, NYC DOHMH, 1990 and 2006; U.S. Census, 1990; NYC DOHMH neighborhood population estimates, 2006.

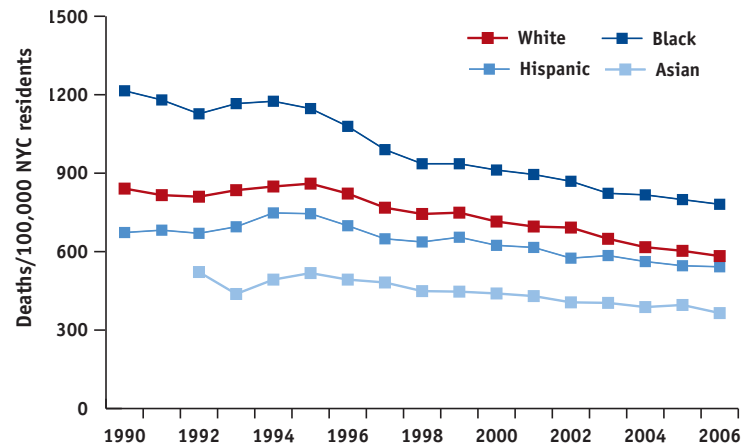
Successfully reducing health disparities requires decreases in disease in both groups (change in absolute disparity), WITH a larger decrease in the disadvantaged group (change in relative disparity).

While death rates have fallen for all racial/ethnic groups, disparities persist

- Since 1990, death rates have declined for all racial/ethnic groups.
- In 1990, blacks had a 45% higher death rate than whites (1,200 vs. 829 deaths per 100,000). By 2003, this black/white gap had fallen by nearly 40%, but has remained relatively unchanged since then, with the death rate among blacks one-third higher than among whites.

Death rates among white and black New Yorkers				
	1990	2006	Change in disparities over time:	
Blacks: Deaths/100,000	1200	781		47% decrease
Whites: Deaths/100,000	829	583		
Absolute Gap	371	198	7% decrease	
Relative Gap	1.4	1.3		

Overall mortality varies by race/ethnicity



Rates are age-adjusted.
Sources: US Census 1990 and 2006; NYC DOHMH neighborhood population estimates, 2000-2006; Bureau of Vital Statistics, NYC DOHMH, 1990-2006. Asian data prior to 1993 excluded due to changes in category definition.

How race/ethnicity affects health

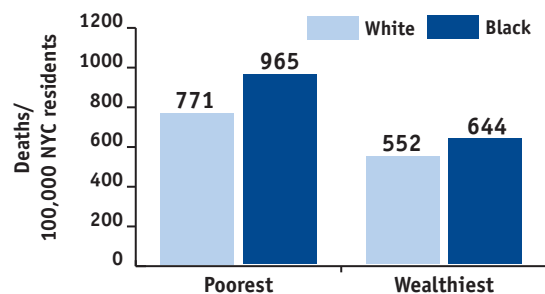
Economics and race/ethnicity work together to affect health in ways that are poorly understood. Historically, explanations for racial/ethnic disparities in health focused on biological differences. However, diseases clearly related to genetics account for only a tiny part of observed disparities by race. Rather, institutionalized racial discrimination in the past combined with economic structures in the U.S. may have created social conditions for entire populations today that are unfavorable to health. In addition, social inequalities can limit access to important societal benefits, including quality health care, and can result in stress, which can lead to poor physical and mental health, as well as various unhealthy behaviors.

Culture and tradition – which vary by race, ethnicity, income and other social factors – also can affect health. For example, cultural norms can affect behavioral choices, such as smoking or diet, which greatly influence health. Neither income nor race/ethnicity alone drives the persistence of health disparities.

Blacks and whites in the poorest neighborhoods die at higher rates than their counterparts living in richer neighborhoods

- Poverty affects health outcomes for both black and white New Yorkers. Black residents of New York City's poorest neighborhoods have nearly 50% higher death rates than those living in wealthier neighborhoods (965 vs. 644 per 100,000). Whites in poor areas also have higher death rates than those in the richest areas (771 vs. 552 per 100,000).
- Despite the similar impact of poverty on black and white New Yorkers, blacks still die at a higher rate, regardless of where they live. In addition, the black/white gap in death rates is higher in the poorest neighborhoods than the richest (25% higher rate among blacks in poor areas vs. 17% higher in rich areas).

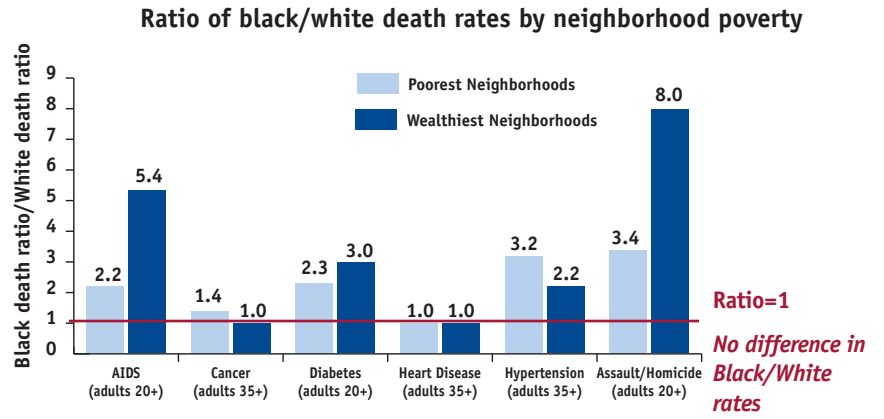
Death rates are higher in the poorest neighborhoods and among blacks across NYC (2004-2006)



Rates are age-adjusted.
Sources: Bureau of Vital Statistics, NYC DOHMH, 2004-2006. NYC DOHMH neighborhood population estimates, 2004-2006.

Gaps in death rates between blacks and whites vary by cause of death and neighborhood income

- For the leading cause of death—heart disease—no disparities between blacks and whites are seen in poor or rich neighborhoods.
- For some conditions, such as AIDS, diabetes, hypertension, and assault (homicide), death rates are higher among blacks than whites regardless of neighborhood income.
- For AIDS, diabetes, and assaults (homicides), the black/white disparity is smaller in poorer neighborhoods. For example, AIDS death rates are twice as high among blacks in the poorest neighborhoods, but almost five and a half times higher in the richest neighborhoods.
- Conversely, black/white disparities in hypertension death rates are higher in the poorest NYC neighborhoods, and cancer disparities are only seen in the poorest neighborhoods.



Rates are age-adjusted.
Sources: Bureau of Vital Statistics, NYC DOHMH, 2004-2006; NYC DOHMH neighborhood population estimates 2004-2006.

Gaps in black/white death rates have decreased over time, but not for all causes

- Overall, death rate disparities between black and white New Yorkers have decreased since 1990. However, racial disparities have increased for some causes of death, including AIDS, diabetes, and assault (homicide).
- AIDS death rates have decreased dramatically for all New Yorkers, but with a smaller decline among blacks than whites (59% vs. 87%). As a result, black New Yorkers were more than six times as likely to die from AIDS as whites (45 vs. 7 deaths per 100,000 adults) in 2006.
- Hypertension death rates also have decreased for both whites and blacks, as has the black/white gap. Despite these gains, hypertension death rates among black New Yorkers remain almost four times higher than among white New Yorkers (35 vs. 9 per 100,000 adults).

Change in ratio of Black/White death rates from 1990 to 2006

	Black/White Ratio 1990	Black/White Ratio 2006	Change in Relative Disparity
AIDS, adults 20+	1.9	6.2	increased by 226%
Cancer, adults 35+	1.3	1.2	decreased by 8%
Diabetes, adults 20+	2.7	3.1	increased by 15%
Heart disease, adults 35+	1.1	1.1	No change
Hypertension, adults 35+	4.0	3.7	decreased by 8%
Assault (homicide), adults 20+	5.9	7.3	Increased by 24%

Rates are age-adjusted.
Sources: Bureau of Vital Statistics, NYC DOHMH, 1990 and 2006; NYC DOHMH neighborhood population estimates 1990 and 2006.

Disparities in the U.S. health care system

In 1999, U.S. Congress requested an Institute of Medicine (IOM) study to 1) assess the extent of disparities in the types and quality of health care received by racial and ethnic minorities nationwide, 2) explore the factors that may contribute to disparities in medical care, and 3) recommend policies and practices to eliminate these disparities. The study found that racial/ethnic disparities in health care access and treatment exist, and many institutions and individuals, including health care systems, health care providers, patients and utilization managers contribute to the continuation of these disparities. Complete study results are featured in the IOM report, "Unequal Treatment: Confronting Racial and Ethnic Differences in Health Care," available at www.iom.edu/report.

Life expectancy has improved for all New Yorkers, regardless of sex, race/ethnicity or income

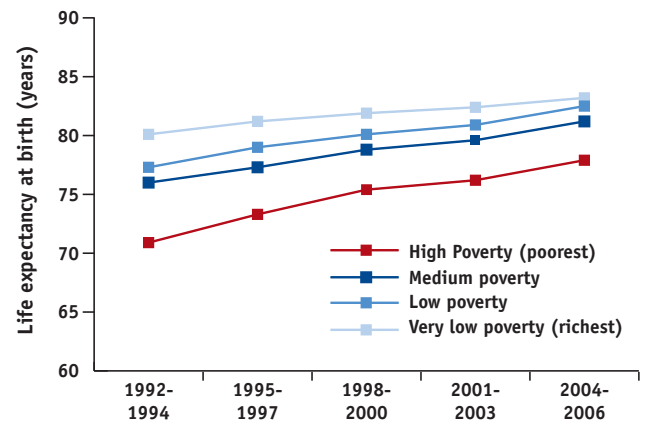
Life expectancy—the average age to which a newborn is expected to live—is a fundamental measure of a community's health. Just like decreasing death rates, increasing life expectancy over time can signal improved health in a population.

- In New York City, average life expectancy has improved since 1990, rising to 79 years of age in 2007.
- Women live longer than men; the life expectancy disparity between men and women has narrowed to six years since 1990.

New Yorkers living in the poorest neighborhoods live **four fewer years** than those living in wealthier neighborhoods

- Life expectancy in New York City varies by neighborhood poverty, but there have been improvements in the disparity over time. The gap in life expectancy between neighborhoods with the lowest and highest poverty rates narrowed from eight to four years between 1992 and 2006.
- Residents of high-poverty areas, however, continue to live significantly shorter lives. In 2004-2006, New Yorkers in the poorest neighborhoods had a life expectancy of 78 years, compared with 82 years for those in the richest neighborhoods.

Life expectancy varies by neighborhood poverty in NYC

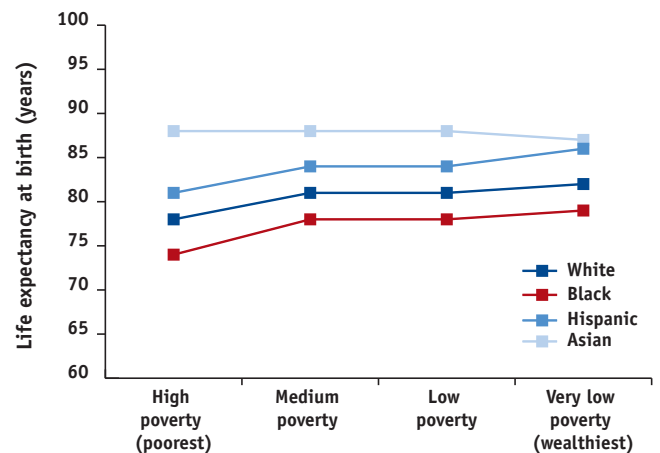


Sources: Bureau of Vital Statistics, NYC DOHMH, and New York State Dept. of Health, Bureau of Biometrics, 1992-2006; U.S. Census 1990 and 2000; NYC DOHMH neighborhood population estimates, 2000-2006.

Blacks in the poorest neighborhoods have a shorter life expectancy than all other New Yorkers

- Whites, blacks and Hispanics in wealthy neighborhoods live longer than those in poorer neighborhoods.
- Blacks in wealthier neighborhoods live five years longer than blacks living in poorer neighborhoods (79 vs. 74 years). Among whites, this difference is four years (82 vs. 78 years), among Hispanics, five years (86 vs. 81 years).
- Asians have the longest life expectancy (88 years), which does not vary by neighborhood poverty.
- In both the poorest and wealthiest neighborhoods, blacks live shorter lives than whites. However, these disparities are smaller among residents of the wealthiest areas (3 years) than among the poorest New Yorkers (4 years).

Life expectancy varies by neighborhood poverty and race in NYC (2004-2006 annual average)



Sources: Bureau of Vital Statistics, NYC DOHMH, and New York State Dept. of Health, Bureau of Biometrics, 2004-2006 combined; NYC DOHMH neighborhood population estimates, 2004-2006 combined.

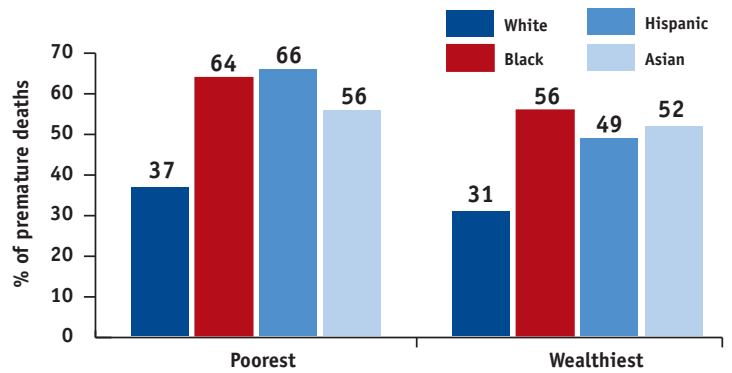
Premature death has decreased over time for all New Yorkers

- **Premature death** is defined as death before 75 years of age.
- Comparing the **percent of deaths that are premature** between two groups demonstrates in which group individuals are more likely to die early (before age 75).
- **Years of Potential Life Lost (YPLLs)** is the difference between 75 years and the age that a person actually dies, and is one way to measure the impact of premature death. The number of YPLLs in a group shows how early people are dying. A group with the highest YPLL rate has people dying prematurely at younger ages.

Black, Hispanic and Asian New Yorkers are more likely to die prematurely than whites, regardless of neighborhood income

- Although the percent of premature death among all New Yorkers dropped by one fifth between 1990 and 2006 (from 55% to 45% of all deaths), non-whites have been consistently more likely to die early.
- On average between 2004 and 2006, one third of deaths among white New Yorkers were premature (32%), compared with half of Asian deaths (51%) and nearly two-thirds of black and Hispanic deaths (both 60%).
- The likelihood of dying prematurely is somewhat lower among residents of wealthier neighborhoods than poorer ones, regardless of race/ethnicity.

Percent premature deaths by race/ethnicity, 2004-2006

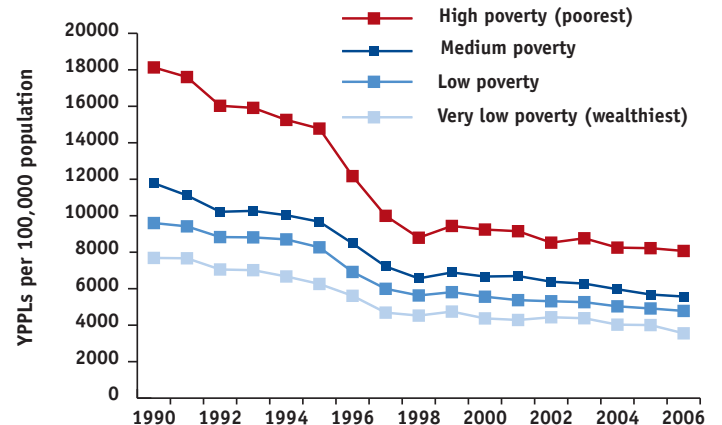


Sources: Bureau of Vital Statistics, NYC DOHMH, 2004-2006 combined.

Residents of the poorest NYC neighborhoods die earlier than other residents, but the gap in years lost to premature death is closing

- The disparity in years of potential life lost between the poorest and the wealthiest neighborhoods narrowed by 51% between 1990 and 1998. However, since then, the gap has remained relatively constant.
- In 2006, the poorest neighborhoods lost almost three times as many years of life to premature death as the wealthiest neighborhoods (8,069 vs. 3,553 per 100,000).
- Regardless of race/ethnicity, New Yorkers living in the poorest neighborhoods lose more years of life to premature death than those in the wealthiest neighborhoods. However, racial/ethnic disparities are evident within both neighborhood income groups.
- While blacks lose more years of potential life than whites in both wealthy and poor neighborhoods, the black/white relative disparity is greatest in the wealthiest neighborhoods (58% vs. 41%).
- White New Yorkers die earlier than Hispanics in the poorest neighborhoods, but the white/Hispanic disparity nearly disappears among residents of wealthiest neighborhoods.
- Regardless of neighborhood income, Asians lose the least years of potential life to premature death.

Total years of potential life lost per 100,000 population



Years of potential life lost per 100,000 population by race and neighborhood poverty, 2004-2006

	White	Black	Hispanic	Asian
Poor	8,240	11,599	5,894	2,848
Rich	3,767	5,964	3,323	2,268

Sources: Bureau of Vital Statistics, NYC DOHMH, 2004-2006 combined; NYC DOHMH neighborhood population estimates, 2004-2006 combined.

REDUCE THE GAP:

Conclusions and Recommendations

The burden of illness and death is unequally distributed by wealth and residents' race and ethnicity in New York City. Black New Yorkers and those living in the poorest neighborhoods live shorter lives and have higher death rates than other New Yorkers. Many leading causes of death kill New Yorkers living in low-income neighborhoods at higher rates than those in wealthier parts of the city.

The consistent pattern of disparities in overall mortality and life expectancy points to common underlying drivers of poor health: poverty, racial discrimination, and other social factors related to income and race/ethnicity. Progress has been made in the past 15 years, with large decreases in the gap between black and white death rates and in premature death in the poorest neighborhoods, but health disparities still exist. Consequently, strategies to reduce health disparities must include reducing the overall burden of social disadvantage, as well as preventing and controlling specific illnesses.

Several strategies may help reduce health disparities in NYC:

Citywide public health policies that will benefit vulnerable populations

The Health Department's Take Care New York (TCNY) 2012 health policy (available online at nyc.gov/health/tcny) includes a variety of plans to change the environment in which New Yorkers live in order to improve health. TCNY aims to create a city where all neighborhoods have healthy food that is easy to find and cheaper than unhealthy food; where parks and streets make it easy for people to exercise and stay active; and where tobacco and alcohol products are expensive, advertising for them is limited and not aimed at children, and cessation and treatment are easy to get regardless of where one lives. Poor New Yorkers and those living in poor neighborhoods may face greater hurdles in making healthy choices and disproportionately suffer poor health as a consequence. Such policies to create a citywide environment that is supportive of the healthiest options will reduce health inequalities while also promoting health for all New Yorkers.

Public health resources and interventions targeted to communities disproportionately affected by illness and premature death

Citywide approaches should be complemented by directed attention to neighborhoods and populations at particular risk and that bear the highest burden of morbidity and mortality. Examples of these activities include the Health Department's targeting of support to low-income new mothers through the newborn home visiting program and provision of incentives to fruit and vegetable vendors to sell in poor neighborhoods.

Measurement and tracking of the relationship between social disadvantage and health

Reports such as this that examine differences in health among persons by the relative degree of poverty in the neighborhood in

which they live, as well as by race-ethnicity, can be valuable tools to understand the health of populations and prompt action. Average citywide rates of illness and death tell the story of an entire population, but within those averages, rates often vary among specific subgroups. Evaluations of public policy should include assessments of impact on vulnerable populations. The Health Department has taken such an approach in developing the health goals for the Take Care New York plan; each goal is measured and tracked both for citywide progress and for reducing disparities.

Policies that reduce economic and social disadvantage

Health disparities cannot be eliminated or substantially reduced solely by improving or expanding health care. Since health is strongly influenced by social factors, policies regarding education, employment, housing, and economic development may reduce health disparities over the long term by reducing social and economic disadvantages. These policies fall outside of the direct responsibility of health practitioners and health organizations, but may have an even greater impact on health than traditional public health approaches. Health organizations and practitioners can contribute by supporting policies that reduce social and economic disadvantages, and by collaborating with other organizations that have an impact on these disadvantages. Collaborations between the Health Department and its partners across the city can serve as examples of the types of inter-disciplinary projects that might improve New York City's public health. Such projects include working with transportation agencies and organizations to promote walkable and bikeable neighborhoods; working with housing agencies to develop supportive housing for people with mental illnesses; and working with education partners to explore the links between physical activity and learning.

Evaluating progress in reducing health disparities

In order to understand the extent of health disparities by race/ethnicity and poverty and to measure gains made, city agencies, health professionals, policymakers and grassroots organizations must improve systems to accurately record individual health and socioeconomic data, as well as track the socioeconomic status of neighborhoods in which people live. The Office of Management and Budget has federal guidelines for collecting race/ethnicity and socioeconomic data, but considerable variability remains across NYC systems. City agencies and policymakers should create and follow standards for such data collection and geocoding, and should routinely examine and disseminate findings on health conditions by race/ethnicity, by individual poverty, and by neighborhood poverty.

Addressing disparities in and with communities

As part of its commitment to reducing and eliminating health disparities in New York City, the Health Department established District Public Health Offices (DPHOs) in East and Central Harlem, North and Central Brooklyn, and the South Bronx. In these three neighborhoods, residents are more likely to be obese, have asthma, cancer, HIV/AIDS, diabetes, and heart disease. The mission of the DPHOs is to promote health equity across New York City by targeting resources, programs, and attention to these three high-need neighborhoods. If the health of residents in these neighborhoods was as good as the health of residents in New York's healthiest neighborhoods, nearly 4,000 lives would be saved each year. The DPHOs work to ensure that conditions for good health—available, sustainable, high-quality services and efficient, effective systems—flourish in these neighborhoods. They combat disparities through system change, promoting policies to save lives and improve health at the local level. For more information about the DPHOs, please call **311** or visit nyc.gov/health/dpho.

METHODOLOGY

Data Sources: Overall and premature death, years of potential life lost, life expectancy: NYC DOHMH Bureau of Vital Statistics, 1990-2006. Life expectancies by neighborhood income were calculated using deaths that occurred to New Yorkers in New York City or New York State using Vital Records, New York State Department of Health, Bureau of Biometrics, 1992-2006. All other life expectancies were calculated using National Center for Health Statistics data, which include deaths of NYC residents that occurred outside of the city. Population denominators: US Census Bureau, 1990 and 2000 and DOHMH neighborhood population estimates modified from US Census Bureau vintage population estimates, 2000-2006. Population for 1991-1999 was estimated from Census 1990 and 2000 numbers using linear interpolation, except for rates by race/ethnicity overall (page 3) that used estimates generated by the U.S. Census Bureau for 1991-1999.

Adjustments: All death rates were age-adjusted to the year 2000 U.S. population. Percentages and rates have been rounded to the nearest whole number.

Neighborhood poverty is defined as the percent of residents in an area living below the federal poverty level, according to the U.S. Census 2000. In this report, a high-poverty neighborhood has at least 30% of its residents living below the poverty line, a medium-poverty neighborhood has between 20% and 29.9%, a low-poverty neighborhood has between 10% and 19.9%, and a very low-poverty neighborhood has less than 10%. Neighborhood poverty is an indicator of resource availability and opportunities and also can serve as a proxy for individual income, both of which can greatly impact a person's health status.

Suggested citation

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For more information about this report or to get a copy of our 2004 health disparities report - Health Disparities in New York City - please call 311, visit nyc.gov/health, or e-mail disparities@health.nyc.gov.