HIV Epidemiology in New York State and New York City

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Trends in HIV and AIDS Cases*
New York State, 1984 - 2012

- Number of PLWDHI: People living with HIV (non-AIDS) at the end of each year
- Number of AIDS Diagnoses and Deaths: Number diagnosed each year with AIDS
- Number of deaths each year among AIDS cases
- Number of deaths among HIV & AIDS cases each year

*Data as of April 2014
^HIV named reporting began in NYS in 2000; deaths among HIV and AIDS cases are reported starting in 2000.

NYSDOH/AI/BHAES
New York State Mother-to-Child HIV Transmission Number and Rate of HIV Infected Infants by Year of Delivery, 1997* - 2013

*1997 data is February – December

NYSDOH/AI/BHAEE
Legal Basis for HIV Surveillance in New York State

- HIV Reporting and Partner Services Law implemented June 1, 2000, required reporting to New York State
  - Medical providers required to report new diagnoses of HIV, AIDS, and HIV-related illness and known sex or needle-sharing partners
  - Laboratories conducting HIV-related tests required to report results

- Changes in the reporting law have broadened the permissible uses of surveillance data
  - 2000 – 2010: HIV epidemiology, partner notification
  - 2010 – 2014: deduplication, assess comorbidity, direct health department program needs
  - 2014: sharing with medical providers for linkage and retention
## New York State HIV Laboratory Reporting

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV antibody</td>
<td>WB or IFA confirmed (+) tests</td>
<td>WB or IFA confirmed (+) tests</td>
</tr>
<tr>
<td>CD4 lymphocytes</td>
<td>&lt;500 cells/mm³ or &lt;29%</td>
<td>All values</td>
</tr>
<tr>
<td>HIV nucleic acid tests</td>
<td>Any detectable value</td>
<td>All values</td>
</tr>
<tr>
<td>Resistance and subtype results</td>
<td>Not reportable</td>
<td>Genotype nucleotide sequence</td>
</tr>
</tbody>
</table>
Epidemiology of HIV in New York State
Trends in HIV and AIDS* New York State, 2002-2012

*Data as of April 2014. New HIV diagnoses include those diagnosed concurrently with AIDS. HIV named reporting began in NYS in 2000.

NYSDOH/AI/BHAE
Age Distribution of Newly Diagnosed HIV* Cases
New York State, 2012**

N=3,316
Average=36 yrs

Female
N = 743

Male
N = 2,573

*Regardless of subsequent or concurrent AIDS diagnosis
**Data as of April 2014
## New HIV Diagnoses* by Race/Ethnicity, New York State, 2012**

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Number of HIV Diagnoses</th>
<th>% of Total HIV Diagnoses</th>
<th>Rate per 100,000 Population***</th>
</tr>
</thead>
<tbody>
<tr>
<td>NYS Total</td>
<td>3,316</td>
<td>100%</td>
<td>16.7</td>
</tr>
<tr>
<td>Non-Hispanic White</td>
<td>672</td>
<td>20.3%</td>
<td>6.1</td>
</tr>
<tr>
<td>Non-Hispanic Black</td>
<td>1,393</td>
<td>42.0%</td>
<td>45.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,019</td>
<td>30.7%</td>
<td>27.0</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>83</td>
<td>2.5%</td>
<td>4.5</td>
</tr>
<tr>
<td>Native Am</td>
<td>4</td>
<td>0.1%</td>
<td>5.1</td>
</tr>
<tr>
<td>Multi-race</td>
<td>145</td>
<td>4.4%</td>
<td>--</td>
</tr>
</tbody>
</table>

*Regardless of concurrent or subsequent AIDS diagnosis.
**Data as of March 2014
*** Age-standardized

NYSDOH/AI/BHAE
Newly Diagnosed HIV Cases by Transmission Risk
New York State, 2002-2012*

*December 2013 NYSDOH/AI/BHAE
Newly diagnosed HIV cases by county, 2012

Number of newly diagnosed HIV cases by county, 2012

- **0 - 4**
- **5 - 11**
- **12 - 21**
- **22 - 65**
- **66 - 106**

Data EXCLUDES prison inmates

Data provided by NYS DOH, excludes NYC counties and counts cases by county of residence at diagnosis. Prison inmates include inmates who were newly diagnosed while in prison even if they are currently no longer prisoners. NY Links: Updated 2.5.2014

Total # of newly diagnosed cases in NYS, 2012: **697**
(excluding inmates and NYC)

Data INCLUDES prison inmates

Data provided by NYS DOH, excludes NYC counties and counts cases by county of residence at diagnosis. Prison inmate include inmates who were newly diagnosed while in prison even if they are currently no longer prisoners. NY Links: Updated 2.5.2014

Total # of newly diagnosed cases in NYS, 2012: **726**
(including inmates, excludes NYC)

Total # of newly diagnosed cases in NYS, 2012: **726**
(including inmates, excludes NYC)
Median Initial* CD4 Count of Persons Newly Diagnosed with HIV: New York State 2006-2012

*Includes only cases with CD4 count within 3 months of diagnosis. Cases that developed AIDS with 30 days of HIV diagnosis are included. Case data as of September 2013 with laboratory data as of November 2013.
Linkage to Care within 3 Months of HIV Diagnosis by Region: New York State - 2012

% linked

- New York State
- Albany
- Binghamton*
- Buffalo
- L. Hudson
- M. Hudson
- Nassau Suffolk
- New York City
- Rochester
- Syracuse

NHAS 2015 Goal 85%

*Based on less than 20 persons.
Age Distribution of Persons Living with Diagnosed HIV Infection: New York State, December 2012*

N=132,174
Average= 47.9 yrs

*Data as of April 2014
Time to AIDS Diagnosis for New HIV Cases that Were Not Concurrent HIV/AIDS Diagnoses, NYS by Year of HIV Diagnosis

20% of persons diagnosed with HIV (not AIDS) in 2002 had developed AIDS within 2 years.

10% of persons diagnosed with HIV (not AIDS) in 2011 had developed AIDS within 2 years.
Cascade of HIV Care
New York State, 2012

- Estimated HIV Infected Persons: 154,000

- Persons Living w/ Diagnosed HIV Infection: 132,000 (86% of infected)

- Cases w/any HIV Care during the year*: 86,000 (56% of infected)

- Cases w/continuous care during the year**: 75,000 (48% of infected)

- Virally suppressed (n.d. or ≤200/ml) at test closest to end-of-year: 68,000 (44% of infected)

* Any VL or CD4 test during the year
** At least 2 tests, at least 3 months apart

51% of PLWDHII
79% of cases w/any care
Viral Suppression among Persons Living with Diagnosed HIV Infection by Risk and Race/Ethnicity: New York State, 2012

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>% viral suppression</th>
</tr>
</thead>
<tbody>
<tr>
<td>White nonHispanic</td>
<td>51%</td>
</tr>
<tr>
<td>Black nonHispanic</td>
<td>51%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>51%</td>
</tr>
<tr>
<td>Asian/PI</td>
<td>51%</td>
</tr>
<tr>
<td>Native Amer.*</td>
<td>51%</td>
</tr>
<tr>
<td>Multirace**</td>
<td>51%</td>
</tr>
<tr>
<td>Risk</td>
<td></td>
</tr>
<tr>
<td>MSM</td>
<td>51%</td>
</tr>
<tr>
<td>IDU</td>
<td>51%</td>
</tr>
<tr>
<td>MSM-IDU</td>
<td>51%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>51%</td>
</tr>
<tr>
<td>Female Pres. Het.</td>
<td>51%</td>
</tr>
<tr>
<td>Blood Products</td>
<td>51%</td>
</tr>
<tr>
<td>Pediatric Risk</td>
<td>51%</td>
</tr>
<tr>
<td>Unknown</td>
<td>51%</td>
</tr>
</tbody>
</table>

NYS average 51%

*Based on a small number of persons (n=100).

**Multirace care measures are likely less reliable due to the method used to calculate multirace status.
Newly Diagnosed HIV Cases
New York State, 2002-2012

*Data as of April 2014

NYSDOH/Al/BHAЕ
Monitoring Progress Toward the End of the HIV Epidemic in New York State: *The view from NYC*

Sarah L. Braunstein, PhD MPH
Director, HIV Epidemiology and Field Services Program, NYC Department of Health and Mental Hygiene
HIV in New York City, 1981-2012

Data reported to NYC DOHMH through June 30, 2013.
HIV in New York City, 1981-2012

2012: 3,141 new HIV diagnoses
1,889 new AIDS diagnoses
1,578 deaths among PWH
(607 HIV-related)

Data reported to NYC DOHMH through June 30, 2013.
New Diagnoses and Estimated Incidence in NYC, 2008-2012

New diagnoses of HIV

Estimated HIV incidence

*2012 incidence data are preliminary.

Estimates generated September 2013, by the CDC Stratified Extrapolation Approach (SEA). SEA combines results from the Serologic Testing Algorithm for Recent Seroconversion (STARHS) with data on demographic characteristics, risk factor, initial diagnosis date, testing and treatment history from the HIV surveillance registry. Unknown risk factor was imputed using the Multiple Imputation procedure in SAS v9.2.
ZIP codes in the Chelsea-Clinton, Central Harlem-Morningside Heights and Washington Heights-Inwood neighborhoods had the highest HIV diagnosis rates.

ZIP codes in Chelsea-Clinton, West Queens and East Harlem had the highest HIV prevalence.

ZIP codes in Bayside-Little Neck, Port Richmond and Canarsie-Flatlands had the highest mortality among persons with HIV.
Age-adjusted Death Rates Among Persons with HIV in NYC, 2001-2012

Data reported to NYC DOHMH by June 30, 2014.

*2012 Deaths are incomplete – deaths among persons with HIV occurring outside NYC are not included.
HIV Diagnosis Rates Among Males and Females by Race/ethnicity in NYC, 2012

The HIV diagnosis rate among black males was over 1.5 times higher than the rate among Hispanic males and over 2 times higher than the rate among white males.

The HIV diagnosis rate among black females was over 3 times higher than the rate among Hispanic females and over 12 times higher than the rate among white females.

Data as reported to NYC DOHMH by June 30, 2013.

API=Asian/Pacific Islander
New HIV Diagnoses Among Women in NYC, 2012

Data reported to NYC DOHMH through June 30, 2013.

35.8% decline overall

- Heterosexual
- Unknown risk
- Injection drug use

Year of diagnosis
New HIV Diagnoses Among MSM in NYC, 2008-2012

Data reported to NYC DOHMH through June 30, 2013.
New HIV Diagnoses Among MSM by Race/Ethnicity in NYC, 2008-2012

Data reported to NYC DOHMH through June 30, 2013.
New HIV Diagnoses Among MSM <30 in NYC, 2008-2012

Data reported to NYC DOHMH through June 30, 2013.

0.9% decline overall
New HIV Diagnoses Among MSM ≥30 in NYC, 2008-2012

19.1% decline overall

Data reported to NYC DOHMH through June 30, 2013.
Estimated HIV Incidence Among MSM in NYC, 2008-2012

Estimated HIV incidence among MSM overall

Estimated HIV incidence among MSM <30

Estimated HIV incidence among MSM ≥30

*2012 incidence data are preliminary.

1Estimates generated September 2013, by the CDC Stratified Extrapolation Approach (SEA). SEA combines results from the Serologic Testing Algorithm for Recent Seroconversion (STARHS) with data on demographic characteristics, risk factor, initial diagnosis date, testing and treatment history from the HIV surveillance registry. Unknown risk factor was imputed using the Multiple Imputation procedure in SAS v9.2.
Acute HIV Infection by HIV Transmission Risk in NYC, 2008-2012

Data reported to NYC DOHMH through June 30, 2013.
Acute HIV Infection Among MSM by Age and Race/ethnicity in NYC, 2012

Data reported to NYC DOHMH through June 30, 2013.
HIV Care Continuum for NYC, 2012

- **Estimated HIV-infected**: 133,635 (100% of infected)
- **Ever HIV-diagnosed**: 114,926 (86% of infected)
- **Ever linked to HIV care**: 97,940 (73% of infected, 85% of diagnosed)
- **Retained in HIV care in 2012**: 72,918 (55% of infected, 74% of linked to care)
- **Presumed ever started on ART**: 67,624 (51% of infected, 93% of retained in care)
- **Suppressed viral load (≤200 copies/mL) in 2012**: 55,453 (41% of infected, 82% of started on ART)

Largest gap: Linkage → Retention

Data reported to NYC DOHMH through June 30, 2013.
Timely initiation of care is defined as first CD4 or VL drawn within 3 months (91 days) of HIV diagnosis, following a 7-day lag.

Data reported to NYC DOHMH by June 30, 2013.
Viral Suppression at 6 and 12 Months After HIV Diagnosis in NYC, 2007-2012

As reported to NYC DOHMH by December 31, 2013.
Thank you

HIV Epidemiology and Field Services Program, NYC DOHMH