

# New York City's HIV-Related Health Disparities: Surveillance Data Guides Public Health Action

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## Background

- HIV-related morbidity and mortality have dramatically decreased throughout New York City (NYC) since 1996
- Health disparities remain by racial/ethnic group, transmission category and geographic area
- Three District Public Health Offices (DPHOs) were established in NYC in 2003 to target resources, programs and attention to high-need neighborhoods with the goal of reducing health disparities
- Public health strives to prevent HIV infection, late HIV diagnosis and delayed initiation of care; and also to slow disease progression after infection
  - Knowledge of HIV infection reduces risk behavior
  - Treatment of HIV infection prolongs survival and reduces infectiousness



## Methods

- Using NYC's population-based HIV/AIDS registry, we calculated the following health indicators by geographic area, sex, race/ethnicity, age group, and HIV transmission category for 2004:
  - Late HIV diagnoses:** proportion of new HIV diagnoses with AIDS diagnosed within 31 days (*goal:* minimize time from HIV infection to diagnosis);
  - Delayed initiation of care:** proportion of new HIV diagnoses with CD4 or viral load test within 3 months of diagnosis (*goal:* minimize time from HIV diagnosis to initiation of care);
  - HIV-related mortality:** Age-adjusted HIV-related deaths per 1,000 persons with HIV/AIDS (PWHA) (*goal:* maximize time from HIV infection to HIV-related death).
- Excluded persons with concurrent HIV/AIDS from the care initiation indicator because AIDS diagnoses were usually based on a low CD4 count ordered because of symptomatic AIDS rather than effective linkage to care.
- Based on data reported to the HIV Epidemiology Program (NYC DOHMH) through September 30, 2005
- Death rate age-adjusted to the city-wide population of PWHA at the end of 2004.
- DPHO areas:



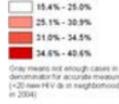
## Results

Rates of late HIV diagnoses, delayed initiation of care, and HIV-related mortality in New York City, 2004<sup>1</sup>

|                              | HIV Diagnoses                            | Late HIV Diagnoses    | Delayed Initiation of Care        | HIV-Related Mortality                              |
|------------------------------|--|-----------------------|-----------------------------------|--|
|                              | Number of new HIV diagnoses <sup>1</sup> | % concurrent HIV/AIDS | % not in care within three months | Age-adjusted HIV-related death rate per 1,000 PWHA |
| <b>Total</b>                 | 3,653                                    | 28.4                  | 37.1                              | 15.2   |
| <b>Neighborhood</b>          |  |                       |                                   |  |
| DPHO areas                   | 1,275                                    | 29.0                  | 40.6                              | 22.6   |
| Non-DPHO areas               | 2,378                                    | 28.1                  | 35.2                              | 12.0   |
| <b>Sex</b>                   |  |                       |                                   |  |
| Male                         | 2,502                                    | 28.9                  | 35.1                              | 13.9   |
| Female                       | 1,151                                    | 27.4                  | 41.4                              | 18.4   |
| <b>Race/Ethnicity</b>        |  |                       |                                   |  |
| Black                        | 1,955                                    | 29.5                  | 41.6                              | 19.2   |
| Hispanic                     | 1,046                                    | 29.4                  | 34.8                              | 15.4   |
| White                        | 542                                      | 22.9                  | 25.2                              | 7.8  |
| Asian/Pacific Islander       | 82                                       | 29.3                  | 41.4                              | 6.3  |
| <b>Age group (years)</b>     |  |                       |                                   |  |
| 0-12                         | 20                                       | 20.0                  | 12.5                              | 1.8  |
| 13-19                        | 111                                      | 5.4                   | 43.8                              | 6.4  |
| 20-29                        | 762                                      | 17.2                  | 36.1                              | 4.8  |
| 30-39                        | 1,172                                    | 25.8                  | 35.9                              | 12.0   |
| 40-49                        | 1,046                                    | 35.3                  | 38.6                              | 15.5   |
| 50-59                        | 408                                      | 40.7                  | 39.7                              | 20.3   |
| 60+                          | 134                                      | 44.8                  | 32.4                              | 19.6   |
| <b>Transmission category</b> |  |                       |                                   |  |
| Men who have sex with men    | 1,295                                    | 20.8                  | 28.6                              | 6.5  |
| Injection drug use history   | 340                                      | 26.8                  | 44.1                              | 23.6   |
| Heterosexual                 | 797                                      | 34.1                  | 35.4                              | 15.4   |

<sup>1</sup> Counts in each category may not add up to total number of diagnoses due to omission of categories with small numbers and persons with unknown race/ethnicity or unknown transmission category.

% concurrent HIV/AIDS, 2004

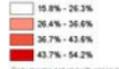


<sup>1</sup> Only means not enough cases in denominator for accurate measure (N=2) new HIV dx in neighborhood in 2004.

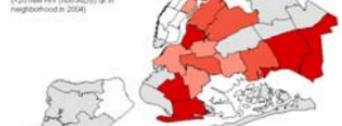


LATE HIV DIAGNOSES

% not in care within 3 months, 2004

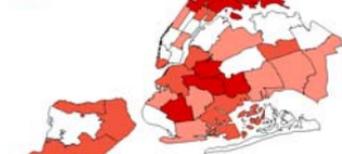


<sup>1</sup> Only means not enough cases in denominator for accurate measure (N=2) new HIV (non-AIDS) dx in neighborhood in 2004.



DELAYED INITIATION OF CARE

Age-adjusted HIV-related death rate per 1,000 PWHA, 2004



HIV-RELATED MORTALITY

- Late HIV diagnosis was more frequent among persons infected by heterosexual transmission\* (34.1%) and increased with age\*, peaking at 44.8% among those 60 years or older.
- Blacks were more likely than whites to not be in care within three months after HIV diagnoses\* (41.6% vs. 25.2%).
- Persons infected by injection drug use were more likely to delay initiation of care\*\* (44.1%) and die from HIV-related causes (HIV-related mortality 23.6 per 1,000 PWHA\*) compared to other transmission categories.
- HIV-related mortality was 1.9 times higher in DPHO neighborhoods (22.6 deaths per 1,000 PWHA) than in non-DPHO neighborhoods\* (12.0 deaths per 1,000 PWHA).
- Compared with whites (7.8 deaths per 1,000 PWHA), HIV-related mortality was 2.5 times higher in blacks\* (19.2 deaths per 1,000 PWHA) and 2.0 times higher in Hispanics\* (15.4 deaths per 1,000 PWHA).

\*p<0.0001 \*\*p=0.02

## Conclusions

- Population health indicators constructed from surveillance data can be used to guide public health action.
- Statistically significant racial disparities exist regarding timely diagnosis, linkage to medical care after diagnosis, and risk of HIV-related mortality.
- The rate of HIV-related death among people with HIV/AIDS in high-need areas was almost twice as high as other areas.

## Future directions

These results support NYC's plan to:

- identify more undiagnosed infections by routinizing HIV testing and expanding partner notification services
- improve initiation of care by offering assistance to newly diagnosed persons in linking them to appropriate HIV clinical services
- reduce mortality disparities by conducting outreach to those not in regular medical care
- focus interventions on the South Bronx, Central Brooklyn, and Harlem