

# Ending the HIV Epidemic A Plan for the United States

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**In the State of the Union Address** on February 5, 2019, President Donald J. Trump announced his administration's goal to end the HIV epidemic in the United States within 10 years. The president's budget will ask Republicans and Democrats to make the needed commitment to support a concrete plan to achieve this goal.



## Supplemental content

While landmark biomedical and scientific research advances have led to the development of many successful HIV treatment regimens, prevention strategies, and improved care for persons with HIV, the HIV pandemic remains a public health crisis in the United States and globally.

In the United States, more than 700 000 people have died as a result of HIV/AIDS since the disease was first recognized in 1981, and the Centers for Disease Control and Prevention (CDC) estimates that 1.1 million people are currently living with HIV, about 15% of whom are unaware of their HIV infection.<sup>1</sup> Approximately 23% of new infections are transmitted by individuals who are unaware of their infection and approximately 69% of new infections are transmitted by those who are diagnosed with HIV infection but who are not in care.<sup>2</sup> In 2017, more than 38 000 people were diagnosed with HIV in the United States. The majority of these cases were among young black/African American and Hispanic/Latino men who have sex with men (MSM). In addition, there was high incidence of HIV among transgender individuals, high-risk heterosexuals, and persons who inject drugs.<sup>1</sup> This public health issue is also connected to the broader opioid crisis: 2015 marked the first time in 2 decades that the number of HIV cases attributed to drug injection increased.<sup>3</sup> Of particular note, more than half of the new HIV diagnoses were reported in southern states and Washington, DC. During 2016 and 2017, of the 3007 counties in the United States, half of new HIV diagnoses were concentrated in 48 "hotspot" counties, Washington, DC, and Puerto Rico.<sup>4</sup>

The US Department of Health and Human Services (HHS) has proposed a new initiative to address this ongoing public health crisis with the goals of first reducing numbers of incident infections in the United States by 75% within 5 years, and then by 90% within 10 years. This initiative will leverage critical scientific advances in HIV prevention, diagnosis, treatment, and care by coordinating the highly successful programs, resources, and infrastructure of the CDC, the National Institutes of Health (NIH), the Health Resources and Services Administration (HRSA), the Substance Abuse and Mental Health Services Administration (SAMHSA), and the Indian Health Service (IHS). The initial phase, coordinated by the HHS

Office of the Assistant Secretary of Health, will focus on geographic and demographic hotspots in 19 states, Washington, DC, and Puerto Rico, where the majority of the new HIV cases are reported, as well as in 7 states with a disproportionate occurrence of HIV in rural areas (eFigure in the [Supplement](#)).

The strategic initiative includes 4 pillars:

1. diagnose all individuals with HIV as early as possible after infection;
2. treat HIV infection rapidly and effectively to achieve sustained viral suppression;
3. prevent at-risk individuals from acquiring HIV infection, including the use of pre-exposure prophylaxis (PrEP); and
4. rapidly detect and respond to emerging clusters of HIV infection to further reduce new transmissions.

A key component for the success of this initiative is active partnerships with city, county, and state public health departments, local and regional clinics and health care facilities, clinicians, providers of medication-assisted treatment for opioid use disorder, and community- and faith-based organizations.

The implementation of advances in HIV research achieved over 4 decades will be essential to achieving the goals of the initiative. Clinical studies serve as the scientific basis for strategies to prevent HIV transmission/acquisition. In this regard, as reviewed in a recent Viewpoint in *JAMA*,<sup>5</sup> large clinical studies have recently proven the concept of undetectable = untransmittable (U = U), which has broad public health implications for HIV prevention and treatment at both the individual and societal level. U = U means that individuals with HIV who receive antiretroviral therapy (ART) and achieve and maintain an undetectable viral load do not sexually transmit HIV to others.<sup>5</sup> U = U will be invaluable in helping to counteract the stigma associated with HIV, and this initiative will create environments in which all people, no matter their cultural background or risk profile, feel welcome for prevention and treatment services.

Results from numerous clinical trials have led to significant advances in the treatment of HIV infection, such that a person living with HIV who is properly treated and adherent with therapy can expect to achieve a nearly normal lifespan. This progress is due to antiviral drug combinations drawn from more than 30 agents approved by the US Food and Drug Administration (FDA), as well as medications for the prevention and treatment regimens of HIV-associated coinfections and comorbidities. Furthermore, PrEP with a daily regimen of 2 oral antiretroviral drugs in a single pill has proven to be highly effective in preventing HIV infection for individuals at high risk. In addition, postexposure prophylaxis provides a highly

effective means of preventing transmission from a high-risk exposure and can serve as a bridge to PrEP.

Collectively, these advances suggest that, theoretically, the HIV epidemic in this country could be ended quickly by expanding access to treatment to all persons with HIV and PrEP to all those at high risk. The administration has developed a practical, achievable plan to focus on hotspots of HIV infection, both demographic and geographic. Lessons learned and effective strategies emanating from this initiative would ultimately be applied to profoundly reduce HIV incidence nationwide through federal, state, and local health departments and nongovernmental organizations.

In the developing world, particularly in Africa, the President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria have helped close gaps in HIV treatment and prevention implementation and have addressed disparities between resource-rich and resource-limited nations. PEPFAR has brought the HIV global pandemic from crisis toward control and replaced death and despair with hope and life. The latest results achieved by US leadership and partnerships through PEPFAR, the Global Fund, and other organizations are estimated to have saved more than 21.7 million lives. PEPFAR alone is supporting more than 14.6 million people with lifesaving ART, when just 50 000 people were receiving ART in Africa at the start of the PEPFAR program in 2003.<sup>6</sup>

Demographic and geographic hotspots of HIV infection need a particular focus to interrupt or disrupt the kinetics of HIV spread in the United States. The coordinated multi-HHS agency initiative will provide this focus. The HRSA Ryan White HIV/AIDS Program (RWHAP) has achieved remarkable success in implementing quality HIV treatment and care. For 2017, the program reports that 85% of individuals who had at least 1 medical visit had achieved viral suppression, far exceeding the national average of 60% of HIV-diagnosed adults and adolescents. The RWHAP has significantly increased the rate of viral suppression among key populations including women, transgender individuals, black/African American individuals, adolescents and young adults, and those with unstable housing.<sup>7</sup>

Using this experience, HRSA will accelerate its efforts working with state and county health departments and community and faith-based organizations to play a major role in the HHS initiative to end the US HIV epidemic. The RWHAP provides the infrastructure, personnel, and expertise for effective treatment and medical intervention strategies. The CDC will be critical for this initiative by amplifying its existing programs and working in communities along with state and local health authorities to bring HIV testing to all who need it, to diagnose infections as early as possible, to conduct epidemiologic investigations of new HIV clusters, and to promote rapid linkage to comprehensive care in the RWHAP. The HRSA Health Centers Program will provide PrEP services to those identified at high risk for HIV acquisition and care for those with HIV. The IHS will focus on urban and rural tribal communities, ensuring that emerging threats are addressed and effective programs and services are marshaled in these communities to address the 4 pillars of the strategic initiative. To expand access to treating HIV, the IHS has published PrEP guidelines for local use and customization and developed electronic health record clinical reminders to assist clinical staff.

The NIH's Centers for AIDS Research will inform HHS partners in this initiative on best practices, based on state-of-the-art biomedical research findings, and by collecting and disseminating data on the effectiveness of approaches used in this initiative. In addition to syringe services programs, access to FDA-approved medication-assisted treatment for substance use disorders, in concert with counseling/behavioral services, is critically important. SAMHSA's efforts to increase providers of medication-assisted treatment, particularly in the hotspots, will help control the spread of HIV, providing access for intravenous drug users with substance use disorder and HIV to receive the treatment they need.

The president, the secretary of HHS, and members of the department are committed to ending the HIV epidemic in the United States. The president's budget will propose a way forward on this bold initiative to achieve this goal.

#### ARTICLE INFORMATION

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#### REFERENCES

1. Department of Health and Human Services, Centers for Disease Control and Prevention. HIV in the United States and dependent areas. <https://www.cdc.gov/hiv/statistics/overview/ataglance.html>. Updated January 29, 2019. Accessed February 5, 2019.
2. Frieden TR, Foti KE, Mermin J. Applying public health principles to the HIV epidemic: how are we doing? *N Engl J Med*. 2015;373(23):2281-2287. doi:10.1056/NEJMms1513641
3. Department of Health and Human Services, Centers for Disease Control and Prevention. NCHSTP AtlasPlus. <https://www.cdc.gov/nchhstp/atlas/index.htm>. Published August 30, 2017. Accessed February 4, 2019.
4. Department of Health and Human Services, Centers for Disease Control and Prevention. HIV Surveillance Report 2017. <https://www.cdc.gov/hiv/library/reports/hiv-surveillance.html>.
5. Eisinger RW, Dieffenbach CW, Fauci AS. HIV viral load and transmissibility of HIV infection: undetectable equals untransmittable. *JAMA*. 2019; 321(5):451-452. doi:10.1001/jama.2018.21167
6. Joint United Nations Programme on HIV and AIDS. Global HIV & AIDS Statistics—2018 Fact Sheet. <http://www.unaids.org/en/resources/fact-sheet>. Accessed February 5, 2019.
7. Mandsager P, Marier A, Cohen S, Fanning M, Hauck H, Cheever LW. Reducing HIV-related health disparities in the Health Resources and Services Administration's Ryan White HIV/AIDS Program. *Am J Public Health*. 2018;108(S4):S246-S250. doi:10.2105/AJPH.2018.304689