Care and Treatment of HIV

Globally, HIV care and treatment has had a profound impact for people living with HIV (PLHIV). Access to life-saving medication has been essential to achieving long-term viral suppression, maintaining and improving overall quality of life, and disrupting HIV transmission. In 2018, 23.3 million people were accessing antiretroviral therapy (ART) and 86% of those persons were virally suppressed.[1]

A nurse provides care to a child in Nampula, Mozambique.

High-quality, evidence-based, effective, and context-specific service delivery for HIV/AIDS treatment, care, and prevention requires a broad continuum of integrated services to ensure consistent client management over time. With the World Health Organization's (WHO) recommendation to "treat all," eligibility requirements for ART among PLHIV are eliminated, and all populations and age groups are linked in one universal policy. However, certain populations are at higher risk of HIV infection and are less likely to test, access services, or remain in care. Services across the HIV care continuum—detection of HIV, linkage to clinical care to initiate treatment, adhering to lifelong therapy, and achieving and sustaining viral suppression—need to be tailored to each community context.

I-TECH CAPACITY

Since 2002, I-TECH has worked in countries hardest hit by the pandemic to rapidly scale up ART, strengthen health systems and integrate HIV into primary care settings. I-TECH's innovative work has been tailored in partnership with Ministries of Health to ensure health system gains are sustainable and aligned to country priorities. Through the evolution of HIV care, I-TECH has been at the forefront of care and treatment in the context of the UNAIDS 95-95-95 targets,[2] and its programs build on evidence and focus on client-centered approaches to retention, adherence, and viral suppression. Anchored in policy, I-TECH has worked in many countries to build and support every level of health systems—from site level to governance—to refine HIV care and treatment. This is achieved, in part, through **differentiated HIV service delivery models**, innovations to **improve linkage and retention in care**, **continuous quality improvement (CQI)** programs, and **integration of care for HIV and co-morbidities**.

Differentiated HIV Service Delivery Models

In **Tanzania**, I-TECH provided technical assistance to the Ministry of Health, Community Development, Gender, Elderly, and Children (MOHCDGEC) to adopt and scale up differentiated HIV service delivery models (DSDM). These client-centered models are designed to improve health system efficiencies and client experiences in

[1] UNAIDS. Global HIV & AIDS statistics: 2019 Fact Sheet. https://www.unaids.org/en/resources/fact-sheet (Accessed November 19, 2019.)
[2] The UNAIDS 95-95-95 targets are: 95 percent of PLHIV are diagnosed, 95% of diagnosed PLHIV are on treatment, and 95% of PLHIV on treatment are virally suppressed.

response to the increased demand for services as a result of the "treat all" approach. I-TECH provided technical assistance to MOH to incorporate DSDM into the national HIV guidelines, and led the development of a scale-up strategy and tools. Additionally, I-TECH has also provided direct support to 12 regions to scale-up DSDM, including orienting regional and facility decision makers, training health providers, building a pool of national expert DSDM trainers and on-site and distance technical assistance to 73 health facilities. There was a significant improvement in the implementation of HIV testing and treatment DSD models observed in facilities supported by I-TECH.

In **Zimbabwe**, I-TECH is assisting facilities to increase the number of PLHIV identified, enrolled, and retained in care using service delivery models tailored to client needs across the treatment continuum. The models currently promoted include differentiated ART delivery (Community ART Refill Groups, or CARGs, Family ART Refill Groups, multi-month refills, adherence clubs, and fast-track refills for stable patients); Community Adolescent Treatment Supporters (CATS) who support increased availability and quality of care and treatment services for children and young people living with HIV; differentiated viral load monitoring in pregnancy; and home visits to stable clients by CHWs and other community-based workers. These types of client-centered approaches are intended to improve linkage and ultimately patient retention.

Members of a CARG in Zimbabwe meet to discuss their experiences about their health and living with HIV, provide adherence support to one another, and lend encouragement to one another.

I-TECH's affiliated organization in **Haiti**, *Centre Haïtien pour le Renforcement du Système de Santé* (CHARESS), is promoting multi-month scripting (MMS) to reduce clients' treatment burden. CHARESS mentors and trainers have led efforts to adopt new clinical guidance, including the roll-out of routine HIV viral load monitoring, distribution of ART at the community level (known by its French acronym DAC), multi-month scripts (MMS) for ART, and new HIV drugs. Preliminary results of the shift to longer intervals between ART drug refills demonstrate that clients and providers welcome the change and improved retention and adherence to treatment of clients.

In **India**, I-TECH India PL provides technical support to National AIDS Control Organization (NACO), Ministry of Health and Family Welfare, for effective delivery of care and treatment services to PLHIV across the country. Differentiated Service Delivery Models (DSDM) were implemented to provide convenient treatment services and to decongest the overburdened ART centers, re-allocating the resources to the PLHIV in need and enhancing quality of service. Co-located ART-OST (oral substitution therapy for people who inject drugs) and multi-month dispensation (MMD) were implemented in three Northeastern Indian states of Mizoram, Manipur and Nagaland, where most of the HIV caseload are PWID. MMD is focused on dispensation of three-month ART to stable clients in one visit, while co-located ART-OST offers ART through the OST sites, providing both services in one stop for clients. Other models like ART dispensation through PWID-focused NGOs, ART dispensation at prisons, and Community ART Refill groups are implemented by I-TECH in North East India and Maharashtra. I-TECH provides

training to ministry staff on guidelines and strategies for implementation of these models. As on October 2019, there are more than 24,000 stable PLHIV enrolled in MMD at I-TECH supported sites in Maharashtra and the North East (Manipur, Nagaland and Mizoram).

In **Botswana**, I-TECH is working with the Ministry of Health and Wellness (MOHW) to increase HIV case identification and linkage to treatment. To strengthen these areas, several targeted strategies are implemented at health facilities such as integrating HIV, TB and STI screening at triage, modifying patient flow, extending HIV testing hours including weekend testing hours, integrating HIV testing services at ANC and cervical cancer clinics, and prioritizing HIV testing at health facility pharmacies for clients with STI, TB, or antibiotic prescriptions.

Linkage and Retention in Care

I-TECH supports direct care and treatment service delivery, and conducts site-level mentoring, at 373 health facilities in **Zimbabwe**. These efforts strengthen health service delivery toward the UNAIDS 95-95-95 targets by improving patient linkages among HIV testing, initiation on treatment, and retention in care. This is accomplished in part by several hundred dedicated HIV testers and nurses who support ART initiation and management of opportunistic infections alongside Ministry of Health and Child Care staff.

Once **India** adopted the "treat all" policy, I-TECH India facilitated a "pre-ART surge" intervention, working in coordination with Vihaan (a Global Fund-supported care and support program for PLHIV), at 48 high-burden ART Centers to ensure timely ART initiation to all newly eligible patients. Retention-focused interventions have been implemented, including enhanced counseling services to low-adherence clients and tracking lost to follow up (LFU) clients. These interventions are complemented by telephonic follow up and tracking of high-risk for LFU clients.

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In accordance with the HIV Care Continuum, I-TECH supports direct HIV care and treatment service delivery as well as on-site clinical mentoring and technical assistance in 81 facilities in five regions of **Namibia**. I-TECH developed an interactive education and counseling intervention, *ARVs and Healthy Me*, for health care workers to support HIV-positive patients in attaining good adherence and engagement in care.

I-TECH has a played on ongoing role in providing TA to the **Mozambique** Ministry of Health (MISAU) in implementing QI activities. In COP18, I-TECH provided support in the implementation of Plan-Do-Study-Act (PDSA) cycle at eight health facilities in three provinces. In addition, I-TECH's clinical advisors performed 53 monitoring visits to 34 high-volume facilities in 11 provinces, made 521 direct observations of clinical care of patients, supported 322 health professionals with clinical mentoring activities, reviewed 1,705 patient files from various sectors and assessed quality of HIV care and treatment (C&T), including care cascades for viral load (VL) testing, identification of treatment failure, and second-line ART.

Since 2013, I-TECH has played an instrumental role within the National ART Committee (NATC) in **Mozambique**, which sets national policy and approves requests for second-line ART through an online portal created by I-

TECH. I-TECH assisted in the creation of 11 Provincial ART Committees (PATCs), and has coached them through the process of decentralization, allowing them to approve drug regimen changes on their own. In COP18 alone, more than 20,000 requests for second-line ART were processed by the NATC and PATCs, a 73% increase over the previous year. In COP18 nearly 97% of requests submitted were accompanied by VL test results, which reflects increased access as well as training and mentoring.

In the **Caribbean Region**, I-TECH developed a VL suppression intervention in late 2017 in collaboration with treatment sites in Jamaica to rapidly and efficiently ensure an increase in viral suppression of patients through a focus on enhanced case management and a patient centered approach. It also aims to determine the most common reasons ART fails. The intervention rapidly identifies patients failing ART through rigorous VL monitoring and a team member who tracks and supports their progress.

I-TECH has also identified behavioral health and substance use disorders in the **Caribbean Region** as major barriers to medication adherence and retention in care, and thus to viral suppression. I-TECH conducted a mental health and substance use assessment at HIV care and treatment facilities between August and October 2018, has adapted the MhGAP training package to incorporate HIV-specific content, and has collaborated with the Pan American Health Organization and the Ministry of Health to deliver the MhGAP training to healthcare providers. Additionally, I-TECH is training healthcare workers on the concept of trauma-informed care and will provide on-site technical assistance to assist them in incorporating this approach starting in October 2019.

In **South Africa**, I-TECH designed and implemented a demonstration project to assess efficacy of SMS intervention and a peer-navigation intervention to improve retention in care and treatment, timely linkage to care and treatment, medication adherence, and prevention behaviors in 18 government health facilities in two sub-districts.[3] In this project, clients expressed near universal approval of the project, with navigators identified as key to helping clients overcoming feelings of shame through education and modeling living successfully with HIV.[4] Further, this study demonstrated significant improvements in improving linkage to and retention in care and improved rates of ART initiation.

An innovative two-way texting (2wT) model was studied among 721 voluntary medical male circumcision (VMMC) patients in two locations in urban **Zimbabwe**.[5] In the study, patients communicated directly with a health care worker through interactive text messaging for the critical 13 days post-VMMC, rather than returning for required in-person visits. This method dramatically reduced in-person visits by 85%, and texting also reduced follow-up costs by about one-third while improving the quality of care. The model will soon be tested in urban **South Africa** where new, field-based research will further inform the model for adaptation and widespread scale-up. With minimal adaptation, 2wT could streamline other post-operative care contexts where treatment adherence and continuity of care within a short period is critical for patients, such as short-course TB treatment, post-operative healing, post-natal care or early childhood illnesses.

In **Botswana**, I-TECH developed the national Linkage to Care guidelines, SOPs and implementation guides for health care workers. Ensuring linkage to treatment for HIV positive clients has been improved through a shift to warm-handover of clients, which involves health care workers waiting for the arrival of the appropriate nurse

[3] Lippman SA, et al. Evaluation of short message service and peer navigation to improve engagement in HIV care in South Africa: study protocol for a three-arm cluster randomized controlled trial. Trials. 2016 Feb 6;17:68. doi: 10.1186/s13063-016-1190-y. https://www.ncbi.nlm.nih.gov/pubmed/26852237

[4] Steward WT, et al. Engaging HIV-positive clients in care: acceptability and mechanisms of action of a peer navigation program in South Africa. AIDS Care. 2018 Mar;30(3):330-337. doi: 10.1080/09540121.2017.1363362. https://www.ncbi.nlm.nih.gov/pubmed/28814110

[5] Feldacker C, et al. Reducing provider workload while preserving patient safety: a randomized control trial using 2-way texting for post-operative follow-up in Zimbabwe's voluntary medical male circumcision program. J Acquir Immune Defic Syndr. 2019 Oct 16. doi: 10.1097/QAI.0000000000002198.

prescriber for direct handover of the newly diagnosed patient. I-TECH, through the CQI and patient-centric approach, works with facility management and local district ministry health teams to address issues related to linkage to treatment, which has led to substantial improvement of same day treatment initiation.

I-TECH supported the design and implementation of the HIV National Data Warehouse in **Botswana**. This warehouse was built to ensure the availability of strategic information to monitor progress toward reaching epidemic control, with particular focus on "treat all," linkages to care, and HIV clinical cascade for the 95-95-95 care continuum. The data warehouse is also used to identify treatment initiation status and follow-up of legecy positives, lost to follow up clients, and treatment defaulter clients resulting in improved linkage rates.

The number of clinicians using the I-TECH supported telephone consultation service (warm line) in **Mozambique** has continued to grow; 3,170 calls were received during COP18, representing an increase of 65% over the previous COP. I-TECH's clinical experts field calls from all over the country related to all aspects of ART care and treatment, from simple to complex clinical cases to questions about new MISAU guidelines, etc. The warm line also facilitates notification on drug stockouts and serves as an early indicator of issues at the site level.

Continuous Quality Improvement

Clinics participating in the Jamaica Quality Improvement Collaborative (JaQIC) created these storyboards for a recent learning session to share successes and challenges. I-TECH-supported QI activities are implemented in clinics and hospitals nationally to strengthen the delivery of care and treatment for people living with HIV.

Since 2013, I-TECH has led quality improvement (QI) collaboratives in the **Caribbean Region**, enabling multidisciplinary teams at health facilities to work toward a common goal of improving care and treatment for HIV-positive patients. The current QI collaborative focuses on improving three primary drivers of virologic suppression: early identification and management of virologic failure; adherence to medication; and high-quality, efficient, patient-centered visits.

In partnership with CDC, I-TECH's partner organization in **Haiti**, CHARESS, helps the Haitian MSPP to implement the national care improvement program, HealthQual, by training providers on quality improvement concepts and using data from the EMR, iSanté, for clinical decision-making and improved care. CHARESS mentors are coaches for the implementation of quality improvement projects in the 20 sites where CHARESS also provides technical assistance.

I-TECH **India** PL provides national and state-level technical assistance to improve the quality, analysis and presentation of ART program data. Innovative data quality tools have been developed by I-TECH to track center-level performance based on analysis of key indicators and targeting centers and program for quality improvement activities. I-TECH India provides ongoing technical mentoring to improve the quality of program data collected and reported at 52 ART centers across the country.

Globally, health care associated infections present a significant risk to clients in low- and middle-income countries worldwide. In **Kenya**, I-TECH works with two model site hospitals to implement infection prevention and control quality improvement practices to reduce HAIs. Using multiple approaches, I-TECH identifies and builds capacity and influence behaviors of health care workers (HCWs) toward improving overall patient

outcomes and creating organizational change. Grounding the approach in continuous QI programming, I-TECH strengthens overall IPC practices related to hand hygiene, waste management, injection safety, and reducing surgical site infections, while simultaneously strengthening leadership through data-driven decision making.

In **Botswana**, I-TECH has supported the development and implementation of DHIS2, which provides aggregate data down to the facility level from HIV programs including antiretroviral therapy (ART), PMTCT, and HTS for use by the national program and M&E staff to monitor program success. I-TECH coordinates and provides technical support to the Botswana MOHW for training, mentoring, consultations, and quality assurance of national quality improvement initiatives focused on 95/95/95 and epidemic control. This includes developing national, district and site-based CQI collaboratives, facilitating routine best practices sharing forums and supporting the implementation of new evidence based policy initiatives such as ART for non-citizens, HIV Self-Testing, and Active Partner Notification Services (PNS).

Integration of Care for HIV and Co-morbidities

In support of the National TB Program (NTP) of the Ministry of Health (MISAU) in **Mozambique**, I-TECH revised and printed the national protocol for the evaluation and management of tuberculosis (TB) patients; finalized the revision of the pediatric TB curriculum as well the draft training of trainers (TOT) package; and developed an online tracking system for TB drug regimen change requests. In addition, I-TECH began supporting the NTP by using a warm line service to expedite MDR-TB results received from the National TB Reference Laboratory (LNRT), delivering them to clinicians responsible for TB care and treatment at health facilities throughout the country. So far, 2,354 (97%) were delivered to lab clinicians and 133 interactions took place between I-TECH experts and clinicians to mentor and monitor the most complicated TB cases.

I-TECH has worked with the MOHW, Centers for Disease Control and Prevention (CDC), and other implementing partners to develop and implement national health information systems (HIS) in **Botswana** that enable greater efficiency and accountability and strategic use of information. These HIS include a real-time, SMS-based reporting system that utilizes a toll-free number for rapid remediation of challenges related to HIV testing services, care and treatment, and TB. I-TECH also developed and maintained the national TB patient-level health information management system based to increase efficiency in identification, care, and treatment of TB patients.

In partnership with MOHCDGEC, I-TECH has been implementing a cryptococcal antigen screening (CrAg), prevention, and treatment program for clients with advanced disease in **Tanzania**. The program is an important addition in the provision of HIV care and treatment as part of comprehensive services for patients with advanced HIV disease. I-TECH has also worked MOH to integrate clinical guidelines and monitoring and reporting indicators for CrAg screening, prevention, and treatment; developed a protocol to test the integration of services; and provided technical assistance to 15 facilities implementing the program.

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