



*Dr. Noah Ndale tests blood samples at a hospital laboratory in Lusaka, Zambia.*

**OUR GOAL:** to significantly reduce the incidence of HIV infection and extend the lives of people living with HIV.

## THE CHALLENGE

More than 33 million people around the world are currently living with human immunodeficiency virus (HIV), and more than 30 million people have died from HIV-related complications since the earliest cases were detected in the 1980s. While huge progress has been made in increasing access to HIV treatment in the past decade, and new HIV infections have substantially declined in some regions, the pandemic continues to outpace efforts to control it. The number of newly infected people each year outnumbers those who gain access to treatment by two to one.

Defeating HIV will require a comprehensive response, and effective programs must be scaled up to treat people already infected and prevent new infections. New tools are also needed to defeat the pandemic, and investment in research and development for new products remains essential.

## THE OPPORTUNITY

In the past decade, efforts led by developing countries; the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund); the U.S. President's Emergency Plan for AIDS Relief (PEPFAR); civil society organizations; and communities affected by HIV have made significant progress in the fight against HIV. The global incidence of HIV has declined by 20 percent since its peak in the mid-1990s, and nearly half of those who could benefit from anti-retroviral therapy (ART), which suppresses the virus, are receiving treatment.

Global partners can continue to accelerate progress by sustaining their investments to expand access to HIV treatment and prevention, enhancing the impact of every dollar invested in HIV by improving the efficiency and effectiveness of HIV programs, and supporting research into new and better prevention and treatment methods.

## AT A GLANCE

- More than 33 million people are currently living with HIV, and more than 30 million have died from HIV-related complications.
- New HIV infections have fallen by more than 20 percent in the past decade, but each year the newly infected outnumber those who gain access to treatment by two to one.
- Only about half of those who need treatment for HIV are currently receiving it.
- The foundation is working to make lasting reductions in HIV infections and extend the lives of people living with HIV by supporting research and development into vaccines and anti-retroviral-based prevention products, promoting broader-scale use of proven prevention methods, expanding service delivery, and improving diagnostic tools and treatments.
- Our HIV strategy, last updated in 2011, is led by Stefano Bertozzi, director, HIV Program, and is part of the foundation's Global Health Division.



*Spongisemi Nxumalo of the South African Medical Council explains a clinical trial for microbicides to residents of a township outside Durban, South Africa.*

## OUR STRATEGY

HIV is one of the leading priorities of the Bill & Melinda Gates Foundation. The goal of our program is to support efforts to reduce the global incidence of HIV significantly and sustainably, and to help people infected with HIV lead long, healthy, and productive lives. We focus our efforts in the poorest hyper-endemic countries of Sub-Saharan Africa, where we believe our resources can have the greatest impact. To date, the foundation has committed more than US\$2.5 billion in HIV grants to organizations around the world. We have also committed more than US\$1.4 billion to the Global Fund. Beyond our direct investments in HIV, we advocate for sustained and increased funding for HIV service delivery.

While the foundation's resources are sizable, they represent only a small portion of worldwide funding for HIV, most of which comes from donor governments and from developing countries themselves. To ensure that our investments complement other funding streams, we concentrate our resources in areas where existing funds are scarce, our support can have potentially catalytic impact, and we are better positioned than others to assume risks. Our strategy reflects where we believe the foundation is best positioned—among a broad spectrum of actors—to help turn the tide on HIV.

## AREAS OF FOCUS

We invest in six areas to advance the development and delivery of new HIV prevention methods while improving the efficiency and effectiveness of existing prevention and treatment efforts. We work with a broad array of partners, including government agencies in donor countries and developing countries, multilateral organizations, nongovernmental organizations (NGOs), academic institutions, community organizations, and private industry.

### Vaccine Research and Development

Our largest investment is in efforts to discover and develop an HIV vaccine. Exciting new discoveries and a robust pipeline of promising vaccine concepts have created optimism that a safe and effective vaccine will emerge that can dramatically reduce global HIV incidence.

We support the global HIV vaccine pipeline at multiple levels. At the early discovery phase, we invest in an array of vaccine concepts through the foundation's Grand Challenges Explorations competition. We also provide funding to move novel product concepts toward human clinical trials,

including replicating vectors, vaccines to induce mucosal immunity, passive immunization, and the development of immunogens to elicit protective antibodies. And we invest in late-stage clinical trials, such as the Pox-Protein Public Private Partnership (P5), to advance promising candidates toward licensure. To strengthen and accelerate the HIV vaccine field broadly, we invest in research consortia as well as product development and manufacturing platforms.

### Anti-Retroviral Prevention Methods

The development of new prevention methods is essential to reducing HIV transmission. We support efforts to develop, evaluate, and introduce innovative approaches to protecting populations who are at risk of HIV infection. These approaches include systemic and topical anti-retroviral compounds and long-acting products such as injections and vaginal rings, which are less dependent on daily user adherence. We are also interested in dual protection methods that combine microbicides with effective contraception.

We also invest in efforts to evaluate the best approaches to enhancing the secondary prevention potential of HIV treatment (i.e., treatment as prevention). Our goal is to help national governments and global partners understand the most efficient and effective approaches to integrating treatment as prevention into broader prevention programs that combine primary preventive interventions such as condoms, male circumcision, and targeted behavioral interventions.



Patients waiting for testing outside a rural clinic in Kivumu, Rwanda.

### Efficient and Effective Service Delivery

The growth in international funding for HIV has slowed in recent years, but the demand for HIV services has not. About half of all people in need of treatment for HIV do not receive it, and more than 2 million people are newly infected each year. To continue expanding quality treatment and prevention, we must ensure that every investment yields maximum results. To that end, we invest in five interrelated areas to help increase access to HIV services:

- Reducing the cost of essential anti-retroviral treatments by developing better approaches to process chemistry, dose optimization, and manufacturing
- Rigorously evaluating combinations of preventive interventions to determine the most effective combined strategies
- Collaborating with major HIV financing partners to build their capacity to invest in the most effective and cost-effective programs
- Conducting modeling studies to help countries allocate their HIV resources more effectively
- Assessing HIV program management strategies to improve prevention and treatment programs

### Voluntary Medical Male Circumcision

Research indicates that widespread male circumcision could play a major role in limiting the spread of HIV in the parts of Sub-Saharan Africa where HIV is highly prevalent. However, insufficient supply and weak demand for male circumcision has limited the preventive impact of this intervention. The foundation invests in male circumcision efforts at two levels: It supports planning and coordination to spur circumcision efforts in 14 target African countries, and it supports the development and introduction of devices that can facilitate nonsurgical, low-cost, and low-tech circumcision.

## Improved Diagnostic Methods

The development of rapid, accurate, and low-cost diagnostic tools that can be used at points of care in low-resource settings can greatly enhance the impact of HIV treatment and prevention programs. Devices that deliver rapid HIV diagnosis can help HIV-positive people seek more timely care and treatment. Rapid and accurate tests for CD4 and viral load can help improve patient care. We also support programs to improve the measurement of HIV incidence.

## Demonstrating the Scalability of HIV Programs

The foundation has supported national efforts to design and deliver HIV services to high-risk populations in India, China, Myanmar, and Botswana, with the goal of demonstrating the feasibility of delivering effective services on a broad scale. For the past decade, we have worked with national AIDS coordinating organizations, local governments, and community-based NGOs in those four countries to scale up approaches to delivering essential HIV services. India's Avahan program has demonstrated notable success, with independent evaluations estimating that it has helped prevent more than 100,000 new HIV infections in India. We are working to help transition these programs so they can be administered by national governments and local partners in a sustainable fashion.



*Women discussing their finances at a drop-in center for female sex workers in Chennai, India.*

## ABOUT THE FOUNDATION

Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation aspires to help all people lead healthy, productive lives. We are dedicated to discovering and disseminating innovative approaches to addressing extreme poverty and poor health in developing countries and improving the U.S. education system. Because our financial resources, while significant, represent a small fraction of what's needed to address these challenges, we work in partnership with governments, the private sector, and other donors and organizations to achieve the greatest possible impact.

## LEARN MORE

Our Global Health Program:

[www.gatesfoundation.org/global-health](http://www.gatesfoundation.org/global-health)

Our HIV/AIDS Program:

[www.gatesfoundation.org/hiv aids](http://www.gatesfoundation.org/hiv aids)