HIV SURVEILLANCE ANNUAL REPORT, 2018

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE

EXECUTIVE SUMMARY

In 2018, New York City (NYC) continued to make important progress toward meeting statewide goals to end the HIV epidemic, both citywide and among key populations.[1]

The annual number of new HIV diagnoses fell below 2,000 in NYC for the first time, with 1,917 new HIV diagnoses made and reported in NYC in 2018 (an 11.1% decrease from the 2,157 new HIV diagnoses reported in NYC in 2017).[2] The estimated number of new HIV infections in NYC also continued to decline, with a 41% decrease since 2014 and a 16% decrease from 2017 to 2018. For the second time since surveillance of HIV-exposed births in NYC began, there were no new perinatal HIV transmissions reported in NYC in 2018.

Declines in the number of new HIV diagnoses from 2017 to 2018 were seen among men and women, all major racial/ethnic groups, residents of all NYC boroughs and nearly all age groups and HIV transmission risk groups.
   • Declines in new HIV diagnoses from 2017 to 2018 were most pronounced among: men; White people; Asian/Pacific Islander people; people ages 20 to 29; residents of Brooklyn, Queens and Staten Island; men who report sex with men (MSM); and people with a history of injection drug use.
   • A few groups experienced an increase in new HIV diagnoses between 2017 and 2018, including transgender people, people ages 50 to 59 and men who report both sex with men and a history of injection drug use.
   • The majority (55%) of people newly diagnosed with HIV in NYC in 2018 were born in the U.S. People born in the U.S. and newly diagnosed with HIV in 2018 were younger, and more of them reported MSM risk and fewer reported heterosexual contact risk than their counterparts born outside the U.S.

The all-cause mortality rate and rate of HIV-related deaths among people with HIV (PWH) in NYC continued to decline, by 65% and 83%, respectively, between 2003 and 2017. Fewer than one-third of deaths among PWH were attributed to an HIV-related cause (28% in 2017, the most recent year that has cause of death information available).

Overall, 84% of people newly diagnosed with HIV in NYC in 2018 were linked to HIV care within one month of diagnosis (up from70% in 2014), and 53% were virally suppressed within three months (up from 26% in 2014). Inequities in HIV care outcomes for those newly diagnosed persist, with lower proportions of women and transgender people, Black people and people with a history of injection drug use linked to care and virally suppressed soon after HIV diagnosis.

NYC's 2018 care continuum shows that 77% of all estimated PWH were virally suppressed in 2018. Of PWH in HIV care, 87% were virally suppressed in 2018 (up from 81% in 2014), and 67% had sustained viral suppression in 2018 (up from 58% in 2014). Inequities in viral suppression were evident, with fewer transgender people, Black and Latino people, young people and people with a history of injection drug use being virally suppressed.

This report includes graphic trends in HIV diagnoses over time for key populations; geographic distribution of HIV in NYC; and key outcomes such as linkage to care and viral suppression among people newly diagnosed with HIV, viral suppression among PWH and survival and mortality among PWH. New features include a section on HIV among New Yorkers by place of birth; data on timely viral suppression among people newly diagnosed with HIV and sustained viral suppression for PWH; data on the unmet need for services among PWH; and HIV prevalence among people who inject drugs in NYC.

[1]New York State Department of Health. *2015 Blueprint to End the AIDS Epidemic,* State of New York: Albany, NY. March 2015.
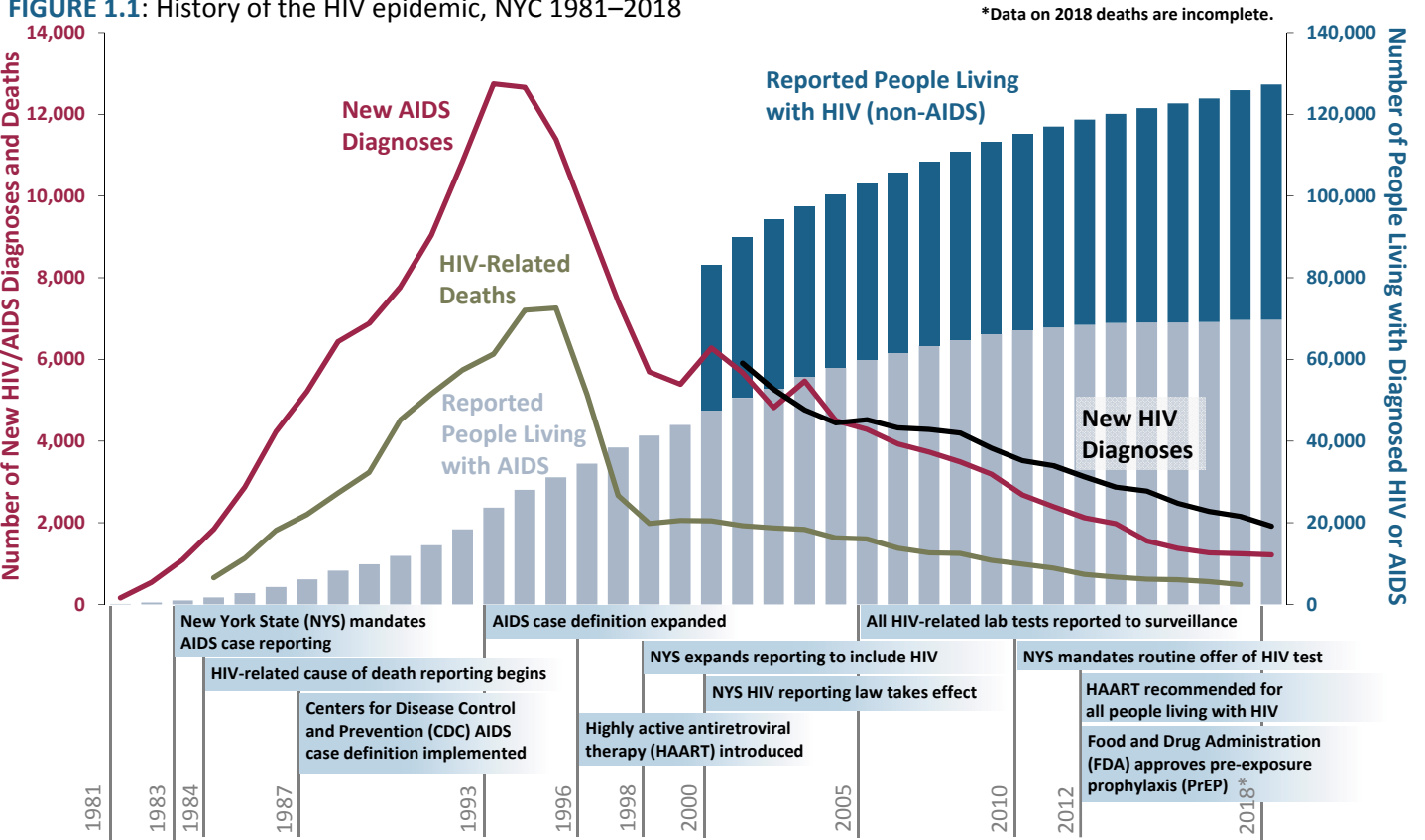[2]HIV Epidemiology and Field Services Program. *HIV Surveillance Annual Report, 2017.* New York City Department of Health and Mental Hygiene: New York, NY. November 2018.

CONTENTS

FIGURE 1.1: History of the HIV epidemic, NYC 1981–2018

*Data on 2018 deaths are incomplete.

Number of New HIV/AIDS Diagnoses and Deaths

Number of People Living with Diagnosed HIV or AIDS

New AIDS Diagnoses

HIV-Related Deaths

Reported People Living with AIDS

Reported People Living with HIV (non-AIDS)

New HIV Diagnoses

New York State (NYS) mandates AIDS case reporting

HIV-related cause of death reporting begins

Centers for Disease Control and Prevention (CDC) AIDS case definition implemented

AIDS case definition expanded

Highly active antiretroviral therapy (HAART) introduced

NYS expands reporting to include HIV

NYS HIV reporting law takes effect

All HIV-related lab tests reported to surveillance

NYS mandates routine offer of HIV test

HAART recommended for all people living with HIV

Food and Drug Administration (FDA) approves pre-exposure prophylaxis (PrEP)

1981 1983 1984 1987 1993 1996 1998 2000 2005 2010 2012 2018*

HIV DIAGNOSES OVER TIME

FIGURE 2.1: Trends in HIV diagnoses, NYC 2001–2018

HIV Diagnoses	2001		2018	EAPC	P Value
Total	5,859		1,917	-5.72	<0.01
Gender					
Men	3,882		1,484	-4.66	<0.01
Women	1,916		374	-9.33	<0.01
Transgender	61		59	-0.10	0.86
Race/Ethnicity					
Black	3,060		879	-7.09	<0.01
Latino/Hispanic	1,767		697	-4.54	<0.01
White	898		219	-5.64	<0.01
Asian/Pacific Islander	118		104	0.72	0.09
Native American	13		1	-8.76	<0.01
Age Group (Years)					
0-12	87		2	-20.4	<0.01
13-19	201		70	-5.26	<0.01
20-29	1,124		670	-1.76	<0.01
30-39	2,069		517	-7.86	<0.01
40-49	1,528		276	-8.70	<0.01
50-59	631		260	-5.18	<0.01
60+	219		122	-2.78	<0.01

HIV Diagnoses	2001		2018	EAPC	P Value
Borough of Residence					
Bronx	1,317		440	-6.42	<0.01
Brooklyn	1,613		558	-5.51	<0.01
Manhattan	1,540		375	-7.40	<0.01
Queens	741		358	-4.05	<0.01
Staten Island	103		31	-3.78	<0.01
Outside NYC	445		135	-4.26	<0.01
Transmission Risk					
Men who have sex with men (MSM)	1,719		997	-1.75	<0.01
Injection drug use history (IDU)	840		24	-18.2	<0.01
MSM-IDU	127		35	-6.50	<0.01
Heterosexual contact	1,450		358	-7.09	<0.01
Transgender people with sexual contact	49		56	0.65	0.28
Perinatal	87		0	-20.5	<0.01

EAPC=Estimated annual percent change.

The number of new HIV diagnoses reported in NYC from 2001 to 2018 decreased overall and based on all genders, ages at diagnosis, boroughs of residence and most race/ethnicity and transmission risk categories. This decrease was significant (*P* value <0.01) for all subgroups except transgender people, Asian/Pacific Islander people and transgender people with sexual contact.

DEMOGRAPHIC AND CLINICAL CHARACTERISTICS

TABLE 3.1: HIV/AIDS diagnoses and deaths occurring Jan. 1, 2018, through Dec. 31, 2018; and people diagnosed with HIV, reported in NYC and presumed to be living as of Dec. 31, 2018

| | HIV Diagnoses[1] | | | | | | AIDS Diagnoses[3] | | PLWH as of 12/31/2018 | | Deaths[4] | |
| | Total | | Without AIDS | | Concurrent with AIDS Diagnosis[2] | | | | | | | | |
	N	%	N	%	N	%	Row %	N	%	N	%	N	%
Total	1,917	100.0	1,545	100.0	372	100.0	19.4	1,214	100.0	127,287	100.0	1,683	100.0
Gender[5]													
Men	1,484	77.4	1,188	76.9	296	79.6	19.9	858	70.7	92,044	72.3	1,173	69.7
Women	374	19.5	302	19.5	72	19.4	19.3	331	27.3	33,339	26.2	487	28.9
Transgender	59	3.1	55	3.6	4	1.1	6.8	25	2.1	1,904	1.5	23	1.4
Race/Ethnicity[6]													
Black	879	45.9	703	45.5	176	47.3	20.0	634	52.2	55,345	43.5	831	49.4
Latino/Hispanic	697	36.4	578	37.4	119	32.0	17.1	401	33.0	41,908	32.9	543	32.3
White	219	11.4	181	11.7	38	10.2	17.4	113	9.3	26,021	20.4	287	17.1
Asian/Pacific Islander	104	5.4	68	4.4	36	9.7	34.6	59	4.9	3,018	2.4	13	0.8
Native American	1	0.1	0	0.0	1	0.3	100.0	3	0.2	297	0.2	6	0.4
Multiracial	17	0.9	15	1.0	2	0.5	11.8	4	0.3	370	0.3	3	0.2
Unknown	0	0.0	0	0.0	0	0.0	0.0	0	0.0	328	0.3	0	0.0
Age Group (Years)[7]													
0-12	2	0.1	0	0.0	2	0.5	100.0	4	0.3	69	0.1	0	0.0
13-19	70	3.7	60	3.9	10	2.7	14.3	19	1.6	396	0.3	1	0.1
20-29	670	35.0	606	39.2	64	17.2	9.6	184	15.2	8,823	6.9	40	2.4
30-39	517	27.0	414	26.8	103	27.7	19.9	323	26.6	19,726	15.5	96	5.7
40-49	276	14.4	204	13.2	72	19.4	26.1	231	19.0	24,749	19.4	214	12.7
50-59	260	13.6	181	11.7	79	21.2	30.4	277	22.8	40,750	32.0	556	33.0
60+	122	6.4	80	5.2	42	11.3	34.4	176	14.5	32,774	25.7	776	46.1
Borough of Residence[8]													
Bronx	440	23.0	359	23.2	81	21.8	18.4	355	29.2	30,749	24.2	469	27.9
Brooklyn	558	29.1	445	28.8	113	30.4	20.3	312	25.7	30,398	23.9	374	22.2
Manhattan	375	19.6	312	20.2	63	16.9	16.8	214	17.6	32,808	25.8	256	15.2
Queens	358	18.7	270	17.5	88	23.7	24.6	204	16.8	18,684	14.7	124	7.4
Staten Island	31	1.6	25	1.6	6	1.6	19.4	20	1.6	2,531	2.0	27	1.6
Outside NYC	135	7.0	114	7.4	21	5.6	15.6	102	8.4	11,954	9.4	80	4.8
Unknown	20	1.0	20	1.3	0	0.0	0.0	7	0.6	163	0.1	353	21.0
Area-Based Poverty Level[9]													
Low poverty (<10% below FPL)	139	7.3	112	7.2	27	7.3	19.4	73	6.0	10,941	8.6	85	5.1
Medium poverty (10 to <20% below FPL)	677	35.3	535	34.6	142	38.2	21.0	395	32.5	42,503	33.4	342	20.3
High poverty (20 to <30% below FPL)	480	25.0	379	24.5	101	27.2	21.0	283	23.3	29,035	22.8	309	18.4
Very high poverty (≥30% below FPL)	465	24.3	384	24.9	81	21.8	17.4	349	28.7	31,329	24.6	513	30.5
Area-based poverty level not available	156	8.1	135	8.7	21	5.6	13.5	114	9.4	13,479	10.6	434	25.8
Transmission risk[10]													
Men who have sex with men (MSM)	997	52.0	833	53.9	164	44.1	16.4	465	38.3	52,944	41.6	424	25.2
Injection drug use history (IDU)	24	1.3	19	1.2	5	1.3	20.8	89	7.3	14,826	11.6	455	27.0
MSM-IDU	35	1.8	33	2.1	2	0.5	5.7	19	1.6	3,142	2.5	61	3.6
Heterosexual contact	358	18.7	281	18.2	77	20.7	21.5	289	23.8	24,945	19.6	311	18.5
Transgender people with sexual contact	56	2.9	53	3.4	3	0.8	5.4	20	1.6	1,630	1.3	15	0.9
Perinatal	0	0.0	0	0.0	0	0.0	0.0	21	1.7	2,531	2.0	19	1.1
Other	2	0.1	0	0.0	2	0.5	100.0	2	0.2	191	0.2	3	0.2
Unknown	445	23.2	326	21.1	119	32.0	26.7	309	25.5	27,078	21.3	395	23.5

PLWH=People living with HIV; FPL=Federal Poverty Level. All percents are column percents unless otherwise indicated. [1]Excludes people known to have been diagnosed outside of NYC. [2]HIV diagnosed concurrently with AIDS (within 31 days of HIV diagnosis). Row percent is percent of HIV diagnoses that were concurrent with AIDS diagnoses.

[3]AIDS was diagnosed in 2018 and includes concurrent HIV/AIDS diagnoses. [4]Includes deaths from any cause in people with HIV. Death data for 2018 are incomplete. [5]For information on gender identity, see Technical Notes on Page 15. [6]For technical notes on race: www1.nyc.gov/assets/doh/downloads/pdf/ah/new_race_def_dec2010.pdf. [7]For HIV and AIDS diagnoses, age at diagnosis; for PLWH, age as of Dec. 31, 2018; and for deaths, age at death. [8]For HIV and AIDS diagnoses, residence at diagnosis. For PLWH and deaths, residence based on most recent record available (most recent record is >5 years old for 27% of PLWH in 2018). [9]Area-based poverty based on NYC ZIP code of residence at diagnosis or most recent residence (see footnote 8). [10]"Heterosexual contact" includes people who had heterosexual sex with a person they know to be living with HIV, a person who has injected drugs or a person who has received blood products. For women only, also includes history of sex work, multiple sex partners, sexually transmitted disease, crack/cocaine use, sex with a bisexual man, probable heterosexual transmission as noted in a medical chart or sex with a man and negative history of injection drug use. "Transgender people with sexual contact" includes people identified as transgender at any time by self-report, a medical provider or chart review or ongoing data collection with sexual contact reported and negative history of injection drug use. "Other" includes people who received treatment for hemophilia, people who received a transfusion or transplant, people with other healthcare-associated transmission and children with non-perinatal transmission risk.

In 2018, there were 1,917 new HIV diagnoses and 1,214 new AIDS diagnoses in New York City. As of the end of 2018, 127,287 people had been diagnosed with HIV or AIDS, reported in New York City and were presumed to be living. As of Mar. 31, 2019, there were 1,683 deaths reported among people with HIV in 2018.

GEOGRAPHIC DISTRIBUTION OF HIV

FIGURE 4.1: Poverty level, NYC 2013–2017
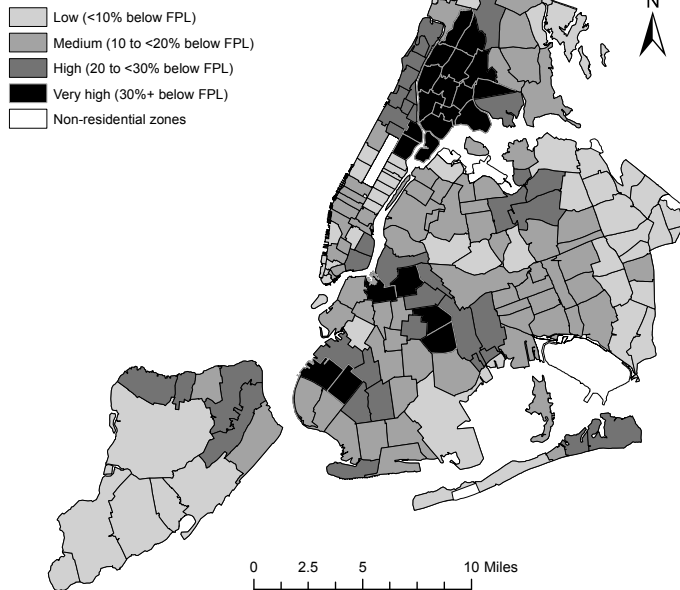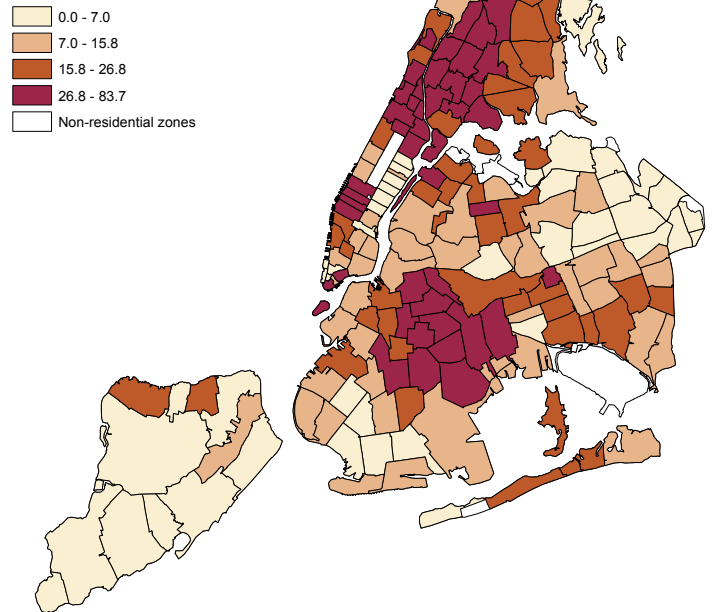
Poverty by ZIP code based on Federal Poverty Level (FPL)

- Low (<10% below FPL)
- Medium (10 to <20% below FPL)
- High (20 to <30% below FPL)
- Very high (30%+ below FPL)
- Non-residential zones

N

0   2.5   5   10 Miles

FIGURE 4.2: HIV diagnosis rates, NYC 2018

HIV diagnosis rate per 100,000 population[1] by ZIP code

- 0.0 - 7.0
- 7.0 - 15.8
- 15.8 - 26.8
- 26.8 - 83.7
- Non-residential zones

ZIP codes in the Chelsea-Clinton, Lower Manhattan and Crown Heights neighborhoods had the highest HIV diagnosis rates in 2018 (Figure 4.2). In 2018, ZIP codes in West Queens and Chelsea-Clinton had the highest HIV prevalence (Figure 4.3). ZIP codes in the South Beach-Tottenville, Crown Heights and Lower Manhattan neighborhoods had the highest mortality among people with HIV (Figure 4.4). Many ZIP codes with high HIV diagnosis rates were also among those with highest poverty rates (Figure 4.1), including those in Central Harlem-Morningside Heights. However, ZIP codes in the Chelsea-Clinton neighborhoods were the exception, with the highest HIV diagnosis rates but relatively low poverty and mortality rates.

FIGURE 4.3: HIV prevalence, NYC 2018
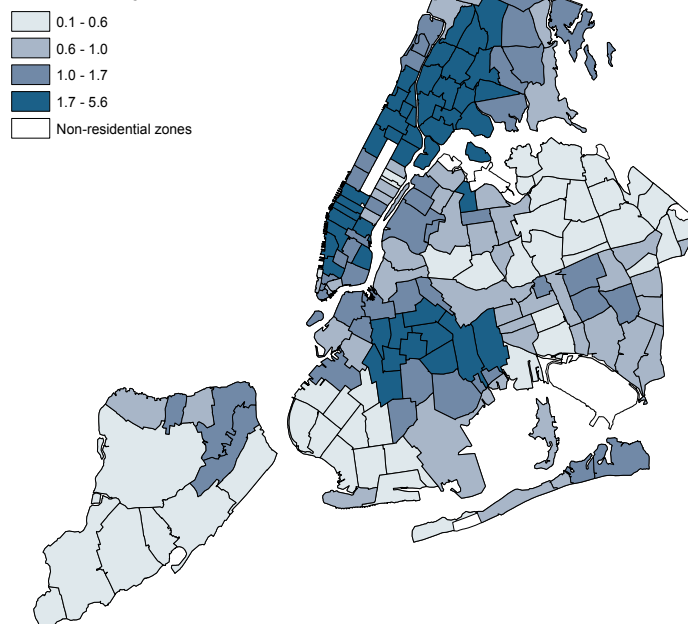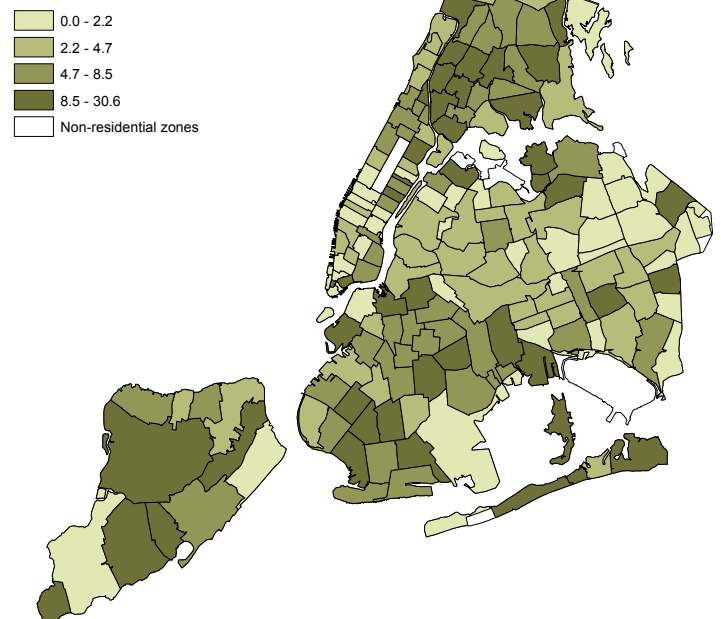
PLWH as a percent of population[1] by ZIP code

- 0.1 - 0.6
- 0.6 - 1.0
- 1.0 - 1.7
- 1.7 - 5.6
- Non-residential zones

FIGURE 4.4: Age-adjusted death rates among people with HIV, NYC 2018

Age-adjusted death rate[2] per 1,000 mid-year PLWH by ZIP code

- 0.0 - 2.2
- 2.2 - 4.7
- 4.7 - 8.5
- 8.5 - 30.6
- Non-residential zones

PLWH=People living with HIV.
[1]Rates calculated using Health Department 2017 population estimates, modified from U.S. Census Bureau intercensal population estimates, updated September 2018.
[2]Age-adjusted to the NYC Census 2010 population. People newly diagnosed with HIV at death were excluded from the numerator. Death data for 2018 are incomplete.

TABLE 5.1: HIV/AIDS diagnoses and deaths among men,[5,11] Jan. 1, 2018, through Dec. 31, 2018; and men diagnosed with HIV, reported in NYC and presumed to be living as of Dec. 31, 2018

| | HIV Diagnoses[1] | | | | | | AIDS Diagnoses[3] | | PLWH as of 12/31/2018 | | Deaths[4] | |
| | Total | | Without AIDS | | Concurrent with AIDS Diagnosis[2] | | | | | | | | |
	N	%	N	%	N	%	Row %	N	%	N	%	N	%
Total	1,487	100.0	1,191	100.0	296	100.0	19.9	858	100.0	92,075	100.0	1,173	100.0
Race/Ethnicity[6]													
Black	608	40.9	485	40.7	123	41.6	20.2	407	47.4	34,942	37.9	533	45.4
Latino/Hispanic	583	39.2	477	40.1	106	35.8	18.2	294	34.3	30,393	33.0	380	32.4
White	192	12.9	159	13.4	33	11.1	17.2	100	11.7	23,462	25.5	242	20.6
Asian/Pacific Islander	90	6.1	59	5.0	31	10.5	34.4	51	5.9	2,515	2.7	11	0.9
Native American	1	0.1	0	0.0	1	0.3	100.0	3	0.3	220	0.2	5	0.4
Multiracial	13	0.9	11	0.9	2	0.7	15.4	3	0.3	291	0.3	2	0.2
Unknown	0	0.0	0	0.0	0	0.0	0.0	0	0.0	252	0.3	0	0.0
Age Group (Years)[7]													
0-12	1	0.1	0	0.0	1	0.3	100.0	3	0.3	35	0.0	0	0.0
13-19	59	4.0	50	4.2	9	3.0	15.3	14	1.6	228	0.2	1	0.1
20-29	563	37.9	507	42.6	56	18.9	9.9	142	16.6	6,679	7.3	34	2.9
30-39	416	28.0	332	27.9	84	28.4	20.2	238	27.7	15,364	16.7	64	5.5
40-49	187	12.6	132	11.1	55	18.6	29.4	159	18.5	17,429	18.9	126	10.7
50-59	182	12.2	119	10.0	63	21.3	34.6	182	21.2	28,744	31.2	376	32.1
60+	79	5.3	51	4.3	28	9.5	35.4	120	14.0	23,596	25.6	572	48.8
Borough of Residence[8]													
Bronx	310	20.8	248	20.8	62	20.9	20.0	220	25.6	19,120	20.8	313	26.7
Brooklyn	423	28.4	332	27.9	91	30.7	21.5	224	26.1	20,275	22.0	237	20.2
Manhattan	307	20.6	254	21.3	53	17.9	17.3	171	19.9	27,584	30.0	193	16.5
Queens	301	20.2	231	19.4	70	23.6	23.3	152	17.7	13,713	14.9	92	7.8
Staten Island	22	1.5	17	1.4	5	1.7	22.7	13	1.5	1,646	1.8	17	1.4
Outside NYC	111	7.5	96	8.1	15	5.1	13.5	73	8.5	9,617	10.4	58	4.9
Unknown	13	0.9	13	1.1	0	0.0	0.0	5	0.6	120	0.1	263	22.4
Area-Based Poverty Level[9]													
Low poverty (<10% below FPL)	106	7.1	87	7.3	19	6.4	17.9	49	5.7	8,652	9.4	68	5.8
Medium poverty (10 to <20% below FPL)	526	35.4	416	34.9	110	37.2	20.9	290	33.8	32,347	35.1	246	21.0
High poverty (20 to <30% below FPL)	386	26.0	303	25.4	83	28.0	21.5	208	24.2	20,317	22.1	208	17.7
Very high poverty (≥30% below FPL)	344	23.1	275	23.1	69	23.3	20.1	228	26.6	19,951	21.7	329	28.0
Area-based poverty level not available	125	8.4	110	9.2	15	5.1	12.0	83	9.7	10,808	11.7	322	27.5
Transmission Risk[10]													
Men who have sex with men (MSM)	997	67.0	833	69.9	164	55.4	16.4	465	54.2	52,944	57.5	424	36.1
Injection drug use history (IDU)	12	0.8	10	0.8	2	0.7	16.7	48	5.6	9,626	10.5	297	25.3
MSM-IDU	35	2.4	33	2.8	2	0.7	5.7	19	2.2	3,142	3.4	61	5.2
Heterosexual contact	65	4.4	45	3.8	20	6.8	30.8	64	7.5	6,076	6.6	95	8.1
Transgender people with sexual contact	2	0.1	2	0.2	0	0.0	0.0	0	0.0	19	0.0	0	0.0
Perinatal	0	0.0	0	0.0	0	0.0	0.0	11	1.3	1,233	1.3	14	1.2
Other	1	0.1	0	0.0	1	0.3	100.0	1	0.1	103	0.1	2	0.2
Unknown	375	25.2	268	22.5	107	36.1	28.5	250	29.1	18,932	20.6	280	23.9

PLWH=People living with HIV; FPL=Federal Poverty Level. All percents are column percents unless otherwise indicated.
[1-10]Footnotes appear at the bottom of Table 3.1. [11]Includes transgender men.

FIGURE 5.1: HIV[1] diagnosis rates[2] among 13- to 59-year-old men[3] by race/ethnicity, NYC 2018
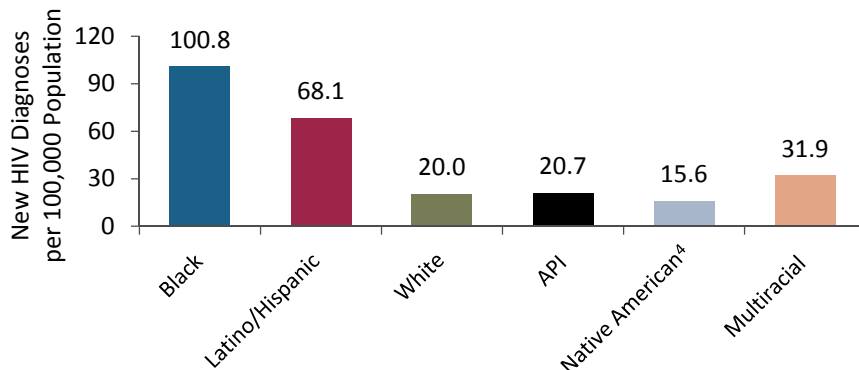
In 2018, the HIV diagnosis rate among Black men was 1.5 times higher than the rate among Latino/Hispanic men, over three times higher than the rate among multiracial men and over five times higher than the rates among White, API and Native American men.

API=Asian/Pacific Islander. [1]Includes diagnoses of HIV without AIDS and HIV concurrent with AIDS. [2]Rates calculated using Health Department 2017 population estimates, modified from U.S. Census Bureau intercensal population estimates, updated September 2018. [3]Includes transgender men. [4]Rate is based on a numerator ≤10 and should be interpreted with caution.

HIV AMONG WOMEN

TABLE 6.1: HIV/AIDS diagnoses and deaths among women,[5,11] Jan. 1, 2018, through Dec. 31, 2018; and women diagnosed with HIV, reported in NYC, and presumed to be living as of Dec. 31, 2018

| | HIV Diagnoses[1] | | | | | | AIDS Diagnoses[3] | | PLWH as of 12/31/2018 | | Deaths[4] | |
| | Total | | Without AIDS | | Concurrent with AIDS Diagnosis[2] | | | | | | | | |
	N	%	N	%	N	%	Row %	N	%	N	%	N	%
Total	430	100.0	354	100.0	76	100.0	17.7	356	100.0	35,212	100.0	510	100.0
Race/Ethnicity[6]													
Black	271	63.0	218	61.6	53	69.7	19.6	227	63.8	20,403	57.9	298	58.4
Latina/Hispanic	114	26.5	101	28.5	13	17.1	11.4	107	30.1	11,515	32.7	163	32.0
White	27	6.3	22	6.2	5	6.6	18.5	13	3.7	2,559	7.3	45	8.8
Asian/Pacific Islander	14	3.3	9	2.5	5	6.6	35.7	8	2.2	503	1.4	2	0.4
Native American	0	0.0	0	0.0	0	0.0	0.0	0	0.0	77	0.2	1	0.2
Multiracial	4	0.9	4	1.1	0	0.0	0.0	1	0.3	79	0.2	1	0.2
Unknown	0	0.0	0	0.0	0	0.0	0.0	0	0.0	76	0.2	0	0.0
Age Group (Years)[7]													
0-12	1	0.2	0	0.0	1	1.3	100.0	1	0.3	34	0.1	0	0.0
13-19	11	2.6	10	2.8	1	1.3	9.1	5	1.4	168	0.5	0	0.0
20-29	107	24.9	99	28.0	8	10.5	7.5	42	11.8	2,144	6.1	6	1.2
30-39	101	23.5	82	23.2	19	25.0	18.8	85	23.9	4,362	12.4	32	6.3
40-49	89	20.7	72	20.3	17	22.4	19.1	72	20.2	7,320	20.8	88	17.3
50-59	78	18.1	62	17.5	16	21.1	20.5	95	26.7	12,006	34.1	180	35.3
60+	43	10.0	29	8.2	14	18.4	32.6	56	15.7	9,178	26.1	204	40.0
Borough of Residence[8]													
Bronx	130	30.2	111	31.4	19	25.0	14.6	135	37.9	11,629	33.0	156	30.6
Brooklyn	135	31.4	113	31.9	22	28.9	16.3	88	24.7	10,123	28.7	137	26.9
Manhattan	68	15.8	58	16.4	10	13.2	14.7	43	12.1	5,224	14.8	63	12.4
Queens	57	13.3	39	11.0	18	23.7	31.6	52	14.6	4,971	14.1	32	6.3
Staten Island	9	2.1	8	2.3	1	1.3	11.1	7	2.0	885	2.5	10	2.0
Outside NYC	24	5.6	18	5.1	6	7.9	25.0	29	8.1	2,337	6.6	22	4.3
Unknown	7	1.6	7	2.0	0	0.0	0.0	2	0.6	43	0.1	90	17.6
Area-Based Poverty Level[9]													
Low poverty (<10% below FPL)	33	7.7	25	7.1	8	10.5	24.2	24	6.7	2,289	6.5	17	3.3
Medium poverty (10 to <20% below FPL)	151	35.1	119	33.6	32	42.1	21.2	105	29.5	10,156	28.8	96	18.8
High poverty (20 to <30% below FPL)	94	21.9	76	21.5	18	23.7	19.1	75	21.1	8,718	24.8	101	19.8
Very high poverty (≥30% below FPL)	121	28.1	109	30.8	12	15.8	9.9	121	34.0	11,378	32.3	184	36.1
Area-based poverty level not available	31	7.2	25	7.1	6	7.9	19.4	31	8.7	2,671	7.6	112	22.0
Transmission Risk[10]													
Injection drug use history (IDU)	12	2.8	9	2.5	3	3.9	25.0	41	11.5	5,200	14.8	158	31.0
Heterosexual contact	293	68.1	236	66.7	57	75.0	20	225	63.2	18,869	53.6	216	42.4
Transgender people with sexual contact	54	12.6	51	14.4	3	3.9	5.6	20	5.6	1,611	4.6	15	2.9
Perinatal	0	0.0	0	0.0	0	0.0	0.0	10	2.8	1,298	3.7	5	1.0
Other	1	0.2	0	0.0	1	1.3	100.0	1	0.3	88	0.2	1	0.2
Unknown	70	16.3	58	16.4	12	15.8	17.1	59	16.6	8,146	23.1	115	22.5

PLWH=People living with HIV; FPL=Federal Poverty Level. All percents are column percents unless otherwise indicated.
[1-10]Footnotes appear at the bottom of Table 3.1. [11]Includes transgender women.

FIGURE 6.1: HIV[1] diagnosis rates[2] among 13- to 59-year-old women[3] by race/ethnicity, NYC 2018
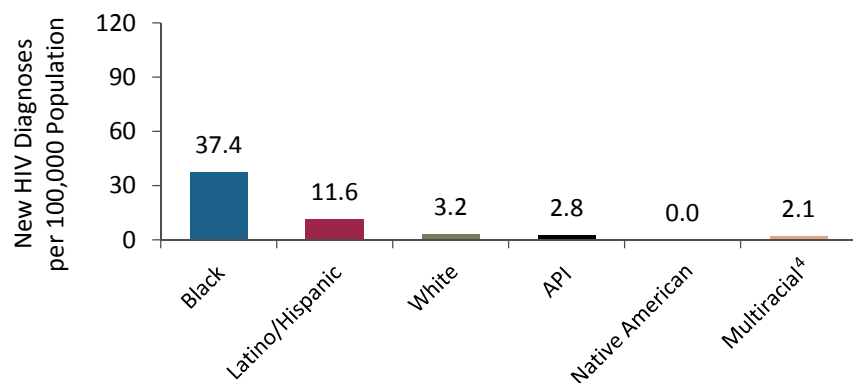
In 2018, the HIV diagnosis rate among Black women was 3.2 times higher than the rate among Latina/Hispanic women and over 11 times higher than the rates among White, API and multiracial women.

API=Asian/Pacific Islander. [1]Includes diagnoses of HIV without AIDS and HIV concurrent with AIDS. [2]Rates calculated using Health Department 2017 population estimates, modified from US Census Bureau intercensal population estimates, updated September 2018. [3]Includes transgender women. [4]Rate is based on a numerator ≤10 and should be interpreted with caution.

HIV AMONG TRANSGENDER PEOPLE

TABLE 7.1: HIV/AIDS diagnoses among transgender people and transgender PLWH, NYC 2018

	HIV Diagnoses[1]		AIDS Diagnoses[2]		PLWH as of 12/31/2018	
	N	%	N	%	N	%
Total[3]	59	100.0	25	100.0	1,904	100
Transgender women	56	94.9	25	100.0	1,873	98.4
Transgender men	3	5.1	0	0.0	31	1.6
Race/Ethnicity						
Black	34	57.6	13	52.0	944	49.6
Latino/Hispanic	18	30.5	11	44.0	765	40.2
White	4	6.8	0	0.0	126	6.6
Asian/Pacific Islander	2	3.4	1	4.0	43	2.3
Native American	0	0.0	0	0.0	8	0.4
Multiracial	1	1.7	0	0.0	18	1.0
Age Group (years)[4]						
13-19	4	6.8	1	4.0	5	0.3
20-29	37	62.7	5	20.0	414	21.7
30-39	13	22	12	48.0	657	34.5
40+	5	8.5	7	28.0	828	42.5
Transmission Risk						
Sexual contact	56	94.9	20	80.0	1630	85.6
Injection drug use history	2	3.4	5	20.0	203	10.7
Other/Unknown	1	1.7	0	0.0	71	3.8

PLWH=People living with HIV. [1]Excludes people known to have been diagnosed outside of NYC. [2]AIDS was diagnosed in 2018 and includes concurrent HIV/AIDS diagnoses.

FIGURE 7.1: HIV diagnoses among transgender people by race/ethnicity[5] and age at diagnosis, NYC 2014–2018
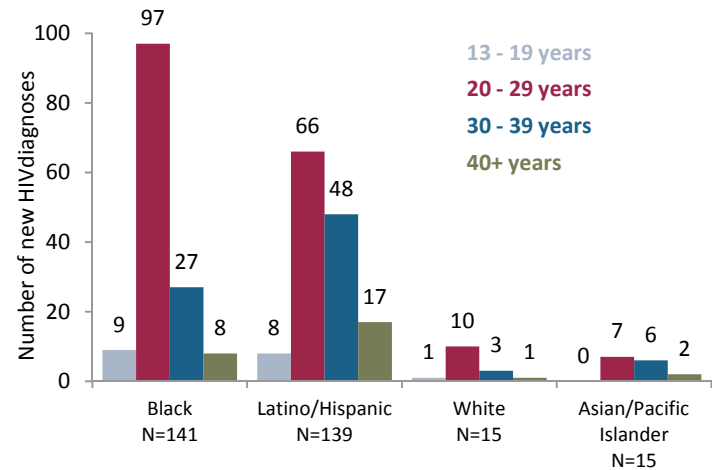
[3]Includes people identified as transgender at any time by self-report, medical provider or chart review, or ongoing data collection. Transgender women were assigned male sex at birth and currently identify as women. Transgender men were assigned female sex at birth and currently identify as men. For more information, see Technical Notes on Page 15. [4]For HIV and AIDS diagnoses, age at diagnosis. For PLWH, age as of Dec. 31, 2018. [5]Native American (N=1) and multiracial (N=2) groups not shown.

In 2018, 59 transgender people were diagnosed with HIV, and 25 were diagnosed with AIDS. From 2014 to 2018, 313 transgender people were diagnosed with HIV. About half (52%) were Black or Latino/Hispanic and age 20 to 29 (Figure 7.1). Compared to all NYC HIV diagnoses from 2014 to 2018 (N=11,387), higher proportions of transgender people diagnosed with HIV were Latino/Hispanic (44% vs. 36%) or age 20 to 29 at diagnosis (56% vs. 36%).

HIV AMONG CHILDREN

FIGURE 8.1: All HIV-exposed births in NYC and current HIV status[1] of children born to HIV-positive women[2] at select NYC medical facilities,[3] by year of birth, NYC 1988–2018[4]

Milestones in Reduction of Perinatal HIV Transmission

1985: CDC recommends women with HIV avoid breastfeeding.

1994: ACTG 076 study shows AZT reduces perinatal transmission.

1997: Routine newborn screening begins in New York.

1999: Expedited testing in obstetrical settings implemented.

2015 and 2018: No reported perinatal transmission in children born in NYC.

[1]Children born to HIV-positive mothers are followed for two years after birth to determine HIV status. HIV status is indeterminate if the child is lost to follow-up. [2]In this figure, women refers to people with female sex at birth. [3]Includes data collected at high-volume NYC medical facilities that care for the majority of HIV-exposed children and children living with HIV. Since 2017, the perinatal surveillance program has been conducted at 21 NYC medical facilities. Children born outside of NYC are not included in this figure. [4]Includes cases diagnosed as of Dec. 31, 2018.

From 2014 to 2018, less than 1% of infants born to HIV-positive women tested positive for HIV. The small number of HIV-positive infants reflects the success of interventions for perinatal HIV prevention.

ACUTE HIV INFECTION

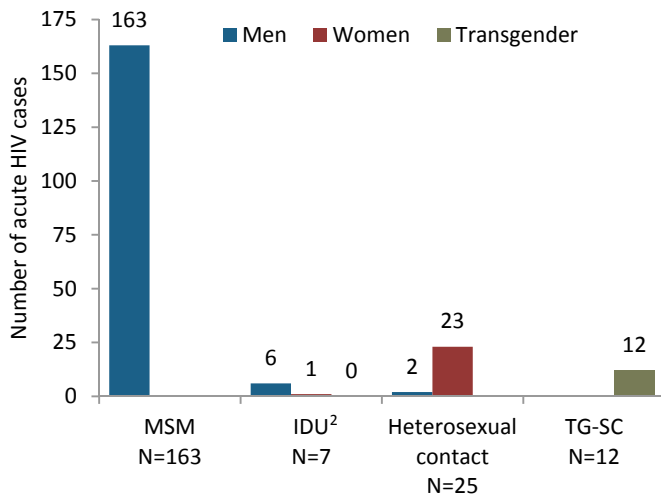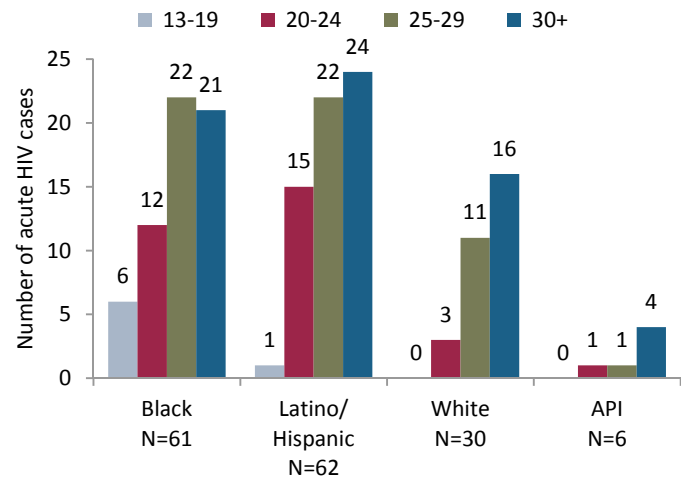**FIGURE 9.1**: Acute HIV infection by transmission risk category,[1] NYC 2018

FIGURE 9.2: Acute HIV infection among MSM, by race/ethnicity[3] and age group, NYC 2018

MSM=Men who have sex with men; IDU=Injection drug use history; TG-SC=Transgender people with sexual contact; API=Asian/Pacific Islander.
[1]There were N=37 AHI cases in 2018 with unknown transmission risk (Figure 9.1). [2]IDU includes MSM also reporting IDU (MSM-IDU). [3]Multiracial (N=4) and Native American (N=0) AHI cases not shown.

Diagnosis of HIV in the acute phase (AHI) enables early treatment, which reduces morbidity and onward transmission to exposed partners and may have some immunologic benefit. In 2018, 13% of newly diagnosed people were identified as having AHI, up from 10% of new diagnoses in 2014. MSM were overrepresented among AHI cases (Figure 9.1), in part due to higher testing frequency compared with other groups. Among MSM with AHI, a greater proportion of Black and Latino/Hispanic MSM were under 30 years of age compared with White and API MSM with AHI (Figure 9.2).

ESTIMATED HIV INCIDENCE

FIGURE 10.1: New HIV diagnoses and estimated incident HIV infections,[1] NYC 2014–2018[2]
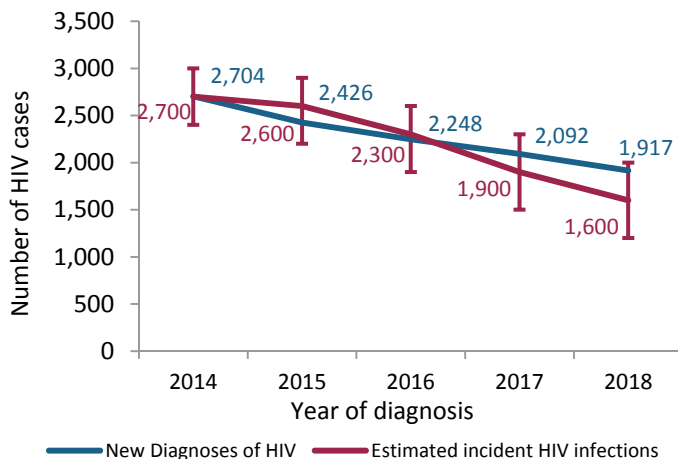
FIGURE 10.2: Trends in estimated incident HIV infections[1] by sex at birth and transmission risk, NYC 2014–2018[2]
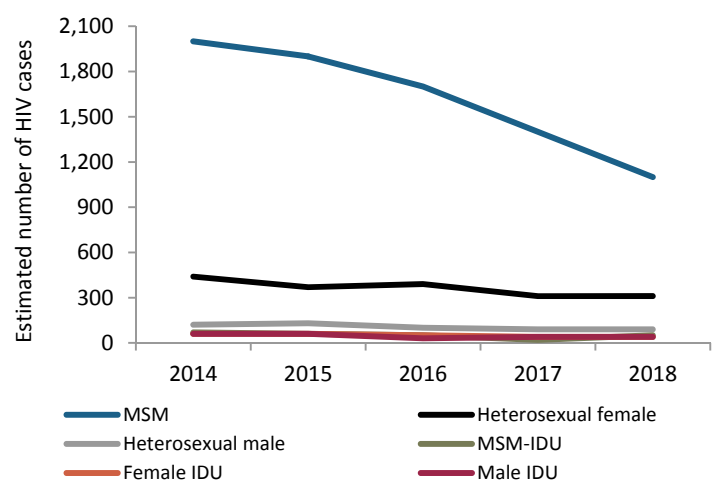
MSM=Men who have sex with men; IDU=Injection drug use history.
[1]Using the method in: Song R, et al. Using CD4 data to estimate HIV incidence, prevalence, and percent of undiagnosed infections in the United States. *J Acquir Immune Defic Syndr* 2017;74(1):3-9. [2]2018 incidence estimates are preliminary.

The current method being used nationally and locally to estimate incidence is based on distribution of CD4 count at HIV diagnosis to estimate timing of HIV infection. The CD4-depletion model uses parameters based on the U.S. national population. Estimated HIV incidence overall (Figure 10.1) and by transmission risk group (Figure 10.2) declined in NYC between 2014 and 2018.

FIGURE 11.1: HIV diagnoses by country of birth, NYC 2018

Country of Birth
Number of HIV Diagnoses (N)

- 0
- 1 - 13
- 14 - 32
- 33 - 92
- > 1000

0   1,000 2,000   4,000 Miles

FIGURE 11.2: Average annual HIV diagnosis rates by sub-region of birth, NYC 2013–2018
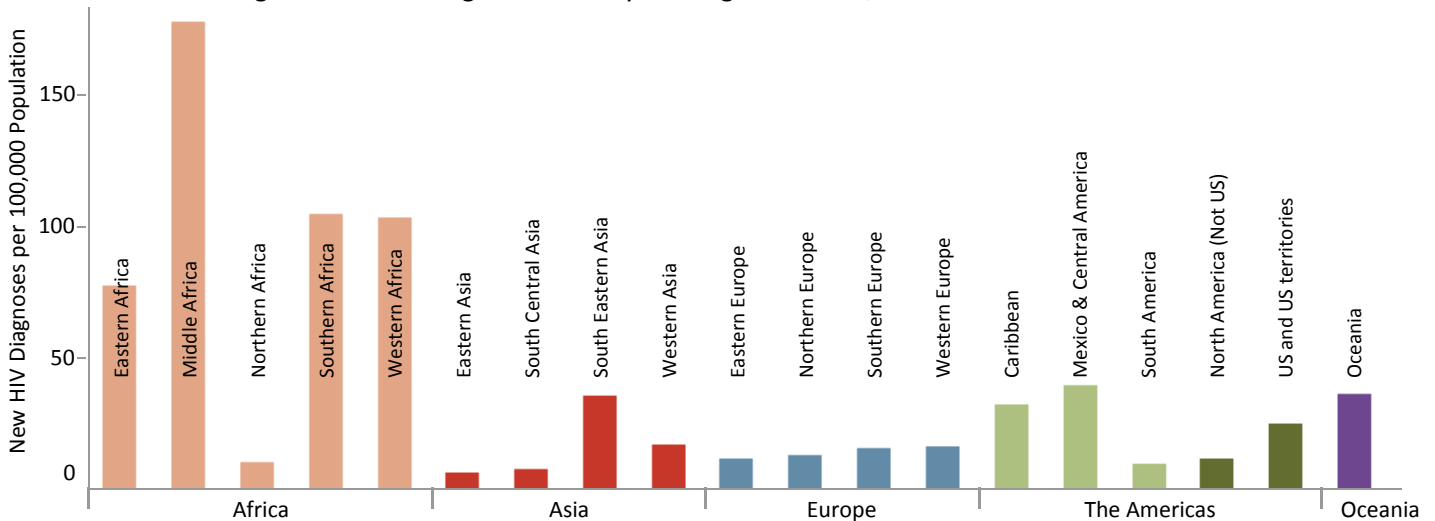
Rates calculated using 2013–2017 American Community Survey 5-Year Estimates of Sub-Regional Populations. Names of sub-regions are those used by the Census Bureau. For a list of countries included in each sub-region, see pages 95 to 104 of: https://www2.census.gov/programs-surveys/acs/tech_docs/code_lists/2017_ACS_Code_Lists.pdf?#.

FIGURE 11.3: Demographic characteristics of people diagnosed with HIV by place of birth, NYC 2018

■ % Non-US-Born
▬ % US-Born
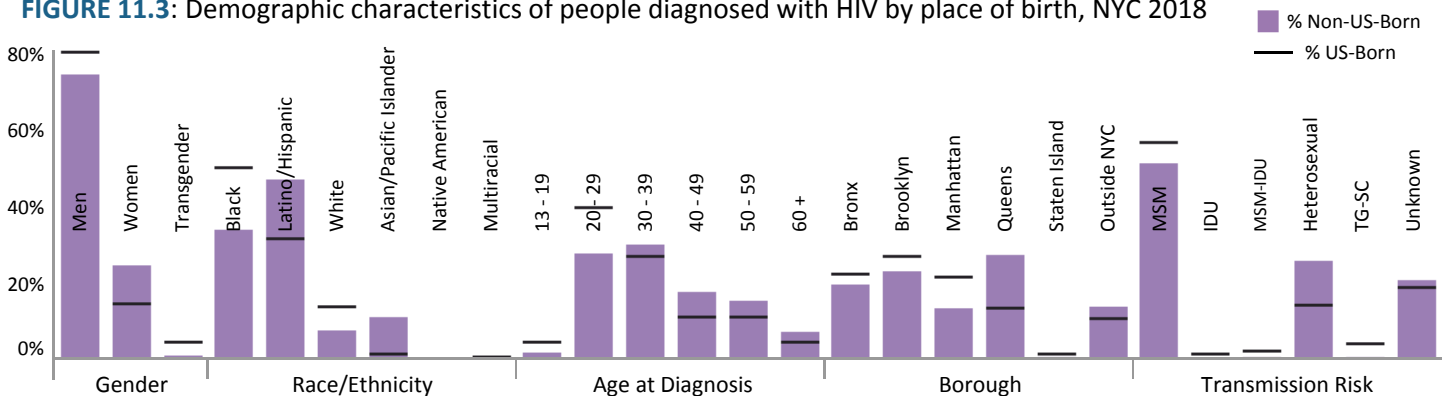
Figures do not include people newly diagnosed with HIV in NYC in 2018 with an unknown country of birth (N=234, 12.2% of new diagnoses).

People born in the U.S. and U.S. territories made up 63.9% (N=1,076) of those newly diagnosed with HIV in NYC in 2018. Places of birth with the highest numbers of New Yorkers newly diagnosed with HIV (United States and Central and South America, Figure 11.1) differed from the places of birth with the highest HIV diagnosis rates among New Yorkers (sub-regions of Africa, Figure 11.2). Figure 11.3 compares the proportion in each demographic group among newly diagnosed people born in the U.S. (black lines) with the proportion among those born outside the U.S. (purple bars). For example, 40% of those newly diagnosed and born in the U.S. were ages 20 to 29, compared with 28% of those born outside the U.S.

RE-ENGAGEMENT IN HIV CARE OF OUT-OF-CARE PEOPLE

FIGURE 12.1: Re-engagement in HIV care by race/ethnicity, years living with HIV and time out of care, NYC 2018[1]

Category	Subgroup	Value
Race/Ethnicity*	Black	61%
	Latino/Hispanic	71%
	White	64%
	Asian & Pacific Islander	62%
	Other [2]	62%
Years Living with HIV	≤16 years	62%
	>16 years	67%
Time Out of Care*	13-18 months	72%
	>18 months	45%
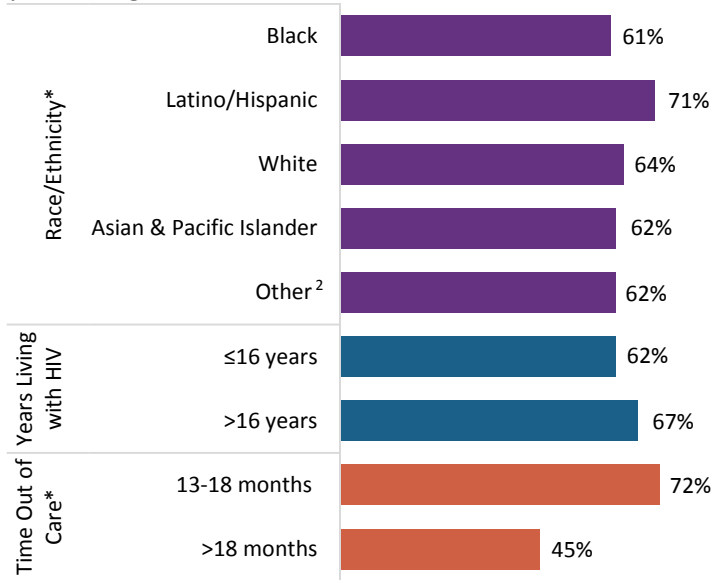
[1]Patients can belong to only one subgroup of each of the three major categories.
[2]Includes Native American and multiracial people.
*Statistically significant differences among subgroups (*P*<0.05).

FIGURE 12.2: Top six reasons for being out of HIV care among interviewed PLWH (N=905), NYC 2018[1]

Reason	Value
Competing Responsibilities[2]	30%
Medical Facility-Related[3]	17%
Felt Well	14%
Socioeconomic Issues[4]	14%
Other Health Issues[5]	12%
Forgot Appointment	5%
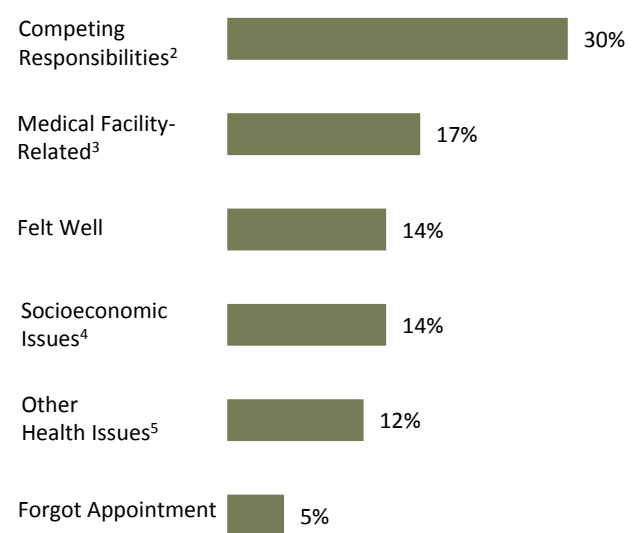
[1]Categories are not mutually exclusive; each person could give multiple answers.
[2]Work, childcare, too busy or other personal obligations.
[3]Inconvenient, no appointment availability, did not like or trust staff.
[4]Lack of health insurance or housing.
[5]Physical, mental or substance/alcohol use.

In 2018, the ACE (Assess. Connect. Engage.) Team investigated 1,056 people living with HIV and not engaged in care (no report of CD4, viral load or HIV genotype in ≥13 months); ACE re-engaged 679 (64%) into HIV care. Re-engagement was highest among Latino/Hispanic (71%) people and those out of care for 13 to 18 months (72%). Fewer than half (45%) of people out of care for >18 months were re-engaged (Figure 12.1). Primary barriers to care were competing responsibilities and access to, or satisfaction with, a medical facility (Figure 12.2).

TRANSMITTED DRUG RESISTANCE

FIGURE 13.1: Proportion of new HIV diagnoses with transmitted drug resistance (TDR),[1] 2014–2018

Year of Diagnosis	Proportion with TDR (%)
2014	15.0%
2015	15.2%
2016	14.9%
2017	16.7%
2018	12.7%

FIGURE 13.2: Proportion of new HIV diagnoses with TDR by drug class,[2] 2018

Drug Class	Proportion with TDR by drug class (%)
NRTI	4.0%
NNRTI	9.0%
PI	1.7%
INT	0.3%
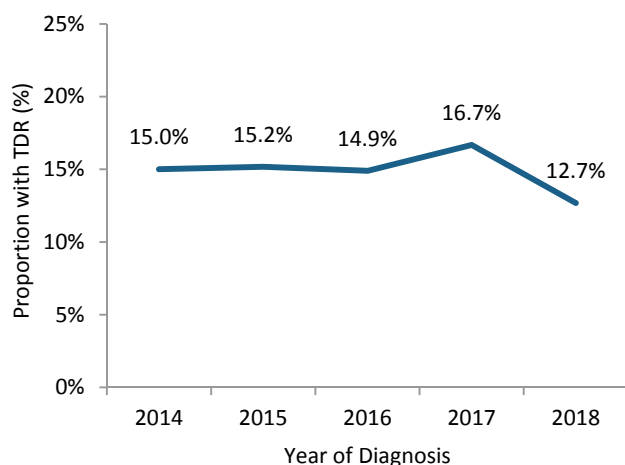
NRTI=Nucleoside Reverse Transcriptase Inhibitor; NNRTI=Non-nucleoside Reverse Transcriptase Inhibitor; PI= Protease Inhibitor; INT= Integrase Inhibitor.
[1]Evidence of resistance to any antiretroviral (ARV) drug in a newly diagnosed, ARV-naïve individual. [2]HIV can be resistant to more than one drug class.

Federal guidelines for the care and treatment of people with HIV recommend genotypic resistance testing at initiation of HIV care, both to establish a baseline and to guide therapy. In 2018, 57.6% of newly diagnosed people received a genotype within three months of diagnosis (compared with 59.6% in 2017), and 12.7% showed evidence of resistance to one or more antiretroviral drugs (Figure 13.1). Overall, transmitted drug resistance (TDR) was highest towards drugs in the non-nucleoside reverse transcriptase inhibitor (NNRTI) class (Figure 13.2).

HIV CARE AMONG PEOPLE NEWLY DIAGNOSED WITH HIV

FIGURE 14.1: Linkage to HIV care[1] within 30 days among newly diagnosed people, NYC 2014–2018
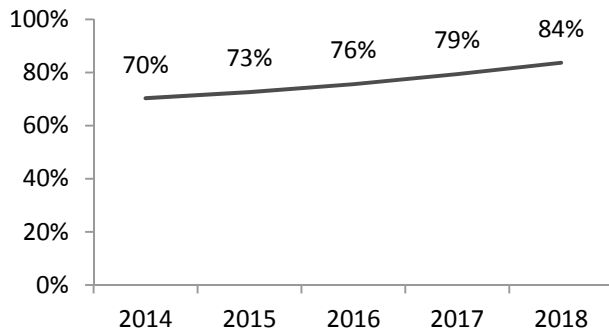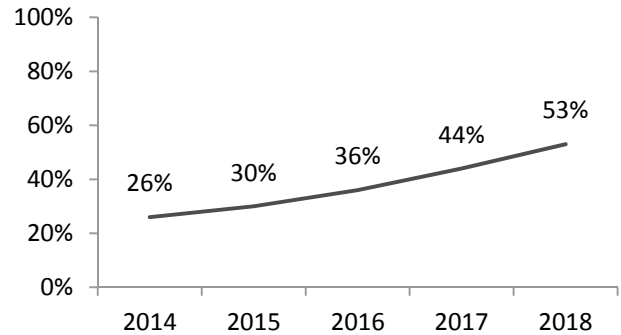
FIGURE 14.2: Viral suppression[2] within three months among newly diagnosed people, NYC 2014–2018

Timely linkage to HIV care (Figures 14.1 and 14.3) and timely viral suppression among (Figures 14.2 and 14.4) newly diagnosed people increased overall in New York City from 2014 to 2018.

FIGURE 14.3: Linkage to HIV care[1] within 30 days among newly diagnosed people, NYC 2018
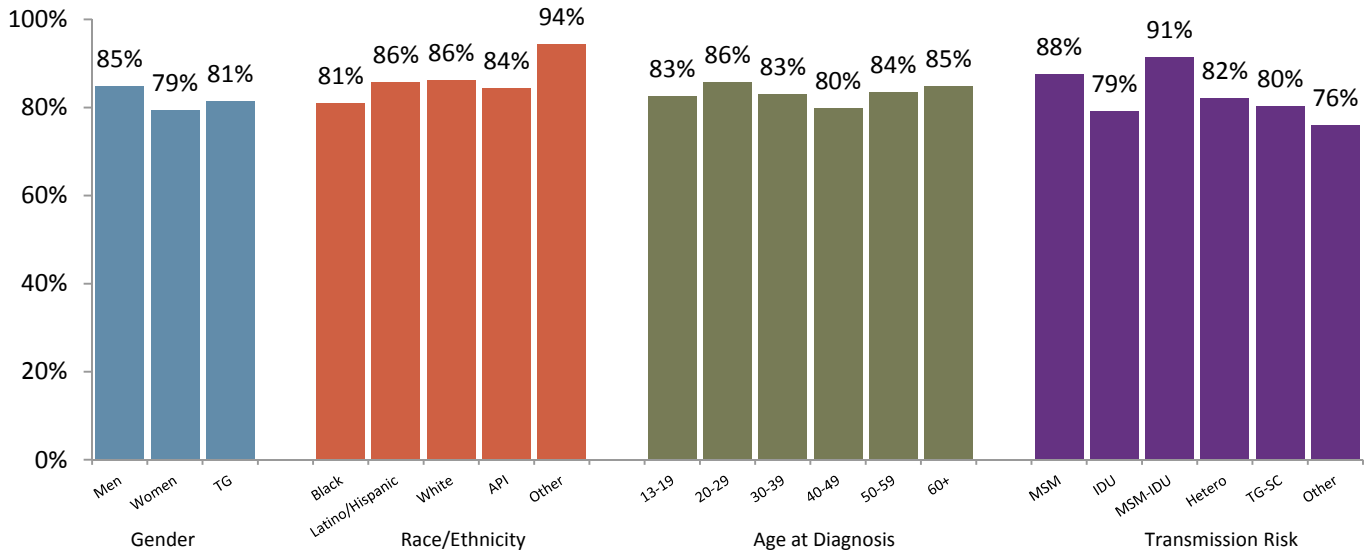
FIGURE 14.4: Viral suppression[2] within three months among newly diagnosed people, NYC 2018
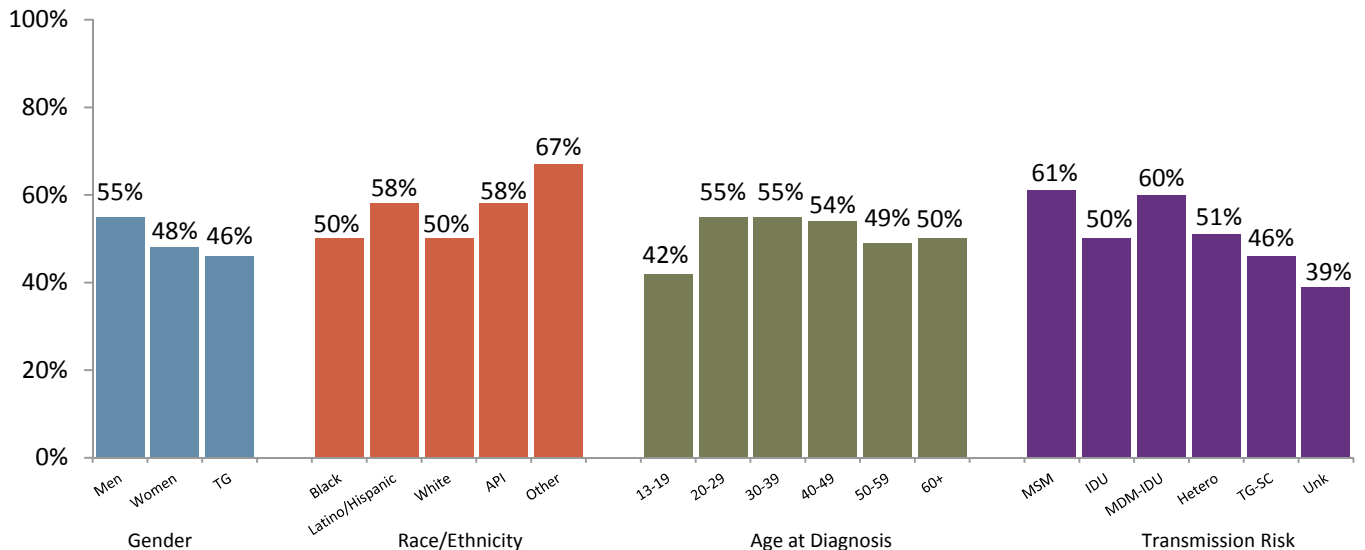
TG=Transgender; API=Asian/Pacific Islander; MSM=Men who have sex with men; IDU=Injection drug use history; TG-SC=Transgender people with sexual contact.
[1]HIV viral load (VL), CD4 or genotype test drawn within one month (30 days) of HIV diagnosis; includes those ages 13 and older. People newly diagnosed with HIV at death were excluded from linkage to care and timely viral suppression calculations. [2] At least one HIV VL within three months (91 days) of HIV diagnosis was <200 copies/mL; includes those ages 13 and older.

HIV CARE AMONG PEOPLE LIVING WITH HIV

FIGURE 15.1: Viral suppression[1] among people in HIV medical care,[2] NYC 2014–2018

81%   83%   85%   85%   87%
2014   2015   2016   2017   2018
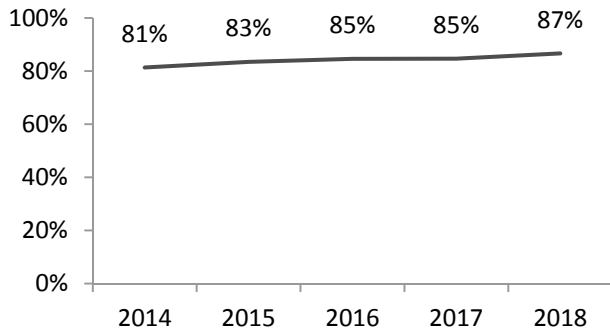
FIGURE 15.2: Sustained viral suppression[3] among people established in HIV medical care,[4] NYC 2014–2018

58%   62%   64%   66%   67%
2014   2015   2016   2017   2018
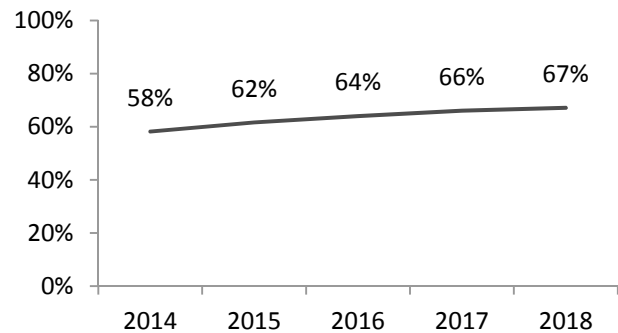
Viral suppression among people in HIV medical care (Figures 15.1 and 15.3) and sustained viral suppression among people established in HIV medical care (Figures 15.2 and 15.4) increased overall in New York City from 2014 to 2018.

FIGURE 15.3: Viral suppression[1] among people in HIV medical care,[2] NYC 2018

Gender: Men 87%, Women 85%, TG 78%
Race/Ethnicity: Black 83%, Latino/Hispanic 87%, White 93%, API 92%, Other 88%
Age in 2018: 13-19 74%, 20-29 78%, 30-39 83%, 40-49 86%, 50-59 88%, 60+ 92%
Transmission Risk: MSM 89%, IDU 84%, MSM-IDU 81%, Hetero 86%, TG-SC 86%, Other 78%
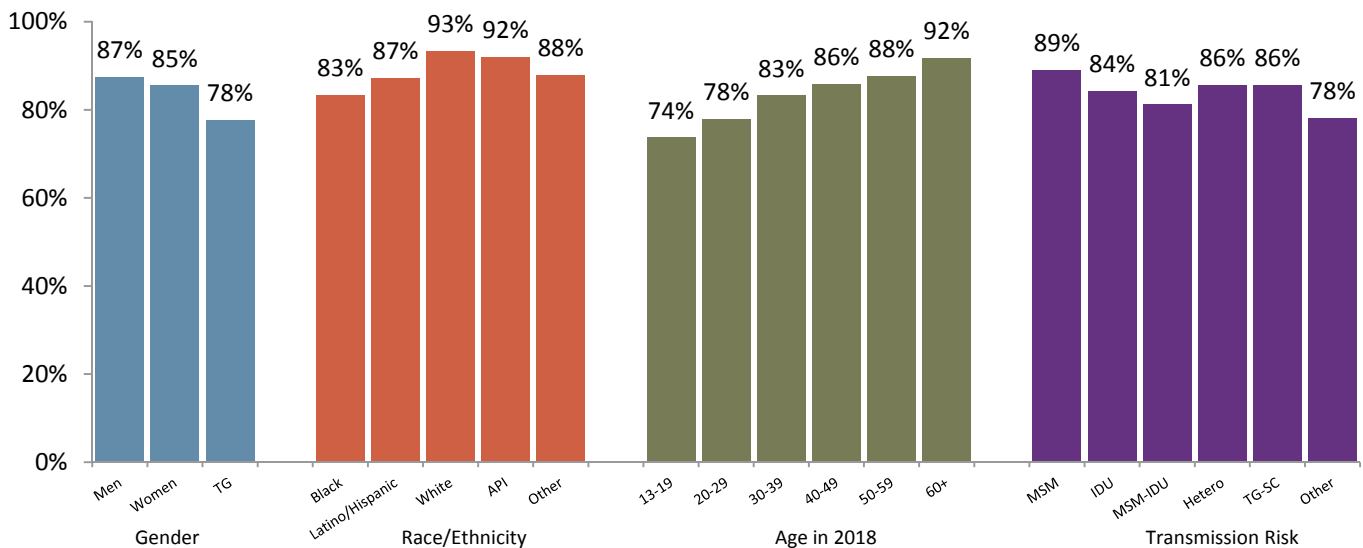
FIGURE 15.4: Sustained viral suppression[3] among people established in HIV medical care,[4] NYC 2018
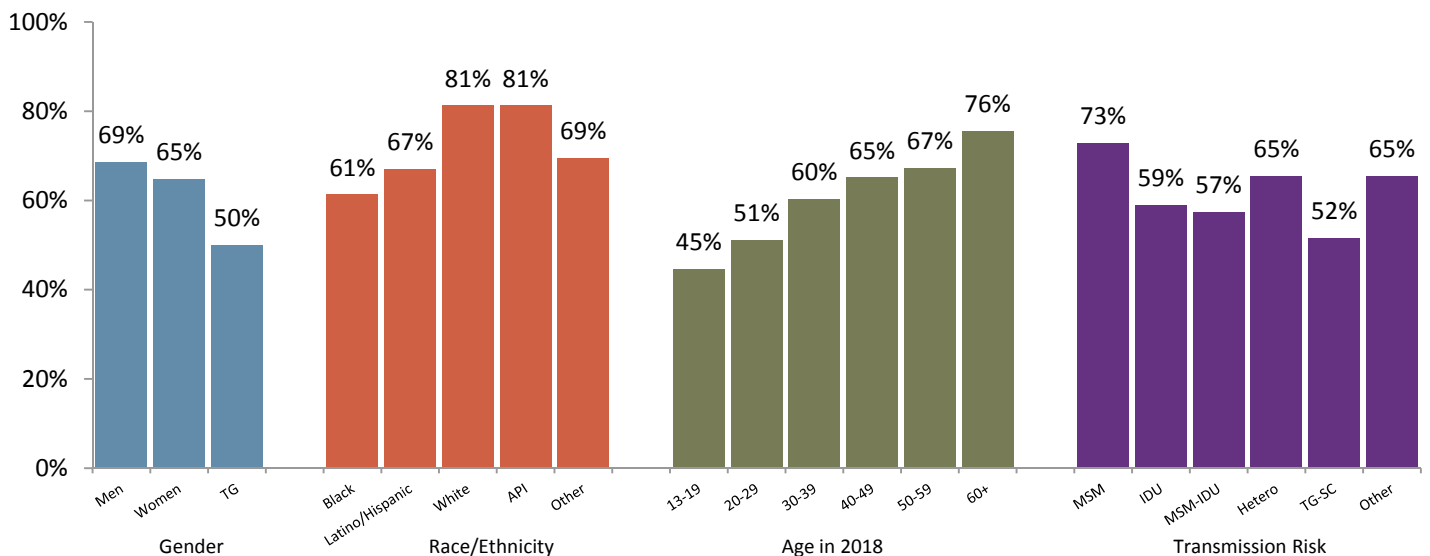
Gender: Men 69%, Women 65%, TG 50%
Race/Ethnicity: Black 61%, Latino/Hispanic 67%, White 81%, API 81%, Other 69%
Age in 2018: 13-19 45%, 20-29 51%, 30-39 60%, 40-49 65%, 50-59 67%, 60+ 76%
Transmission Risk: MSM 73%, IDU 59%, MSM-IDU 57%, Hetero 65%, TG-SC 52%, Other 65%

TG=Transgender; API=Asian/Pacific Islander; MSM=Men who have sex with men; IDU=Injection drug use history; TG-SC=Transgender people with sexual contact.
[1]Last HIV VL value in 2018 was <200 copies/mL. [2]At least one HIV VL/CD4 in 2018; includes those ages 13 and older. [3]At least two VL tests ≥14 months apart and all VLs <200 copies/mL in 2017 and 2018. [4]At least two VL tests in 2017 and 2018; includes those ages 13 and older.

NYC HIV CARE CONTINUUM

FIGURE 16.1: Proportion of PLWH in NYC engaged in selected stages of the HIV care continuum, NYC 2018
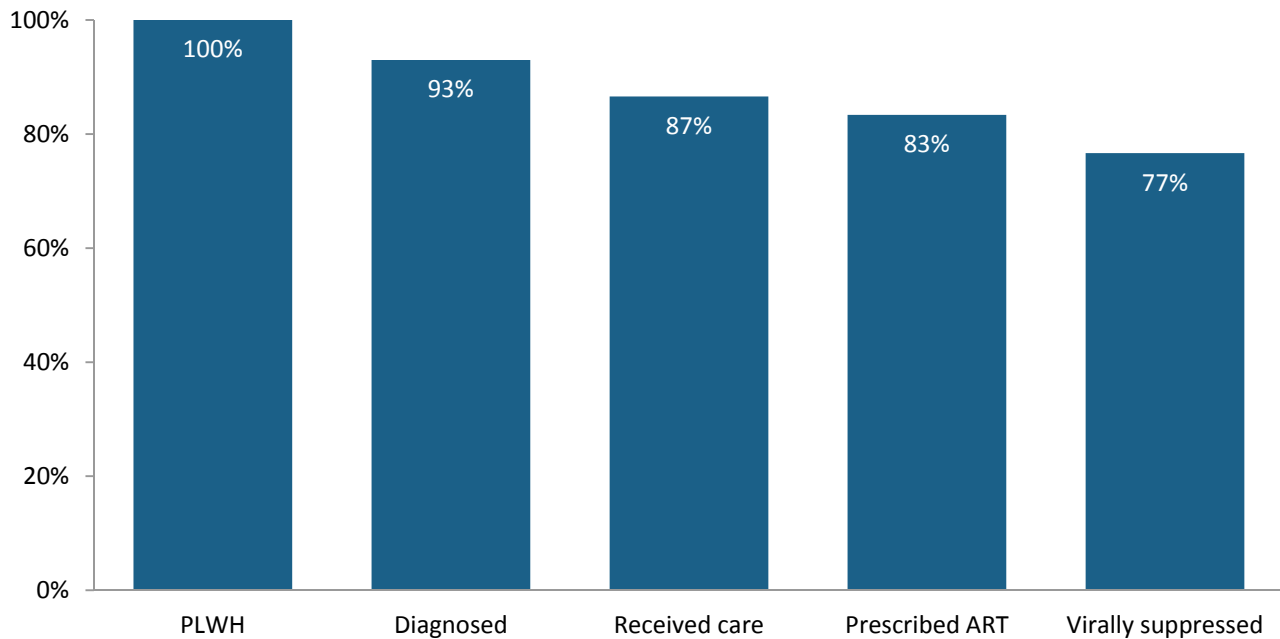
PLWH=People living with HIV; ART=antiretroviral therapy.
For definitions of the stages of the continuum of care, see Technical Notes on Page 16.

Of approximately 90,800 people living with HIV in NYC in 2018, 77% had a suppressed viral load (Figure 16.1).

SURVIVAL AMONG PEOPLE NEWLY DIAGNOSED WITH HIV

FIGURE 17.1: Survival among people newly diagnosed with HIV[1] and residing in low-poverty areas,[2] by race/ethnicity,[3] NYC 2013–2017
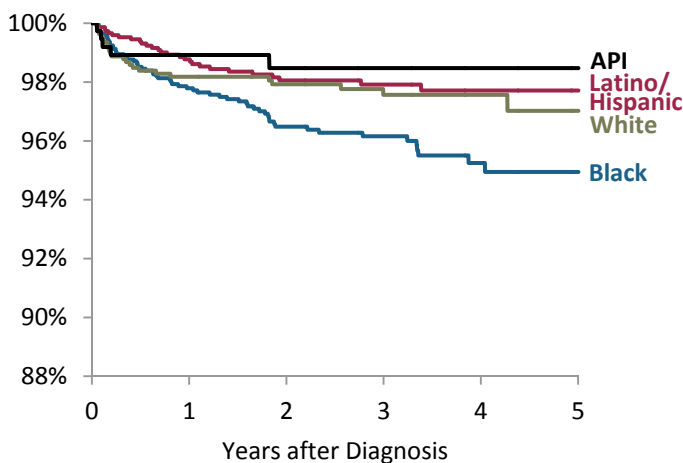
FIGURE 17.2: Survival among people newly diagnosed with HIV[1] and residing in high-poverty areas,[2] by race/ethnicity,[3] NYC 2013–2017
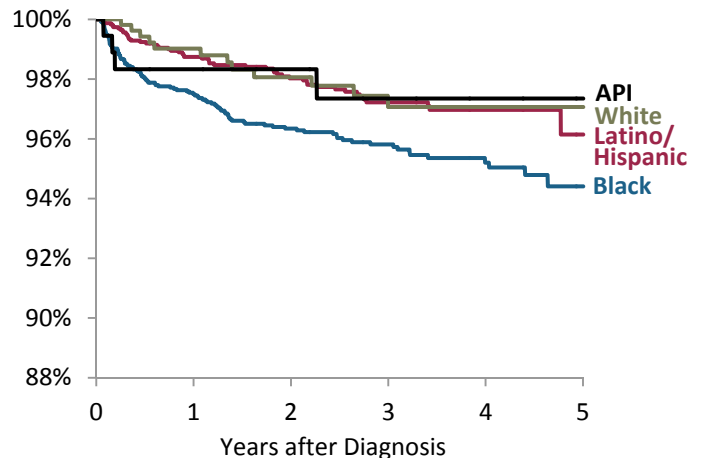
API=Asian/Pacific Islander.
[1]People newly diagnosed with HIV at death were excluded from the analysis. Curves include people diagnosed with HIV from 2013 through 2017 and followed through Dec. 31, 2017; people not known to have died were censored on Dec. 31, 2017. [2]Poverty level based on NYC ZIP code of residence at diagnosis (if available). Low-poverty area defined as <20% of population living below Federal Poverty Level; high-poverty area defined as ≥20% of population living below Federal Poverty Level. [3]Number of new diagnoses in 2017: Black (N=919), Latino/Hispanic (N=774), White (N=316), API (N=124), Native American (N=9, not shown) and Multiracial (N=15, not shown).

Inequities in survival by race/ethnicity persisted in NYC, with Black people dying sooner after HIV diagnosis than Asian/Pacific Islander people, White people and Latino/Hispanic people. Racial/ethnic inequities were evident in both low- and high-poverty areas.

MORTALITY AMONG PEOPLE WITH HIV

FIGURE 18.1: Age-adjusted death rates among people with HIV by HIV-related and non-HIV-related cause of death, NYC 2003–2017
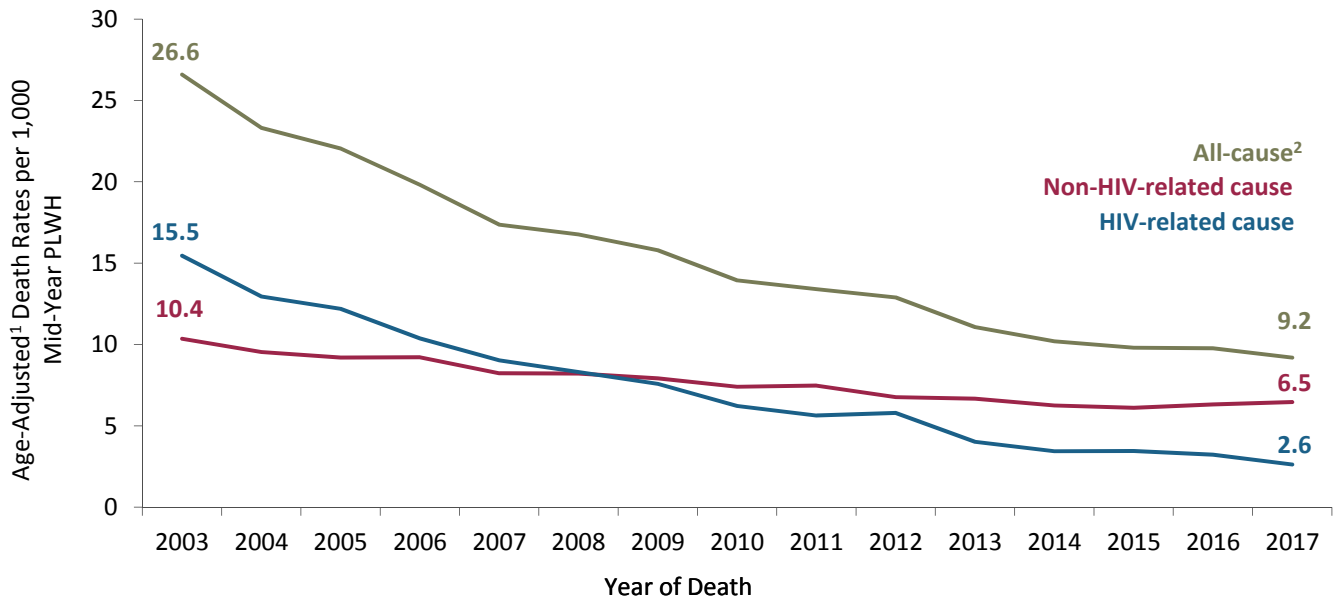
PLWH=People living with HIV.
[1]Age-adjusted to the NYC Census 2010 population. People newly diagnosed with HIV at death were excluded from the numerator.
[2]Includes people with unknown cause of death (2.2% of all deaths).

The all-cause death rate among people with HIV decreased by 65% from 2003 to 2017. Although the rates of both HIV-related and non-HIV-related causes of deaths decreased during this time, the decrease in the all-cause death rate was driven by fewer deaths attributed to HIV (Figure 18.1).

TABLE 18.1: Trends in proportions of major causes of death among people with HIV, NYC 2003-2017

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Deaths (N)	(2,902)	(2,717)	(2,692)	(2,467)	(2,337)	(2,357)	(2,245)	(2,079)	(2,061)	(1,906)	(1,863)	(1,803)	(1,768)	(1,801)	(1,759)
CAUSE OF DEATH[1]															
HIV-RELATED (%)	63	60	59	56	54	53	48	47	43	39	36	34	34	31	28
NON-HIV-RELATED (%)	34	37	39	43	46	46	50	51	54	59	60	61	63	67	71
CVD	8	9	9	10	11	12	13	13	13	15	14	16	17	19	22
CANCER[2]	8	9	10	11	12	13	14	13	15	16	16	15	17	16	18
ACCIDENTAL OD	0	0	0	1	5	3	4	3	3	5	4	4	5	7	8
INFECTIOUS DISEASES	3	4	4	4	5	3	4	5	4	5	6	6	5	5	3
EXTERNAL CAUSES	3	3	3	4	3	4	3	5	4	5	4	4	5	4	4
OTHER	12	12	13	13	9	11	12	11	15	13	17	16	14	15	16

Trend within a cause of death over time

Lowest   Middle   Highest

CVD=Cardiovascular diseases; OD=overdose.
[1]For definitions of the causes of death, see Technical Notes on Page 15. Deaths due to unknown causes are not shown.
[2]Deaths due to HIV-related cancers are included in HIV-related cause of death.

In 2003, the leading cause of death among people with HIV (PWH) was HIV, representing 63% of all deaths. At the end of 2017, although HIV was still the single leading cause of death among PWH, nearly three-quarters (71%) of deaths were due to non-HIV-related causes. Since 2003, there have been substantial increases in the proportions of deaths due to cardiovascular diseases (22% of all deaths in 2017) and non-HIV-related cancers (18% of all deaths in 2017) among PWH (Table 18.1).

HIV PREVALENCE AMONG PEOPLE WHO INJECT DRUGS

FIGURE 19.1: HIV prevalence by gender, age and race/ethnicity among National HIV Behavioral Surveillance Study participants[1] (N=502), Injection Drug Use cycle 2018
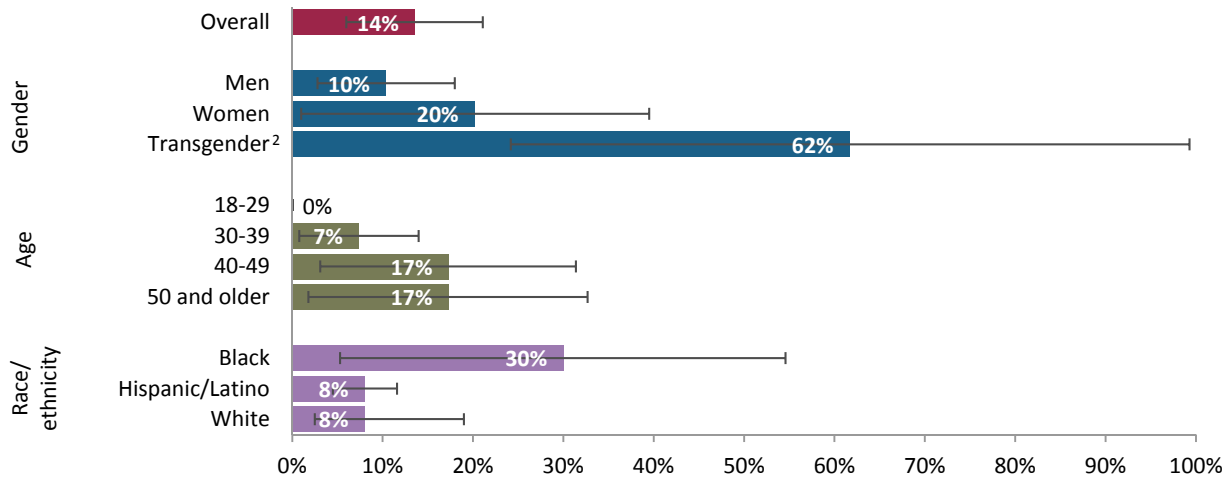
Black lines represent 95% confidence limits. [1]Eligible participants had a history of injecting drugs not prescribed in the past 12 months, were ≥18 years old at the time of the interview and lived in the NYC metropolitan statistical area. Participants were recruited via respondent-driven sampling. Estimates are weighted using population weights, which take into account differential recruitment by group and group network size. Participants not tested for HIV were excluded from analysis. [2]Among N=9 participants who self-identified as transgender.

The National HIV Behavioral Surveillance (NHBS) project is a national, ongoing study of people at high risk for HIV. In the 2018 cycle, participants were people who inject drugs (PWID). Among participants tested for HIV (N=502), 14% were found to be living with HIV. Prevalence was higher among transgender participants, participants age 40 and older and Black participants (Figure 19.1).

UNMET NEEDS AMONG PEOPLE LIVING WITH HIV

FIGURE 20.1: Top unmet needs[1] among Medical Monitoring Project participants (N=1,004), 2015–2017
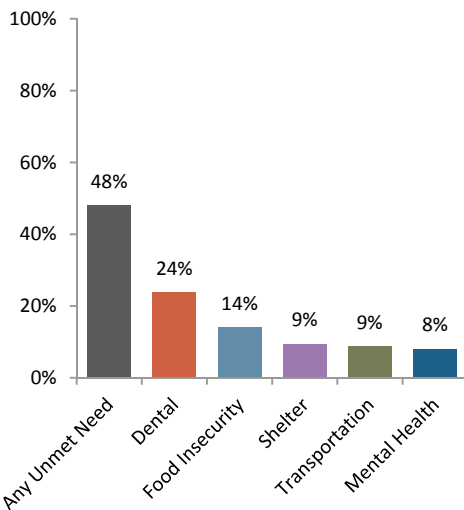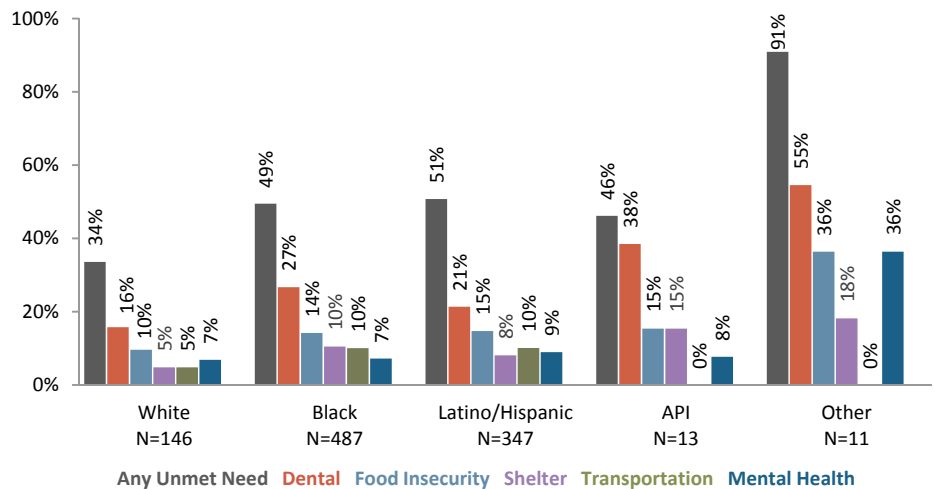

FIGURE 20.2: Unmet needs[1] among Medical Monitoring Project participants (N=1,004) by race/ethnicity, 2015–2017

API=Asian/Pacific Islander. "Other" race/ethnicity includes Native American and multiracial participants.
For inclusion in each category participants must have answered NO to receipt of service and YES to a need of that service:
   Dental Care: "During the past 12 months, have you needed dental care?"; **Food Insecurity**: "During the past 12 months, have you needed food assistance or food stamps?" OR "During the past 12 months, have you needed meal or food services?"; **Transportation Assistance**: "During the past 12 months, have you needed transportation assistance?"; **Shelter**: "During the past 12 months, have you needed shelter or housing services?"; **Mental Health**: "During the past 12 months, have you needed to see or talk to a mental health professional about your health?"
[1]Unmet needs are not mutually exclusive. Participants could report more than one unmet need.

The Medical Monitoring Project (MMP) is an ongoing annual national surveillance study of people with HIV. Among the 1,004 MMP participants interviewed in the 2015, 2016 and 2017 cycles, nearly half (48%) reported at least one need for a service not received in the past year (Figure 20.1). The top unmet needs included dental care, food assistance, transportation, shelter and mental health services. Greater proportions of non-White participants reported any unmet needs (Figure 20.2). Dental care and food services were consistently the most frequently reported unmet needs across racial/ethnic groups.

TECHNICAL NOTES

ABOUT THIS REPORT: This report provides an overview of the HIV epidemic in NYC using HIV surveillance data and presents highlights for the reporting period based on core surveillance activities. All data are based on information received by the New York City Department of Health and Mental Hygiene (the Health Department) as of March 31, 2019 and are for calendar year 2018 unless otherwise noted.

HIV SURVEILLANCE: The NYC HIV Epidemiology Program (HEP) manages the HIV surveillance registry, a population-based registry of all people diagnosed with AIDS (since 1981) or HIV (since 2000) and reported to the Health Department according to standard Centers for Disease Control and Prevention (CDC) case definitions.[1] The Registry contains demographic, HIV transmission risk and clinical information on HIV-diagnosed people, as well as all diagnostic tests, viral load tests, CD4 counts and HIV genotypes reportable under New York State law.[2] For a list of surveillance definitions and technical notes, see www1.nyc.gov/site/doh/data/data-sets/hiv-aids-annual-surveillance-statistics.page.

GENDER IDENTITY ASCERTAINMENT: Surveillance collects information about individuals' current gender identity, when available. This report displays the following gender categories: men, women and transgender. People whose current gender identity differs from their sex assigned at birth are considered transgender. Classifying transgender people in surveillance requires accurate collection of both sex assigned at birth and current gender identity. Sex and gender information are collected from people's self-report, their diagnosing provider or medical chart review. This information may or may not reflect the individual's self-identification. Transgender status has been collected routinely since 2005 for newly reported cases. Reported numbers of new transgender HIV diagnoses and transgender PLWH are likely to be underestimates. For more information, see the "HIV among People Identified as Transgender in New York City" surveillance slide set available at: www1.nyc.gov/assets/doh/downloads/pdf/dires/hiv-in-transgender-persons.pdf. Surveillance collects information on other gender identity categories, including "Non-binary/Gender non-conforming." In this report, data for these individuals (N=7 at the time of publication) are displayed by sex at birth.

PERINATAL AND PEDIATRIC HIV SURVEILLANCE: HEP collects data on infants exposed to HIV or living with HIV and children diagnosed with HIV before 13 years of age. Data are used to monitor mother-to-child HIV transmission, measure perinatal HIV transmission rates and describe morbidity and mortality among HIV-positive children. In addition to routine HIV and AIDS case surveillance, perinatal and pediatric surveillance data are informed by a range of other activities and data sources, including longitudinal case follow-up, the New York State Department of Health's Comprehensive Newborn Screening Program and CDC-funded special projects related to pediatric HIV.

ACUTE HIV SURVEILLANCE: Since 2008, HEP has conducted routine surveillance and field investigation of individuals diagnosed in the acute stage of HIV (AHI) in NYC. For NYC's AHI case definition, see www1.nyc.gov/assets/doh/downloads/pdf/ah/definition-acute-hiv-infection.pdf.

DEATH DATA: Data on deaths occurring in NYC are from matches with the NYC Vital Statistics Registry, medical chart reviews and provider reports, including HIV-positive autopsies by the Office of the Chief Medical Examiner. Data on deaths occurring outside NYC are from matches with the Social Security Death Master File and National Death Index. As of the time of publication of this report, death data for 2018 are incomplete. They include preliminary NYC death data and National Death Index data and partial Social Security Death Master File data.

CAUSE OF DEATH: Cause of death used for analyses in this report is a person's underlying cause of death. For deaths occurring between 1984 and 1986, ICD9 code 279.1 was used to denote AIDS-related deaths. For deaths occurring between 1987 and 1998, ICD9 codes 042-044 were used to denote HIV/AIDS-related deaths. For deaths occurring between 1999 and 2017, ICD10 codes B20-B24 were used to denote HIV/AIDS-related deaths. "Other" category includes anemia, chronic liver diseases, chronic lower respiratory disease, diabetes mellitus and other known causes not otherwise listed. For technical notes on cause of death by the Health Department's Office of Vital Statistics, see https://www1.nyc.gov/assets/doh/downloads/pdf/vs/2017sum.pdf.

AREA-BASED POVERTY: Area-based poverty is based on NYC ZIP code of residence and is defined as the percent of the population in a ZIP code whose household income is below the Federal Poverty Level. This measure is not available for people missing ZIP code or living outside NYC. Income data used in this report are from the 2007–2011 American Community Survey (ACS) for events (e.g., diagnoses, deaths, care indicators) occurring in 2006–2009, ACS 2008–2012 for events occurring in 2010, ACS 2009–2013 for events occurring in 2011, ACS 2010–2014 for events occurring in 2012, ACS 2011–2015 for events occurring in 2013, ACS 2012–2016 for events occurring in 2014 and ACS 2013–2017 for events occurring in 2015–2018. Cut-points for categories of area-based poverty in NYC were defined by a Health Department workgroup.[3]

NATIONAL HIV BEHAVIORAL SURVEILLANCE: National HIV Behavioral Surveillance (NHBS) is a national, ongoing surveillance activity sponsored by the CDC and collects data on behavioral risk factors for HIV, HIV testing behaviors and the receipt or use of prevention services and strategies. NYC is one of 22 NHBS sites. Surveillance is conducted in rotating, annual cycles in three different populations at increased risk for HIV: 1) Gay, bisexual, and other men who have sex with men; 2) People who inject drugs (PWID); and 3) Heterosexuals at increased risk for HIV. For more information on NHBS, see www.cdc.gov/hiv/statistics/systems/nhbs/index.html.

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[1]Centers for Disease Control and Prevention. Revised surveillance case definition for HIV infection—United States, 2014. MMWR 2014; 63:1-10.

[2]State of New York Laws. HIV Testing and Counseling. Public Health Law Section 2130 et seq. Albany, NY: State of New York.

[3]Toprani A, Hadler JL. Selecting and applying a standard area-based socioeconomic status measure for public health data: analysis for New York City. New York City Department of Health and Mental Hygiene: *Epi Res Report*. May 2013; 1-12.

TECHNICAL NOTES (CONTINUED)

MEDICAL MONITORING PROJECT: The Medical Monitoring Project (MMP) is a national, ongoing supplemental surveillance study sponsored by the CDC and designed to understand more about the health behaviors, outcomes, and needs of PLWH; NYC is one of 23 sites. A two-stage sampling design is used to obtain a probability sample of in-care and out-of-care HIV-positive adults known to the HIV surveillance registry. The project is cross-sectional and is conducted yearly. For more information on the Medical Monitoring Project, see www.cdc.gov/hiv/statistics/systems/mmp/.

NYC HIV CARE CONTINUUM: "People living with HIV" is calculated as the number of HIV-diagnosed divided by the estimated proportion of PLWH who had been diagnosed (92.8%), based on a CD4 depletion model (Source: NYC HIV Surveillance Registry. Method: Song R, et al. Using CD4 Data to Estimate HIV Incidence, Prevalence, and Percent of Undiagnosed Infections in the United States. J Acquir Immune Defic Syndr. 2017 Jan 1;74(1):3-9). "HIV-diagnosed" is calculated as the number of PLWH retained in care plus the estimated number of PLWH who were out of care, based on a statistical weighting method. This estimated number aims to account for out-migration from NYC, and therefore is different from the total number of people diagnosed and reported with HIV/AIDS in NYC (Source: NYC HIV Surveillance Registry; method: Xia Q, et al. Proportions of Patients With HIV Retained in Care and Virally Suppressed in New York City and the United States. JAIDS 2015;68(3):351-358). "Received care" is defined as PLWH with ≥1 VL or CD4 count or CD4 percent drawn in 2018, and reported to NYC HIV surveillance (Source: NYC HIV Surveillance Registry). "Prescribed ART" is calculated as the number of PLWH retained in care multiplied by the estimated proportion of PLWH prescribed ART in the previous 12 months (96.3%), based on the proportion of NYC MMP participants whose medical record included documentation of ART prescription (Source: NYC HIV Surveillance Registry and NYC MMP, 2017). "Virally suppressed" is calculated as PLWH in care with a most recent viral load measurement in 2018 of <200 copies/mL, plus the estimated number of out-of-care 2018 PLWH with a VL<200 copies/mL, based on a statistical weighting method (Source: NYC HIV Surveillance Registry; method: Xia Q, et al. Proportions of Patients With HIV Retained in Care and Virally Suppressed in New York City and the United States. JAIDS 2015;68(3):351-358).

NOTES ABOUT CARE CONTINUUM-SPECIFIC ESTIMATES: The number of PLWH (first bar of the care continuum) represents an estimate of all people living with HIV in NYC at the end of 2018. The number of PLWH presented elsewhere (e.g., Table 3.1) represents people ever diagnosed with HIV, reported in NYC and not known to have died as of December 31, 2018. Viral suppression estimates in the care continuum are among all New Yorkers living with HIV. These differ from Figures 15.1 and 15.3, which show viral suppression among PLWH in care in 2018.

HIV PROVIDER REPORTING

All diagnostic and clinical providers (e.g., doctors, nurses, physician assistants and all others diagnosing HIV or providing care to HIV-positive people) and laboratories are required by law to report specific HIV-related events.

REPORT HIV/AIDS CASES: Providers are required by law to report cases of HIV or AIDS to the Health Department within 14 days. Provider report forms (PRFs) must be completed for the following events: 1) new diagnosis of HIV (i.e., acute HIV or first report of an HIV antibody positive test result); 2) new diagnosis of AIDS (CD4<200 or opportunistic infection); or 3) patient with previously diagnosed HIV or AIDS during their first visit. PRFs can be submitted electronically (ePRF) by accessing the New York State provider portal: https://commerce.health.state.ny.us. Instructions for accessing the portal are available here: www.health.ny.gov/diseases/aids/providers/regulations/partner_services/docs/partner_services_materials.pdf. For assistance with the provider portal or to request paper copies of the PRF (DOH-4189 rev 09/2016), please call **518-474-4284**. To arrange for pickup of a completed paper PRF, call the NYC HIV Surveillance Provider line at **212-442-3388**. In order to protect patient confidentiality, PRFs may not be mailed or faxed to the Health Department.

DISCUSS PARTNER SERVICES AND REPORT PARTNERS: The Health Department's ACE (Assess. Connect. Engage.) Team was established in 2006 to assist HIV medical providers and patients diagnosed with HIV with partner services and linkage to care. Partner services, a free program offered by the Health Department to all people diagnosed with HIV, helps people with HIV determine how to best notify their sex or needle sharing partners. As required by New York State Public Health Law, providers must report all known sex or needle-sharing partners to the Health Department so that partners can be notified of their potential exposure to HIV.

To report partners, call the Health Department's Contact Notification Assistance Program (CNAP) at **212-693-1419** or complete the PRF whenever partner information is available (either at the time of the reportable event or at a follow-up visit). Key partner information to report includes: each partner's first and last name (alias, if applicable), date of birth or estimated age, gender and domestic violence screening result.

For more information on HIV provider reporting, see www1.nyc.gov/site/doh/data/data-sets/hiv-aids-how-to-report-a-diagnosis.page.

ADDITIONAL RESOURCES

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE WEBSITE: www1.nyc.gov/site/doh/index.page

CARE STATUS REPORTS: The Care Status Report (CSR) is a program designed to assist providers in identifying patients who are out of care in NYC. The CSR system is a secure, web-based application that enables facilities to electronically submit eligible out-of-care patients (less than six months) to the Health Department for a query against the HIV registry for return of limited outcome information on the patients' current HIV care status in NYC. The care status outcomes include: follow-up needed; possibly in care; established in care; no follow-up needed – deceased; non-case; or pending further investigation by the Health Department. The outcomes are based on HIV-related laboratory test data (CD4 counts and viral load tests) reported to the NYC HIV Surveillance system and information on vital status. For more information about the CSR, visit www1.nyc.gov/site/doh/health/health-topics/aids-hiv-care-status-reports-system.page.

CARE CONTINUUM DASHBOARDS: The HIV Care Continuum Dashboards (HIV CCDs) use Health Department HIV surveillance data to show the performance of providers who give HIV care to the majority of New Yorkers living with HIV. The CCDs contain information on how quickly New Yorkers newly diagnosed with HIV are linked to care and how well their viral load is controlled. Currently, data are available for 62 NYC HIV care providers. The goal of the CCDs is to improve HIV care and accelerate efforts to end the HIV/AIDS epidemic in NYC. For more information about the CCDs, visit www1.nyc.gov/site/doh/health/health-topics/care-continuum-dashboard.page.

ADDITIONAL HEALTH DEPARTMENT RESOURCES ON HIV IN NYC:

NYC HIV Epidemiology Program:
www1.nyc.gov/site/doh/data/data-sets/aids-hiv-epidemiology-and-field-services.page

Other information on HIV/AIDS, including HIV testing sites in NYC, condom distribution and Health Department Sexual Health Clinics:
www1.nyc.gov/site/doh/health/health-topics/aids-hiv.page

ADDITIONAL HEALTH DEPARTMENT DATA RESOURCES:

Data and Statistics: www1.nyc.gov/site/doh/data/data-sets/data-sets-and-tables.page

EpiQuery, NYC Interactive Health Data System: https://a816-health.nyc.gov/hdi/epiquery/

Geographical Information System (GIS) Center Map Gallery: www1.nyc.gov/site/doh/data/health-tools/maps.page

OTHER HIV RESOURCES:

National HIV surveillance, including CDC's case definitions for HIV surveillance: www.cdc.gov/hiv/statistics/

New York State Ending the Epidemic (ETE) Dashboard System: http://etedashboardny.org/

AIDSVu, including interactive online maps illustrating the prevalence of HIV in the United States: http://aidsvu.org/

Fast-Track Cities Initiative, tracking progress against UNAIDS 90-90-90 targets: http://www.fast-trackcities.org/

ACKNOWLEDGMENTS

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