

Care and Clinical Status of Persons with HIV in NYC in 2013 as Based on HIV Surveillance Data



HIV Epidemiology and Field Services Program
New York City Department of Health and Mental Hygiene

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<http://www.nyc.gov/html/doh/html/data/hivepi.shtml>



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Background

- Laboratory reports of CD4+ T-cell counts or percents (CD4) and plasma HIV viral loads (VL) may serve as measures of a person's clinical status and markers of initiation of HIV-related medical care after diagnosis¹
 - US Department of Health and Human Services (DHHS) recommends regular CD4 and HIV VL testing after HIV diagnosis²
 - The HIV Epidemiology & Field Services Program (HEFSP) of the New York City (NYC) DOHMH receives results of laboratory tests ordered by NYC providers³, including:
 - CD4 counts (or percents)
 - HIV VL
 - Positive results of HIV diagnosis tests
 - HIV viral nucleotide sequences

¹Zetola NM, Bernstein K, Ahrens K, et al. Using surveillance data to monitor entry into care of newly diagnosed HIV-infected persons: San Francisco, 2006-2007. BMC Public Health 2009, 9:17.

²Panel on Antiretroviral Guidelines for Adults and Adolescents. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. DHHS. 1–282. Available at <http://www.aidsinfo.nih.gov/ContentFiles/AdultandAdolescentGL.pdf>. Section accessed January 28, 2015.

³NY Health Laws §63.4.

Persons Newly Diagnosed with HIV

- Diagnosed in 2013 in NYC with HIV infection and reported to the NYC DOHMH by June 30, 2014
- N=2,832 persons newly diagnosed with HIV in NYC in 2013

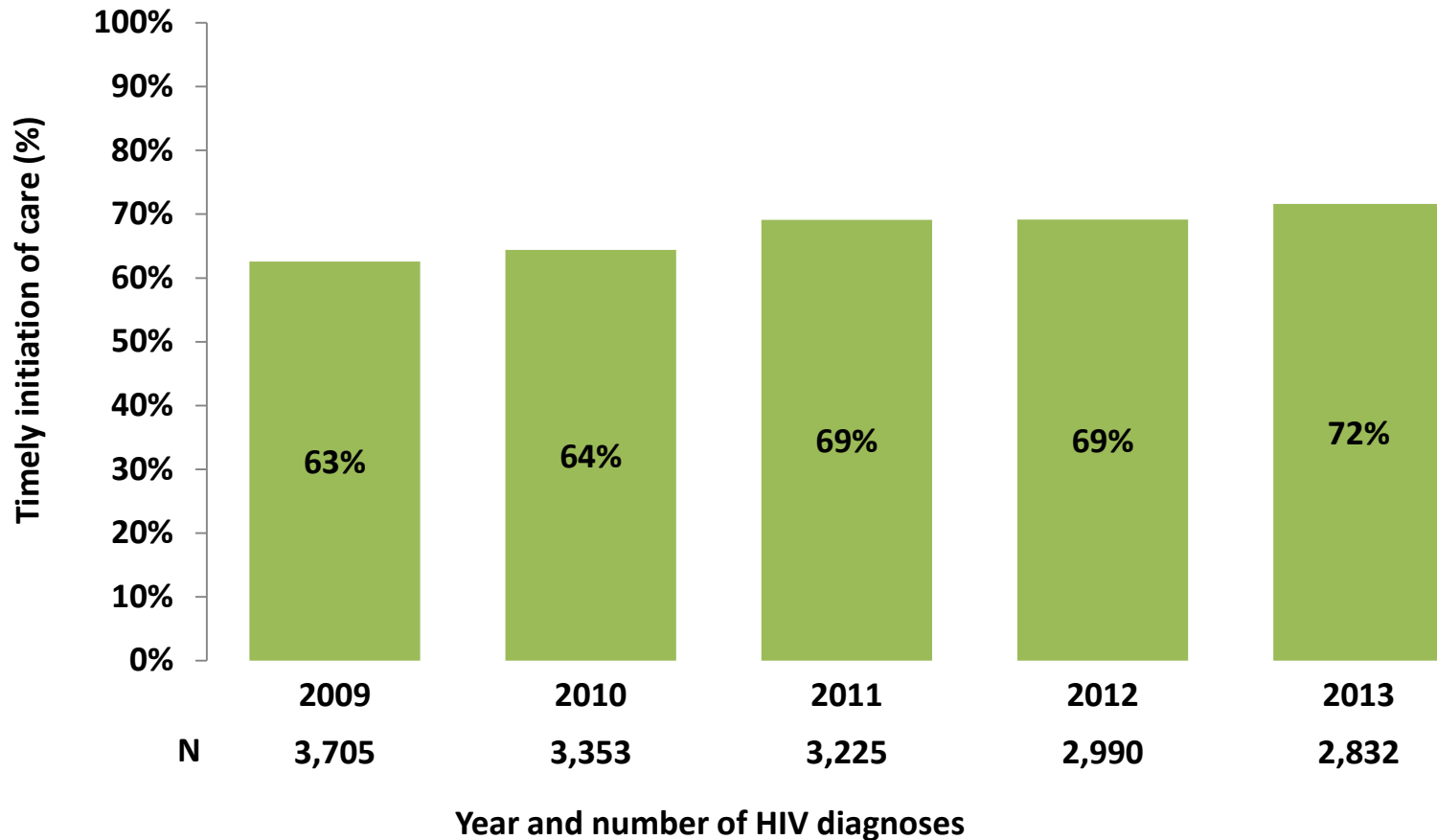
Persons Living with HIV/AIDS (PLWHA)

- Persons diagnosed with HIV infection in or before 2013, and reported to the NYC DOHMH by June 30, 2014
- Not known to have died as of December 31, 2013¹
- N=117,618 PLWHA in NYC in 2013

Definition of Initiation of HIV-related Medical Care

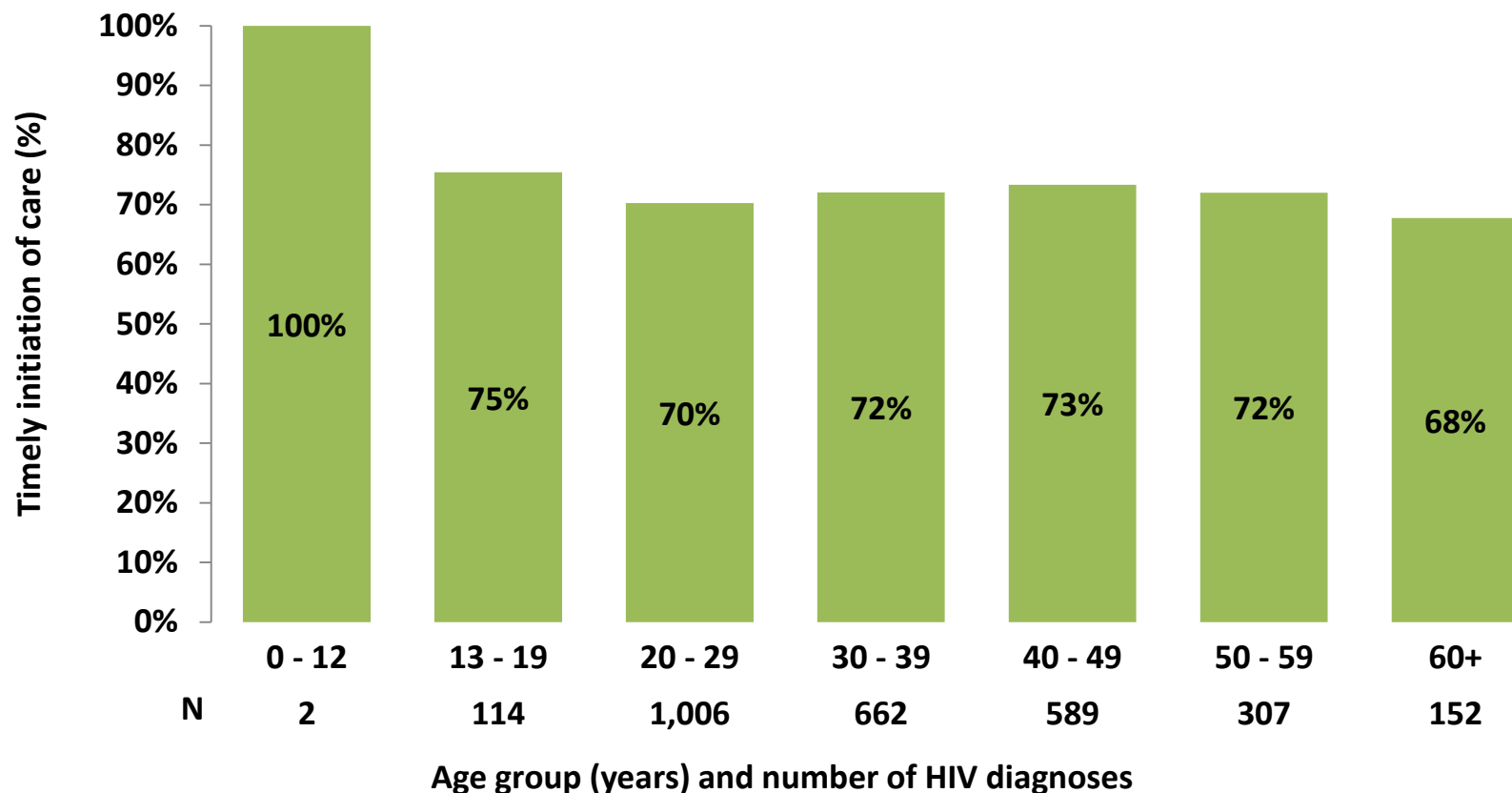
- Initiation of care is based on first CD4 or HIV VL drawn on patient and reported to HEFSP, following a 7-day lag¹ from HIV diagnosis
- Timely initiation of care is defined as first CD4 or VL drawn within 3 months (91 days) of HIV diagnosis, following a 7-day lag

Timely Initiation of HIV-related Medical Care Among Persons Newly Diagnosed with HIV, NYC 2009–2013



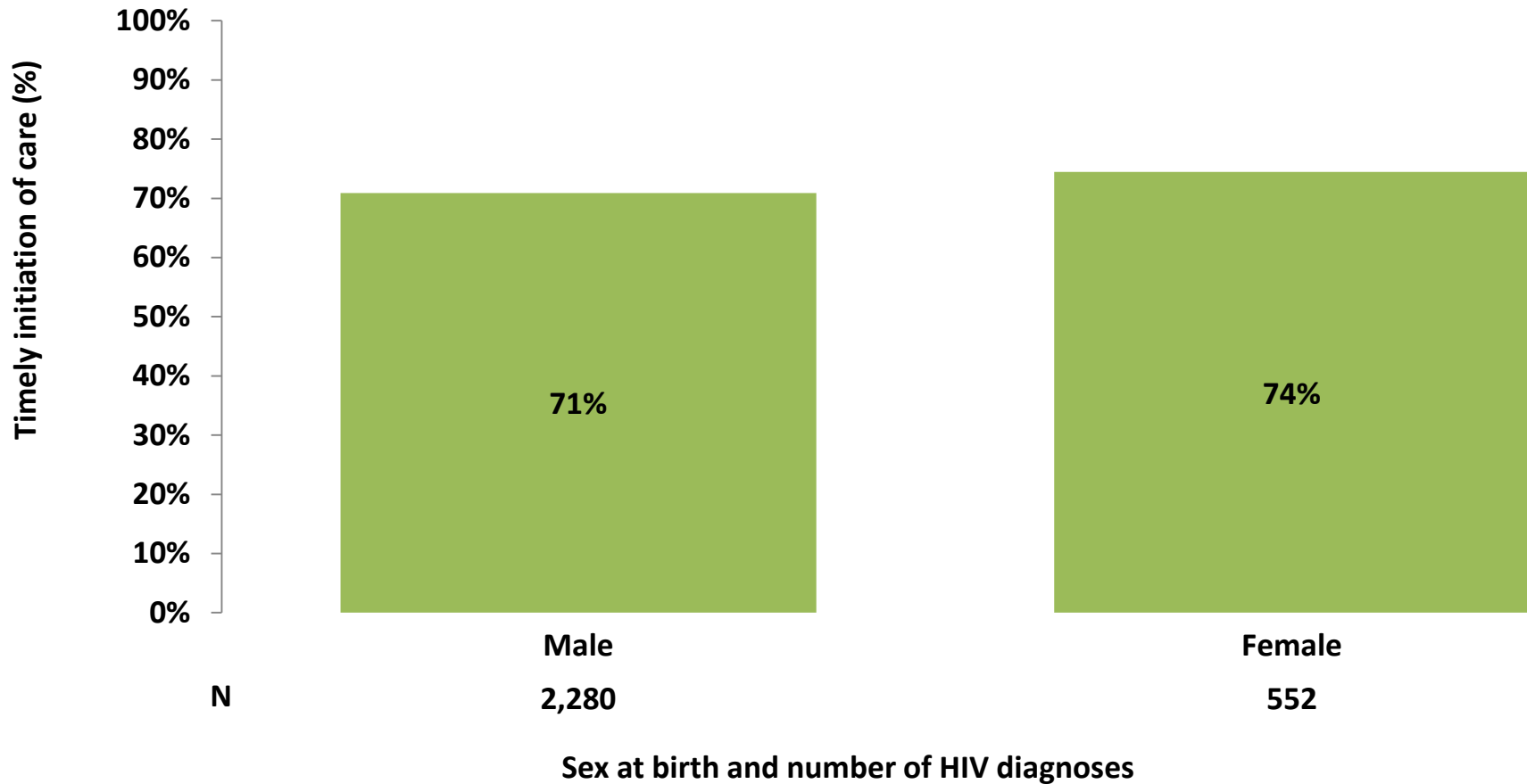
The proportion of people newly diagnosed with HIV with timely initiation of care steadily increased between 2009 and 2013.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Age in NYC, 2013



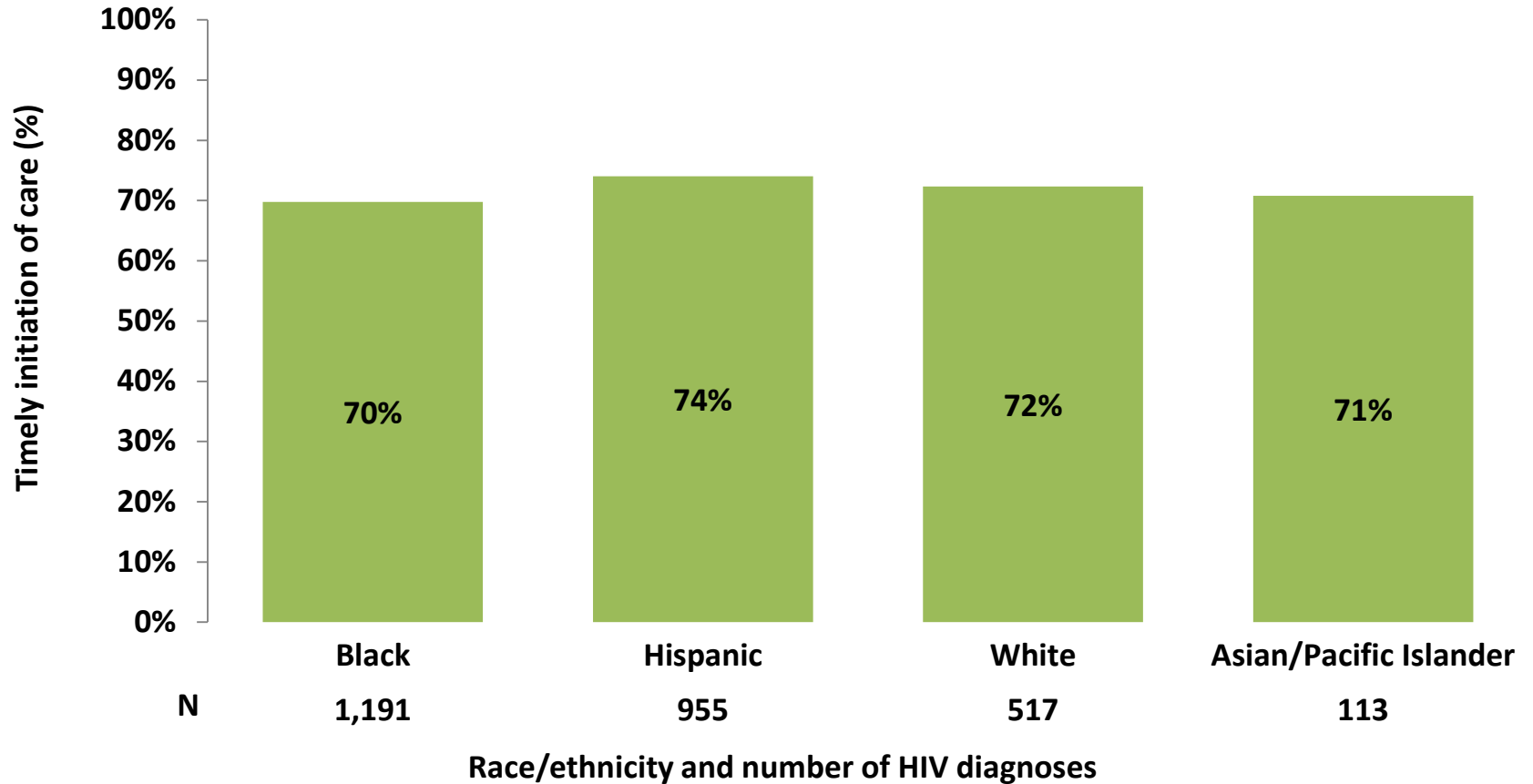
Children and teenagers were most likely to have timely care initiation. Among adults, people aged 40-59 were more likely than people in their 20s or 60+ to have timely care initiation.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Sex in NYC, 2013



Timely initiation of care was higher for females than males in 2013.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Race/Ethnicity¹ in NYC, 2013

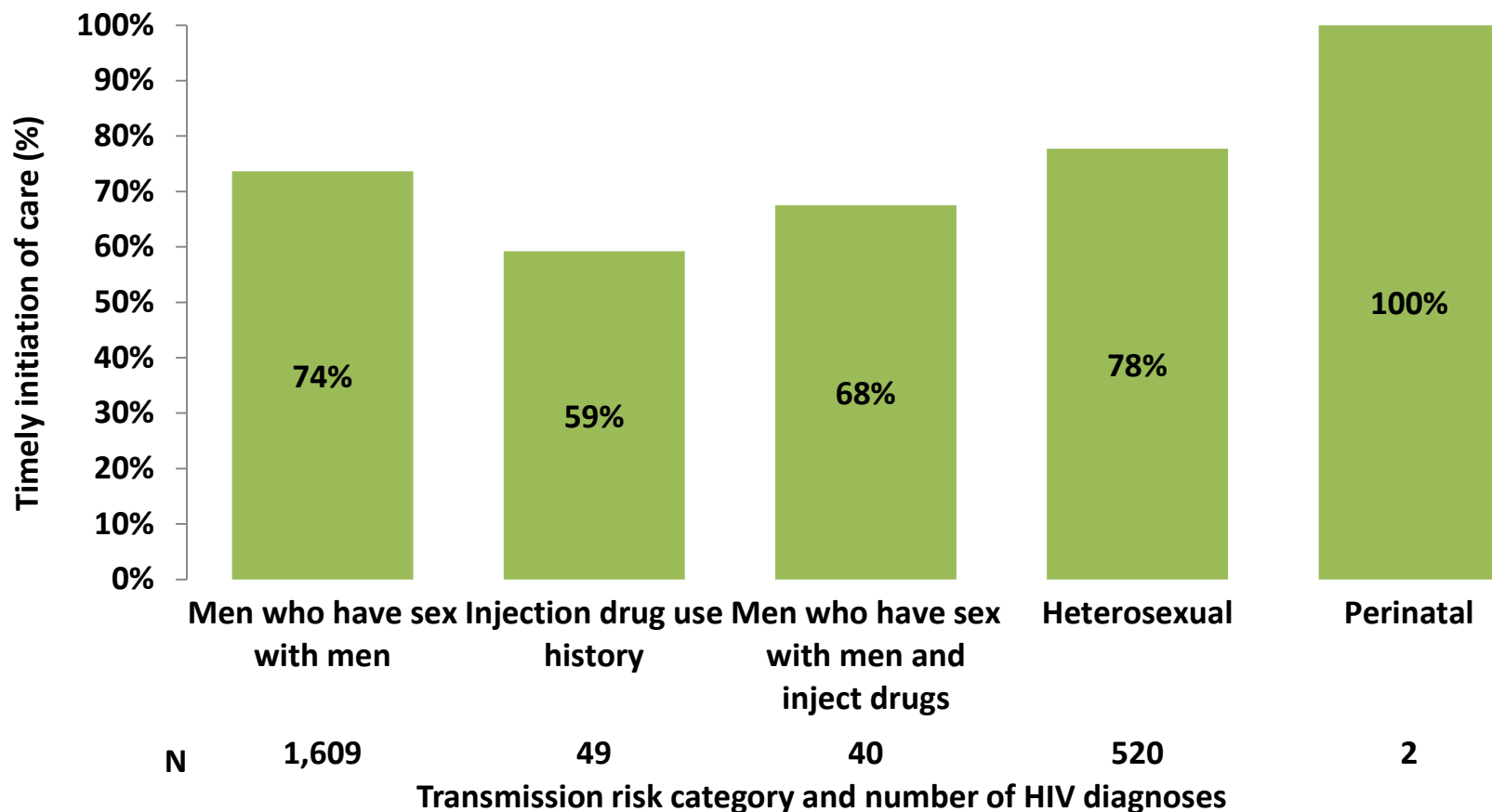


Among people newly diagnosed in 2013, Hispanics were most likely to have timely initiation of care.

¹Native Americans and multiracial people are not presented due to small numbers. Timely linkage was achieved by 68% of Native Americans and 54% of multiracial people diagnosed in 2009-2013.

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 June 30, 2014.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Transmission Risk¹ in NYC, 2013

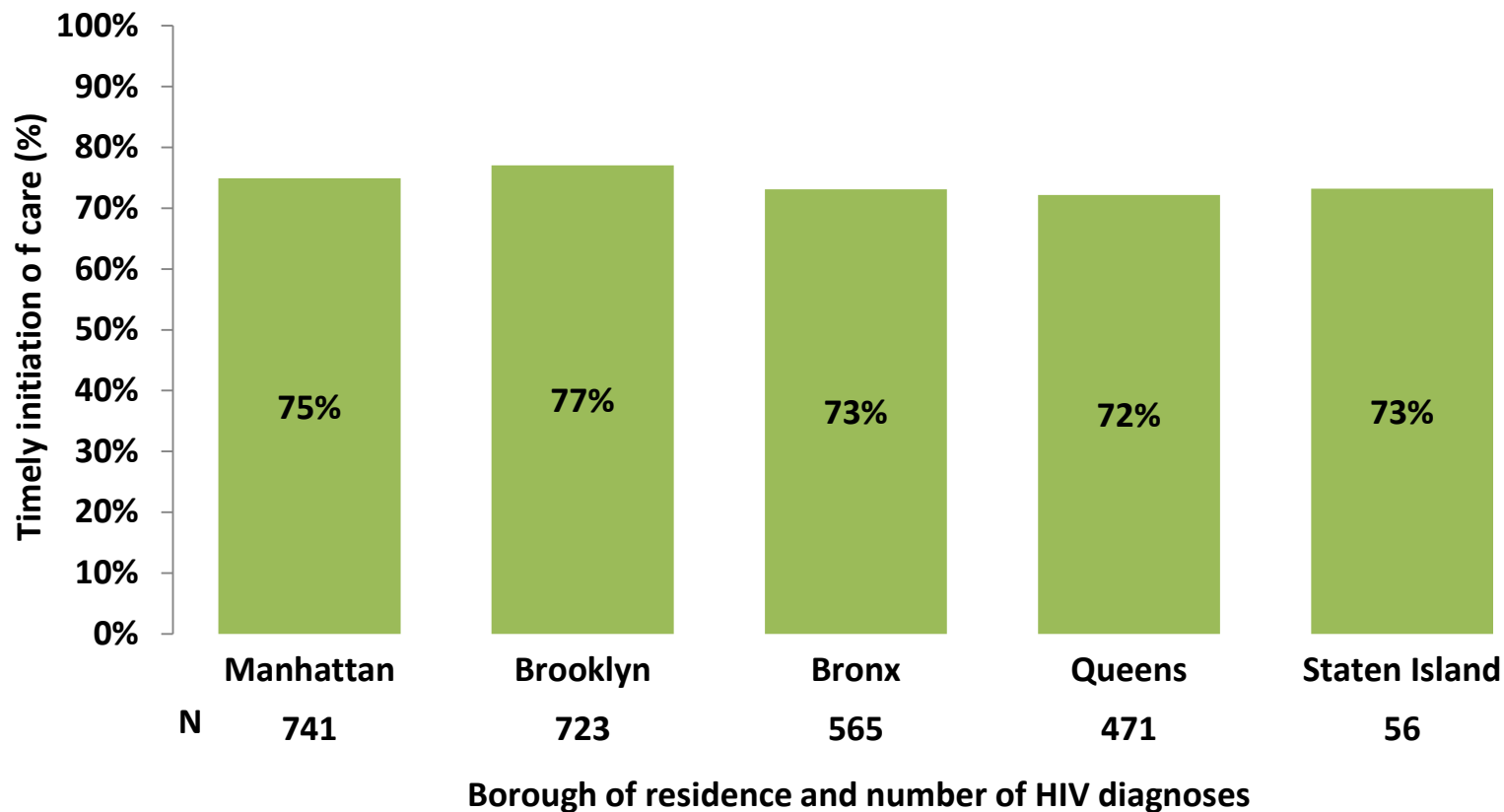


People with a history of injection drug use were less likely than people with other transmission risks to have timely initiation of care.

¹ People 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 June 30, 2014.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Borough of Residence¹ in NYC, 2013



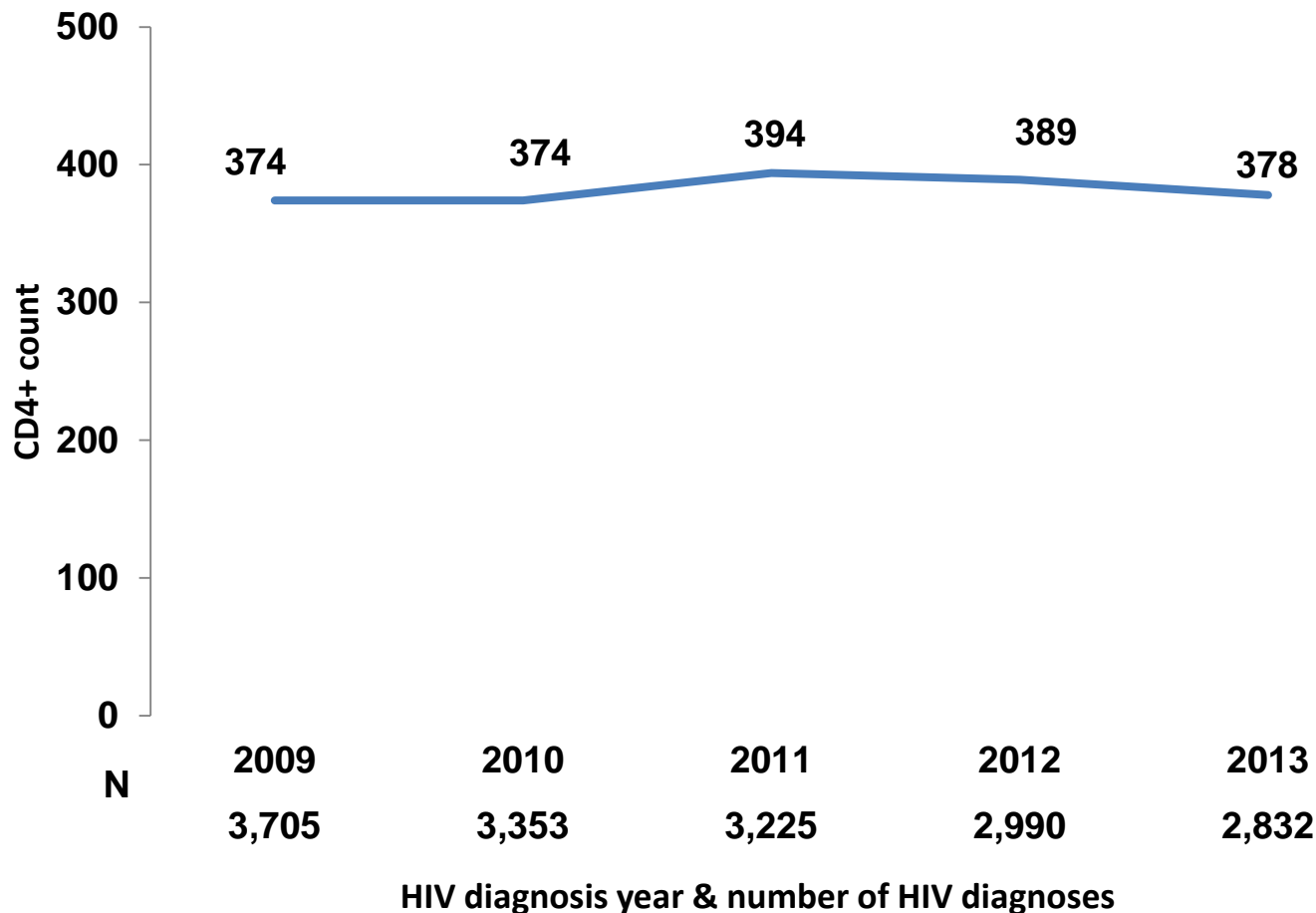
By borough of residence, timely initiation of care was highest in Manhattan and Brooklyn.

¹See 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 June 30, 2014.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV in NYC, 2009–2013

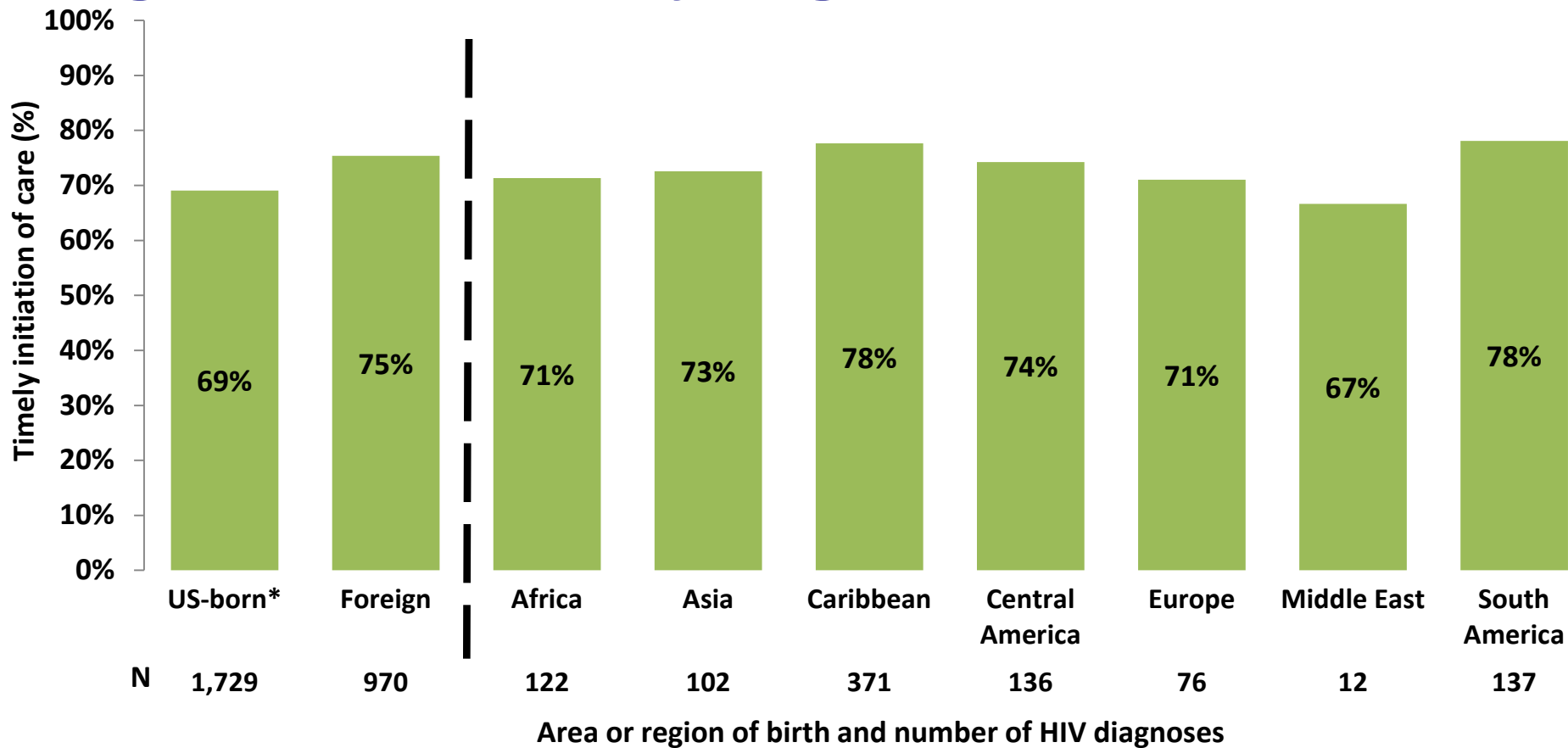


Median CD4 count at HIV diagnosis in NYC was >350 from 2009 to 2013.

¹Only people 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 June 30, 2014.

Timely Initiation of Care among Persons Newly Diagnosed with HIV by Region of Birth¹ in NYC, 2013



Overall, foreign-born people were more likely than the US-born to initiate timely care in 2013. Among the foreign-born, the proportion initiating timely care ranged by region from 67% to 78%.

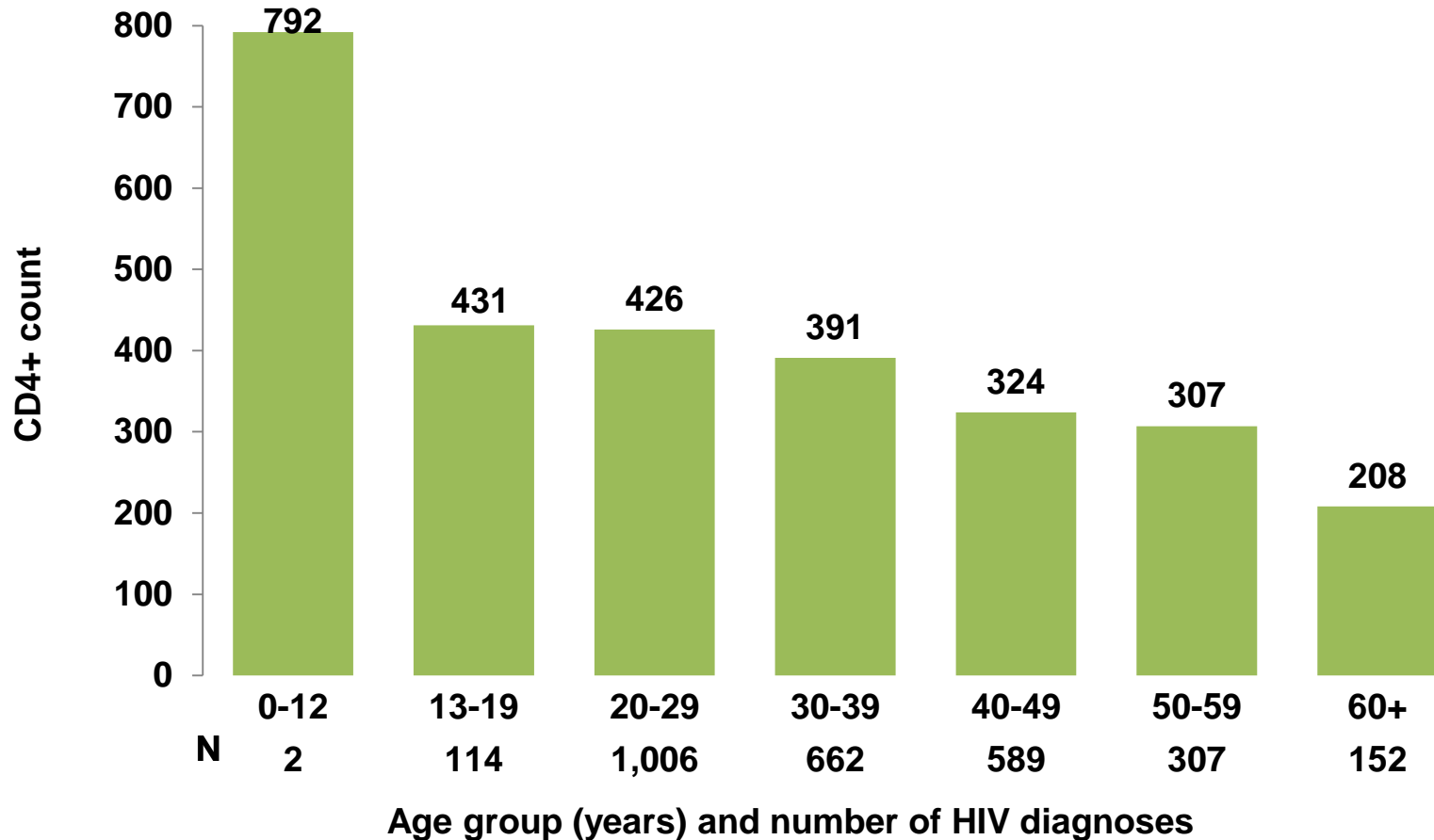
¹Foreign regions of birth with ≤10 newly diagnosed people are not presented due to small numbers. Timely linkage was achieved by 71% of people born in North America outside of the US who were diagnosed in 2009-2013.

*Includes people 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.

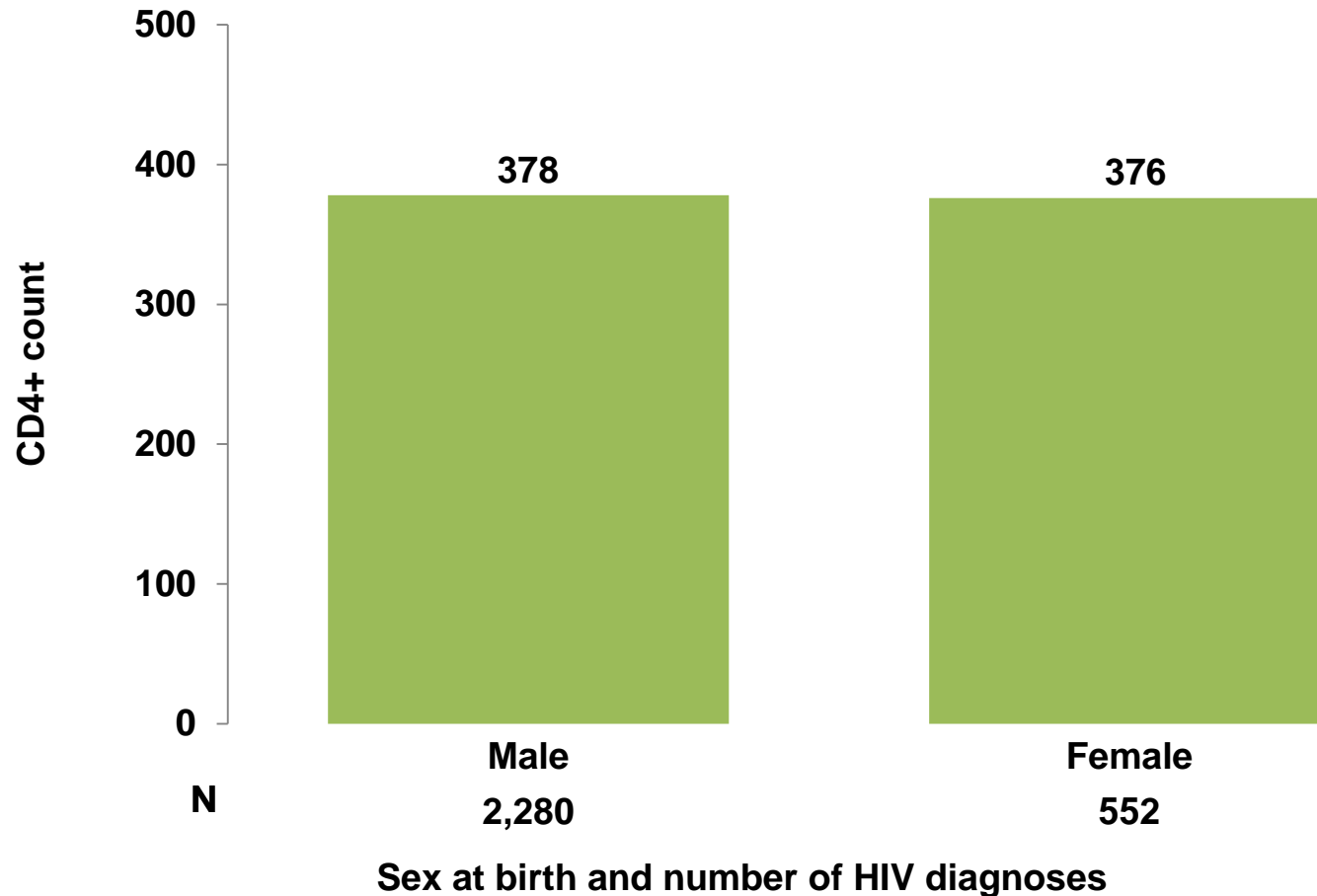
As reported to the NYC DOHMH by June 30, 2014.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV by Age in NYC, 2013



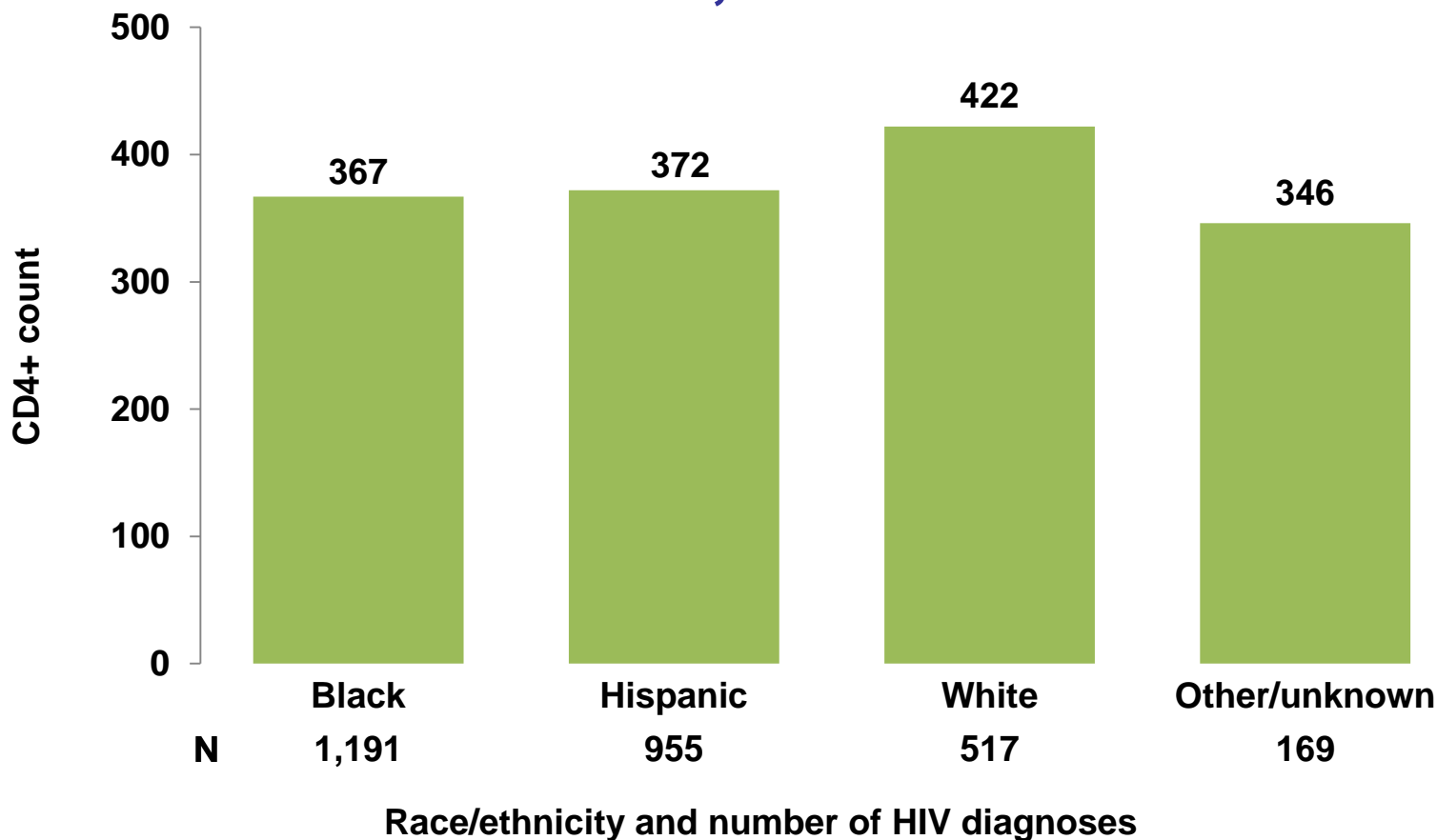
Median CD4 count at diagnosis decreased with increasing age in 2013.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV by Sex in NYC, 2013



Males and females had a similar median CD4 count at diagnosis in 2013.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV by Race/Ethnicity in NYC, 2013

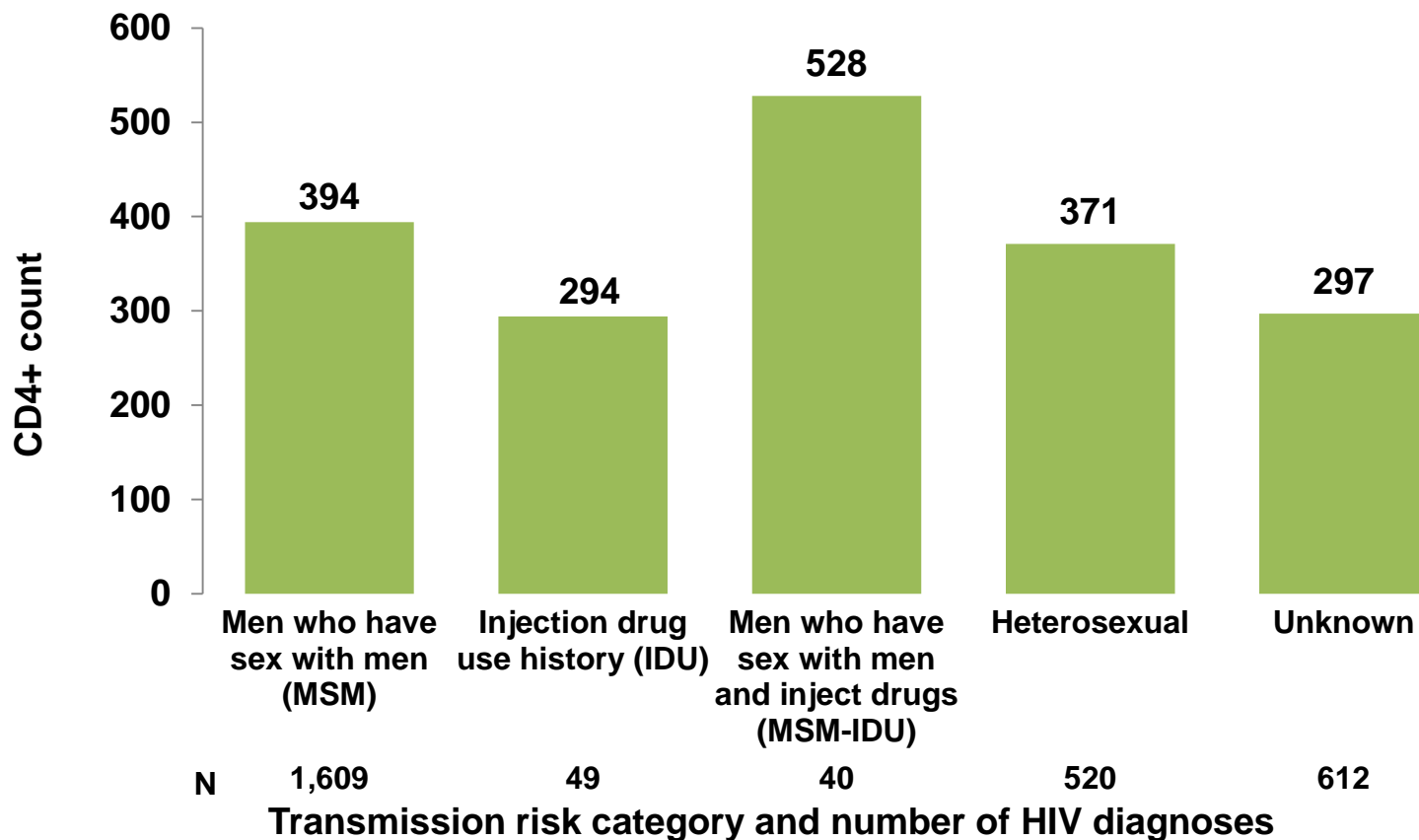


Whites had the highest median CD4 count at diagnosis in 2013.

¹Only people 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. Native Americans and multiracial persons are not presented due to small numbers. Median CD4 counts were 380 among Native Americans and 423 among multiracial people diagnosed in 2009-2013.

As reported to the NYC DOHMH by June 30, 2014.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV by Transmission Risk² in NYC, 2013

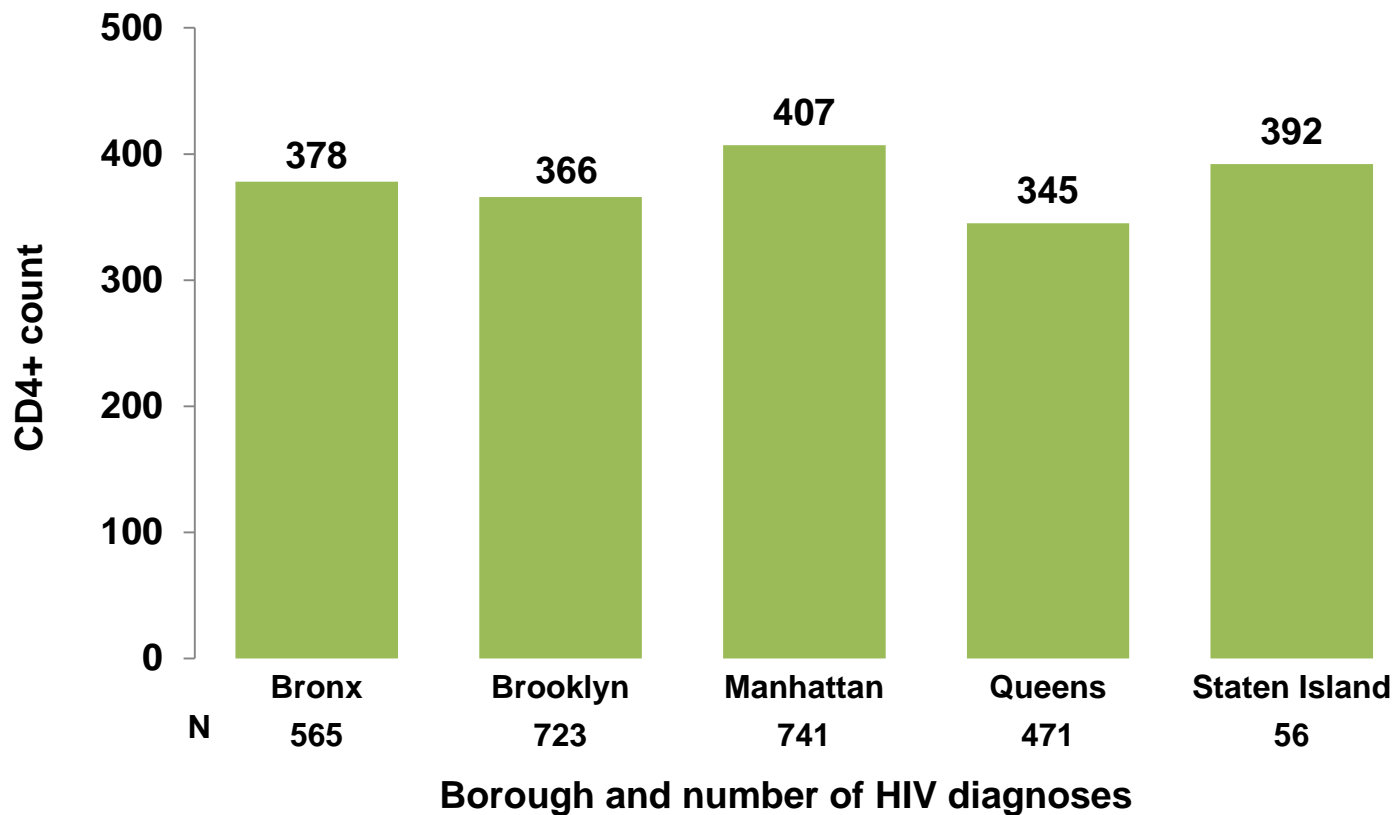


MSM and MSM-IDU had the highest median CD4 counts at diagnosis in 2013.

¹Only people 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.

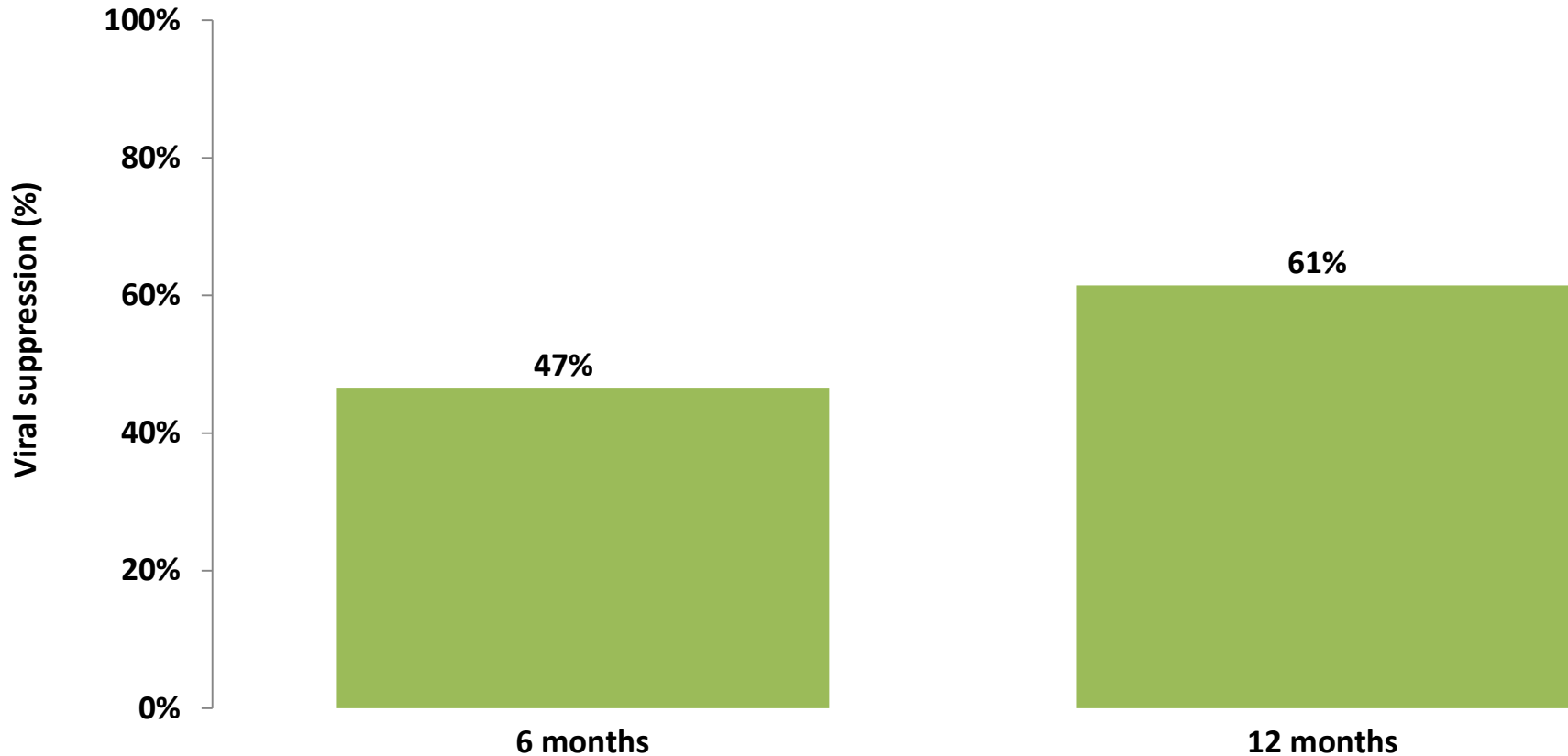
²Data for people with perinatal transmission risk not presented due to small numbers. Median CD4 count was 1,424 among persons with perinatal risk diagnosed in 2009-2013. As reported to the NYC DOHMH by June 30, 2014.

Median CD4 Count at Diagnosis¹ among Persons Newly Diagnosed with HIV by Borough of Residence in NYC, 2013



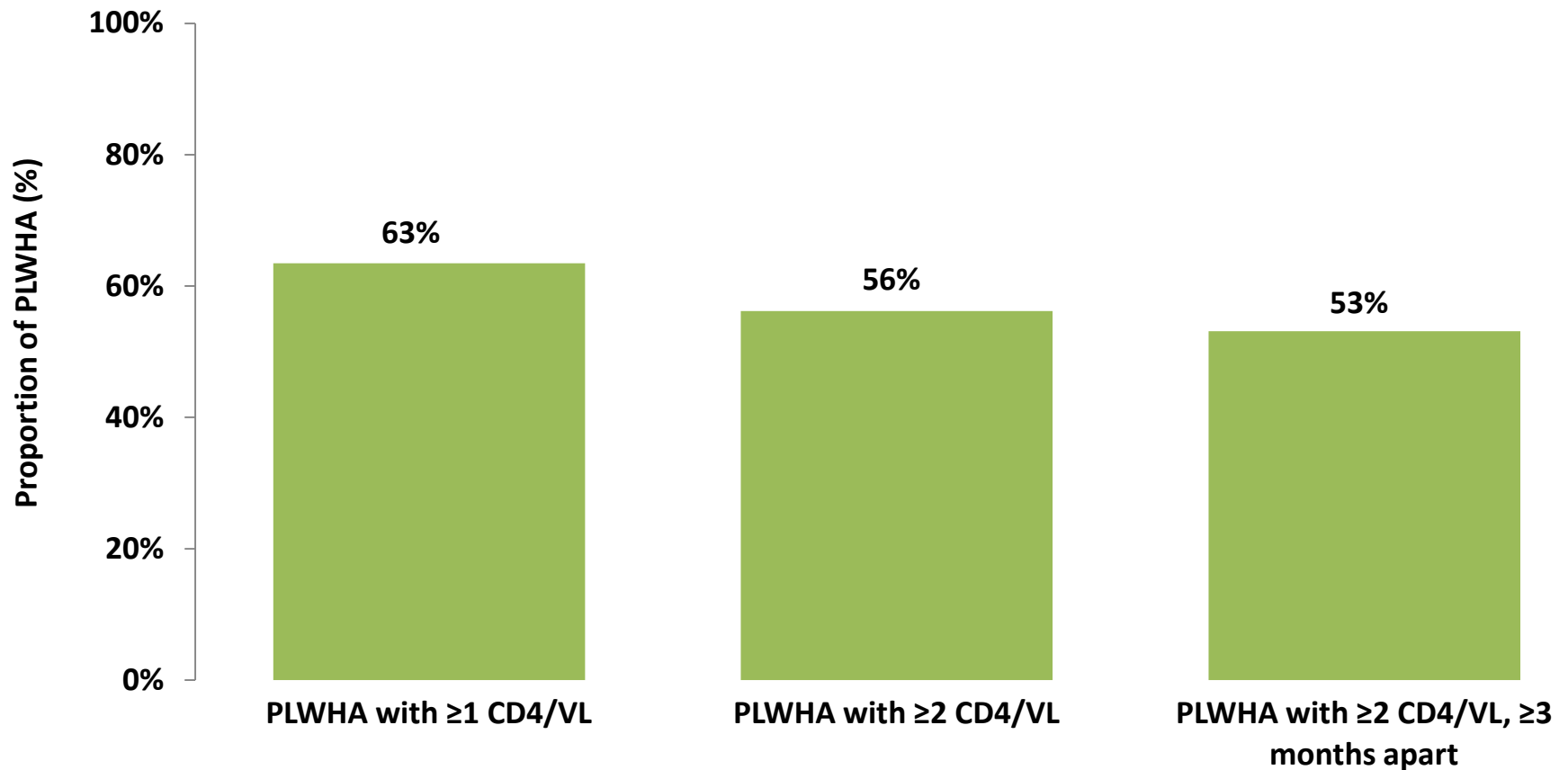
By NYC borough, Manhattan and Staten Island residents had the highest median CD4 count at diagnosis in 2013.

Proportion of Persons Newly Diagnosed with HIV with Viral Suppression¹ at 6 and 12 Months After Diagnosis, NYC 2013



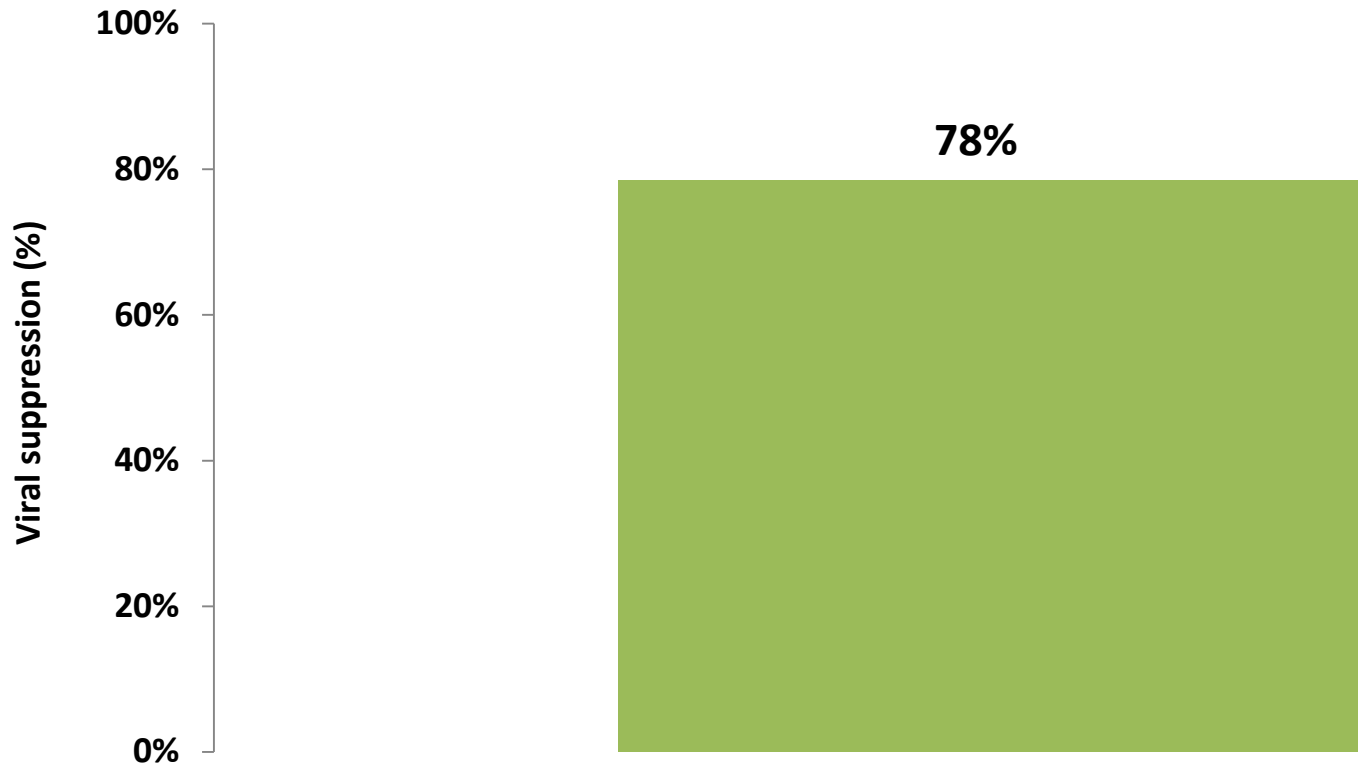
Nearly two-thirds of the 2,832 people newly diagnosed with HIV in NYC in 2013 were virally suppressed by 12 months after diagnosis.

Proportion of PLWHA in 2013 with CD4 or VL Tests Ordered by an NYC Provider in 2013¹



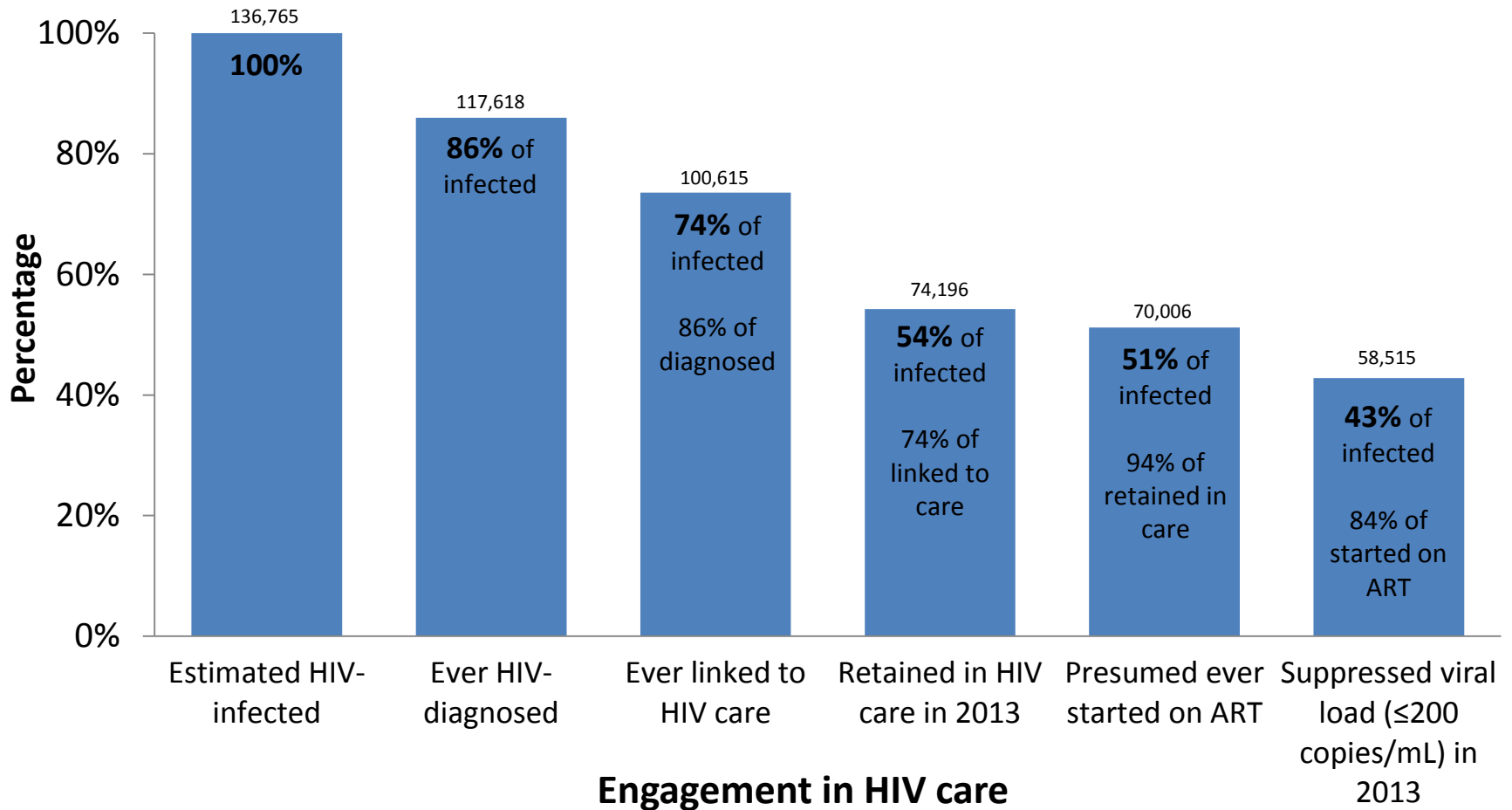
Over half of the 117,618 persons living with HIV/AIDS in 2013 in NYC had at least 2 CD4 or VL tests, at least 3 months apart, in 2013.

Proportion of PLWHA in 2013 with a CD4 or VL Test Ordered by an NYC Provider in 2013 whose Last HIV VL Result Indicated Viral Suppression¹



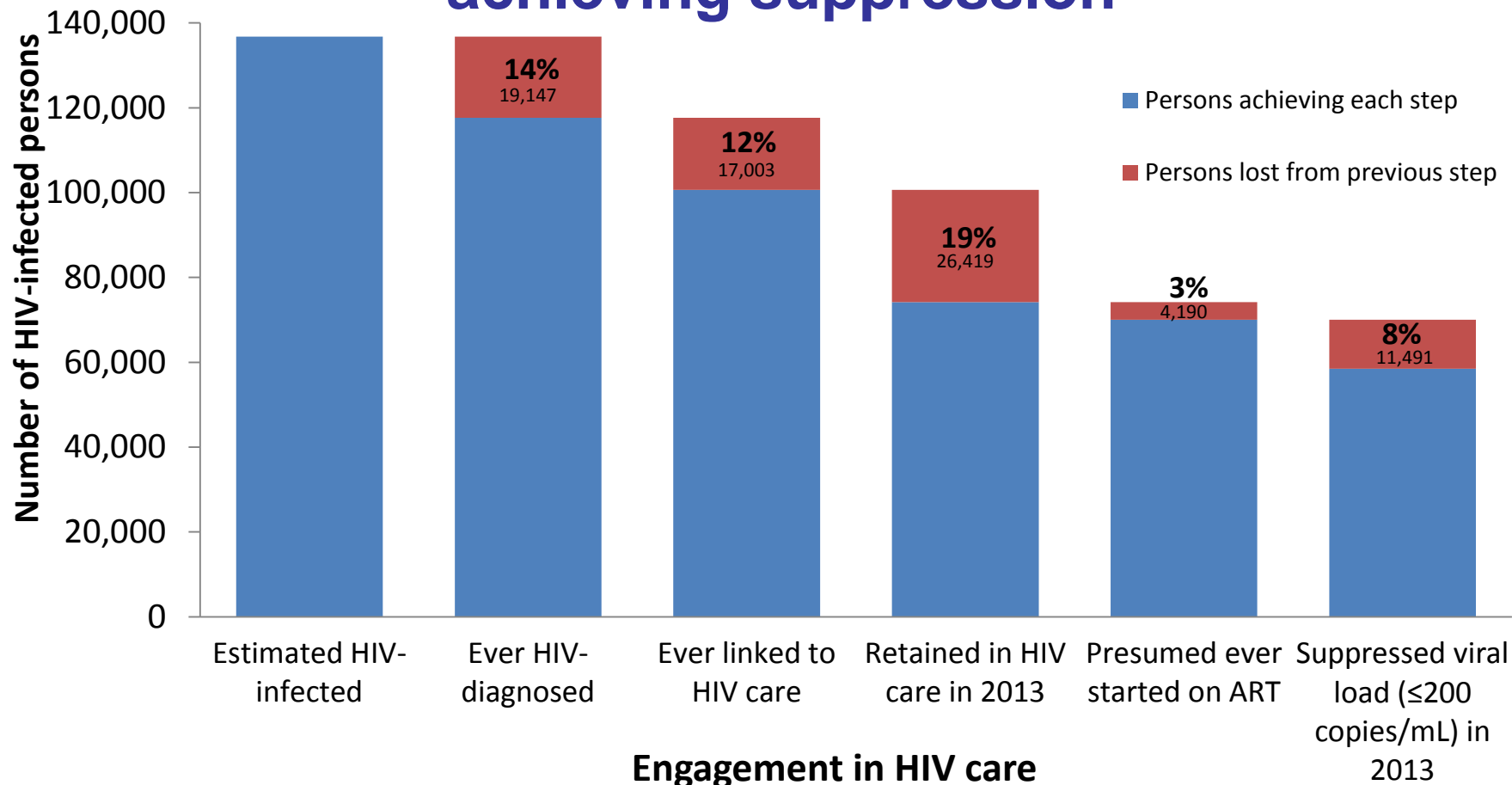
Over three-quarters of the 74,652 persons living with HIV/AIDS in 2013 and under clinical monitoring in NYC had an undetectable last viral load.

Number and proportion of persons with HIV in New York City and engaged in selected stages of the continuum of care at the end of 2013



Of all persons estimated to be infected with HIV in NYC, 43% have a suppressed viral load.

New York City continuum of care at the end of 2013, showing where we lost the 57% of persons not achieving suppression



The largest group of persons not achieving suppression is those linked to care but not retained in care, who comprise 19% of all infected persons.

Appendix 1: Technical notes

- 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.

Appendix 2:

Technical notes and definitions for Slides 23 and 24, on the continuum of care for New York City

- “Estimated HIV-infected”: equal to the number of persons diagnosed with and presumed living with HIV in NYC at the end of 2013 (PLWHA), divided by the estimated proportion of all HIV-infected persons in NYC who have been diagnosed. CDC and a recent local emergency room serosurvey estimated this proportion to be 86%. Sources:
 - Bradley H, Hall HI, Wolitski RJ, *et. al.* Vital Signs: HIV Diagnosis, Care, and Treatment Among Persons Living with HIV - United States, 2011. *MMWR Morb Mortal Wkly Rep.* 2014 Nov 28;63(47):1113-7.
 - Eavey JJ, Torian LV, Jablonsky A, *et. al.* Undiagnosed HIV Infection in a New York City Emergency Room: Results of a Blinded Serosurvey, December 2009-January 2010. 19th International AIDS Conference, 2012, Washington, DC. Abstract# TUPE282.
- “HIV diagnosed”: PLWHA as of 12/31/2013, per surveillance case reporting.
- “Ever linked to HIV care”: Any viral load (VL) or CD4 count drawn in the years 2001-2013 and received after HIV diagnosis following a 7-day lag, and reported to DOHMH HIV surveillance.
- “Retained in HIV care in 2013”: VL or CD4 count or CD4 percent drawn in 2013, and reported to DOHMH HIV surveillance.
- “Presumed ever started on ART”: Suppressed VL (≤ 200 copies/mL) reported to DOHMH HIV surveillance at any point from 2001-2013.
- “Suppressed viral load in 2013”: Most recent VL drawn in 2013 and reported to NYC DOHMH HIV surveillance was ≤ 200 copies/mL.