

Spotlight on Health

Ending the HIV Epidemic

Great strides have been made in the prevention, diagnosis, and treatment of the human immune deficiency virus (HIV). Antiretroviral (ARV) drugs now allow persons with HIV to live essentially normal lives. However, people continue to become infected at epidemic proportions. After many years of steady decline, the number of new HIV cases diagnosed each year has remained stable since 2013.¹ In response, the US government spends roughly \$20 billion annually on HIV prevention and care.²

To address the health and financial burdens of HIV, in his 2019 State of the Union Address the President announced the goal of ending the HIV epidemic in the United States.² This newsletter will discuss the current state of the HIV epidemic and the plan to end it, including the role of healthcare providers and laboratory testing.

HIV in the United States

Data compiled by the US government indicate that

- More than 700,000 people in the United States have died as a result of HIV since 1981.²
- Around 1.1 million people in the United States are living with HIV, and many more are at risk of HIV infection.²
- Approximately 165,000 people in the United States have HIV but do not know it.²
- Around 51% of young people (13-24 years old) with HIV do not know they have it.³
- Around 40,000 people are newly diagnosed with HIV every year.²

Ending the HIV Epidemic: A Plan for America

The initiative to end the HIV epidemic seeks to reduce the number of new HIV infections in the United States by 75% within 5 years, and by at least 90% within 10 years. Achieving these goals will prevent approximately 250,000 people from becoming infected with HIV.²

The plan to end the HIV epidemic is composed of 4 pillars: Diagnose, Treat, Prevent, and Respond²:

Diagnose all individuals with HIV as early as possible. Testing and early detection can lead to earlier treatment, better outcomes, and decreased transmission (see Sidebar). Technological advances have made testing for HIV simple, accessible, and routine.

Treat people with HIV rapidly and effectively to reach sustained viral suppression. Around 80% of new infections every year are transmitted by people with HIV who are not receiving treatment. Yet when people with HIV take medication as prescribed, the amount of virus in their body can become so low that it is undetectable on blood tests—this is called viral suppression.⁴ People who are virally suppressed have virtually no risk of sexually transmitting HIV to a partner.⁴ This concept is summarized as “undetectable = untransmittable”. The plan seeks to develop a comprehensive system of HIV diagnosis and treatment with the goal of 90% of people with HIV being virally suppressed.

Prevent HIV transmission by using proven interventions, including pre-exposure prophylaxis (PrEP) and syringe services programs (SSPs). PrEP, a daily oral ARV medication, can reduce the risk of acquiring HIV by up to 97% in high-risk individuals.⁵ However, of the 1 million people in the United States who may benefit from PrEP, only an estimated 1 in 4 are taking the medication.² In response, the pharmaceutical company Gilead plans to provide PrEP medication for 200,000 individuals each year



HIV Treatment Can Prevent Transmission

In 2016, among people living with HIV⁴

- The 15% who didn't know they had HIV accounted for 38% of new transmissions.
- The 23% who knew they had HIV but were not in care accounted for 43% of new transmissions.
- The 11% who were in care but not virally suppressed accounted for 20% of new transmissions.
- The 51% who were taking HIV medication and were virally suppressed accounted for 0% of new transmissions.^a

HIV Treatment Requires Diagnosis

The Centers for Disease Control and Prevention (CDC) recommends⁴

- Everyone^b 13 to 64 years old should be tested for HIV at least once.
- People at high risk of getting HIV should be tested at least annually.
- Sexually active gay and bisexual men may benefit from more frequent testing (eg, every 3-6 months).

^a Sum of new transmissions does not equal 100% because of rounding.

^b Positive results for patients <18 years may need to be reported to the authorities under applicable law.

who are underinsured and might otherwise not be able to access the medication. For injection drug users, SSPs have been shown to play an important role in reducing the transmission of viral hepatitis, HIV, and other infections. SSPs have been found to be safe, effective, and cost-saving, and do not increase illegal drug use or crime.²

Respond quickly to potential HIV outbreaks to get needed prevention and treatment services to people who need them. Laboratory and epidemiological data indicate that new infections occur in a limited number of counties and in specific populations.² Thus, public health officials can focus their response on areas where HIV infections are spreading most rapidly, by screening and getting infected persons into appropriate care and treatment.

How Healthcare Providers Can Help

Healthcare providers are key to achieving the goals of Ending the HIV Epidemic.¹ They can discuss HIV with their patients, and the benefits of HIV testing. HIV testing can be offered to all patients, not only those with risk factors for HIV (see Sidebar on previous page). Positive results for HIV can lead to quick linkage to care. Importantly, healthcare providers can discuss HIV prevention and identify people who may benefit from using condoms and PrEP.⁵ Healthcare providers can also encourage injection drug users to participate in SSPs.

How the Laboratory Can Help

Quest Diagnostics offers tests to support each of the 4 pillars of the strategy to end the HIV epidemic.

- **Diagnose:** HIV-1/2 Antigen and Antibodies, Fourth Generation, with Reflexes (test code 91431).
- **Treat:** HIV-1 RNA, Quantitative, Real-Time PCR (test code 40085); HIV-1 RNA, Quantitative, Real-Time PCR with Reflex to Genotype (RTI, PI, Integrase) (test code 91691); HIV-1 Genotype (RTI, PI, Integrase Inhibitors) (test code 91692); and HLA-B*5701 Typing (test code 19774).
- **Prevent:** PrEP HIV Baseline, Male Panel with Reflexes (test code 37106); PrEP HIV Baseline, Female Panel with Reflexes (test code 37133); PrEP HIV Monitoring, Male Panel (test code 37136); and PrEP HIV Monitoring, Female Panel (test code 37138).
- **Respond:** Tests used to diagnose, treat, and prevent would also be used to respond to outbreaks. Quest also offers a variety of other tests for care of patients with HIV, including measurement of viral load and lymphocyte subsets.

For more information, please visit HIVPrEPPanel.com and QuestDiagnostics.com/HIV.

References

- 1 CDC data confirm: progress in HIV prevention has stalled. HIV.gov website. <https://www.hiv.gov/blog/cdc-data-confirm-progress-hiv-prevention-has-stalled>. Published February 28, 2019. Accessed October 1, 2019.
- 2 What is 'Ending the HIV Epidemic: A Plan for America'? HIV.gov website. <https://www.hiv.gov/federal-response/ending-the-hiv-epidemic/overview>. Updated September 3, 2019. Accessed September 19, 2019.
- 3 U.S. statistics. HIV.gov website. <https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics>. Updated March 13, 2019. Accessed October 1, 2019.
- 4 Ending the HIV epidemic: HIV treatment is prevention. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vitalsigns/end-hiv/index.html>. Reviewed March 18, 2019. Accessed October 1, 2019.
- 5 US Public Health Service: preexposure prophylaxis for the prevention of HIV infection in the United States—2017 update: a clinical practice guideline. Centers for Disease Control and Prevention website. <https://www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2017.pdf>. Published March 2018. Accessed October 1, 2019.

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