

# IMPROVING OUTCOMES FOR CHILDREN LIVING WITH HIV IN RESOURCE-LIMITED SETTINGS

## OVERVIEW

In 2017, UNAIDS estimated that 1.8 million children (<15 years) were living with HIV, and 52 percent were receiving antiretroviral treatment (ART). Global efforts, such as Start Free, Stay Free and AIDS free (“Three Frees”), have resulted in a significant increase in HIV treatment for children from 2000, when only 18,000 children were on ART.<sup>1</sup> The U.S. Centers for Disease Control and Prevention (CDC) and other U.S. Government agencies continue to play an integral part of closing the HIV treatment gap for children and achieving an AIDS-free generation.

Reducing pediatric AIDS-related deaths requires strategic approaches to:

- Strengthen and implement efficient pediatric-HIV case-finding strategies with early linkage to treatment,
- Expand access to quality HIV clinical services and viral load monitoring for children/adolescents on ART;
- Improve the development, access and use of newer and more effective child-friendly antiretroviral medications, such as raltegravir granules, lopinavir/ritonavir pellets and granules, and dolutegravir.
- Ensure that children remain on ART from infancy into adolescence and beyond;
- Expand routine monitoring of HIV drug resistance development; and
- Improve family HIV testing and disclosure to increase pediatric access to and retention in HIV-related programs.

## CDC'S ROLE

As a key implementing partner of the U.S. President’s Emergency Plan for AIDS Relief (PEPFAR), CDC develops and maintains strong partnerships in support of the global response to HIV. CDC’s focus in addressing the pediatric HIV epidemic has been to support and strengthen the capacity of national HIV programs to provide quality HIV services for children and adolescents in the most affected countries in the world, with the goal of increasing access to HIV treatment and reducing AIDS-related deaths.

To accomplish its mission, CDC works at international, national, subnational, and community levels in close collaboration with other U.S. Government agencies, the World Health Organization (WHO), UNICEF, UNAIDS, the Global Fund to Fight AIDS, Tuberculosis, and Malaria, ministries of health (MOH), faith-based and civil society organizations, and additional local and international non-government organizations.

In addition to program implementation, CDC directly implements surveillance and operational research studies to better characterize the pediatric HIV epidemic and identify evidenced-based strategies to improve pediatric HIV outcomes. For example, the ongoing Population-based HIV Impact Assessments (PHIAs), in 14 PEPFAR-supported countries, are providing important information for program improvement, such as measures of HIV viral suppression and ART access among children living with HIV.

Additional CDC research efforts include operational research on the feasibility of HIV testing at birth, improving HIV testing strategies for children ages two and older through the implementation of risk screening tools, studies on ART clinical outcomes, use of dried blood samples for viral load testing, and studies on the prevalence of HIV drug resistance in children receiving ART. CDC has been instrumental in building laboratory capacity to expand access to state-of-the-art diagnostic assays for early infant HIV diagnosis and viral load testing that will help improve early life-saving treatment initiation and extend the effectiveness of existing drugs for children.

## ACCOMPLISHMENTS / RESULTS

Based on Monitoring, Evaluation and Review (MER) data, from October 2017 to June 2018, CDC partners identified 51,193 HIV-positive children and 48,803 who were newly initiated on ART. During the same reporting period, 352,815 HIV-positive children were receiving treatment primarily in CDC-supported health facilities.

In fiscal year (FY) 2017, MER data shows that CDC supported 150 laboratories to provide HIV virological testing to 802,992 infants in 21 countries.

Between 2014 and 2016, CDC played a key role in implementing the Accelerating Children’s HIV Treatment (ACT) initiative, a public-private partnership between PEPFAR and the Children’s Investment Fund Foundation, which doubled the number of children and adolescents on lifesaving

<sup>1</sup> WHO. <http://apps.who.int/iris/bitstream/10665/246178/1/WHO-HIV-2016.05-eng.pdf?ua=1>.

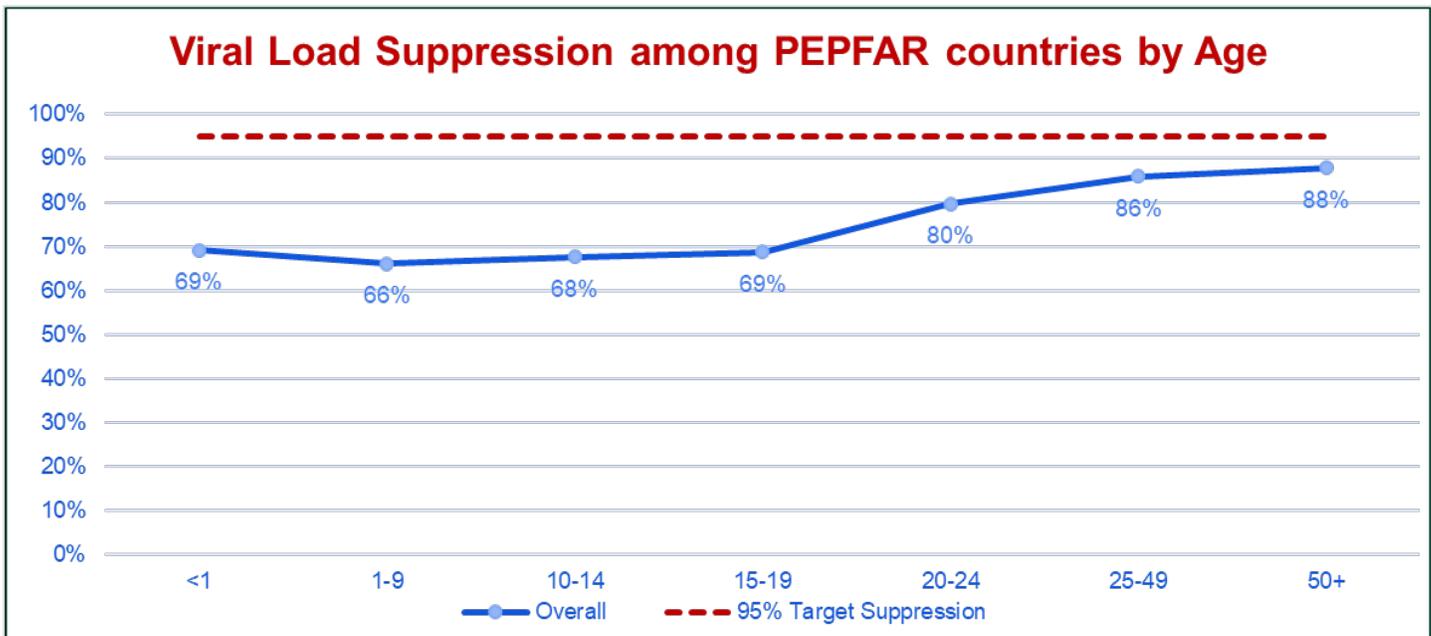
treatment in nine countries with a high pediatric HIV burden in sub-Saharan Africa. During the two-year initiative, CDC helped develop innovative implementation strategies to increase pediatric HIV case finding and linkage to treatment, while ensuring the provision of high-quality care for children and adolescents living with HIV.

From 2013 to 2015, CDC worked with MOHs in Uganda, Ethiopia, and Zambia to introduce the “Treat All” strategy for children living with HIV in advance of the 2016 WHO guidelines. Since then, CDC has actively supported the adoption of this strategy in all other PEPFAR-supported countries.

In 2016, CDC assembled a rapid response team to help laboratories in Mozambique clear out a backlog of samples collected for early infant diagnosis by providing intensive training of laboratory technicians, facilitating collaboration with laboratories in South Africa, and processing samples at its headquarters in Atlanta. CDC also worked with implementing partners and the MOH in supported countries to track infants whose results had not been made available to ensure rapid retesting and/or initiation of treatment as needed.

CDC works to provide HIV viral load testing and helps countries examine test results across age groups. This analysis, together with a review of FY17 results, showed significantly lower levels of treatment among children and adolescents, compared with adults. This finding helps countries focus their efforts and resources towards improving viral suppression and pediatric HIV patients’ outcomes.

**FUTURE EFFORTS**



Source: PEPFAR 2017 data

In the coming year, CDC’s pediatric HIV efforts will focus on the following activities in support of UNAIDS’ “95-95-95”<sup>2</sup> goals, as they relate to children:

- Optimizing HIV testing for infants born to HIV-infected mothers and promoting the implementation of innovative strategies to improve pediatric HIV case finding for older children to more effectively identify those living with HIV and link them to early treatment.
- Continued support to countries to effectively implement the “Treat All” approach for children with enhanced focus on same-day ART.
- Working with partners to identify family-based models of service delivery that help children and their parents remain in treatment, while reducing the burden for health workers and caregivers.
- Increasing access to viral load testing for children on ART and improving the quality of enhanced adherence counselling for children from the time they are initiated on optimal ART, and ensuring children with high viral loads receive immediate clinical management.
- Working at international levels to advocate for the continued development and availability of optimal drugs, appropriate dosing information of child-friendly formulations, and more effective and affordable drugs in a timely manner.
- Working with CDC implementing partners and ministries of health to rapidly roll out the use of newer optimal antiretroviral drugs for children, particularly raltegravir, lopinavir/ritonavir pellets and granules, and dolutegravir as recommended by WHO.

<sup>2</sup> UNAIDS has published global goals of reaching 95-95-95 by 2030, such that (1) 95 percent of all people living with HIV (PLHIV) will know their HIV status; (2) 95 percent of all people with diagnosed HIV will receive sustained antiretroviral therapy (ART); and (3) 95 percent of people receiving ART will have viral suppression.

- Conducting HIV drug resistance monitoring/surveillance among pediatric populations and using findings to inform national treatment guidelines and improve clinical management of children.

#### BENEFITS OF OUR WORK

As a key PEPFAR-implementing agency, CDC supports innovative strategies to improve pediatric HIV case finding, improve linkage to optimal treatment services, increase the number of children retained in treatment, and improve rates of HIV viral suppression. At national levels, CDC has helped introduce, evaluate, and improve new laboratory tests for infant diagnosis and viral load testing. In addition, CDC leads epidemiologic surveillance efforts to clearly define the pediatric HIV epidemic, including understanding HIV drug resistance in children. CDC's efforts are key to saving the lives of thousands of children and ensuring that the goal of an AIDS-free generation becomes a reality.