

# Selected National HIV Prevention and Care Outcomes in the United States

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**Viral suppression is the ultimate goal of HIV treatment. HIV treatment has dramatically improved the health, quality of life, and life expectancy of people living with HIV.**

Additionally, people living with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load have effectively no risk of transmitting HIV to their HIV-negative sexual partners.

By ensuring that everyone with HIV is aware of their infection, receives the treatment they need, and achieves sustained viral suppression, we can sharply reduce new infections and thereby reduce new HIV diagnoses in the United States.

The “Selected National HIV Prevention and Care Outcomes” are select indicators that are used to monitor progress toward **U.S. national goals** outlined in the National HIV/AIDS Strategy, 2020 (NHAS 2020). Because the bars use different denominators, the data are presented as separate bar charts.

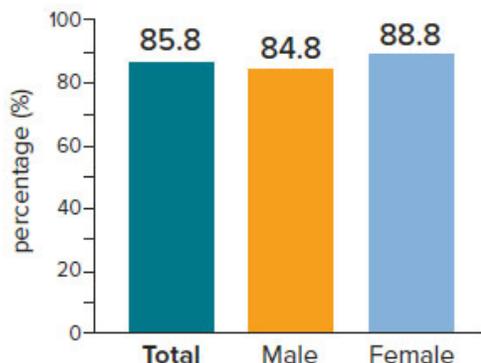
## National HIV Indicators

There are 13 indicators to track progress towards NHAS 2020 goals.

Several specific indicators related to HIV diagnosis, effective care and treatment include:

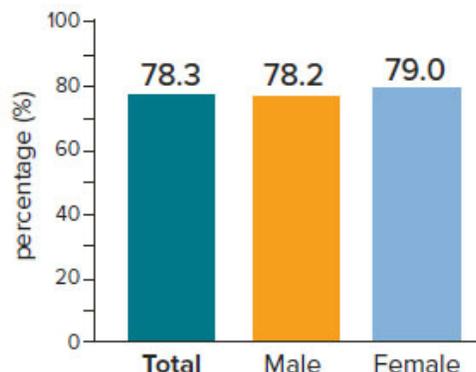
- Knowledge of HIV serostatus (i.e., diagnosed HIV infection)
- Linkage to HIV medical care
- Retention in HIV medical care
- Viral Suppression

**Diagnosed Infection** among Persons Aged  $\geq 13$  Years Living with Diagnosed or Undiagnosed HIV Infection, by Sex 2016 • United States



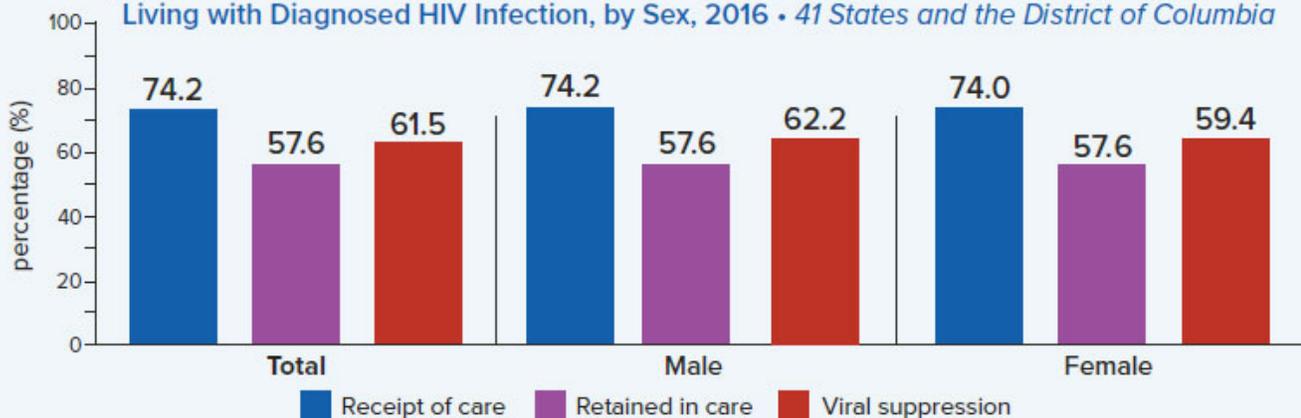
Note: Estimates derived from a CD4 depletion model using HIV surveillance data.

**Linkage to HIV Medical Care within 1 Month after HIV Diagnosis** during 2017 among Persons Aged  $\geq 13$  Years, by Sex • 41 States and the District of Columbia



Note: Linkage to HIV medical care was defined as having a CD4 or VL test  $\leq 1$  month after HIV diagnosis

**Receipt of HIV Medical Care, Retention in Care, and Viral Suppression among Persons Aged  $\geq 13$  Years Living with Diagnosed HIV Infection, by Sex, 2016 • 41 States and the District of Columbia**



Note: Receipt of medical care was defined as  $\geq 1$  test (CD4 or VL) in 2016. Retained in continuous medical care was defined as  $\geq 2$  tests (CD4 or VL)  $\geq 3$  months apart in 2016. Viral suppression was defined as  $< 200$  copies/mL on the most recent test in 2016.



**The data source for the “Select HIV Care Outcomes” is the National HIV Surveillance System (NHSS).** NHSS provides a range of information on people who received a diagnosis in a particular year, live with diagnosed HIV or have died with HIV. The data are reported to CDC by state and local health departments. The most recent data on linkage to care, retention in care, and viral suppression are from 42 jurisdictions (41 states and D.C.) that have complete lab reporting. These jurisdictions represent 89% of persons living with diagnosed HIV in the United States. Persons are assigned to the 42 jurisdictions based on residence at diagnosis for linkage to care and on the most recent known address for retention and viral suppression. For additional details on how these outcomes are calculated, see Table 1.

Diagnosed HIV infection in the United States is measured as the percentage of persons living with diagnosed HIV among the estimated number of persons living with diagnosed or undiagnosed HIV infection at year-end 2016. The denominator is all persons living with HIV (includes diagnosed or undiagnosed HIV and is estimated through modeling).

## Importance Of Complete Laboratory Reporting

Measuring the components of the continuum of care and progress toward the goals of the National HIV/AIDS Strategy, 2020, relies on laboratory reporting of HIV-related tests to the local and national HIV surveillance systems. The CDC recommends reporting of all HIV-related test results, including CD4+T-lymphocyte (CD4) results and all viral load test results. This comprehensive laboratory reporting recommendation is in alignment with the Council of State and Territorial Epidemiologists’ (CSTE) position (ID: 2001-ID-03). Laboratory data, including CD4 and viral load test results, are an essential component of the National HIV Surveillance System (NHSS) as they can be used to identify cases, classify stage of disease at diagnosis, and monitor disease progression. These data can be used to evaluate HIV testing and prevention efforts, determine entry into care, retention in care, and monitor viral load suppression.

### How Selected National HIV Care Outcomes are used to Monitor Progress and Identify Needs

**The outcomes are defined using national indicator definitions.** At the national level, these data are used to inform decisions about how to best prioritize and target available resources and to monitor progress toward meeting national goals. Because NHSS data are available at the state and local levels, the national level indicators were defined in a way that allows states to use their data to track progress over time and identify where improvements are needed.

Ways of presenting HIV care outcomes will continue to evolve over time as better and more complete data become available. For more information on data used to monitor outcomes, refer to “Monitoring Selected National HIV Prevention and Care Objectives by Using HIV Surveillance data, United States and 6 Dependent Areas – 2017.” <https://www.cdc.gov/hiv/pdf/library/reports/surveillance/cdc-hiv-surveillance-supplemental-report-vol-24-3.pdf>

Table 1. Selected National HIV Prevention and Care Outcomes

Continuum Step	
<b>Diagnosed</b>	<p>Measures the percentage of the total number of people living with HIV whose infection has been diagnosed.</p> <p>The denominator is HIV prevalence, which is the total number of people living with HIV (includes both those with diagnosed infection and those with undiagnosed infection). HIV prevalence is estimated through statistical modeling<sup>1</sup> using National HIV Surveillance System (NHSS) data from all U.S. states and the District of Columbia (DC).</p>
<b>Receipt of Care</b>	<p>NHSS data from states and DC with complete reporting of CD4 and viral load test results are used to estimate “receipt of care” and “retained in care.”</p> <p>Receipt of care is measured as the percentage of persons with diagnosed HIV who had at least one CD4 or viral load test.</p> <p>The denominator for the prevalence-based continuum is all persons living with HIV (HIV prevalence). The denominator for the diagnosis-based continuum is all persons living with diagnosed HIV (diagnosed prevalence*).</p>
<b>Retained in Care</b>	<p>NHSS data from states and DC with complete reporting of CD4 and viral load test results are used to estimate “receipt of care” and “retained in care.”</p> <p>Retained in care is measured as the percentage of persons with diagnosed HIV who had two or more CD4 or viral load tests performed at least three months apart.</p> <p>The denominator for the prevalence-based continuum is all persons living with HIV (HIV prevalence). The denominator for the diagnosis-based continuum is all persons living with diagnosed HIV (diagnosed prevalence*).</p>
<b>Viral Suppression</b>	<p>NHSS data from states and DC with complete reporting of CD4 and viral load test results are used to estimate “viral suppression.”</p> <p>Viral suppression is measured as a viral load test result of &lt;200 copies/mL at the most recent viral load test during measurement year.</p> <p>The denominator for the prevalence-based continuum is all persons living with HIV (HIV prevalence). The denominator for the diagnosis-based continuum is all persons living with diagnosed HIV (diagnosed prevalence*).</p>
<b>Linked to Care</b>	<p>NHSS data from states and DC with complete reporting of CD4 and viral load test results are used to determine “linked to care.”</p> <p>Linked to care measures the percentage of people <i>receiving a diagnosis of HIV in a given calendar year</i> who had one or more documented CD4 or viral load tests <i>within 30 days (1 month) of diagnosis</i>.</p> <p>Because this measure is limited to people with HIV diagnosed only in a single year, it cannot be directly compared to other steps in the continuum. This means that the denominator for linkage to care is <b><i>different</i></b> from the denominators used to calculate the other steps in the continuum. It is also important to note that an individual who enters care more than 30 days after diagnosis may still be included in subsequent steps of the continuum, but would not be counted as “linked to care.”</p>

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention  
Division of HIV/AIDS Prevention



\*Diagnosed prevalence is defined as the number of persons with HIV diagnosed through the end of 1 year and are living through the end of the next year (e.g. diagnosed prevalence for 2016 is defined as persons receiving a diagnosis of HIV by end of 2015 and living through the end of 2016).

<sup>1</sup> Song R, Hall HI, Green T, et al. Using CD4 Data to Estimate HIV Incidence, Prevalence, and Percent of Undiagnosed Infections in the United States. 2017. J Acquir Immune Defic Syndr; 74: 3-9.