Monitoring progress toward the end of the HIV epidemic in New York State:

HIV Epidemiology in NYC

Sarah L. Braunstein, PhD MPH
Director, HIV Epidemiology and Field Services Program
New York City Department of Health and Mental Hygiene
HIV in NYC, 1981-2013

Data as reported to NYC DOHMH by June 30, 2014.

*Data on 2012 and 2013 deaths are incomplete.

AIDS case reporting mandated by NYS
CDC AIDS case definition (23 OIs) implemented
HAART introduced
NYS HIV reporting law takes effect
HIV surveillance expands to include all HIV-related laboratory reports

New HIV Diagnoses
Reported Persons Living with HIV (non-AIDS)
Reported Persons Living with AIDS

New AIDS Diagnoses
HIV-Related Deaths
HIV in NYC, 1981-2013

**2013:** 2,832 new HIV diagnoses
1,784 new AIDS diagnoses
1,527 deaths among PLWHA

*Data on 2012 and 2013 deaths are incomplete.*

Data as reported to NYC DOHMH by June 30, 2014.

PLWHA=Persons living with HIV/AIDS

*Data on 2012 and 2013 deaths are incomplete.*

Data as reported to NYC DOHMH by June 30, 2014.
## HIV Diagnoses, 2001-2013

**Data as reported to NYC DOHMH by June 30, 2014.**

### HIV Diagnoses

<table>
<thead>
<tr>
<th>HIV Diagnoses</th>
<th>2001</th>
<th>2013</th>
<th>EAPC</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>5,852</td>
<td>2,832</td>
<td>-5.28</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3,901</td>
<td>2,280</td>
<td>-3.76</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Female</td>
<td>1,951</td>
<td>552</td>
<td>-9.40</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Age Group (Years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-12</td>
<td>85</td>
<td>2</td>
<td>-24.11</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>13-19</td>
<td>183</td>
<td>114</td>
<td>-1.81</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>20-29</td>
<td>1,106</td>
<td>1,006</td>
<td>0.09</td>
<td>0.69</td>
</tr>
<tr>
<td>30-39</td>
<td>2,089</td>
<td>662</td>
<td>-9.09</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>40-49</td>
<td>1,538</td>
<td>589</td>
<td>-7.30</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>50-59</td>
<td>629</td>
<td>307</td>
<td>-4.66</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>60+</td>
<td>222</td>
<td>152</td>
<td>-2.22</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

### HIV Diagnoses by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>2001</th>
<th>2013</th>
<th>EAPC</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>3,071</td>
<td>1,191</td>
<td>-6.77</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1,762</td>
<td>955</td>
<td>-4.36</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>White</td>
<td>888</td>
<td>517</td>
<td>-3.69</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>115</td>
<td>113</td>
<td>0.17</td>
<td>0.81</td>
</tr>
<tr>
<td>Native American</td>
<td>13</td>
<td>5</td>
<td>-10.40</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

### HIV Diagnoses by Transmission Risk

<table>
<thead>
<tr>
<th>Transmission Risk</th>
<th>2001</th>
<th>2013</th>
<th>EAPC</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSM</td>
<td>1,689</td>
<td>1,609</td>
<td>0.06</td>
<td>0.74</td>
</tr>
<tr>
<td>IDU</td>
<td>844</td>
<td>49</td>
<td>-18.73</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>MSM &amp; IDU</td>
<td>120</td>
<td>40</td>
<td>-8.32</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>1,450</td>
<td>520</td>
<td>-6.02</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Perinatal</td>
<td>86</td>
<td>2</td>
<td>-23.48</td>
<td>&lt;0.01</td>
</tr>
</tbody>
</table>

EAPC = Estimated annual percent change
IDU = Injection drug use history
MSM = Men who have sex with men

Data as reported to NYC DOHMH by June 30, 2014.
New HIV Diagnoses and Estimated Incidence in NYC, 2009-2013

<table>
<thead>
<tr>
<th>Year of diagnosis</th>
<th>New diagnoses of HIV</th>
<th>Estimated HIV Incidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>3,705</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>3,353</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>3,225</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>2,990</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>2,832</td>
<td></td>
</tr>
</tbody>
</table>

*2013 incidence data are preliminary.

*Estimates generated September 2014, 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 that are contained in the HIV surveillance registry. Unknown risk factor was imputed using the Multiple Imputation procedure in SAS v9.2. Surveillance data used in these estimates were reported through June 30, 2014.
Geographic Distribution of HIV in NYC, 2013

- ZIP codes in the Central Harlem-Morningside Heights, Chelsea-Clinton, and Williamsburg-Bushwick 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 Lower Manhattan, Stapleton-St. George, and Willowbrook had the highest mortality among persons with HIV.

Data as reported to NYC DOHMH by June 30, 2014.

HIV diagnoses includes diagnoses of HIV without AIDS and HIV concurrent with AIDS.

¹Diagnosis rates and percentages calculated using the intercensal 2013 NYC population.

²2013 death data are incomplete. ³Death rates are age-adjusted to the NYC Census 2010 population.
HIV Diagnosis Rates\(^1\) Among Males and Females in NYC by Race/Ethnicity\(^2\), 2013

The HIV diagnosis rate among black males was 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 2 times higher than the rate among Hispanic females and over 9 times higher than the rate among white females.

Data as reported to NYC DOHMH by June 30, 2014.

API=Asian/Pacific Islander

\(^1\)Includes diagnoses of HIV without AIDS and HIV concurrent with AIDS.

\(^2\)Native American and multiracial groups not shown because of small numbers.
New HIV Diagnoses Among MSM in NYC, 2009-2013

Overall: 4.3% decline  Younger MSM: Stable  Older MSM: 8.8% decline

Since 2012, the number of new HIV diagnoses is higher among MSM under age 30 than among those in older age groups.

Data as reported to NYC DOHMH by June 30, 2014.
MSM risk category includes men who have sex with men and inject drugs (MSM-IDU).
Estimated HIV Incidence Among MSM in NYC, 2009-2013

Estimated HIV Incidence among MSM Overall
Estimated HIV Incidence among MSM <30
Estimated HIV Incidence among MSM ≥30

Number of HIV cases

Year of diagnosis

2009 2010 2011 2012 2013*

1,487 1,321 1,584 1,406 1,246

796 684 816 775 648

691 637 767 631 597

1 Estimates generated September 2014, 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 that are contained in the HIV surveillance registry. Unknown risk factor was imputed using the Multiple Imputation procedure in SAS v9.2. Surveillance data used in these estimates were reported through June 30, 2014.

2 MSM includes persons reporting both MSM and injection drug use history.

3 2013 incidence data are preliminary.
New HIV Diagnoses Among MSM by Race/Ethnicity* in NYC, 2009-2013

Data as reported to NYC DOHMH by June 30, 2014.

*Native American and multiracial groups not shown due to small numbers. MSM risk category includes men who have sex with men and inject drugs (MSM-IDU).
Age-adjusted Death Rates Among Persons with HIV in NYC, 2000-2013

Data as reported to NYC DOHMH by March 31, 2015.

¹Age-adjusted to the NYC Census 2010 population.
²2013 deaths outside NYC are incomplete.
³Includes persons with unknown cause of death.
Age-adjusted HIV-related Death Rates in NYC by Race/Ethnicity, 2000-2013

- Hispanic
- Asian/Pacific Islander
- Black
- White

Data as reported to NYC DOHMH by March 31, 2015.

¹Age-adjusted to the NYC Census 2010 population.
²2013 deaths outside NYC are incomplete.
Age-adjusted HIV-related Death Rates in NYC by Transmission Risk Category, 2000-2013

- MSM
- IDU
- Heterosexual

Data as reported to NYC DOHMH by March 31, 2015.

¹Age-adjusted to the NYC Census 2010 population.
²2013 deaths outside NYC are incomplete.
HIV-related Death Rates in NYC by Age Group, 2000-2013

Data as reported to NYC DOHMH by March 31, 2015.
¹2013 deaths outside NYC are incomplete.
Number and Proportion of Persons with HIV in New York City Engaged in Selected Stages of the Continuum of HIV Care in 2013


Includes patients receiving care in NYC but living outside of NYC (N=4,794).

14% of PLWH undiagnosed.

Retained in care: ≥1 care visit in 2013.

94.5% of patients who were retained in care prescribed ART (source: MMP 2012).

Viral suppression defined as VL ≤200 cc/mL.

Data as reported to NYC DOHMH by June 30, 2014.
14% of PLWH undiagnosed. Retained in care: ≥1 care visit in 2013.
94.5% of patients who were retained in care were prescribed ART (source: MMP 2012).
Viral suppression defined as VL ≤ 200 cc/mL.
Data as reported to NYC DOHMH by June 30, 2014.
Number and Proportion of Persons Newly Diagnosed with HIV in New York City in 2012 Engaged in Selected Stages of the Continuum of HIV Care

- Newly diagnosed: 100%
- Linked to care: 84%
- Established in care: 73%
- Virally suppressed: 66%

Data as reported to NYC DOHMH by June 30, 2014.

Viral suppression* at 6 and 12 months after HIV diagnosis, NYC, 2008-2013

Data as reported to NYC DOHMH by March 31, 2015.

*Viral suppression is defined as an HIV RNA level ≤200 copies/mL following HIV diagnosis.
Thank you

sbraunstein@health.nyc.gov