

DEATHS AMONG PERSONS WITH HIV/AIDS IN NEW YORK CITY



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<http://www.nyc.gov/html/doh/html/dires/hivepi.shtml>
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RWPC Needs Assessment Committee Meeting
February 20, 2009

Overview

- HIV/AIDS surveillance
- Epidemiologic overview
- Death rates and cause of death
- Living longer with HIV/AIDS

History of HIV/AIDS Reporting in New York City

- **1981:** *MMWR* reports PCP and KS from LA and NYC. AIDS surveillance begins
- **1983:** New York State mandates named AIDS case reporting
- **2000:** New York State implements named reporting of HIV, viral load and CD4

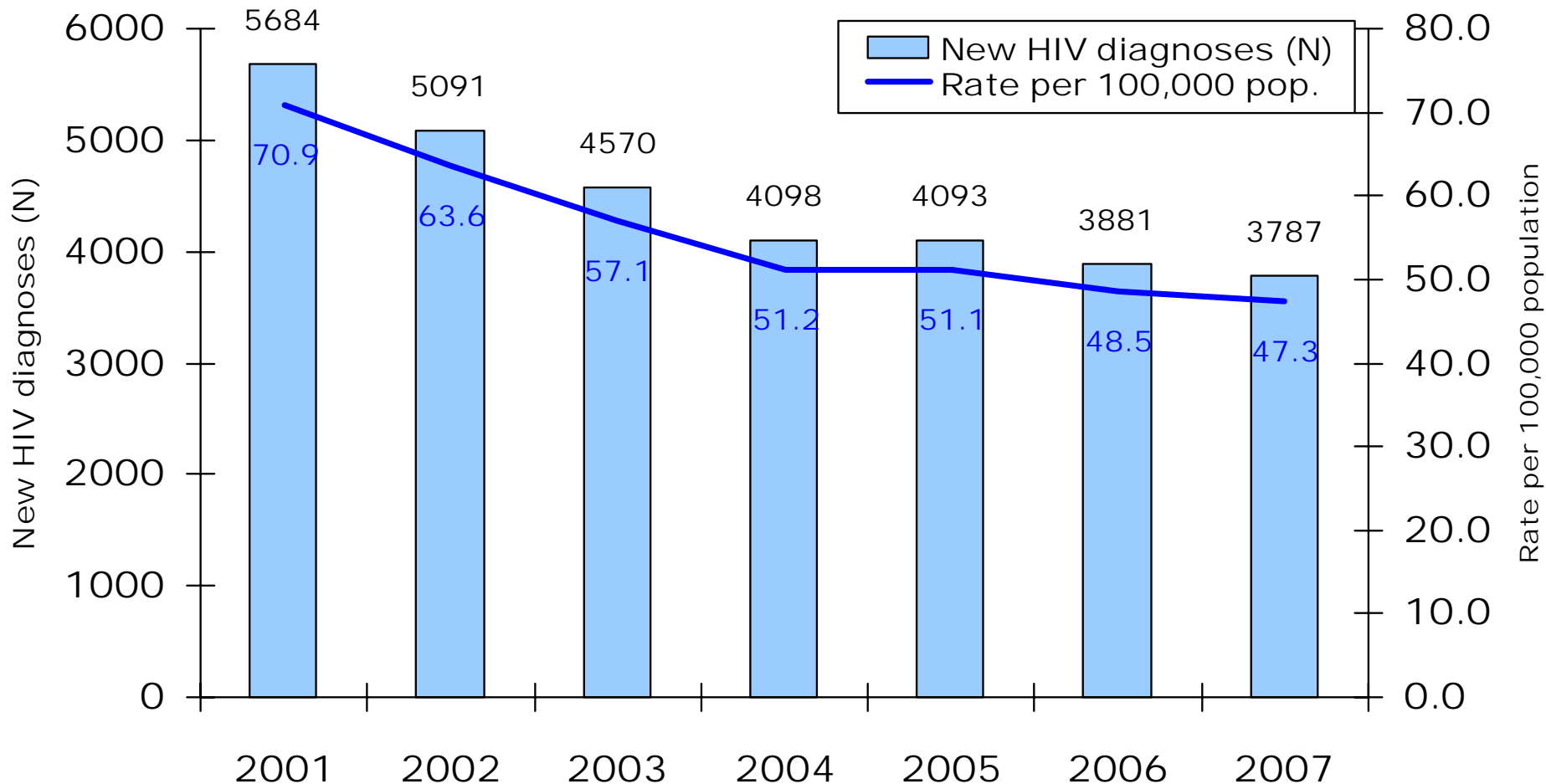
Conducting HIV/AIDS Surveillance Today

- Counting diagnoses and deaths
- Multiple sources:
 - Electronic lab reports
 - Medical chart reviews
 - Provider reports (incl. Medical Examiner)
 - Matches with NYC Vital Registry and other disease registries
 - Patient interviews at 8 hospitals

HIV/AIDS Epidemiology Today

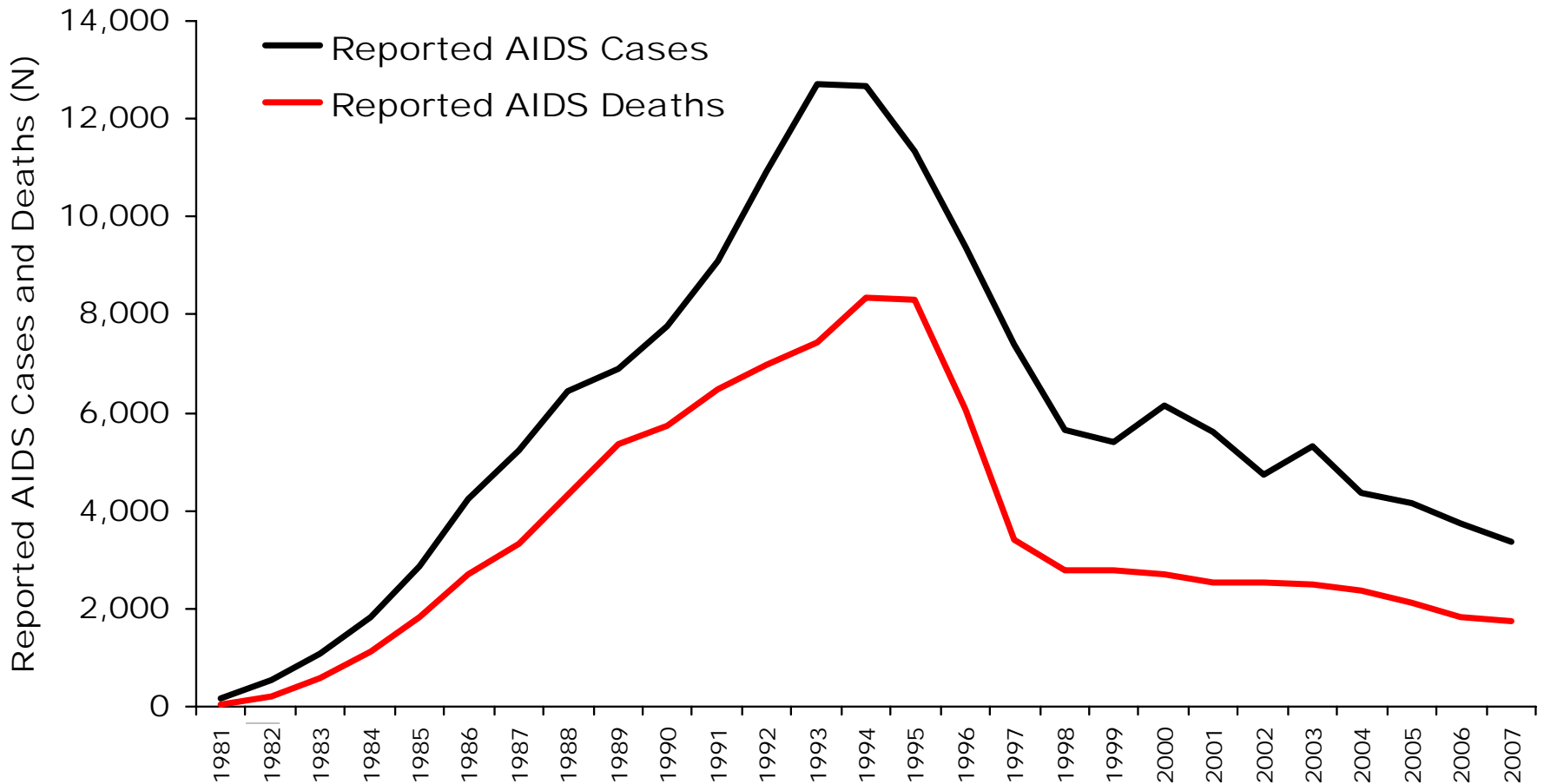
- ~200,000 New Yorkers have been diagnosed with HIV or AIDS
- ~100,000 (49%) have died
- In 2007:
 - 3,787 people newly diagnosed with HIV
(24% diagnosed late)
 - 3,346 people diagnosed with AIDS
 - 2,012 people with HIV/AIDS died
 - Others don't know they're infected because never tested
- Good news: HAART >10 years, mortality ↓

New HIV Diagnoses & Rates in NYC, 2001-2007



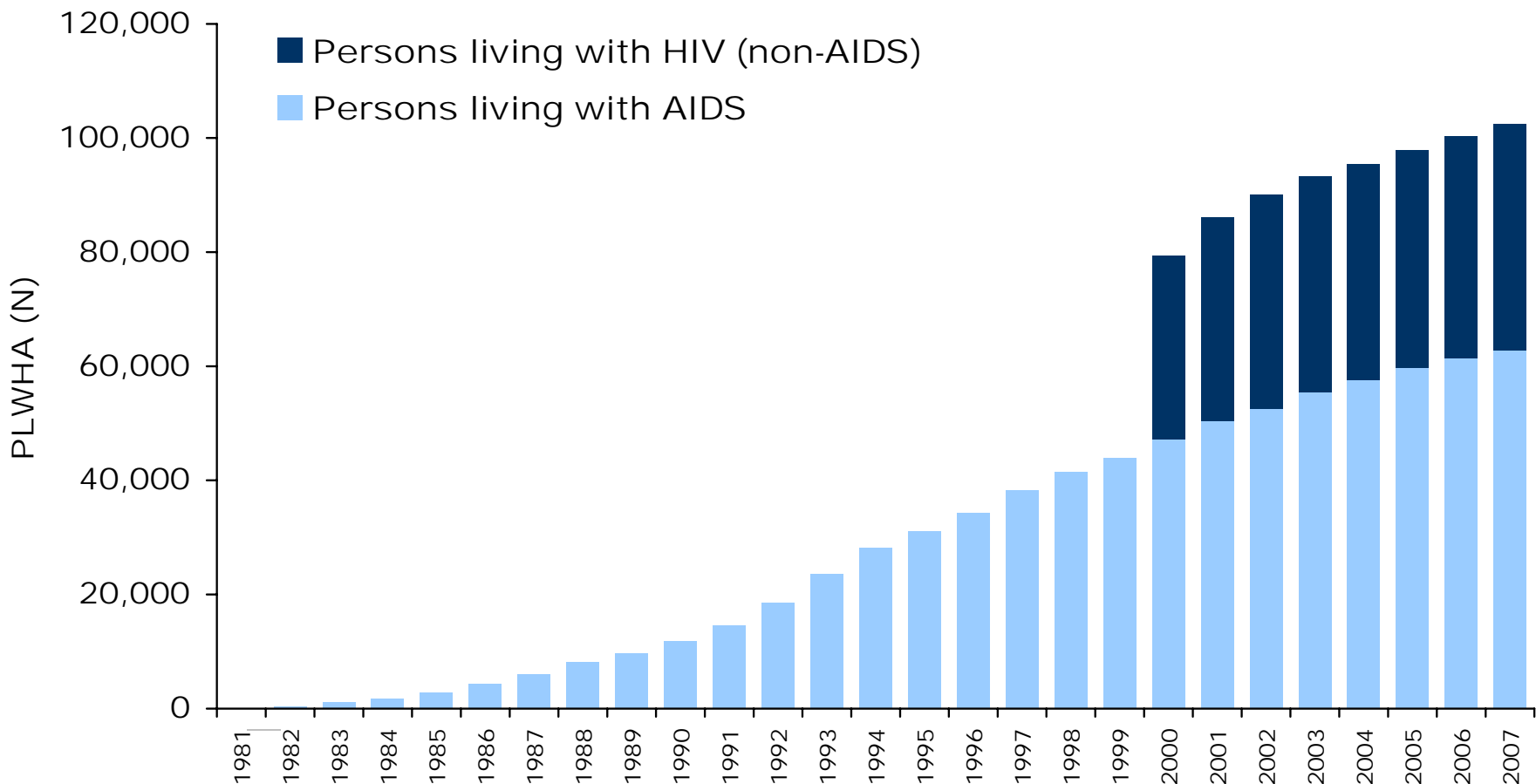
The number of new HIV diagnoses declined by about 500 cases annually between 2001 and 2004. The decrease has slowed since then.

Reported AIDS Cases and Deaths in NYC, 1981-2007



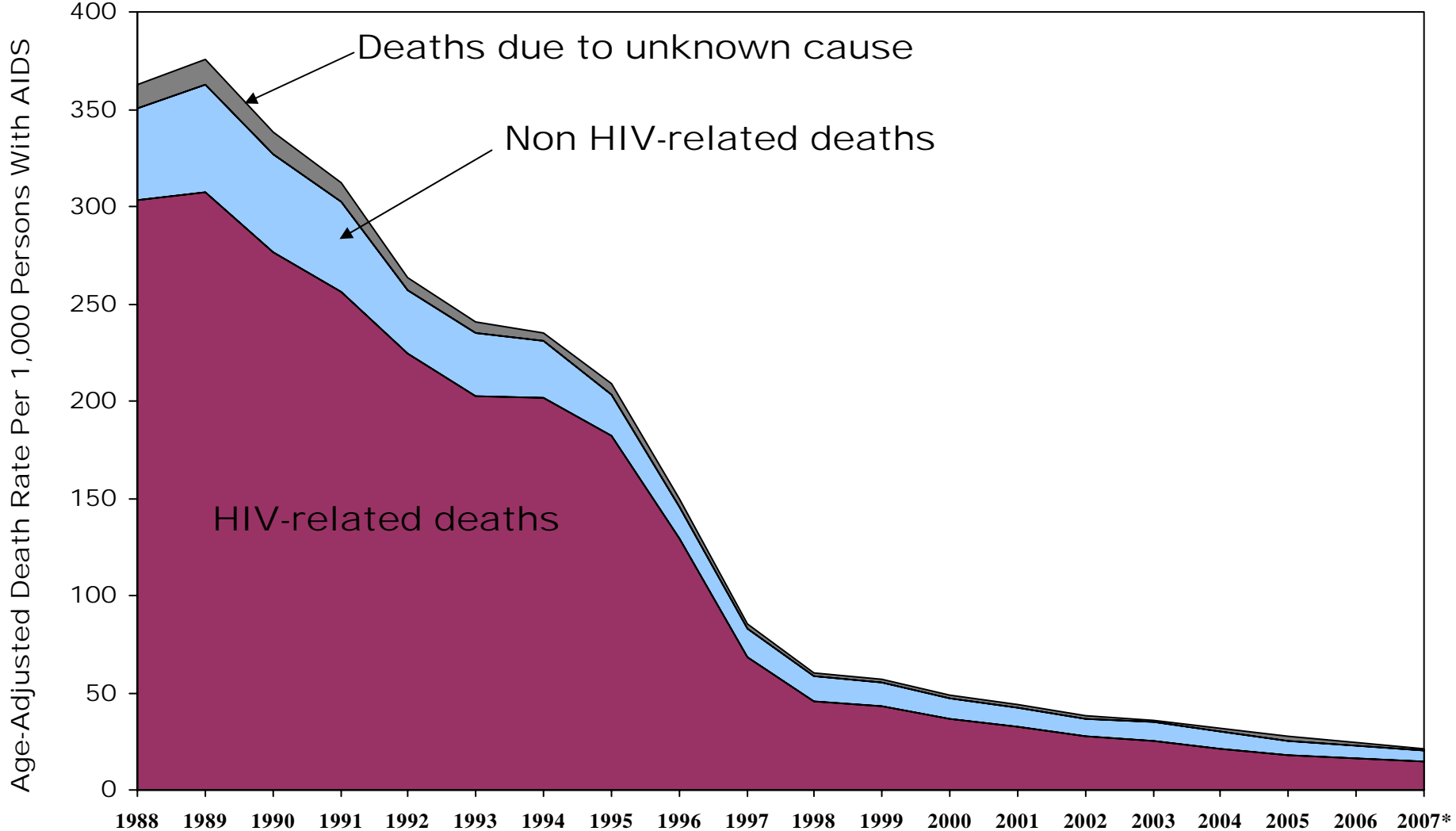
AIDS incidence and mortality peaked in the mid-1990s in New York City and has been declining since.

Reported Persons Living with HIV/AIDS in NYC, 1981-2007



The number of persons living with AIDS has steadily increased in NYC since the early 1980's. HIV reporting began in June 2000.

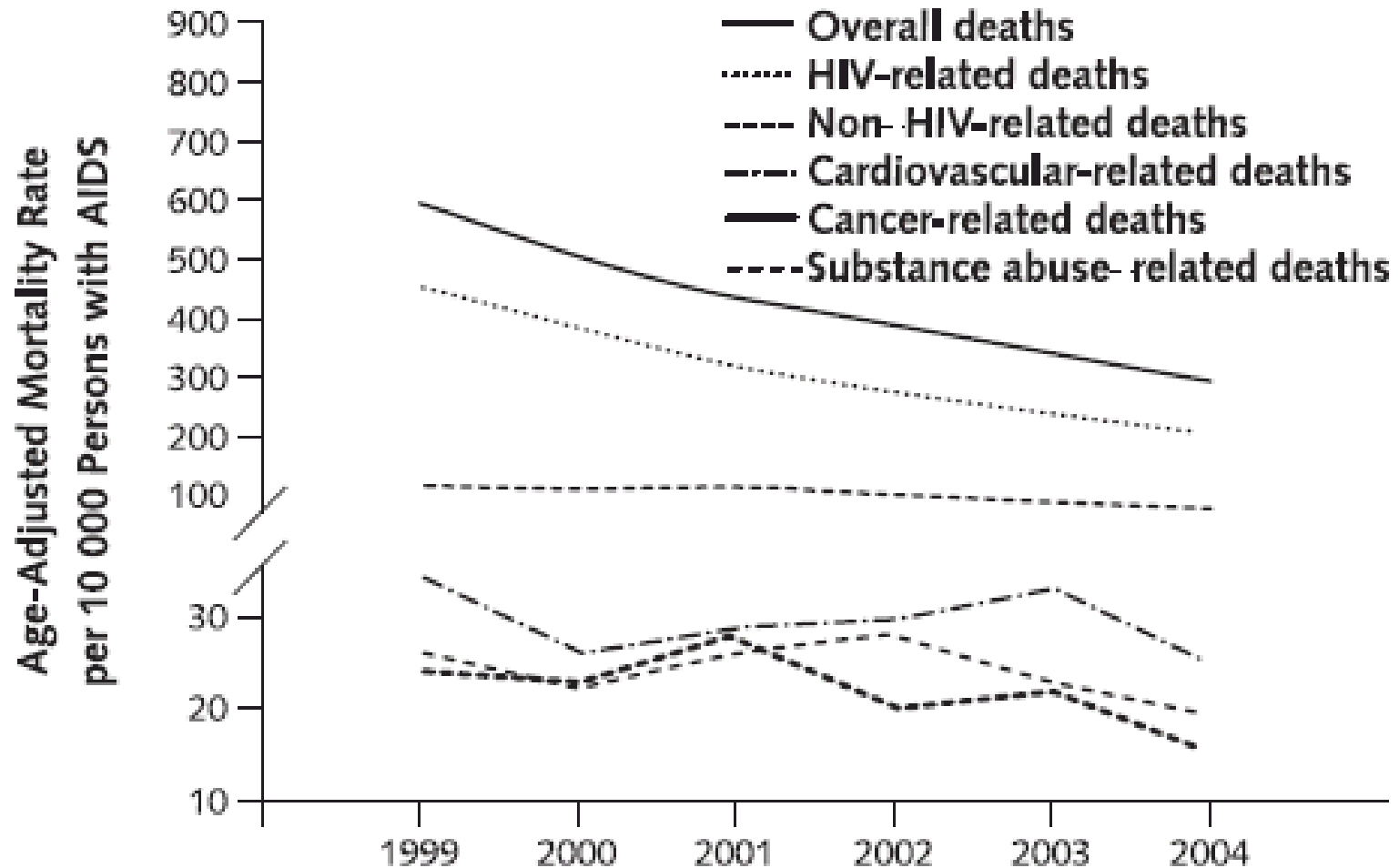
Age-Adjusted Death Rate Per 1,000 Persons With AIDS, New York City 1988 - 2007



Mortality among people with AIDS declined substantially between 1988 and 2007.

*2007 data are incomplete because National Death Index match has not yet been conducted to identify deaths occurring outside NYC. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2008.

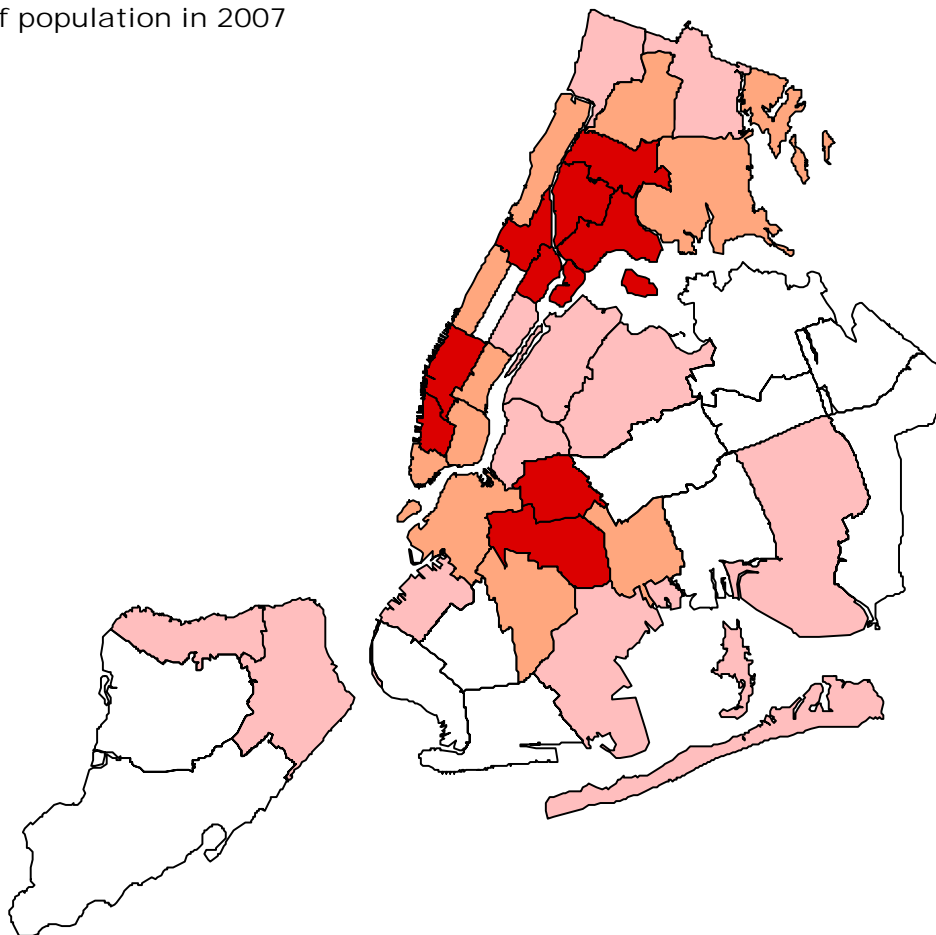
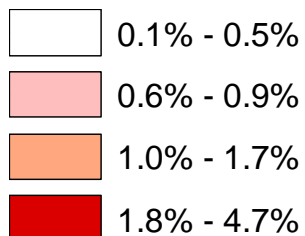
Age-adjusted AIDS mortality rate by underlying cause of death, New York City, 1999–2004



Between 1999 and 2004, both HIV-related and non-HIV-related mortality decreased among persons with AIDS. HIV-related mortality decreased more, and the percentage of deaths due to non-HIV-related causes increased.

Persons with HIV/AIDS by UHF Neighborhood in NYC, 2007

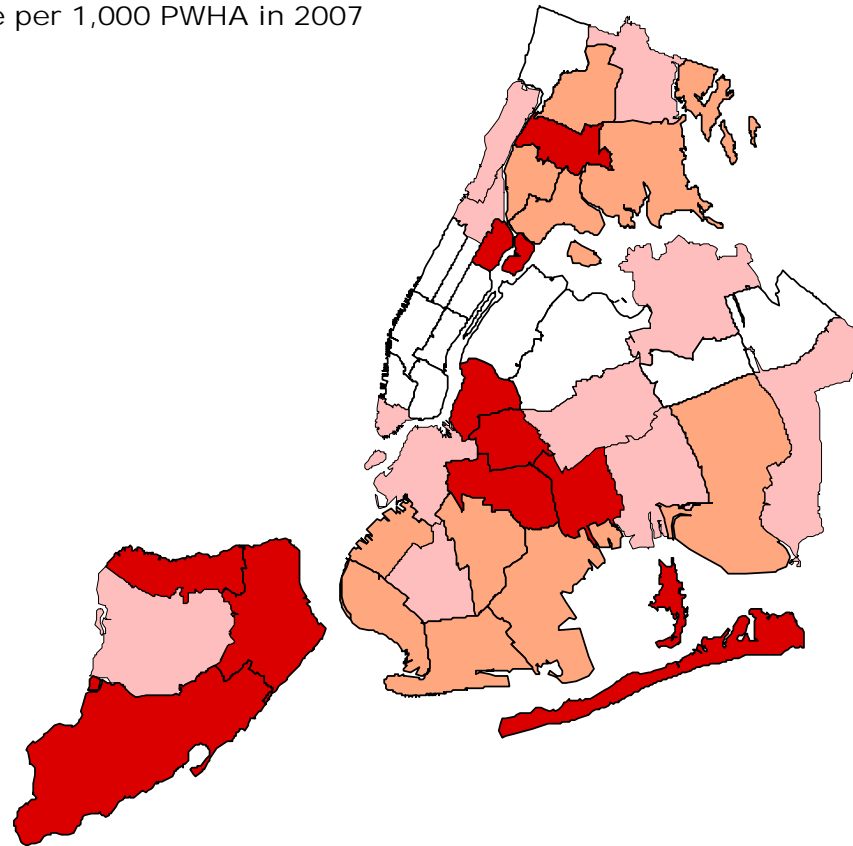
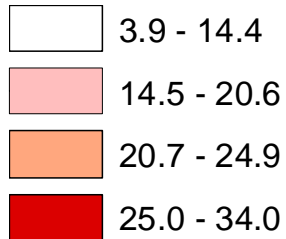
PWHA as a percent of population in 2007



UHF neighborhoods with the highest proportions of PWHA are in the South Bronx, Central Brooklyn, lower Manhattan and Harlem.

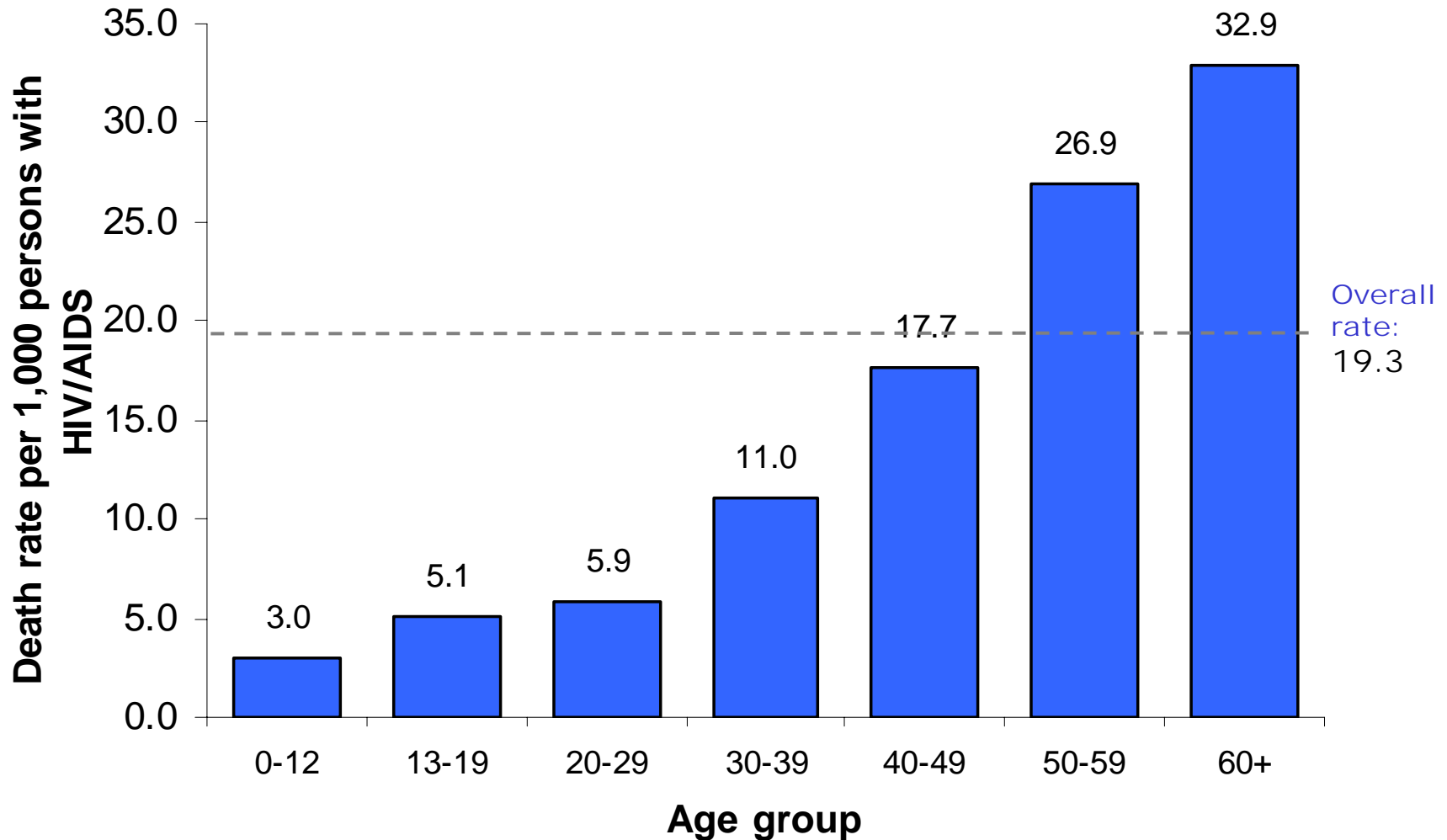
Death Rate per 1,000 PWHA by UHF Neighborhood in NYC, 2007

Age-adjusted death rate per 1,000 PWHA in 2007



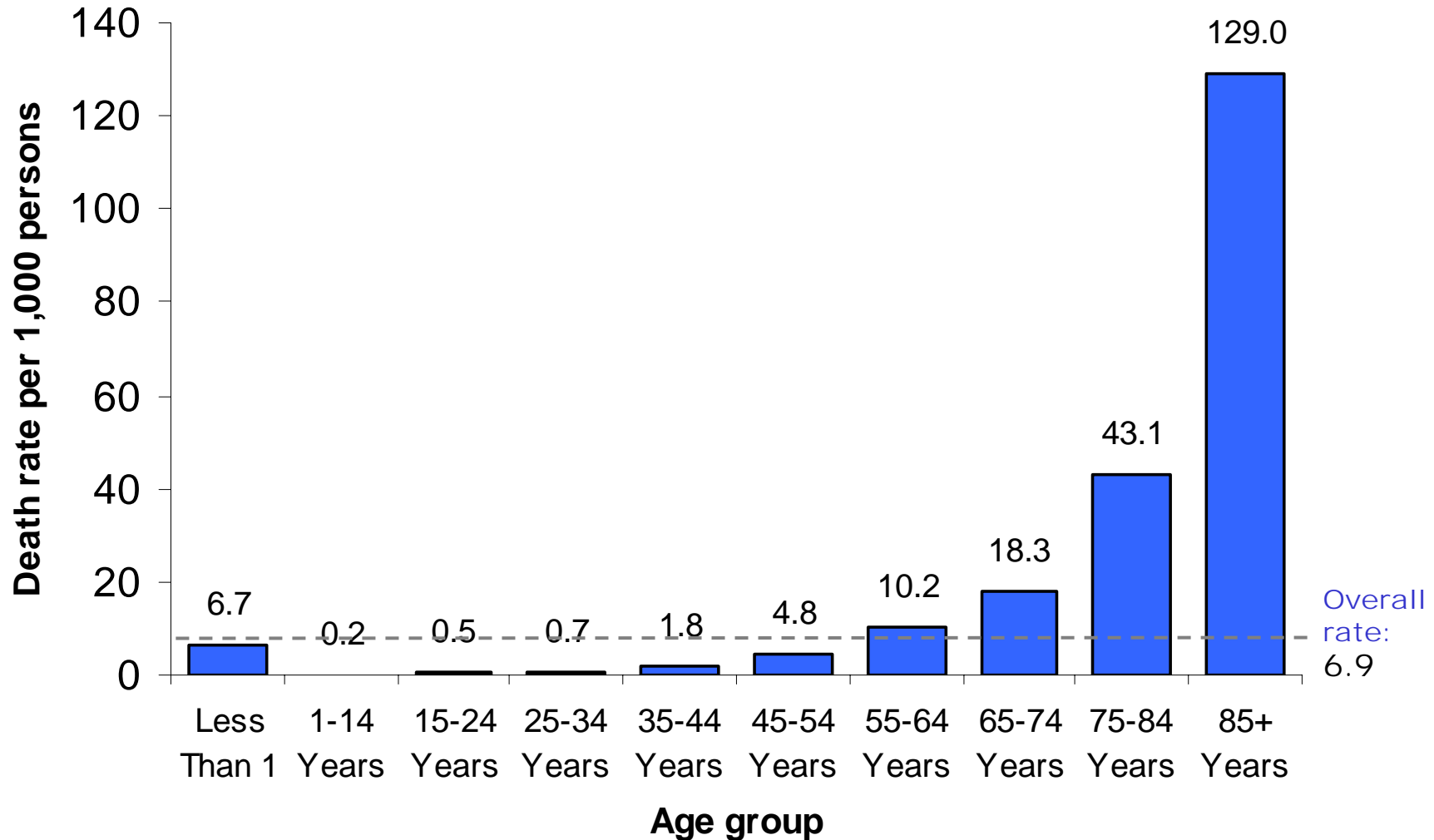
Most high-prevalence neighborhoods have high mortality among PWHA, with some exceptions: Chelsea-Clinton has the highest prevalence in the city but comparatively low mortality. Staten Island neighborhoods have low prevalence but high mortality.

Death rate among persons with HIV/AIDS in New York City, by age group, 2007



The death rate among persons with HIV/AIDS, although much lower since the introduction of HAART, increases with age.

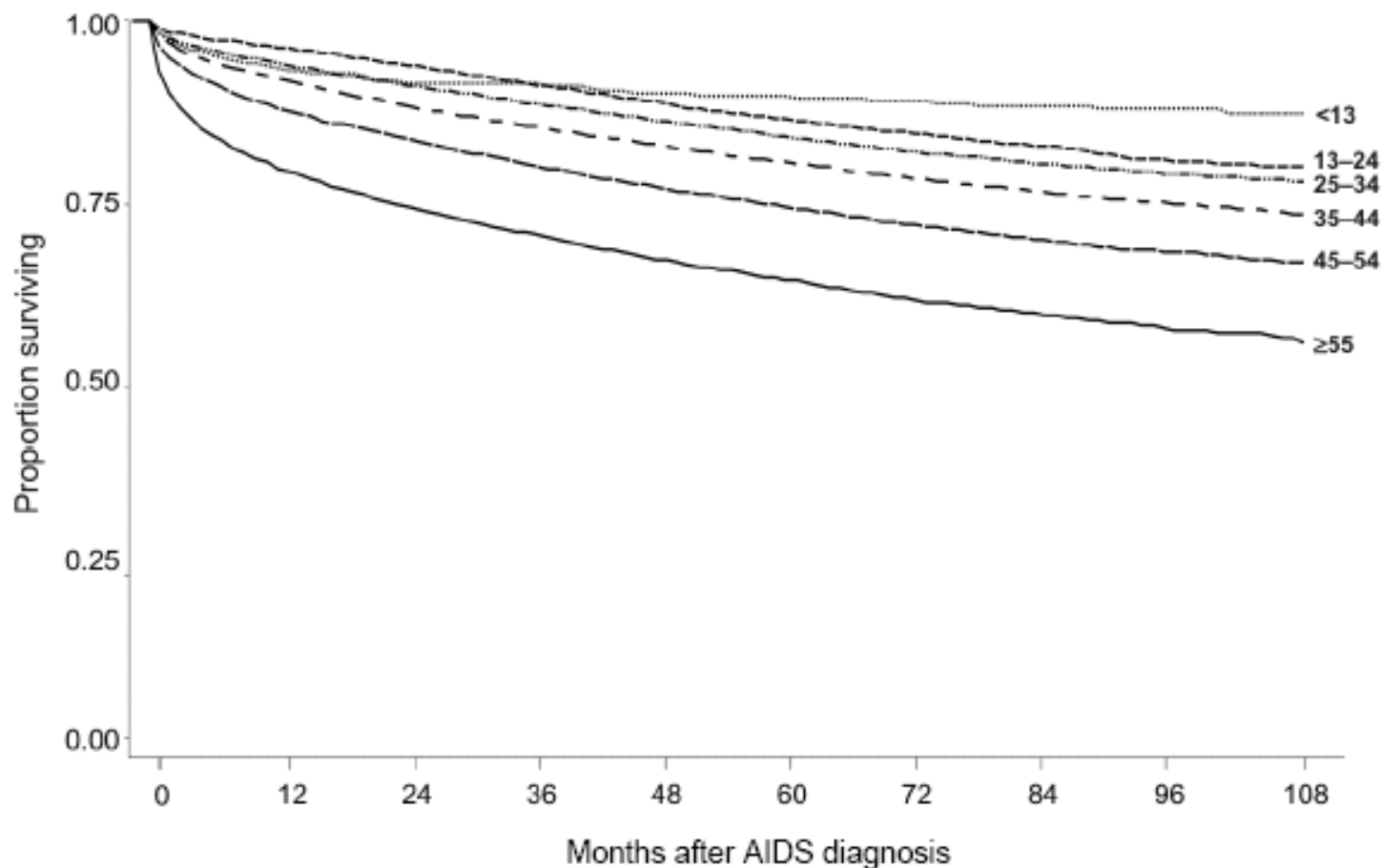
Death rate among *all persons* (not only with HIV/AIDS) in New York City, by age group, 2006



The death rate among New Yorkers overall also increases with age but is lower than among persons with HIV/AIDS.

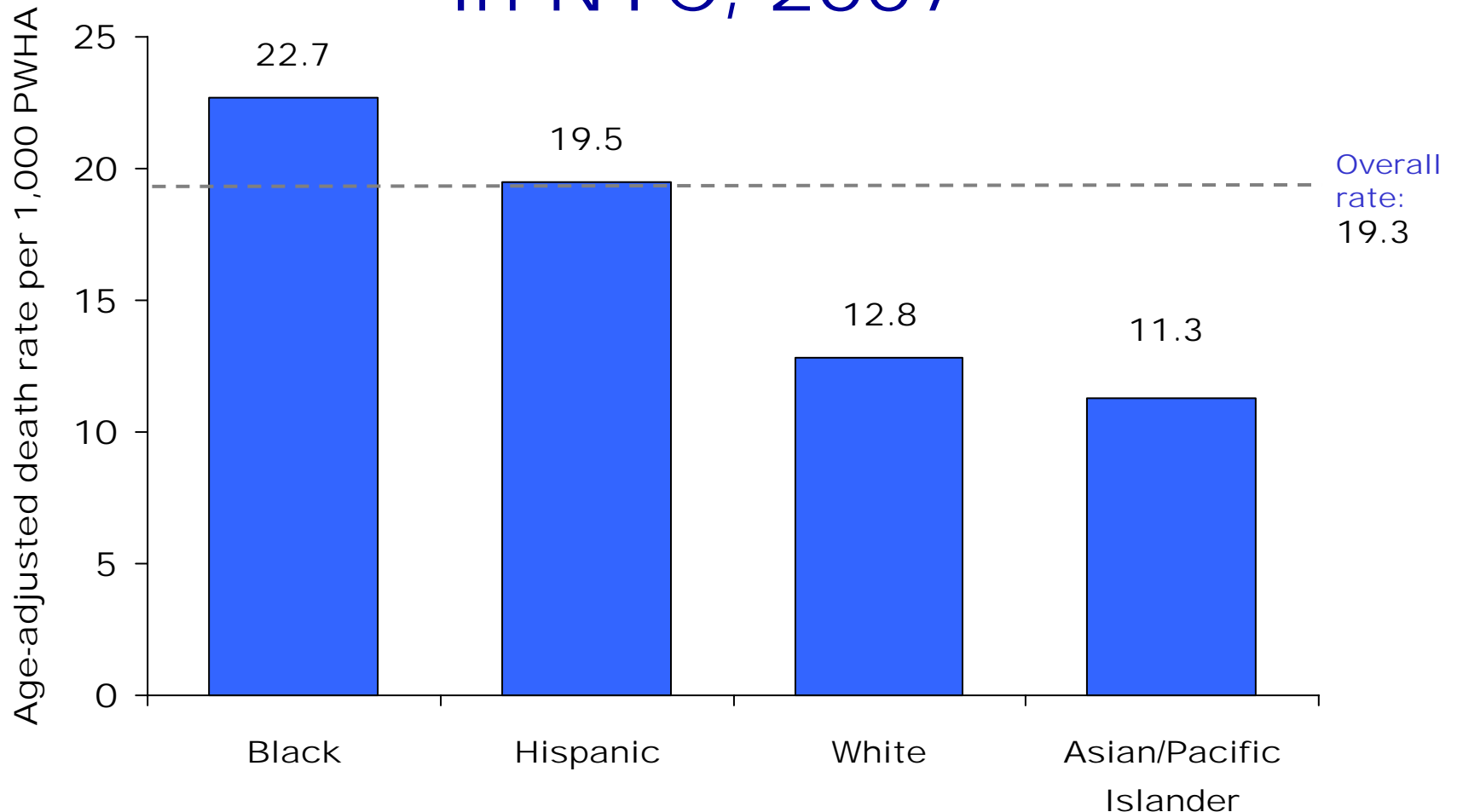
Survival after AIDS diagnosis in the US and dependent areas, 1998-2005

Figure 3. Proportion of persons surviving, by months after AIDS diagnosis during 1998–2005 and by age group—United States and dependent areas



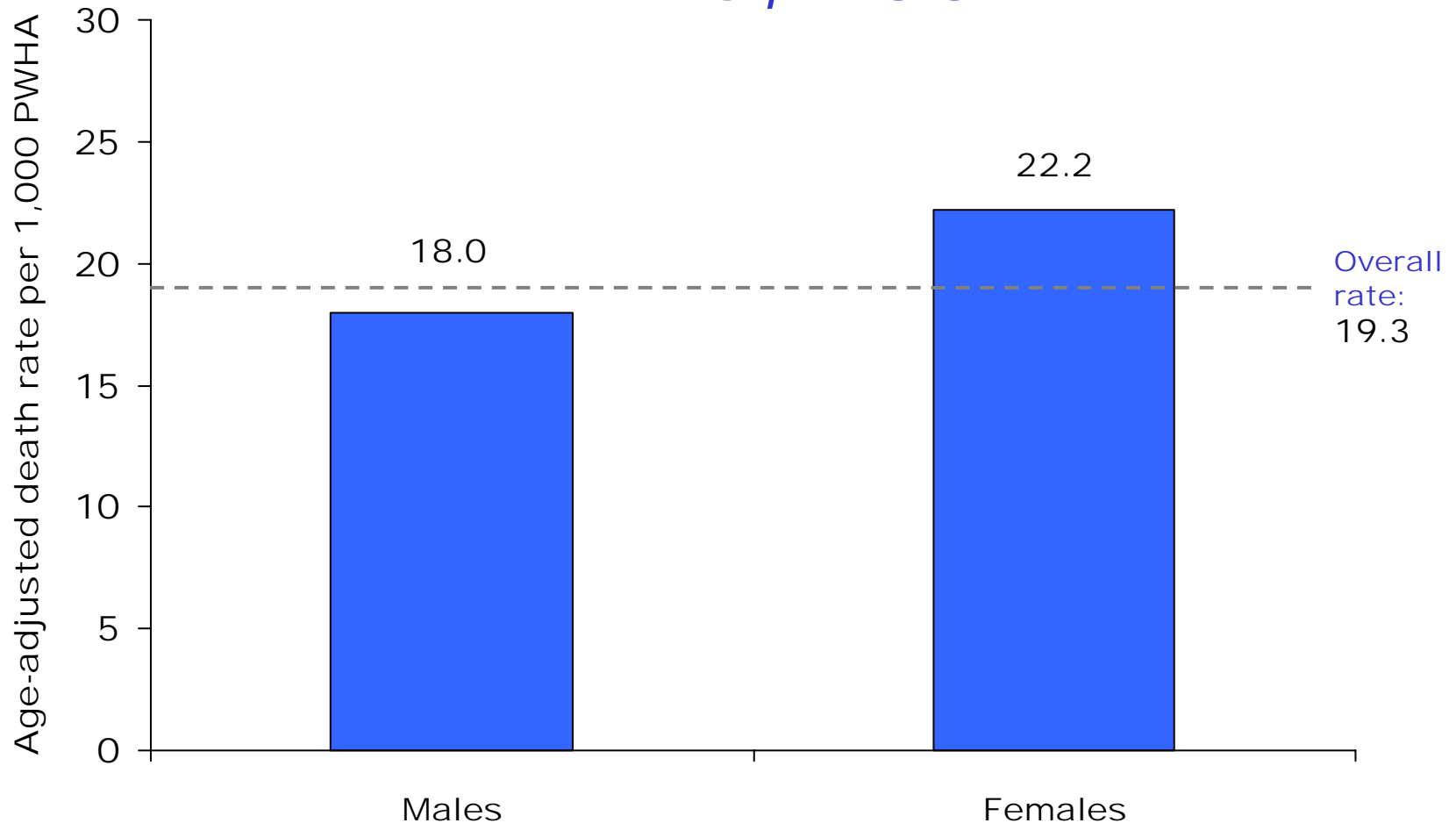
In the US overall, survival after AIDS diagnosis is shorter for older persons.

Death Rates by Race/Ethnicity in NYC, 2007



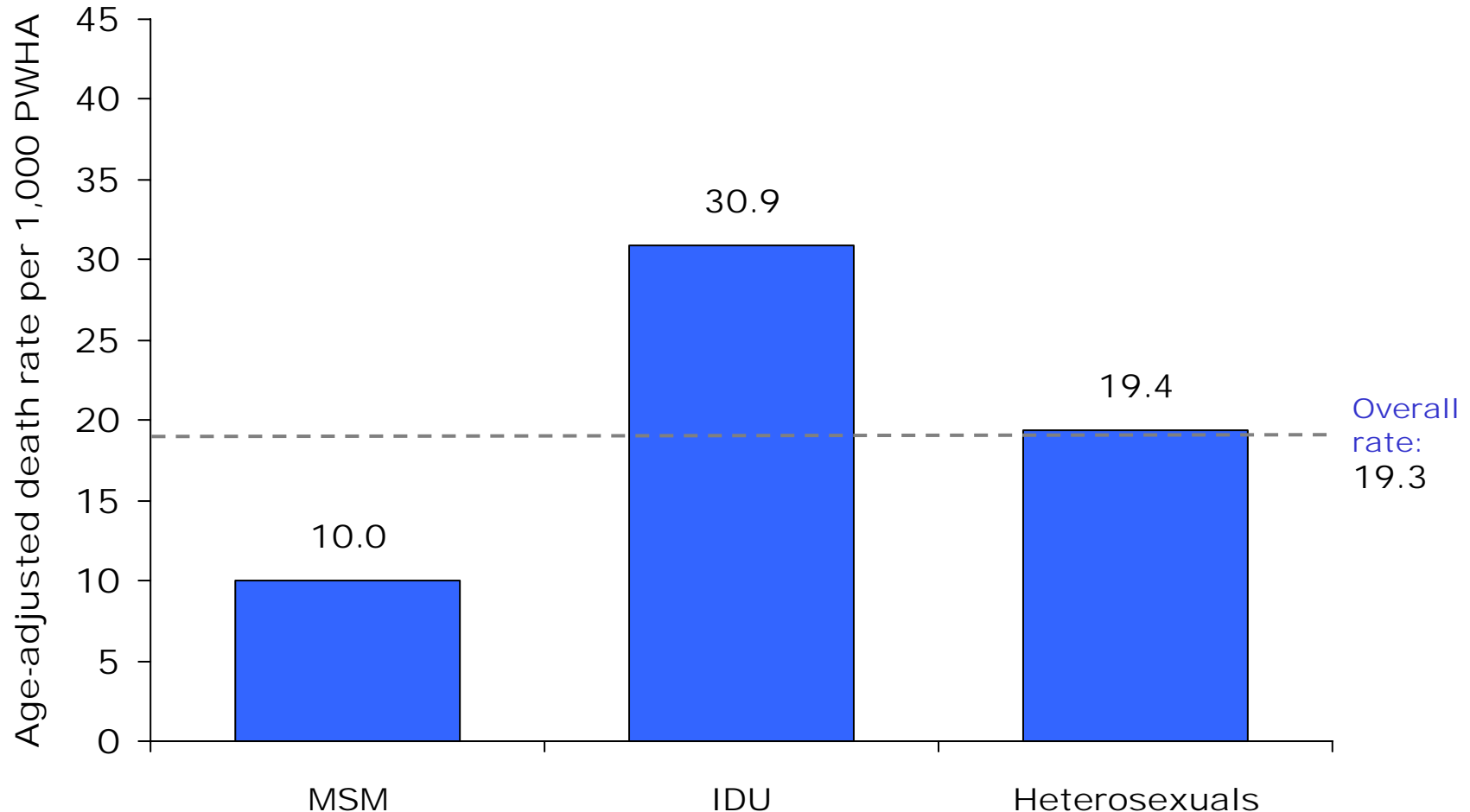
Blacks and Hispanics had the highest death rates among persons with HIV/AIDS compared with other racial/ethnic groups.

Death Rates by Sex in NYC, 2007



The death rate among persons with HIV/AIDS was 23% higher in females (22.2 deaths per 1,000 PWHA) than in males (18.0).

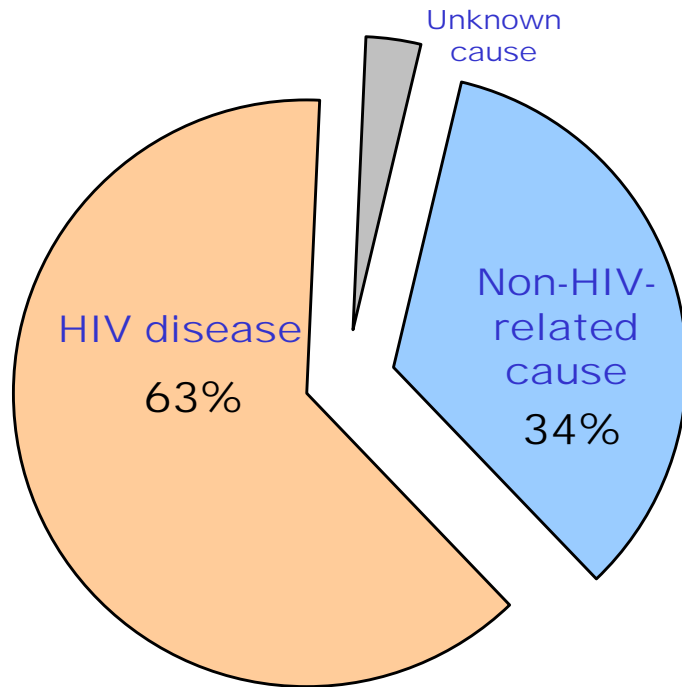
Death Rates by Transmission Risk in NYC, 2007



In 2007, the death rate among IDUs (30.9 per 1,000) was almost 60% higher than the overall death rate (19.3 per 1,000).

Causes of Death in Persons with AIDS in NYC, 2007

- 34% of deaths among persons with AIDS were non-HIV-related (up from 8% in 1995)



- Most non-HIV-related deaths among PWA were caused by
 - Cardiovascular diseases (29%)
 - Substance abuse (24%)
 - Non-AIDS-defining cancers (24%)

Causes of Death in Subgroups of Persons with AIDS in NYC, 2007

- Persons 13-49
 - 23% of deaths were non-HIV-related
 - Largest non-HIV-related causes of deaths:
 - Substance abuse (29%)
 - Non-AIDS-defining cancers (21%)
 - Cardiovascular diseases (19%)
- MSM
 - 31% of deaths were non-HIV-related
 - Largest non-HIV-related causes of deaths:
 - Non-AIDS-defining cancers (31%)
 - Cardiovascular diseases (29%)
 - Substance abuse (17%)
- IDU
 - 40% of deaths were non-HIV-related
 - Largest non-HIV-related causes of deaths:
 - Substance abuse (33%)
 - Cardiovascular diseases (24%)
 - Non-AIDS-defining cancers (20%)

Consequences of Living Longer with HIV/AIDS

- Persons with HIV/AIDS are living longer and better with HAART
- HIV has effects on many organ systems and is associated with increases in:
 - Cardiovascular disease
 - Renal disease
 - Metabolic disease
 - Hepatic disease
 - Bone disease
 - Neurodegenerative disease

Consequences of Living Longer with HIV/AIDS

- Long-term effects of HIV and treatment are not fully known
- Chronic inflammation from HIV infection appears to have negative effects
 - Immunosenescence: Immune system weakens with older age, and faster & earlier with HIV
- Multiple illnesses may complicate each other and have drug-drug interactions

Assigning Cause of Death

- Multiple factors complicate assignment of cause of death
 - HIV
 - Aging
 - Treatment
 - Other factors (genetics, smoking)
- Current classification of HIV- and non-HIV-related causes of death may change

Conclusions

- Declining mortality since HAART introduced
 - People living longer with HIV/AIDS
 - Growing population of persons with HIV/AIDS
- Reduction in HIV-related deaths
- Non-HIV-related causes of death more common in IDU and aging PWHA

Implications

- Reduce opportunities for HIV transmission at multiple levels
- Encourage everyone to get tested
- Promote timely linkage to HIV medical care and other forms of support after diagnosis
- Consider the effect of HIV and its treatment on other conditions or medications, and vice versa
- Improve understanding of cause of disease and death among persons with HIV

Thank you.

