SCALING-UP HIV CARE AND TREATMENT

OVERVIEW

Treatment of HIV infection with appropriate antiretroviral therapy (ART) reduces morbidity and mortality rates among people living with HIV (PLHIV), and decreases viral load (VL) to undetectable levels in the blood and other bodily fluids. As a result, perinatal transmission is markedly reduced and sexual transmission is prevented. Thus, increasing access to effective ART is a vital component of the global response to HIV/AIDS and efforts to achieve epidemic control.

In 2003, when President George W. Bush announced the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), an estimated 50,000 people in sub-Saharan Africa were receiving ART. In 2017, UNAIDS estimated that 21.7 million PLHIV were receiving ART globally. As of September 30, 2018, PEPFAR-supported treatment was accessed by 14.6 million PLHIV, representing over two-thirds of all PLHIV on ART globally. Of those supported by PEPFAR, the U.S. Centers for Disease Control and Prevention (CDC) and its implementing partners provide direct site support or technical assistance (TA) for 8.2 million PLHIV on treatment, which is more than one in every three PLHIV on ART worldwide. Since PEPFAR commenced, CDC has been the principal ART program advisory group for PEPFAR.

For PEPFAR, the key goals of ART programs are: quantity, quality, efficiency, sustainability, transition, and impact. Quantity means that 95 percent of PLHIV receive sustained ART, and that 95 percent of PLHIV on ART have VL suppression. Efficiency means that there is a focus on high-burden, sub-national units and key and priority populations (KPs/PPs), including men who have sex with men, people who inject drugs, sex workers, transgender persons, and those incarcerated. Sustainability means that each country is willing and able to provide full, sustained ART coverage. Transition means that each country oversees its national ART program, while moving toward little to no U.S. Government (USG) support. Lastly, impact means that the ART program leads to HIV epidemic control.

ACCOMPLISHMENTS / RESULTS

Since 2015, providing access to ART as soon after HIV diagnosis as possible has been a programmatic priority under a policy known as Treat All. CDC facilitates PEPFAR-supported countries to adopt Treat All by enabling and engaging stakeholders, supporting evidence-based policy development, updating and implementing national guidelines, developing tools to assess ART center readiness and trainings for health-care workers, and supporting the development of protocols and indicators to monitor implementation. We have also recently supported countries to implement rapid, including same-day, ART initiation, by identifying best practices, and developing standard operating procedures and methods to monitor implementation and outcomes.

To promote PLHIV linkage to and retention on lifelong ART, CDC supports the development of patient tracking and tracing indicators and tools, and sharing programmatic best practices. CDC provides TA to PEPFAR-supported countries to adopt, implement, and monitor the impact of patient-centered differentiated models of HIV service delivery. For example, since July 2015, CDC has coordinated monthly interagency conference calls on differentiated models of HIV service delivery to facilitate collaboration and to share best practices among countries.

To ensure best clinical practices for advanced disease and opportunistic infections (OIs), CDC supports PEPFAR countries by providing TA aligned with the World Health Organization (WHO)-recommended package of care for advanced HIV. TA has included assessing implementation gaps, health-care worker training, and supporting implementation of the package of care to ensure optimal patient outcomes. Through collaborations across CDC, a preferred medication list for OIs was developed. Under development is a toolkit to support countries in assessing the burden of advanced HIV. CDC and its partners are working together to implement the WHO package of care, while working within an interagency short-term task team to refine Country Operational Plan guidance for PEPFAR programs.

CDC's commitment is to continue with work that improves patient access to the safest and most effective antiretroviral (ARV) regimens available. To that end, CDC supports the review of HIV national guidelines to incorporate dolutegravir (DTG) as first-line ART in several countries, assists in the development of indicators to monitor DTG implementation, including protocols for viral suppression and surveillance for any identified drug resistance associated with DTG, and provides technical updates to inform DTG transition planning in PEPFAR countries.

To support the scale-up of HIV VL monitoring and clinical service quality, in collaboration with key stakeholders, CDC develops tools to enhance each step of the VL cascade, including the development of the VL Monitoring and Evaluation Framework and VL monitoring indicators, as well as VL Service Quality Assessment protocols for Namibia (2015) and Kenya (2016, 2018). CDC facilitates cross-collaboration with PEPFAR-supported countries through a monthly VL Learning Collaborative video conference. CDC's in-country engagement and support provides TA to over 20

countries that includes conducting VL regional workshops in Southeast Asia, Central America, the Caribbean, and Africa to further support VL scale-up.

To monitor HIV drug resistance (HIVDR) in an effort to ensure ARV regimens remain effective, CDC supports the implementation of cross-sectional pre-treatment and acquired HIVDR surveys in nine PEPFAR-supported countries throughout Africa, Asia, and the Caribbean. CDC provides capacity building for data analysis and evidence-based programmatic improvement. In concert with WHO, CDC authored the HIVDR Global Report. In efforts to effectively and efficiently scale-up HIV care and treatment, CDC analyzed data from five CDC-sponsored pre-treatment HIVDR surveys to inform PEPFAR programmatic decisions, and developed a protocol for acquired HIVDR surveillance using existing infrastructure and samples collected for VL monitoring.

To reduce tuberculosis (TB) morbidity and mortality among PLHIV, CDC established an intra-division TB Preventive Treatment (TPT) Unit to promote TPT as an integral part of HIV treatment programs. This collaborative effort includes a TPT implementation toolkit, cross-country experience sharing in TPT implementation, and TA to country programs to increase and achieve TPT targets.

CDC continues its work to improve HIV care and treatment for KPs/PPs, conducting learning and TA visits to Ethiopia, Kenya, South Africa, South Sudan, and Uganda. Activities include site visits to review KP-centered service delivery models, meeting with KP/PP implementing partners, and reviewing current treatment activities supporting KP/PP. Correspondingly, strategies are developed to scale-up ART for these groups, in collaboration with CDC in-country teams.

To enhance the skills and knowledge of clinical staff at geographically distant sites, CDC supported the establishment of Project ECHO Namibia, the first HIV distance-mentoring program in Africa, consisting of a hub and 10 spokes at ART sites located in high HIV prevalence areas. Weekly learning sessions averaged over 70 participants and provided over 1,600 total training hours during a year-long pilot effort. CDC's continuing support led to Project ECHO expanding to more than 10 sub-Saharan African countries and five countries throughout Asia.

CDC has supported a comprehensive Quality Improvement (QI) training for five years to improve ART program quality. These sessions trained more than 140 USG and ministry of health staff from 16 countries. To improve site-level service delivery quality, CDC designed and coordinated a training in QI for CDC headquarters (HQ) staff in 2018. Through these trainings and intensive TA to country teams, CDC has increased uptake of QI methodology for improving PLHIV outcomes.

HQ and PEPFAR-supported countries are supported in their efforts to conduct data analysis for optimized strategic planning, partner management, and programmatic improvement. This includes providing analytic support and user-friendly resources, implementing effective data workflow strategies, automatizing routine data analysis, and supporting country teams to develop and customize analytic dashboards. CDC participates in the Interagency Collaborative on Program Improvement's (ICPI) Treatment Cluster, providing pivotal input and coordination within CDC and across PEPFAR agencies. CDC further provides technical input to PEPFAR's interagency Site Improvement Through Monitoring System (SIMS) 3.0 short-term task team that is charged with finalizing content and creating a delivery framework for the next iteration of SIMS.

In addition, CDC is extensively involved in developing and implementing investigations to improve programs and contribute to science. The results of these investigations have been published in high-impact journals, such as *AIDS* and *The Lancet*, and presented at high-profile conferences, such as the International AIDS Society Conference and the Conference on Retroviruses and Opportunistic Infections annual conferences. CDC also reviews and provides input for protocols, abstracts, and manuscripts from across CDC HQ and CDC country offices to improve HIV treatment outcomes.

FUTURE EFFORTS

CDC will continue to support countries, in collaboration with implementing partners, toward achieving UNAIDS "90-90-90" global targets for 2020 (90 percent of all PLHIV will know their HIV status; 90 percent of all people diagnosed with HIV will receive sustained ART; and 90 percent of people receiving ART will have viral suppression). Support will involve evaluating countries' quarterly treatment data, and providing evidence-based recommendations, as part of the PEPFAR Oversight Accountability Response Team process. CDC will also provide TA to PEPFAR-supported countries as needed.

BENEFITS OF OUR WORK

Science has demonstrated that ART lowers the risk of morbidity and mortality among PLHIV and stops new infections by preventing transmission following VL suppression. CDC's efforts to expand access to ART, particularly in sub-Saharan Africa, help to ensure global HIV epidemic control targets are met. By achieving UNAIDS' "90-90-90" targets, CDC is working to control the epidemic, which means new HIV infections fall below the number of deaths among PLHIV.