

# HIV/AIDS in New York City

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## Early HIV/AIDS Surveillance in NYC

NEW YORK SURVEILLANCE FIGURES

4-28-82

Men:

Disease	as 1 <sup>st</sup> Dx (March fig.)	Total Dx'd (March fig.)
KS	82 (74)	87 (79)
PCP	53 (47)	70 (62)
Other OI*	18 (16)	44 (39)
Total	153 (137)	

Women:

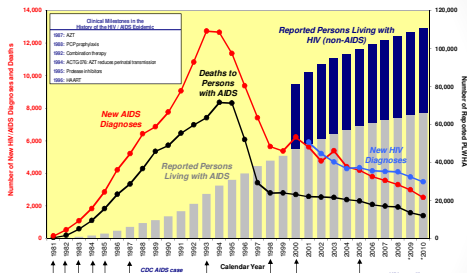
PCP alone	2
PCP + other OI	3
Other OI	1
Total	6

Total cases NYC = 159  
(Total reported to CDC = 323)

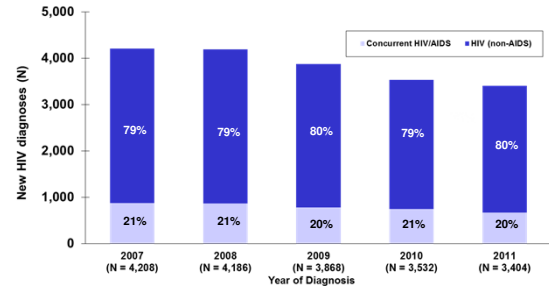
\*OI is Opportunistic Infection.



## Trends in HIV/AIDS New York City, 1981-2010



## Concurrent HIV/AIDS Diagnoses<sup>1</sup> as Percent of Total HIV Diagnoses in NYC, 2007-2011

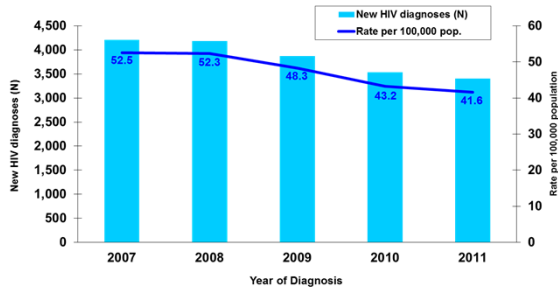


Since 2007, about one-fifth of those diagnosed with HIV are concurrently diagnosed with AIDS.

<sup>1</sup> AIDS diagnosis within 31 days of HIV diagnosis. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.



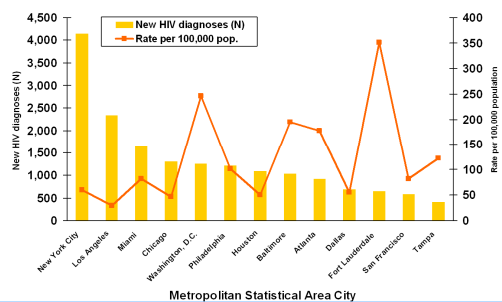
## New HIV Diagnoses, NYC 2007-2011



2007-2009 rates based on 2000 Census population, and 2010-2011 rates based on 2010 Census population. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.



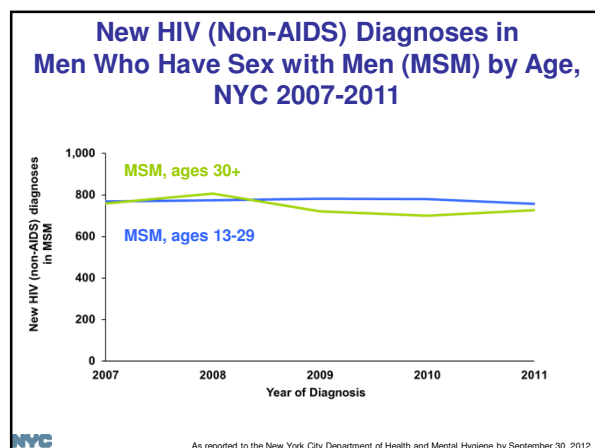
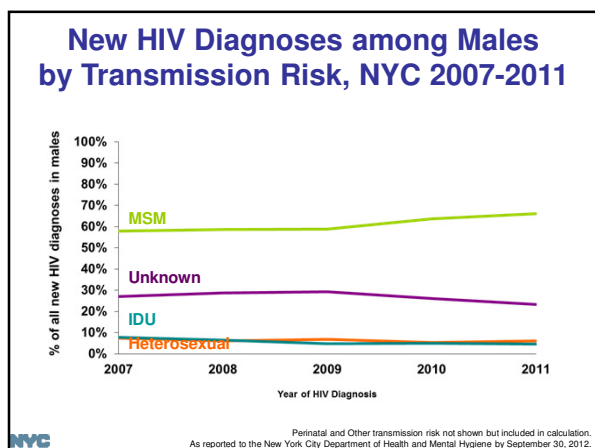
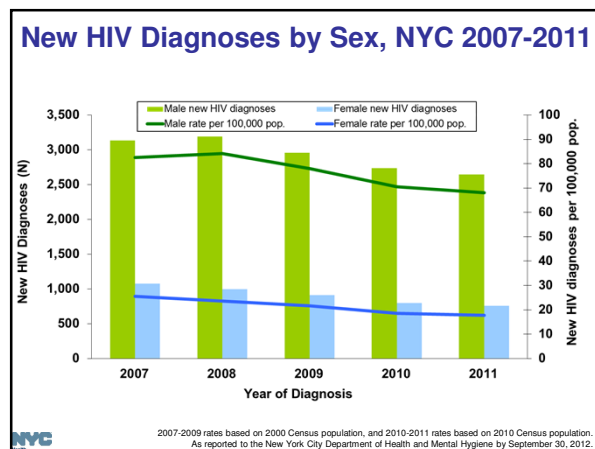
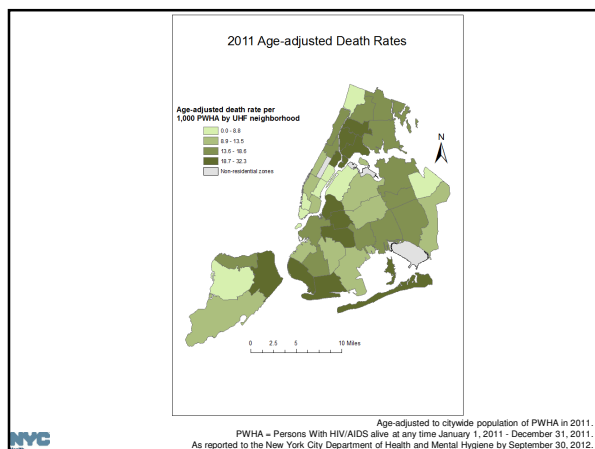
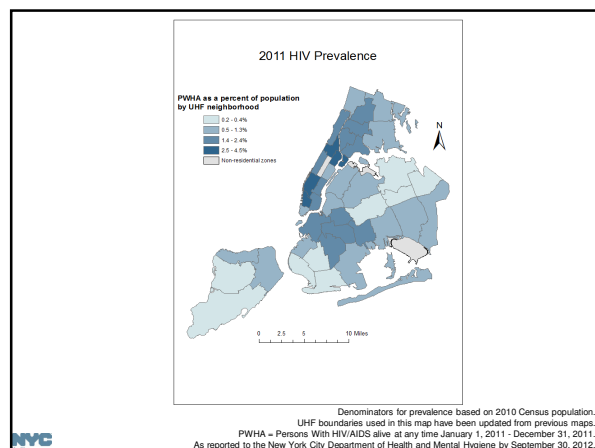
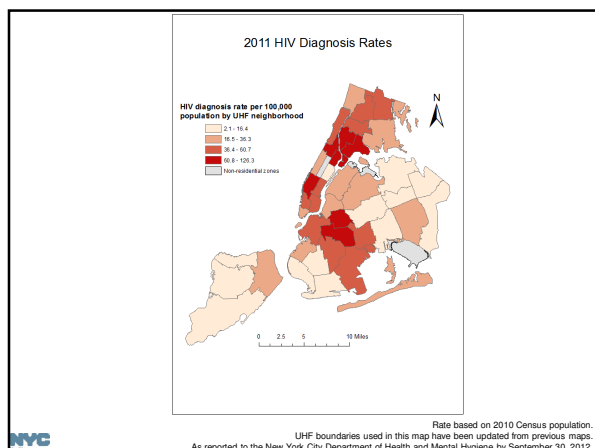
## New HIV Diagnoses among Adults and Adolescents in 2007, United States



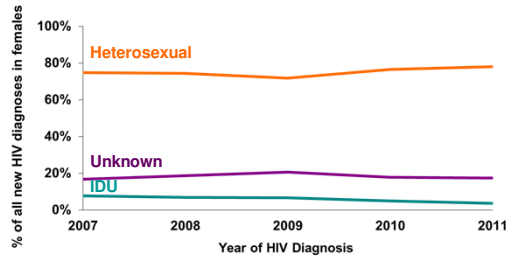
NYC has a heavy disease burden in terms of number of new diagnoses, but a lower HIV case rate relative to other urban areas.

Based on metropolitan statistical area of residence. Source: Table 1 of Hall et al. JGIM. September 2010; 25(9).



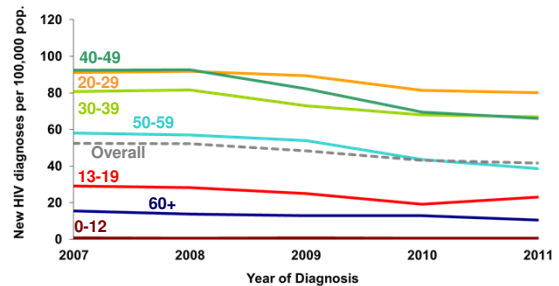


### New HIV Diagnoses among Females by Transmission Risk Category, NYC 2007-2011



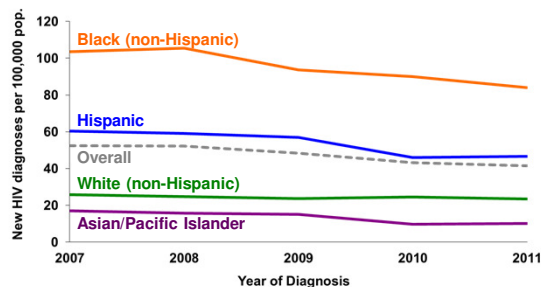
Perinatal and Other transmission risk not shown but included in calculation. Heterosexual risk category expanded in 2005 to include HEFSP-defined probable heterosexual risk. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

### HIV Diagnosis Rates by Age, NYC 2007-2011



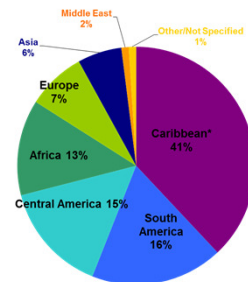
2007-2009 rates based on 2000 Census population, and 2010-2011 rates based on 2010 Census population. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

### HIV Diagnosis Rates by Race/Ethnicity, NYC 2007-2011



2007-2009 rates based on 2000 Census population, and 2010-2011 rates based on 2010 Census population. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

### New HIV Diagnoses among Foreign-born Individuals by Region of Birth, NYC 2011



\*Excludes Puerto Rico and the US Virgin Islands. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

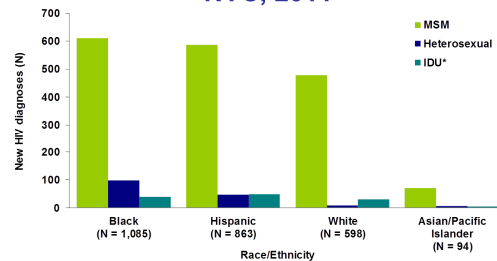
### HIV/AIDS among MSM in NYC, 2011 Basic Statistics

- 2,645 new HIV diagnoses among males
- 1,749 new HIV diagnoses among MSM (66% of male diagnoses)
  - Includes 265 HIV concurrent with AIDS diagnoses (15%)
  - Excludes 45 new HIV diagnoses among MSM/IDU
- 804 new AIDS diagnoses among MSM
- 39,846 MSM living with HIV/AIDS (35% of all PLWHA)
- 293 deaths among MSM with HIV/AIDS (8.0 deaths per 1,000 MSM with HIV/AIDS\*)

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\*Death rate is age-adjusted to the citywide population of PLWHA at the end of 2011. As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

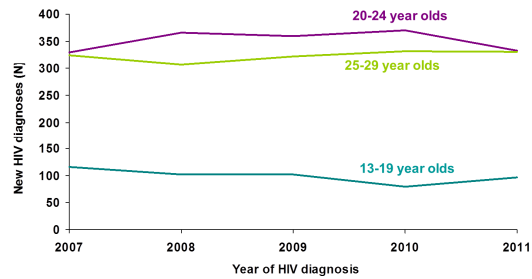
### Number of New HIV Diagnoses among Males by Race/Ethnicity and Transmission Risk in NYC, 2011



Of all males newly diagnosed with HIV, 45% were black or Hispanic MSM. Most newly diagnosed men with heterosexual transmission risk were black.

Perinatal and unknown transmission risks not shown but included in total N by race/ethnicity. Includes MSM/IDU. As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

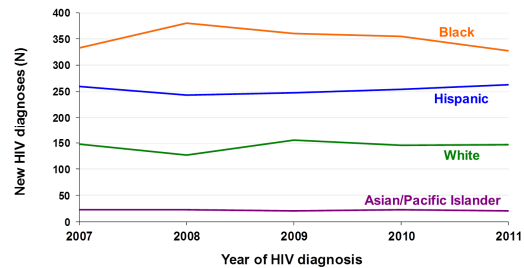
### Number of New HIV (Non-AIDS) Diagnoses among Young\* MSM in NYC, 2007-2011



Numbers of new HIV diagnoses among MSM age groups under 30 have been relatively stable since 2007.

19 NYC \*Young MSM are those 13-29 years old. As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

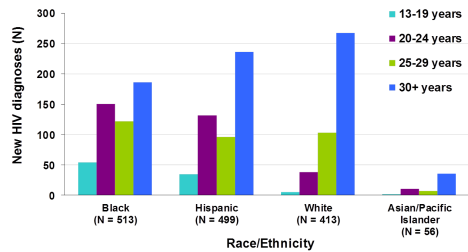
### Number of New HIV (Non-AIDS) Diagnoses among Young\* MSM by Race/Ethnicity, NYC 2007-2011



Diagnoses among young black MSM decreased from 2008-2011 while diagnoses increased slightly among young Hispanic MSM during this time.

20 NYC \*Young MSM are those 13-29 years old. As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

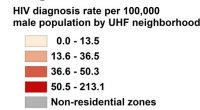
### Number of New HIV (Non-AIDS) Diagnoses among MSM by Race/Ethnicity and Age in NYC, 2011



Young\* MSM account for a larger proportion of new HIV (non-AIDS) diagnoses among MSM of color than among white MSM.

21 NYC \*Young MSM are those 13-29 years old. As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

### 2011 New HIV Diagnoses among MSM in NYC



The neighborhoods with the highest rates of new HIV diagnoses among MSM are Chelsea/Clinton and Central Harlem/Morningside Heights.

22 NYC As reported to New York City Department of Health and Mental Hygiene as of September 30, 2012.

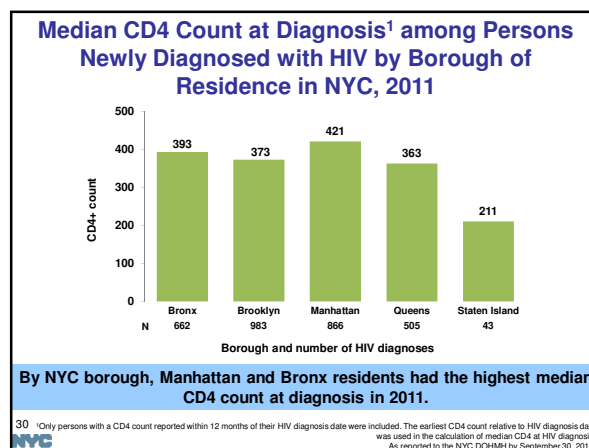
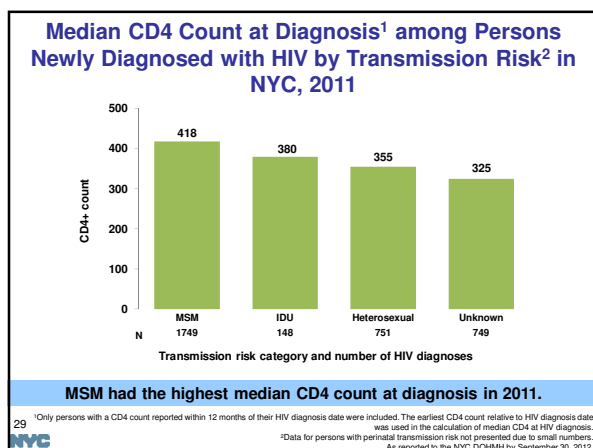
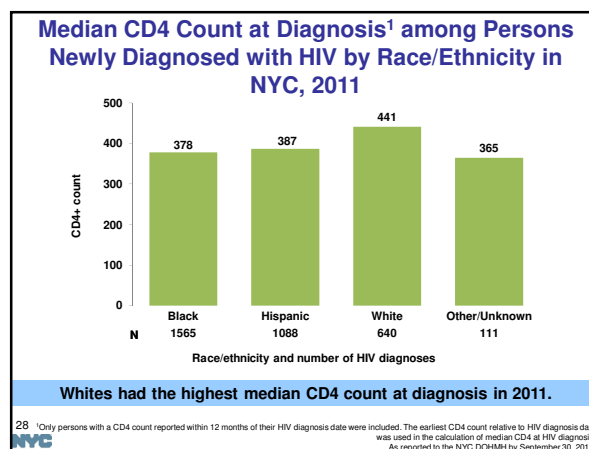
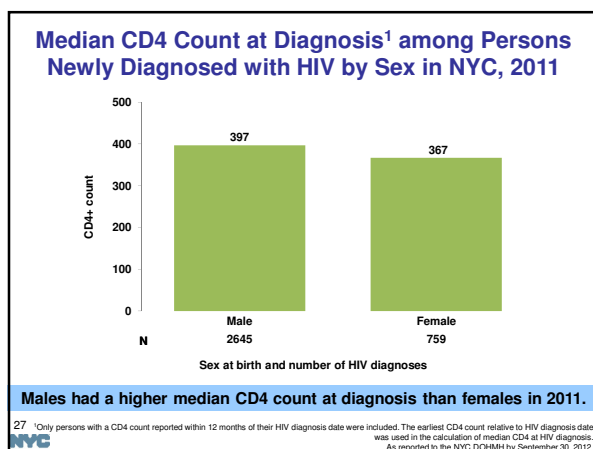
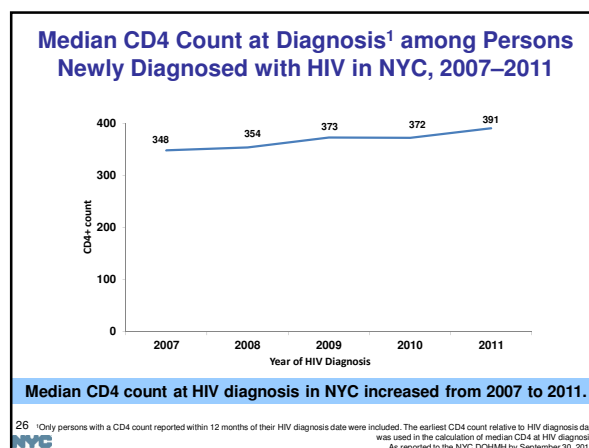
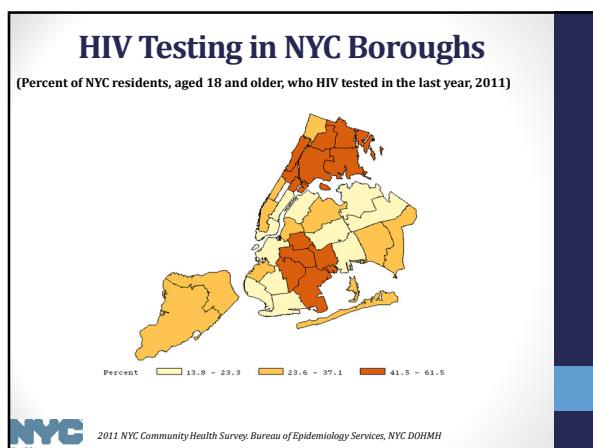
### Demographics of Acute HIV Cases (N=205), NYC 2011

	N	%
<b>Sex</b>		
Male	178	86.8
Female	27	13.2
<b>Race/ethnicity</b>		
Black	69	33.7
Hispanic	71	34.6
White	56	27.3
Other*	9	4.4
<b>Age group (years) at diagnosis</b>		
13-19	14	6.8
20-29	96	46.8
30-39	50	24.4
40-49	33	16.1
50-59	11	5.4
60+	1	0.5

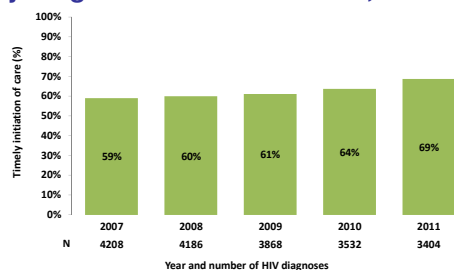
NYC \*Other race/ethnicity includes Asian/Pacific Islander, Native American, and Multiracial. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

Care and clinical status of persons with HIV/AIDS in NYC in 2011 as based on HIV surveillance data

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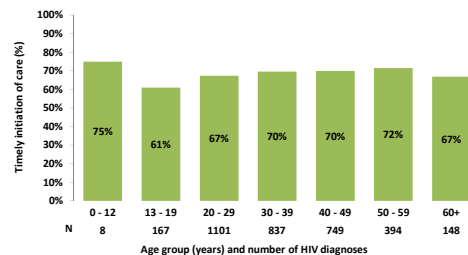
### Timely Initiation of Care among Persons Newly Diagnosed with HIV in NYC, 2007–2011



The proportion of persons newly diagnosed with HIV with timely initiation of care increased between 2007 and 2011.

31 CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

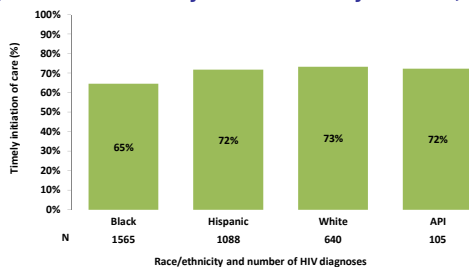
### Timely Initiation of Care among Persons Newly Diagnosed with HIV by Age in NYC, 2011



By age, children were most likely to have timely care initiation. Among adults, persons aged 30-59 were most likely to have timely care initiation.

32 CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

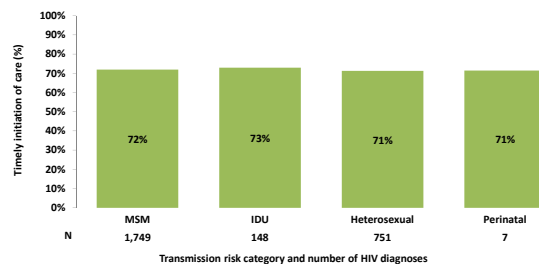
### Timely Initiation of Care among Persons Newly Diagnosed with HIV by Race/Ethnicity<sup>1</sup> in NYC, 2011



Over 70% each of newly diagnosed whites, Hispanics and Asians had timely initiation of care in 2011.

33 <sup>1</sup>Native Americans and multiracial persons are not presented due to small numbers; API-Asian/Pacific Islanders. CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

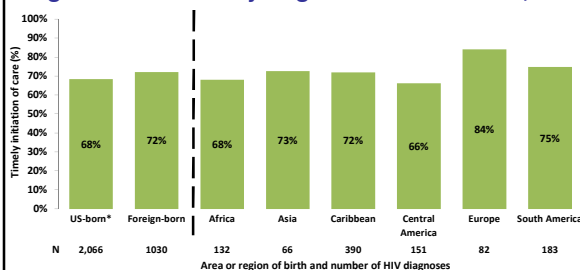
### Timely Initiation of Care among Persons Newly Diagnosed with HIV by Transmission Risk<sup>1</sup> in NYC, 2011



Timeliness rates were similar by HIV transmission risk in 2011.

34 <sup>1</sup>MSM-men who have sex with men; IDU-injection drug users. Persons with unknown risk not shown. See Appendix for more details on risk. CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

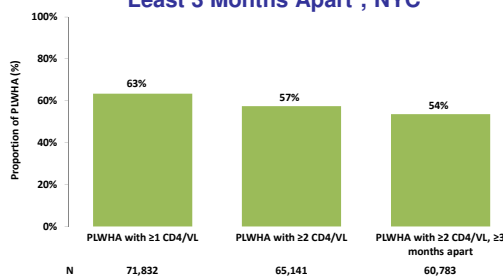
### Timely Initiation of Care among Persons Newly Diagnosed with HIV by Region of Birth<sup>1</sup> in NYC, 2011



Overall, foreign-born persons were more likely than the US-born to initiate timely care in 2011. Among the foreign-born, the proportion initiating timely care ranged by region from 66% to 84%.

35 <sup>1</sup>Foreign regions of birth with  $\leq 10$  newly diagnosed persons are not presented due to small numbers. \*Includes persons born in the US and US dependencies. CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

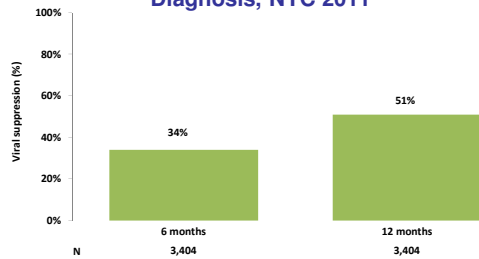
### Proportion of PLWHA in 2011 with $\geq 2$ CD4 or VL Tests Ordered by an NYC Provider in 2011, at Least 3 Months Apart<sup>1</sup>, NYC



Over half of persons living with HIV/AIDS in 2011 in NYC had at least 2 CD4 or VL tests, at least 3 months apart, in 2011.

36 <sup>1</sup>PLWHA are considered by the Human Resources Service Administration (HRSa) to be retained in continuous medical care if they have  $\geq 2$  medical visits at least 90 days apart within a 12-month period. CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

### Proportion of Persons Newly Diagnosed with HIV with Viral Suppression<sup>1</sup> at 6 and 12 Months After Diagnosis, NYC 2011



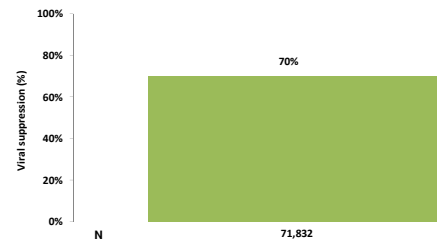
Over half of persons newly diagnosed with HIV in NYC in 2011 were virally suppressed by 12 months after diagnosis.

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<sup>1</sup>Viral suppression is defined as viral load <200 copies/mL. As reported to the NYC DOHMH by September 30, 2012.

### Proportion of PLWHA in 2011 with a CD4 or VL Test Ordered by an NYC Provider in 2011 whose Last HIV VL Result Indicated Viral Suppression<sup>1</sup>



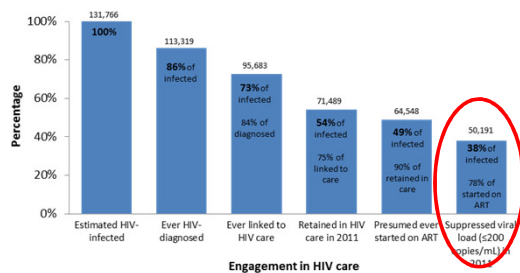
Nearly three-quarters of persons living with HIV/AIDS and under clinical monitoring in NYC in 2011 had an undetectable last viral load.

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<sup>1</sup>Viral suppression is defined as viral load <200 copies/mL. As reported to the NYC DOHMH by September 30, 2012.

### Number and proportion of persons diagnosed with HIV in New York City engaged in selected stages of the continuum of care at the end of 2011



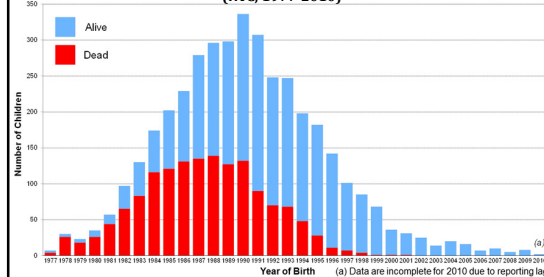
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As reported to the NYC DOHMH by September 30, 2012. For definitions of the stages of the continuum of care, see Appendix (2).

### We have done it before...

Perinatally HIV-infected Children (n=3,945) by Year of Birth and Vital Status (NYC, 1977-2010)



The number of HIV-infected infants born each year decreased dramatically from the peak in 1990. This coincides with the use of perinatal prevention measures. 91% were born in NYC.

New York City Department of Health and Mental Hygiene, Bureau of HIV/AIDS Prevention and Control.

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## Thank You

### Acknowledgements

Sarah Braunstein  
Katie Lewis  
Julie Myers  
Colin Shepard  
Monica Sweeney  
Ben Tsoi  
Jay Varma

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## Appendix Technical notes (1)

- Data presented by borough exclude persons with unknown residence or living outside of NYC. The proximity of HIV-infected New Yorkers to HIV medical care providers with offices outside of NYC may account for differences in care initiation by borough. Because the HIV Epidemiology and Field Services Program does not receive HIV laboratory reports from providers located outside of NYC, receipt of HIV-related medical care may be underestimated for NYC residents receiving care from providers outside of NYC, and for former NYC residents who have re-located permanently to another jurisdiction where they live and receive care.
- Newly diagnosed persons who die during the follow-up period (e.g., within 3 months from diagnosis for linkage analyses) are included in the denominator.
- Heterosexual risk includes persons who had heterosexual sex with an HIV-infected person, an injection drug user, or a person who has received blood products. For females only, heterosexual risk also includes history of prostitution, multiple sex partners, sexually transmitted disease, crack/cocaine use, sex with a bisexual male, probable heterosexual transmission as noted in medical chart, or sex with a male and negative history of injection drug use.
- Unless otherwise noted, numbers and percents are rounded to the nearest whole number or nearest tenth.
- As noted throughout, the analyses summarized in this slide set utilized CD4 and viral load tests reported to surveillance as proxies for the receipt of HIV-related medical care. Because CD4 and viral load tests are a proxy rather than direct measure of the receipt of HIV-related medical care, some patients may be misclassified as having received HIV-related medical care when they did not, and vice versa. Furthermore, the validity of CD4 and viral load tests as a proxy for HIV-related medical care may vary during the lifetime of a PLWHA.

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## Appendix Technical notes (2)

- Technical notes and definitions for Slide 33, "NYC Continuum of care":
  - "Estimated HIV-infected": equal to the number of persons diagnosed with and presumed living with HIV in NYC at the end of 2011 (PLWHA), divided by the estimated proportion of all HIV-infected persons in NYC who have been diagnosed. An emergency room serosurvey established this proportion as 86%. Source: Eavey JJ, Torian LV, Jablonsky A, Nickerson JE, Fattig JF, Leider J, Calderon Y. Undiagnosed HIV Infection in a New York City Emergency Room: Results of a Blinded Serosurvey, December 2009-January 2010. 19<sup>th</sup> International AIDS Conference, 2012, Washington, DC. Abstract# TUPE282.
  - "HIV diagnosed": PLWHA as of 12/31/2011, per surveillance case reporting.
  - "Ever linked to HIV care": Any viral load (VL) or CD4 count drawn in the years 2001-2011 and received after HIV diagnosis following a 7-day lag, and reported to DOHMH HIV surveillance.
  - "Retained in HIV care in 2011": VL or CD4 count or CD4 percent drawn in 2011, and reported to DOHMH HIV surveillance.
  - "Presumed ever started on ART": Suppressed VL ( $\leq 200$  copies/mL) reported to DOHMH HIV surveillance at any point from 2001-2011.
  - "Suppressed viral load in 2011": Most recent VL drawn in 2011 and reported to NYC DOHMH HIV surveillance was  $\leq 200$  copies/mL.

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## Appendix Definitions and Statistical Notes

### Definitions:

- "HIV diagnoses" include diagnoses of HIV (non-AIDS) and HIV concurrent with AIDS, unless otherwise specified.
- "New HIV diagnoses" include individuals diagnosed during the reporting period and reported in NYC.
- "Death rates" refer to deaths from all causes, unless otherwise specified.
- "PWHA" refers to persons with HIV or AIDS during the reporting period (note: includes persons with HIV/AIDS who remained alive or died during the reporting period); "PLWHA" refers to persons living with HIV or AIDS at the end of the reporting period.
- The NYC acute HIV infection case definition is available at: <http://www.nyc.gov/html/doh/downloads/pdf/ah/ahi-case-definition-current.pdf>.
- "NYC" refers to New York City.

### Statistical notes:

- Slides showing death rates by race/ethnicity from 2008 on reflect a redistribution and expansion of race/ethnicity categories (see Technical notes at: [http://www.nyc.gov/html/doh/downloads/pdf/ah/new\\_race\\_def\\_dec09.pdf](http://www.nyc.gov/html/doh/downloads/pdf/ah/new_race_def_dec09.pdf)). Artificial changes in rates between years may be particularly pronounced for groups of small size.
- Data on new diagnoses and deaths among Native Americans in NYC are routinely collected, but are not presented in this slide set because of small numbers.
- Data related to trends in HIV/AIDS among females should be interpreted with caution given an expansion of the heterosexual transmission risk category in 2005.
- UHF boundaries in maps were updated for data released in 2010 and onward. Non-residential zones are indicated, and Rikers Island is classified with West Queens.

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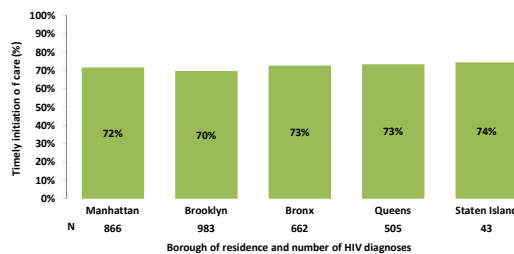
## HIV/AIDS in New York City, 2011

- 3,404 new HIV diagnoses (41.6 diagnoses per 100,000 persons)**
  - 2,734 HIV without AIDS
  - 670 HIV concurrent with AIDS (19.7%)
- 2,208 new AIDS diagnoses**
  - Includes 670 concurrent HIV/AIDS diagnoses
- 113,319 persons living with HIV/AIDS**
  - 1.4% of the population of NYC
- 1,690 deaths among persons with HIV/AIDS (14.9 deaths per 1,000 persons)**

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As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

## Timely Initiation of Care among Persons Newly Diagnosed with HIV by Borough of Residence<sup>1</sup> in NYC, 2011

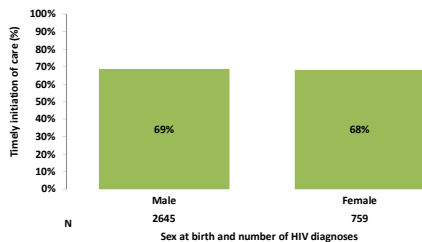


By borough of residence, timely initiation of care was highest in Staten Island, Queens and the Bronx in 2011.

46 <sup>1</sup>See Appendix for more details on borough. CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

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## Timely Initiation of Care among Persons Newly Diagnosed with HIV by Sex in NYC, 2011

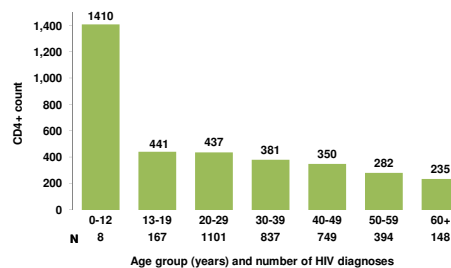


There was no difference in timely initiation of care by sex in 2011.

47 <sup>1</sup>CD4 count (or percent) or HIV VL value reported to DOHMH as part of routine surveillance considered to be a proxy for receipt of HIV-related medical care. As reported to the NYC DOHMH by September 30, 2012.

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## Median CD4 Count at Diagnosis<sup>1</sup> among Persons Newly Diagnosed with HIV by Age in NYC, 2011



Median CD4 count at diagnosis decreased with increasing age in 2011.

48 <sup>1</sup>Only persons with a CD4 count reported within 12 months of their HIV diagnosis date were included. The earliest CD4 count relative to HIV diagnosis date was used in the calculation of median CD4 at HIV diagnosis. As reported to the NYC DOHMH by September 30, 2012.

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## Who is Considered Transgender by NYC HIV/AIDS Surveillance?

- Persons whose current gender identity differs from their sex assigned at birth\*
- Persons classified as transgender can be of any sexual orientation, and may or may not have received hormone therapy or sex reassignment surgery



\* "Sex assigned at birth" refers to male or female sex that was assigned to a person at birth based on their anatomy. The phrase is equivalent in meaning to "sex at birth" and acknowledges that, for instance, some transgender persons assigned male sex at birth and identifying as women may feel that they were always female, in spite of their anatomy.

## How is Transgender Status\* Collected by NYC HIV/AIDS Surveillance?

- Collected routinely since 2005 for newly reported cases
- Must be reported by medical provider as transgender or documented in medical record, either of which may reflect patient report
- Requires accurate collection of both sex assigned at birth and current gender identity
- Surveillance classifies all transgender persons as one of:
  - Transgender woman (MTF) = male-to-female, male sex assigned at birth and identifies as a woman
  - Transgender man (FTM) = female-to-male, female sex assigned at birth and identifies as a man



\* "Transgender status" refers to whether data indicate that a person is or is not transgender. Some refer to this as "transgender identity," although some transgender persons may identify as a man or woman only and not as transgender per se.

## New HIV Diagnoses among Transgender Persons in NYC, 2007–2011 Basic Statistics

- 191 new HIV diagnoses in 2007–2011
  - 189 transgender women (MTF; 99%)
  - 2 transgender men (FTM; 1%)
- Includes 27 diagnoses of HIV concurrent with AIDS\* (14%)
- Transgender persons comprised 1% of all new HIV diagnoses in NYC in 2007–2011



\* AIDS diagnosis within 31 day of HIV diagnosis; suggests late diagnosis of HIV. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

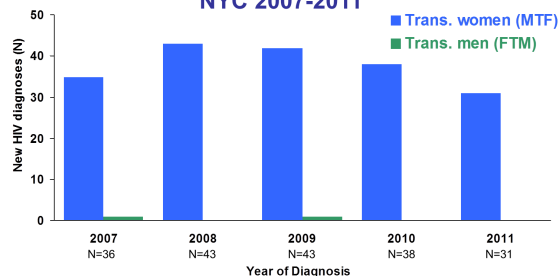
## New HIV Diagnoses among Transgender Persons in NYC, 2011 Basic Statistics

- 31 new HIV diagnoses in 2011
  - 31 transgender women (MTF; 100%)
  - 0 transgender men (FTM; 0%)
- Includes 5 diagnoses of HIV concurrent with AIDS\* (16%)
- Transgender persons comprised 1% of all new HIV diagnoses in NYC in 2011



\* AIDS diagnosis within 31 day of HIV diagnosis; suggests late diagnosis of HIV. As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.

## Number of New HIV Diagnoses among Transgender Persons by Gender Identity and Year of Diagnosis, NYC 2007-2011



Between 2007 and 2011, 191 transgender persons were newly diagnosed with HIV. This included 31-43 transgender women (MTF) and 0-1 transgender men (FTM) each year.



As reported to the New York City Department of Health and Mental Hygiene by September 30, 2012.