

Understanding the HIV Care Continuum

JULY 2016

Overview

Recent scientific advances have shown that antiretroviral therapy (ART) not only preserves the health of people living with HIV, but also dramatically lowers their risk of transmitting HIV to others by reducing the amount of virus in the body. These developments have transformed the nation's approach to HIV prevention. By ensuring that everyone with HIV is aware of their infection and receiving the treatment they need, we can sharply reduce new infections in the United States.

This vision is central to the [National HIV/AIDS Strategy](#), the nation's roadmap for addressing HIV (see sidebar) in the United States. It is also a core focus of CDC's [high-impact HIV prevention](#) strategy, which aims to achieve the greatest possible reductions in HIV infections by making sure that resources go to the regions, populations and prevention strategies where they will have the greatest impact. And it is backed by the [HIV Care Continuum Initiative](#), an effort launched by President Obama in 2013 to increase the impact of HIV diagnosis and care efforts.

To direct HIV prevention resources most effectively, CDC tracks the "HIV care continuum." The continuum is the series of steps from the time a person is diagnosed with HIV through the successful treatment of their infection with HIV medications. This fact sheet explains the various approaches and data used to develop the HIV care continuum, how it is used to improve outcomes for people living with HIV in the United States and how it helps guide the nation's response to HIV.

What is the HIV Care Continuum?

The ultimate goal of HIV treatment is to achieve viral suppression, meaning the amount of HIV in the body is very low or undetectable. This is important for people with HIV to stay healthy, live longer and reduce their chances of passing HIV to others. Yet today in the United States, fewer than a third of people living with HIV have their virus suppressed.

The HIV care continuum consists of several steps required to achieve viral suppression. Specifically, CDC tracks the proportion of people with HIV who are:

- *Diagnosed* with HIV infection
- *Linked to care**, meaning they visited a health care provider within:
 - 90 days after learning they were HIV positive (original NHAS measure)
 - 30 days after learning they were HIV positive (current NHAS 2020 measure)
- *Engaged or retained in care***, meaning they received medical care for HIV infection
- *Virally suppressed*, meaning that their HIV "viral load" – the amount of HIV in the blood – is at a very low level

* Linked to care is calculated differently from other steps in the continuum, and cannot be directly compared to other steps. See Table 1 on page 4 for details. ** Based on the different ways to monitor the continuum, people with HIV in care are measured either as those "engaged in care" or "retained in care." See Table 1 on page 4 for details.

National HIV Prevention Objectives on HIV Diagnosis and Care

The National HIV/AIDS Strategy, released in 2010 and updated to 2020, includes several specific indicators related to early HIV diagnosis and effective care, including:

- Increasing the number of HIV-positive **individuals aware of their status**
- Increasing the proportion of **newly diagnosed individuals who are linked to care** within one month
- Increasing the proportion of **HIV-diagnosed individuals whose virus is effectively suppressed**

Two Ways to Monitor the Continuum

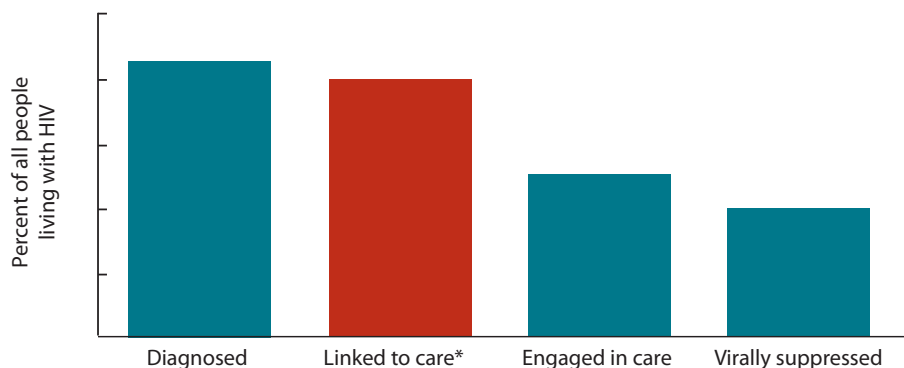
CDC currently uses two different approaches to monitor the HIV care continuum. The two approaches are used for different purposes, but both are essential to monitor the nation's progress and identify key HIV prevention and care needs.

The major difference between the two approaches is that they have different denominators. That is, they measure progress among different groups of people living with HIV:

The **prevalence-based HIV care continuum** describes the number of people who are at each step of the continuum as a percentage of the total number of people living with HIV (known as HIV prevalence). Prevalence includes both people whose infection has been diagnosed and those who are infected but don't know it.

This approach is used to examine the care continuum among all Americans living with HIV. For illustrative purposes, see Figure 1. It can also monitor outcomes for broad populations, such as African Americans or men who have sex with men (MSM). However, because of certain statistical limitations, this continuum does not provide more segmented analyses within those populations, such as young black MSM.

Figure 1: Illustration of a Prevalence-Based HIV Care Continuum

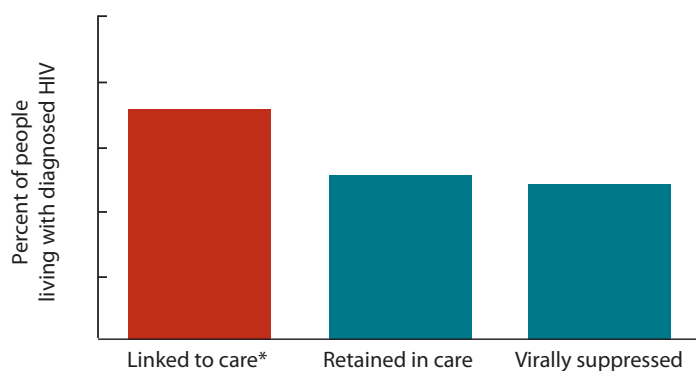


* Linkage to care is calculated differently from other steps in the continuum, and cannot be directly compared to other steps. See Table 1 on page 4 for details.

The **diagnosis-based HIV care continuum** shows each step as a percentage of the number of people living with diagnosed HIV.

This approach gives us more detailed information about persons who are diagnosed with HIV and provides a way to look at the continuum within subgroups of affected populations, for example young black MSM. For illustrative purposes, see Figure 2.

Figure 2: Illustration of a Diagnosis-Based HIV Care Continuum



* Linkage to care is calculated differently from other steps in the continuum, and cannot be directly compared to other steps. See Table 1 on page 4 for details

How CDC Develops the Continuum

The data for both the prevalence- and diagnosis-based continuum of care approaches come primarily from two CDC HIV surveillance systems:

- **The National HIV Surveillance System (NHSS)** provides a range of information on people who are diagnosed or have died with HIV from every U.S. state and territory and the District of Columbia (D.C.), including race, route of transmission and age. The data are reported to CDC by state and local health departments. This is the source of data for both the prevalence and diagnosis denominators. Data from the states and D.C. that have complete laboratory reporting can also be used to calculate some measures of the continuum.
- **The Medical Monitoring Project (MMP)** is a CDC partnership with state and local health departments to gather information about the experiences of people receiving HIV care and the outcomes of their treatment. It offers data on the number of people receiving care, the number prescribed ART, the number who are virally suppressed, and other useful information.

Different steps, or “bars,” within a single continuum come from different sources of data. Also, not all steps in the care continuum are necessarily dependent on the previous step. For additional details on how these data sources are used in the two continuum approaches, see Table 1 below.

A third approach, called “The Selected National HIV Prevention and Care Outcomes,” is an approach that is used to monitor progress toward the goals of NHAS 2020. For more information, please see <http://www.cdc.gov/hiv/pdf/library/factsheets/cdc-hiv-national-hiv-care-outcomes.pdf>. Ways of presenting HIV care outcomes will continue to evolve over time as better and more complete data become available.

How the Continuum Is Used to Monitor Progress and Identify Needs

CDC is undertaking many initiatives to improve outcomes at every stage of the HIV care continuum, including:

- **Directly funding health departments and community-based organizations (CBOs)** – to increase HIV testing, improve linkages to care and increase treatment for communities bearing the greatest HIV burden.
- **Providing technical assistance** – to help CBOs develop the tools and skills to successfully implement effective HIV prevention activities for people living with HIV in their communities.
- **Improving surveillance capability and technology** – to leverage advances in HIV treatment and care and improve HIV care continuum outcomes at the state and local levels, and to assist states with improving completeness of laboratory data that are needed to assess some of the steps in the HIV Care Continuum and the Selected National HIV Prevention and Care Outcomes.
- **Researching new approaches** – including studies of clinical, behavioral and structural interventions to help people with HIV stay in care and adhere to their medications.
- **Developing guidelines** – to support training for health care providers on HIV testing, care, treatment, and prevention.
- **Launching educational campaigns** – to help health care providers integrate simple prevention approaches into routine care for people living with HIV.

Different Approaches for Different Needs

While CDC’s current approaches draw on the best data available, **there is no single way** to develop the HIV care continuum.

To select the right data sources and decide how to present them, it is **important to know how the continuum will be used**. For example, some federal agencies focus primarily on the later steps of the continuum; for them, it can be useful to examine those steps as a proportion of people in care for HIV infection.

Ways of presenting the continuum will also **continue to evolve over time**, as better and more complete data become available.

Table 1: Calculating the Continuum: CDC’s Current Data Sources, Step by Step

Continuum Step	Data Sources & Definitions	
	Prevalence-Based Continuum	Diagnosis-Based Continuum
<p>HIV Prevalence</p> <p><i>(denominator for prevalence-based continuum)</i></p>	<p>CDC estimates the total number of people living with HIV – whether diagnosed or not – through statistical modeling using NHSS data from all U.S. states and the District of Columbia.</p>	<p>Prevalence data not included.</p>
<p>Diagnosed with HIV Infection</p> <p><i>(denominator for diagnosis-based continuum)</i></p>	<p>Calculated as part of the HIV prevalence estimate above.</p>	<p>NHSS data are used to estimate the number of people currently diagnosed and living with HIV.</p>
<p>Linked to Care</p>	<p>Measures the percentage of people <i>diagnosed with HIV in a given calendar year</i> who had one or more documented viral load or CD4 test <i>within 90 days of diagnosis</i>. Calculated using NHSS data from states and D.C. that have complete laboratory reporting. The NHAS 2020 indicator has changed to linkage within 30 days of diagnosis; consequently, the 30 day linkage measure is the linkage measure that will be monitored.</p> <p>Because this measure is limited to people diagnosed only in a single year, it cannot be directly compared to other steps in the continuum. It is also important to note that an individual who enters care more than 90 days after diagnosis may still be included in subsequent steps of the continuum, but would not be counted as “linked to care.”</p>	
<p>Engaged or Retained in Care</p>	<p>MMP data are used to estimate those “engaged in care,” measured as the percentage of people living with HIV who had at least one HIV medical care visit during the survey’s sampling period. NHSS data from states and D.C. that have complete laboratory reporting can also be used to determine “in care” and “retained in care.”</p>	<p>NHSS data from states and D.C. with complete reporting of CD4 and viral load test results are used to estimate those “retained in care,” measured as the percentage of diagnosed individuals who had two or more documented viral load or CD4+ tests, performed at least three months apart.</p>
<p>Viral Suppression</p>	<p>MMP data are used to estimate the number and percentage of people receiving medical care and whose most recent HIV viral load was less than 200 copies/mL. NHSS data from states and D.C. that have complete laboratory reporting can also be used to determine viral suppression.</p>	