



Epi Data Brief

New York City Department of Health and Mental Hygiene

December 2015, No. 60

HIV Viral Load Suppression among HIV-infected Persons Receiving Medical Care in New York City

A primary goal of HIV public health programs is for persons living with HIV/AIDS (PLWHA) to achieve levels of HIV in their blood below the level of detection on clinical laboratory tests, also called viral suppression. Viral suppression is associated with improved health and survival, as well as reduced risk of transmitting HIV to partners.¹ PLWHA can lower their viral load by taking antiretroviral therapy (ART) as part of regular medical care. While connecting PLWHA to medical care can be challenging, those already in care should initiate ART and become virally suppressed. This data brief presents demographic, behavioral, and clinical characteristics of PLWHA known to be receiving care in New York City (NYC) in 2013.

Most persons living with HIV in medical care are virally suppressed

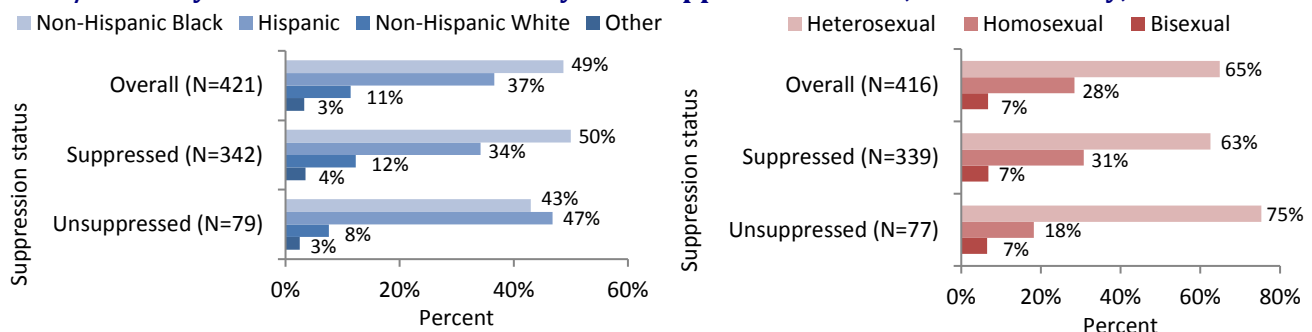
- Among 421 participants in the Medical Monitoring Project (MMP) receiving care from January through April 2013, 259 (62%) were men, 205 (49%) were non-Hispanic Black, 154 (37%) were Hispanic, 233 (55%) were ages 50 or older, and 268 (64%) resided in the Bronx or Brooklyn.
- Sex, race/ethnicity, age, and borough of residence of MMP participants were comparable with adult PLWHA in NYC who were reported to HIV surveillance with at least one HIV care visit during the same period.
- Seventy-nine (19%) MMP participants were virally unsuppressed. Among these participants, 37 (47%) were Hispanic. Hispanic participants were less likely to have health insurance, 89% compared with 98% for both non-Hispanic Black and White participants, which may partially account for this pattern.
- Among 416 MMP participants with sexual orientation information, 77 (19%) were virally unsuppressed. Of these, 58 (75%) self-identified as heterosexual, 14 (18%) as homosexual, and 5 (7%) as bisexual.

Data sources: The Medical Monitoring Project (MMP) is an ongoing, national study conducted by the Centers for Disease Control and Prevention designed to understand more about the health behaviors, outcomes, and needs of persons living with HIV/AIDS; NYC is one of 23 sites. Participants are a sample of HIV-infected adults (ages 18 and older) in care at randomly selected medical facilities that provide HIV care who agree to be interviewed and have their medical records abstracted.

The results presented are from 421 participants in the 2013 MMP cycle. Participants had at least one outpatient care visit at a selected NYC facility between January 1, 2013 and April 30, 2013 and were interviewed 4 to 12 months later about their demographics, clinical care and status, health behaviors, and HIV-related service needs. Medical records were also reviewed to obtain clinical history from the two years preceding the interview date. Only patients with a complete interview, medical record abstraction, and viral load test data are included in these analyses.

2013 HIV surveillance data were used to create a comparison sample. These data come from a registry of all HIV/AIDS cases reported to the NYC Health Department.

Race/ethnicity[^] and sexual orientation by viral suppression status,* New York City, 2013



Source: Medical Monitoring Project interview and medical record abstraction data, 2013

[^]“Other” race/ethnicity includes non-Hispanic Asian, native Hawaiian or other Pacific Islander, American Indian, Alaska native, and multi-racial persons.

*Viral suppression, defined as viral load ≤ 200 copies/mL, is based on most recent viral load test during the 24-month period prior to the MMP interview.

For N=7 subjects, viral load tests were unavailable on the medical record and self-reported viral load result was used. The distributions of participants by race/ethnicity and sexual orientation groups by viral suppression status are not statistically significant (see Data Table).

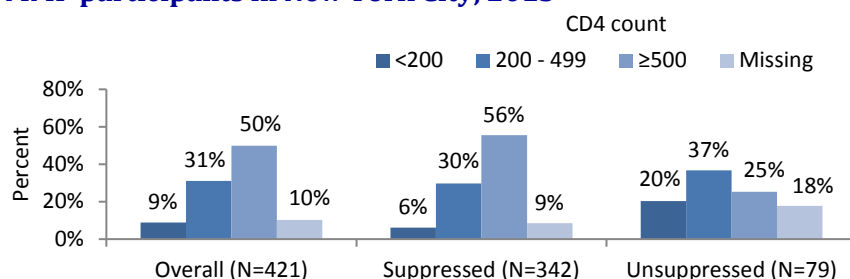
Risk factor prevalence did not differ by viral suppression status

- The prevalences of risk behaviors associated with HIV transmission were similar among those who were virally suppressed and unsuppressed, such as sex without a condom (21% vs. 22%), non-injection drug use (27% vs. 23%), and alcohol use (49% vs. 46%) in the past year.
- While homelessness was not found to be associated with viral suppression status, the prevalence of homelessness was high; one in eight participants reported having lived on the street, in a shelter, in a single-room occupancy hotel, or in a car in the past year.

Antiretroviral therapy (ART) prescription and CD4 cell count were lower among virally unsuppressed participants

- Nearly all participants (97%) reported ever being prescribed ART, and 95% reported currently taking ART when they were interviewed for MMP.
- These percentages were slightly lower among the 79 virally unsuppressed participants, with 73 (92%) reporting ever being prescribed ART, and 65 (82%) reporting currently taking ART.
- Among virally unsuppressed participants, median viral load was 1,355 copies per milliliter of blood.
- Overall, participants had a median CD4 count of 531 cells/mm³. Median CD4 count was 564 cells/mm³ among virally suppressed participants compared with 352 cells/mm³ among unsuppressed patients.
- Over 20% of virally unsuppressed participants had a CD4 count of less than 200 cells/mm³, indicating stage 3 HIV (AIDS),² compared with 6% of those that were virally suppressed.

CD4 count, overall and by viral suppression status* among MMP participants in New York City, 2013



Source: Medical Monitoring Project interview and medical record abstraction data, 2013

*Viral suppression, defined as viral load ≤ 200 copies/mL, is based on most recent viral load test during the 24-month period prior to the MMP interview. For 7 subjects, viral load tests were unavailable on the medical record and self-reported viral load result was used. CD4 counts were measured on the same date as the viral load results used to calculate viral suppression status.

Definitions:

Viral load: Viral load is a measure of how much HIV virus is in a person's blood. Viral load suppression refers to when the amount of virus is very low; in this analysis, a viral load test result less than or equal to 200 viral copies per milliliter (mL) of blood was considered suppressed.

CD4 count: A CD4 count test indicates how well a person's immune system is expected to function. A healthy person usually has 500 to 1,200 CD4 cells per cubic millimeter (mm³) of blood;³ a lower count corresponds to impairment of the immune function.

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Other DOHMH HIV/AIDS Resources:

NYC HIV/AIDS Surveillance Statistics: nyc.gov/site/doh/data/data-sets/hiv-aids-surveillance-and-epidemiology-reports.page

NYC MMP Reports: nyc.gov/site/doh/data/data-sets/hiv-aids-surveillance-and-epidemiology-reports.page

NYC DOHMH HIV/AIDS Information: nyc.gov/site/doh/health/health-topics/aids-hiv.page

References:

1. Attia S, Egger M, Muller M, Zwahlen M, Low N. Sexual transmission of HIV according to viral load and antiretroviral therapy: Systematic review and meta-analysis. *AIDS*. 2009; 23(11): 1397-1404.
2. Selik RM, Mokotoff ED, Branson B, Owen MS, Whitmore S, Hall HI. Revised surveillance case definition for HIV infection – United States, 2014. *MMWR Recomm Rep*. 2014; 63(3): 1-10.
3. Understanding Your Test Results: CD4 Count. U.S. Department of Health and Human Services. aids.gov/hiv-aids-basics/just-diagnosed-with-hiv-aids/understand-your-test-results/cd4-count Updated September 23, 2014. Accessed June 26, 2015.

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Epi Data Tables

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Data Tables

Table 1. The Medical Monitoring Project (MMP) participant characteristics, overall and by viral suppression status

Data Source

The Medical Monitoring Project (MMP) is an ongoing, national study conducted by the Centers for Disease Control and Prevention designed to understand more about the health behaviors, outcomes, and needs of persons living with HIV/AIDS; NYC is one of 23 sites.

Participants are a sample of HIV-infected adults (ages 18 and older) in care at randomly selected medical facilities that provide HIV care who agree to be interviewed and have their medical records abstracted.

The results presented are from 421 participants in the 2013 MMP cycle. Participants had at least one outpatient care visit at a selected NYC facility between January 1, 2013 and April 30, 2013 and were interviewed 4 to 12 months later about their demographics, clinical care and status, health behaviors, and HIV-related service needs. Medical records were also reviewed to obtain clinical history from the two years preceding the interview date. Only patients with a complete interview, medical record abstraction, and viral load test data are included in these analyses.

Table 1. The Medical Monitoring Project (MMP) participant characteristics, overall and by viral suppression status¹

Source: Medical Monitoring Project interview and medical record abstraction data, 2013

Characteristic	Total		Virally suppressed		Virally unsuppressed		P-value ²
	N	%	N	%	N	%	
Gender	421	100	342	100	79	100	0.88
Male	259	61.5	212	62.0	47	59.5	
Female	157	37.3	126	36.8	31	39.2	
Transgender	5	1.2	4	1.2	1	1.3	
Race/ethnicity³	421	100	342	100	79	100	0.18
Non-Hispanic Black	205	48.7	171	50.0	34	43.0	
Hispanic	154	36.6	117	34.2	37	46.8	
Non-Hispanic White	48	11.4	42	12.3	6	7.6	
Other	14	3.3	12	3.5	2	2.5	
Age	421	100	342	100	79	100	0.17
18-29	30	7.1	21	6.1	9	11.4	
30-39	57	13.5	47	13.7	10	12.7	
40-49	101	24.0	78	22.8	23	29.1	
50-59	161	38.2	132	38.6	29	36.7	
≥ 60	72	17.1	64	18.7	8	10.1	
Borough of Residence	421	100	342	100	79	100	0.10
Bronx	126	29.9	93	27.2	33	41.8	
Brooklyn	142	33.7	117	34.2	25	31.7	
Manhattan	72	17.1	64	18.7	8	10.1	
Queens	42	10.0	36	10.5	6	7.6	
Staten Island	5	1.2	5	1.5	0	0.0	
Unknown	34	8.1	27	7.9	7	8.9	
Sexual orientation	416	100	339	100	77	100	0.08
Heterosexual	270	64.9	212	62.5	58	75.3	
Homosexual	118	28.4	104	30.7	14	18.2	
Bisexual	28	6.7	23	6.8	5	6.5	
Antiretroviral therapy (ART) history⁴							
Ever prescribed ART	421	100	342	100	79	100	0.01
Yes	410	97.4	337	98.5	73	92.4	
No	11	2.6	5	1.5	6	7.6	
Taking ART at time of interview	421	100	342	100	79	100	<0.0001
Yes	399	94.8	334	97.7	65	82.3	
No	22	5.2	5	2.3	14	17.7	
Any sex without a condom (past 12 months)	421	100	342	100	79	100	0.97
Yes	90	21.4	73	21.4	17	21.5	
No	331	78.6	269	78.6	62	78.5	
Injection drug use (past 12 months)	419	100	340	100	79	100	1
Yes	4	1.0	4	1.2	0	0.0	
No	415	99.0	336	98.8	79	100	
Non-injection drug use (past 12 months)	419	100	340	100	79	100	0.50
Yes	108	25.8	90	26.5	18	22.8	
No	311	74.2	250	73.5	61	77.2	
Alcohol use (past 12 months)	418	100	339	100	79	100	0.64
Yes	200	48.0	164	48.5	36	45.6	
No	218	52.0	175	51.5	43	54.4	
Alcohol binge use (past 30 days)	419	100.0	340	100	79	100	0.80
Yes	26	6.2	22	6.5	4	5.1	
No	393	93.8	318	93.5	75	94.9	
Homelessness (past 12 months)	421	100	342	100	79	100	0.28
Yes	54	12.8	41	12.0	13	16.5	
No	267	87.2	301	88.0	66	83.5	
CD4 count (cells/mm3)⁵	421	100	342	100	79	100	<0.0001
< 200	37	8.8	21	6.1	16	20.3	
200-499	131	31.1	102	29.8	29	36.7	
≥ 500	210	49.9	190	55.6	20	25.3	
Missing	43	10.2	29	8.5	14	17.7	
Median CD4 count^{5,6}	378	531	313	564	65	352	-

1. Viral suppression, defined as viral load ≤200 copies/mL, is based on most recent viral load during the 24-month period prior to the MMP interview. For N=7 subjects, viral load tests were unavailable on the medical record and self-reported viral load result was used.

2. P-values indicate the difference between virally suppressed and unsuppressed groups within each characteristic category.

3. "Other" race/ethnicity includes non-Hispanic Asian, native Hawaiian or other Pacific Islander, American Indian, Alaska native, and multi-racial persons.

4. Date of interview is different from date of viral load test, therefore timing of ART use and viral suppression status may not correspond.

5. CD4 counts were measured on the same date as the viral load results used to calculate viral suppression status.

6. Among N=378 participants with CD4 count data available.