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## MEDICINES IN DEVELOPMENT | 2017 HIV/AIDS

### More Than **50** Medicines and Vaccines in Development for HIV/AIDS Infection Treatment and Prevention

**1.1M**

PEOPLE ARE LIVING WITH HIV IN THE UNITED STATES<sup>1</sup>

THERE ARE

**1 in 7**

AMERICANS LIVING WITH HIV WHO DON'T KNOW THEY ARE HIV-POSITIVE<sup>1</sup>

THERE WAS AN

**18%**

DECLINE IN ANNUAL HIV INFECTIONS FROM 2008-2014<sup>1</sup>

HIV/AIDS DEATH RATES HAVE FALLEN

**88%**

SINCE THE 1990S<sup>2</sup>

Since the human immunodeficiency virus (HIV), the virus that causes acquired immune deficiency syndrome (AIDS), was first identified in the United States more than 30 years ago, expanded treatment options have brought down death rates, increased patient adherence, improved the quality of life for patients and paved the way for future research focused on preventing the disease.

According to the U.S. Centers for Disease Control and Prevention, 1.1 million people are living with HIV in the United States today.<sup>1</sup> While HIV is still fatal if left untreated, thanks to innovative medicines, it is now a chronic manageable disease. This dramatic change followed the introduction of antiretroviral therapy (ART) in the mid-1990s, which transformed treatment, leading to an 88 percent decline in death rates due to HIV/AIDS<sup>2</sup> and an estimated 862,000 premature HIV/AIDS deaths have been averted in the United States.<sup>3</sup>

Many HIV patients can now expect to live a full life expectancy. The use of ART, including medicines that can be taken just once a day, has revolutionized the treatment paradigm and the outlook for patients. A new study<sup>4</sup> from the Antiretroviral Therapy Cohort Collaboration found that HIV patients in Europe and North America treated with a combination of three or more ART medicines can potentially achieve the same life expectancy as people without HIV.



Since 1981, when the first AIDS cases were reported in the United States, more than 40 medicines<sup>5</sup> for HIV infection have been approved in the United States. The wave of early innovation in ART treatment was spurred as a result of committed patient activists, leading the U.S. Food and Drug Administration (FDA), Congress and industry to work together to shorten drug review times. The Prescription Drug User Fee Act (PDUFA), first authorized in 1992, was the direct result of this activism, and has been essential in driving continued innovation in HIV/AIDS treatment, including, more recently, medicines to prevent the transmission of HIV, called pre-exposure prophylaxis medicines (PrEP). Although these innovative medicines have made HIV infection a manageable chronic disease and helped to prolong the lives of infected patients, opportunities for even greater progress remain, including finding a preventative vaccine and combating resistance to current treatments.

Today there are 52 medicines and vaccines<sup>6</sup> for HIV currently in development, including additional combination treatments, more effective therapies, and preventative vaccines. These medicines and vaccines are either in clinical trials or awaiting review by the FDA.

The 52 medicines and vaccines in the development pipeline include 32 antiretrovirals and antivirals, 16 vaccines and four cell therapies. Some examples include:

- A potential first-in-class medicine intended to prevent HIV from attaching to new cells and breaking through the cell membrane.
- A preventative HIV vaccine in development is in clinical trials testing the safety and tolerability of two different prime/boost vaccine regimens. Preventative vaccines are given to people not infected with HIV and can teach the person's immune system to recognize and effectively fight HIV in case the person is ever exposed to HIV.



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# CONTINUED ADVANCES IMPROVE PATIENT OUTCOMES<sup>7</sup>

Once-daily, single-tablet, multi-class treatment regimens have become an integral part of HIV treatment over the past decade. These fixed-dose combinations are better tolerated and have not only been associated with greater viral suppression, but by combining as many as four different therapies in a single tablet, they have also dramatically reduced pill burden for patients. Relative to HIV patients taking two or more pills per day, those on once-daily, single-tablet regimens are more likely to achieve the adherence levels needed to avoid the development of drug resistance. Adherent patients on single-tablet regimens have also been found to experience fewer hospitalizations and lower health care costs. Six such once-daily, single-tablet, multi-class medicines have been approved since 2006.

**GOBOLDLY**

# THE AIDS INSTITUTE: MEDICINES REPRESENT TREMENDOUS STEP FORWARD IN PREVENTING AND TREATING HIV/AIDS



In the nearly four decades since AIDS became a global pandemic, we've watched the treatment and prevention of HIV/AIDS completely transform. Since its founding in 1985, The AIDS Institute has been at the forefront in the fight against HIV/AIDS through research, education and advocacy. Survival rates are up and many people with HIV/AIDS today have the potential to live a normal life expectancy thanks to the innovative medicines and therapies being used to treat this disease. In the past, people with HIV/AIDS had to take a handful of pills several times a day, often with terrible side effects. Today, there are more effective treatments, and people can take one pill containing several medications in one with minimal side effects, increasing adherence and an improving quality of life.

We are excited about the future, and the potential for long-acting treatments and prevention medications, along with an eventual vaccine.

While these medicines represent a tremendous step forward in preventing and treating HIV/AIDS, adherence to prescribed therapies is just as important as ever. Every dose counts. In order to reap the full benefits of these new therapies, the prescribing information must be followed closely as prescribed by a patient's physician, particularly to address co-morbidities, which increase as people with HIV age.

One of The AIDS Institute's long-standing priorities is to increase awareness and encourage routine HIV testing. Regular screenings for HIV is crucial in the treatment of the disease - the earlier a person with HIV/AIDS can begin treatment, the better. There is still much to be done in the fight against this disease, and The AIDS Institute is committed to raising awareness, supporting patients and protecting health care access for people living with HIV/AIDS.

*The AIDS Institute is a national nonprofit organization that promotes action for social change through public policy research, advocacy, and education.*

#### Sources:

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2. Health, United States, 2015, May 2016, CDC
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4. Survival of HIV-positive patients starting antiretroviral therapy between 1996 and 2013: a collaborative analysis of cohort studies, *The Lancet HIV*, May 10, 2017
5. AIDSInfo Fact Sheet, FDA-Approved HIV Medicines, February 2017
6. Number of medicines obtained through public, government and industry sources, and the Springer "Adis Insight" database. Current as of June 8, 2017. The medicines are either in clinical trials or undergoing regulatory review at the U.S. Food and Drug Administration.
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