



**Elizabeth Glaser  
Pediatric AIDS Foundation**  
Fighting for an AIDS-free generation

# Project DELivering Technical Assistance (DELTA)

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## End-of-Project Report September 30, 2013–March 31, 2020

Elizabeth Glaser Pediatric AIDS Foundation

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Photo: Eric Bond/EGPAF, 2017

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Photo: Eric Bond/EGPAF, 2017

## Acronyms and Abbreviations

|               |  |
|---------------|--|
| <b>AcQuIT</b> | Accelerated Quality Improvement Tracking   |
| <b>ACT</b>    | Accelerating Children’s HIV/AIDS Treatment (Cameroon)                                      |
| <b>ADR</b>    | acquired drug resistance   |
| <b>AGYW</b>   | adolescent girls and young women   |
| <b>API</b>    | application programming interface  |
| <b>ART</b>    | antiretroviral therapy   |
| <b>ARV</b>    | antiretroviral   |
| <b>BRN</b>    | Big Results Now (Tanzania)   |
| <b>CARE</b>   | Cooperative for Assistance and Relief Everywhere Inc.                                      |
| <b>CASS</b>   | Centre d’Animation Social et Sanitaire (Nkoldongo, Cameroon)                               |
| <b>C-BART</b> | community-based ART  |
| <b>CBO</b>    | community-based organization   |
| <b>CDC</b>    | U.S. Centers for Disease Control and Prevention  |
| <b>CETA</b>   | common elements treatment approach   |
| <b>CHAI</b>   | Clinton Health Access Initiative   |
| <b>CHMT</b>   | council health management team   |
| <b>CHW</b>    | community health worker  |
| <b>CI</b>     | confidence interval  |
| <b>CIP</b>    | community intervention point   |
| <b>CLA</b>    | community linkage agent  |
| <b>CMR</b>    | clinical management of rape  |
| <b>COP</b>    | Conference of the Parties  |
| <b>CPD</b>    | continuing professional development  |
| <b>CSC</b>    | Community Score Card©  |
| <b>CSO</b>    | civil society organization   |
| <b>DATIM</b>  | Data for Accountability, Transparency, and Impact Monitoring (project of PEPFAR)           |
| <b>DFP</b>    | district focal person  |
| <b>DGHT</b>   | Division of Global HIV and Tuberculosis (of the CDC)                                       |
| <b>DHIS</b>   | Digital Health Information Software  |
| <b>DHT</b>    | district health team   |
| <b>DLM</b>    | Directorate of Disease Control and Prevention of Epidemics (Cameroon)                      |
| <b>DREAMS</b> | Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe (partnership under PEPFAR) |
| <b>DRT</b>    | district response team   |
| <b>DSD</b>    | differentiated service delivery  |

|                    |  |
|--------------------|--|
| <b>DSP</b>         | Directorate of Special Programs (Namibia)  |
| <b>DVP</b>         | Division of Violence Prevention (of the CDC)                                       |
| <b>ECHO</b>        | Extension for Community and Healthcare Outcomes                                    |
| <b>EGPAF</b>       | Elizabeth Glaser Pediatric AIDS Foundation   |
| <b>EID</b>         | early infant diagnosis   |
| <b>EMTCT</b>       | elimination of mother-to-child transmission (of HIV)                               |
| <b>FGD</b>         | focus group discussion   |
| <b>GBV</b>         | gender-based violence  |
| <b>Global Fund</b> | Global Fund to Fight AIDS, Tuberculosis and Malaria                                |
| <b>GRC</b>         | government of the Republic of Cameroon   |
| <b>HCW</b>         | health care worker   |
| <b>HEI</b>         | HIV-exposed infant   |
| <b>HEW</b>         | health extension worker  |
| <b>HIVDR</b>       | HIV drug resistance  |
| <b>HMIS</b>        | health management information system   |
| <b>HTC</b>         | HIV testing and counseling   |
| <b>IDI</b>         | in-depth interview   |
| <b>IP</b>          | implementing partner   |
| <b>IQR</b>         | interquartile range  |
| <b>IRB</b>         | institutional review board   |
| <b>I-TECH</b>      | International Training and Education Center for Health                             |
| <b>LARS</b>        | LLAPLa Assessment and Response System  |
| <b>LARSCo</b>      | national LARS coordinator  |
| <b>LIMS</b>        | laboratory information management system   |
| <b>LLAPLa</b>      | lifelong ART for pregnant and lactating women                                      |
| <b>M&amp;E</b>     | monitoring and evaluation  |
| <b>MCHB</b>        | Maternal and Child Health Bureau (of the CDC)                                      |
| <b>META</b>        | Monitoring and Evaluation Technical Assistance                                     |
| <b>MOH</b>         | Ministry of Health   |
| <b>MOHCC</b>       | Ministry of Health and Child Care (Zimbabwe)                                       |
| <b>MOHCDGEC</b>    | Ministry of Health, Community Development, Gender, Elderly and Children (Tanzania) |
| <b>MOHSS</b>       | Ministry of Health and Social Services (Namibia)                                   |
| <b>MOHSW</b>       | Ministry of Health and Social Welfare (Tanzania)                                   |
| <b>MOPH</b>        | Ministry of Public Health (Cameroon)   |
| <b>MOPSLSW</b>     | Ministry of Public Service, Labour and Social Welfare (Zimbabwe)                   |
| <b>MTCT</b>        | mother-to-child transmission (of HIV)  |
| <b>NAC</b>         | National AIDS Council (Zimbabwe)   |
| <b>NACC</b>        | National AIDS Control Committee (Cameroon)   |

|                      |   |
|----------------------|---|
| <b>NACP</b>          | National AIDS Control Programme (Tanzania)                                  |
| <b>NIMART</b>        | nurse-initiated and -managed antiretroviral therapy                         |
| <b>NMNW</b>          | No Means No Worldwide   |
| <b>NPHTC</b>         | national pediatric HIV treatment coordinator (Namibia)                      |
| <b>NPV</b>           | negative predictive value   |
| <b>NW</b>            | North-West (Cameroon)   |
| <b>OPD</b>           | outpatient department   |
| <b>OVC</b>           | orphans and vulnerable children   |
| <b>PATEST</b>        | Pediatric and Adolescent HIV Testing Eligibility Screening Tool             |
| <b>PCR</b>           | polymerase chain reaction   |
| <b>PDR</b>           | pretreatment drug resistance  |
| <b>PEP</b>           | post-exposure prophylaxis   |
| <b>PEPFAR</b>        | U.S. President's Emergency Plan for AIDS Relief                             |
| <b>PHC</b>           | primary health care   |
| <b>PITC</b>          | provider-initiated testing and counseling                                   |
| <b>PLHIV</b>         | people living with HIV  |
| <b>PMTCT</b>         | prevention of mother-to-child transmission (of HIV)                         |
| <b>POC</b>           | point of care   |
| <b>PO-RALG</b>       | President's Office, Regional Administration and Local Government (Tanzania) |
| <b>PPV</b>           | positive predictive value   |
| <b>PrEP</b>          | pre-exposure prophylaxis  |
| <b>Project DELTA</b> | Project DELivering Technical Assistance                                     |
| <b>PSS</b>           | psychosocial support  |
| <b>PTC</b>           | pediatric training center   |
| <b>PY</b>            | project year  |
| <b>QA</b>            | quality assurance   |
| <b>QC</b>            | quality control   |
| <b>QI</b>            | quality improvement   |
| <b>QIP</b>           | quality improvement plan  |
| <b>QM</b>            | quality management  |
| <b>RA</b>            | Research Assistant  |
| <b>RAR</b>           | rapid assessment and response   |
| <b>RENATA</b>        | Réseau National des Associations de Tantines (Cameroon)                     |
| <b>RHMT</b>          | regional health management team   |
| <b>SGBV</b>          | sexual and gender-based violence  |
| <b>SME</b>           | subject matter expert   |
| <b>SMS</b>           | short message system  |
| <b>SOP</b>           | standard operating procedure  |



|                |   |
|----------------|---|
| <b>SOW</b>     | scope of work                                   |
| <b>STA</b>     | senior technical advisor                        |
| <b>SW</b>      | South-West (Cameroon)                           |
| <b>TA</b>      | technical assistance                            |
| <b>TOT</b>     | training of trainers                            |
| <b>TWG</b>     | technical working group                         |
| <b>UDSM</b>    | University of Dar es Salaam                     |
| <b>UNAIDS</b>  | Joint United Nations Programme on HIV/AIDS      |
| <b>UNFPA</b>   | United Nations Population Fund                  |
| <b>UNM</b>     | University of New Mexico                        |
| <b>USG</b>     | U.S. government                                 |
| <b>VACS II</b> | Violence Against Children Survey                |
| <b>VL</b>      | viral load                                      |
| <b>WHO</b>     | World Health Organization                       |
| <b>ZIMPHIA</b> | Zimbabwe Population-Based HIV Impact Assessment |
| <b>ZIMSTAT</b> | Zimbabwe National Statistics Agency             |

## Background

When the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) launched in 2003, only 50,000 people on the African continent had access to any lifesaving antiretroviral therapy (ART) for HIV/AIDS<sup>1</sup> and an estimated 30 million people were living with HIV/AIDS in Africa, where more than one-third of adults in some countries were infected.<sup>2</sup> According to the World Health Organization (WHO) Global Tuberculosis Control Report for 2003, the global incidence rate of TB was 0.4% per year and the TB epidemic was still growing unabated in sub-Saharan Africa. In some high-HIV-prevalence countries of sub-Saharan Africa, TB rates had quadrupled since the mid-1980s.<sup>3</sup>

Since 2004, PEPFAR has supported impressive achievements. By 2012, after nine years of successful PEPFAR programming, great progress had been made toward the WHO Treatment 2.0 goal of sustained universal access to HIV treatment. More people were initiated on ART in 2011 than any prior year,<sup>4</sup> and 54% of people eligible for ART in low- and middle-income countries were receiving ART.

Despite PEPFAR's impactful achievements over this period, however, significant gaps remained: 42% of eligible adults and 72% of eligible children were not receiving ART. With increasing numbers of individuals on treatment, retention emerged as an important area for targeted attention. In 2010, average global retention rates were inadequate: retention at 12 months was 81%, decreasing to 75% at 24 months and 67% at 60 months.<sup>5</sup>

PEPFAR recognized the need to provide targeted technical assistance (TA) to address key priorities for the HIV response by Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) recipients, local governments, community-based organizations (CBOs), and civil society organizations (CSOs) to ensure lasting and sustainable responses, and achieve targets for prevention, detection, and retention, as well as the Millennium Development Goals established in 2000.

In an effort to respond to these gaps, PEPFAR awarded the contract for a five-year project, Project DELivering Technical Assistance (Project DELTA), to the Elizabeth Glaser Pediatric AIDS Foundation (EGPAF) in 2013. EGPAF was and remains the global leader in the fight to end HIV and AIDS in children, and provides high-quality, innovative, contextually responsive TA. Since its inception in 1988, EGPAF has supported hands-on, lifesaving services at almost 8,000 sites throughout 30 countries and across more than 100 projects. To date, EGPAF has provided over 28 million women with access to services for the prevention of mother-to-child transmission of HIV (PMTCT) and currently supports 1.2 million people on ART, including 80,000 children.

Through Project DELTA, EGPAF had the opportunity to accelerate improvements in country-level capacity by providing essential, high-quality TA to achieve current and future national, PEPFAR, Global Fund, and Joint United Nations Programme on HIV/AIDS (UNAIDS) goals. The overall goal of this \$23 million project was to provide a coordinated, efficient, and effective TA process to identify gaps and shortcomings in current health systems related to HIV service delivery, to devise solutions, to facilitate planning and policy actions, and to ensure quality implementation to enable access to and retention in care for all people needing HIV care and treatment. This end-of-project report covers project activities and accomplishments for 37 assignments across 11 countries throughout the entire project period of 2013–2020.

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1 PEPFAR. 2018 progress report. Washington, DC: U.S. Department of State, 2018. <https://www.state.gov/wp-content/uploads/2019/08/2018-PEPFAR-Strategy-Progress-Report.pdf>.

2 Office of the Press Secretary. Fact sheet: The President's Emergency Plan for AIDS Relief. Washington, DC: White House, 2003. <https://georgewbush-whitehouse.archives.gov/news/releases/2003/01/20030129-1.html>.

3 WHO reports 10 million TB patients successfully treated under "DOTS" 10 years after declaring TB a global emergency. World Health Organization website, March 24, 2003. <https://www.who.int/mediacentre/news/releases/2003/pr25/en/>.

4 Joint United Nations Programme on HIV/AIDS (UNAIDS). Global report: UNAIDS report on the global AIDS epidemic 2012. Geneva, Switzerland: UNAIDS, 2012. [https://www.unaids.org/sites/default/files/media\\_asset/20121120\\_UNAIDS\\_Global\\_Report\\_2012\\_with\\_annexes\\_en\\_1.pdf](https://www.unaids.org/sites/default/files/media_asset/20121120_UNAIDS_Global_Report_2012_with_annexes_en_1.pdf).

5 Tassie JM, Chamla D, Souteyrand Y. Retention on antiretroviral therapy in national programs in low-income and middle-income countries. *J Acquir Immune Defic Syndr* 2011;56:e102–e103.

## Project Overview

From 2013 to 2020, EGPAF successfully implemented Project DELTA, providing evidence-informed, comprehensive TA for HIV services for adults and children. EGPAF, ministries of health (MOHs), and partners worked closely with PEPFAR-, CDC-, and Global Fund-supported country teams to identify local TA priorities, designed innovative approaches that effectively addressed key gaps within local contexts, delivered TA, and assessed outcomes. Project DELTA grew from 6 initial assignments in 4 countries in 2013 to 37 assignments across 11 countries in sub-Saharan Africa by the end of the project.

The purpose of Project DELTA was to provide comprehensive and cost-effective TA, capacity building, and program implementation expertise in three programmatic areas:

- PMTCT
- HIV care and treatment clinical services for adults
- HIV pediatric care and treatment

By collaborating with the CDC and key in-country stakeholders, EGPAF and its partners provided efficient, cost-effective, country-specific, evidence-informed support to strengthen program implementation, build capacity for the HIV response, and increase program oversight within PEPFAR- and CDC-supported national and regional programs. Through Project DELTA, EGPAF leveraged 30 years of experience, an expanding geographic reach in implementation-based TA for PEPFAR- and Global Fund-supported global health activities, and its history of strong collaboration with MOHs and local partners to realize sustainable gains in epidemic control.

By evaluating the needs of CDC missions, MOHs, and local stakeholders, EGPAF provided targeted and cost-effective TA and program implementation expertise in PMTCT and in pediatric and adult HIV care and treatment service programs in high-HIV-prevalence settings. This report will outline the TA provided within the following technical areas, per each respective Project DELTA assignment and the associated project years:

1. Capacity building
2. Capacity building – quality improvement
3. Data systems
4. HIV care and treatment
5. HIV care and treatment – pediatric and adolescent
6. PMTCT
7. Policy and guideline development



Photo: Eric Bond/EGPAF, 2018

## Capacity Building

Through Project DELTA, EGPAF supported CDC missions, MOHs, and other key stakeholders to implement innovative, effective, and comprehensive capacity-building strategies for service delivery and human resources for health to ensure implementation of HIV programs in line with PEPFAR and national policies and guidelines. EGPAF provided innovative capacity-building TA that applied technology and up-to-date adult learning methodologies at the site, district, regional, and national levels. Through this TA, EGPAF increased the quality and effectiveness of HIV programs to increase retention in care and adherence to treatment for high-risk and vulnerable populations living with HIV; EGPAF also increased capacity and ownership of country MOHs and other key stakeholders to sustainably control HIV epidemics.

# Assignments 002, 007, 012, and 017: Cameroon Pediatric HIV Care and Treatment Technical Assistance

**Country: Cameroon | Project Year(s): PY1–PY4**

## Background/Overview

EGPAF's work through Project DELTA in Cameroon was divided into four separate assignments. The first assignment focused on pediatric HIV care and treatment, followed by three assignments working, respectively, to accelerate PMTCT/ART integration, increase pediatric HIV management capacity, and accelerate children's HIV/AIDS treatment in country.

## Activities Implemented

### Cameroon Pediatric HIV Care and Treatment

In April 2014, EGPAF staff traveled to Yaoundé to explore TA needs and opportunities in conjunction with CDC Cameroon. The team met with several stakeholders including Direction de la Sante Familiale, ESTHER, the Clinton Health Access Initiative (CHAI), and health care workers (HCWs) at the mother and child center of the Fondation Chantal Biya and Hôpital Cité Verte. These consultations resulted in the first Project DELTA assignment in Cameroon.

Under this first assignment, EGPAF worked closely with the CDC and Cameroon's Directorate of Disease Control and Prevention of Epidemics (DLM) to develop and validate a national pediatric HIV management curriculum. This curriculum was adopted nationally and the first training of trainers (TOT) took place in Ebolowa at the end of March 2015, training a total of 25 national and regional trainers and some representatives of other PEPFAR implementing partners (IPs). EGPAF also proposed an appropriate mentorship approach, updated a previously available mentorship model and implementation framework, and made recommendations for mentorship system scale-up at the national level.

### Accelerating PMTCT/ART Integration in Cameroon

For Project DELTA's second assignment in Cameroon, EGPAF was awarded funds to implement activities including disseminating a task-shifting policy, producing PMTCT/ART HCW tools, training health staff to institute a system for patient adherence to treatment, and supporting the establishment of a pediatric training center (PTC) in each supported region. Under this assignment, EGPAF

- Produced 10,000 copies of the task-shifting policy document;
- Produced PMTCT/ART program implementation job aids (e.g., algorithms, handouts for patients, etc.) and organized validation workshops;
- Trained PMTCT/ART site staff to institute and facilitate a system for pediatric and adult patients' adherence to treatment (support groups, diagnostic disclosure, peer education, children's recreational activities, etc.); and
- Supported the establishment of a PTC in each of the four PEPFAR-supported regions.

### Increasing Pediatric HIV Management Capacity in Cameroon

Under this assignment, EGPAF supported the trainers who had completed the training from previous assignments in Cameroon to carry out the pediatric trainings in 3 PEPFAR-supported regions, as well as in 6 other regions throughout the country. The capacity building of HCWs in the 10 regions of Cameroon focused on the management of pediatric HIV and was carried out through a cascade of trainings using a validated national curriculum developed by EGPAF and the MOH. A total of 10 training sessions were organized, resulting in the training of 233 participants from 132 sites.

## **Accelerating Children’s HIV/AIDS Treatment in Cameroon**

Through this assignment, existing EGPAF-trained trainers trained additional HCWs from the North-West (NW) Region of Cameroon, using the new pediatric curriculum. Under this assignment, EGPAF

- Organized two regional pediatric HIV management trainings, during which 46 HCWs were trained using the revised national guidelines on pediatric HIV active case finding;
- Produced and validated national guidelines and standard operating procedures (SOPs) on the formation, management, and reporting of pediatric psychosocial support (PSS) groups;
- Produced pediatric/adolescent HIV adherence counseling and treatment preparation SOPs;
- Produced national disclosure guidance documents and tools; and
- Organized two, two-day community HCW refresher trainings instead of the originally planned four, one-day HCW refresher trainings in each PEPFAR-supported region.

## **Notable Deliverables**

### **Cameroon Pediatric HIV Care and Treatment**

- A report summarizing the steps taken to gather materials and an assessment of tools available locally, along with recommendations for scale-up
- Nationally validated and adopted pediatric HIV training curriculum and guidelines
- TOT on pediatric care and treatment, used to train 25 HCWs to be trainers at the regional and central levels
- Pediatric HIV mentorship model, framework, and orientation package
- Recommendations for mentorship system scale-up at the national level

### **Accelerating PMTCT/ART Integration in Cameroon**

- Ten thousand copies of the task-shifting policy document produced
- Validated PMTCT job aids and implementation tools
- One task-shifting TOT with a total of 27 persons trained
- Four established PTCs in the PEPFAR regions
- Fourteen theoretical and practicum trainings within the PTCs in the four PEPFAR regions, for a total of 356 health care professionals trained

### **Increasing Pediatric HIV Management Capacity in Cameroon**

- Ten training sessions organized, resulting in the training of 233 participants from 132 sites
- Final training report with learnings from each training

### **Accelerating Children’s HIV/AIDS Treatment in Cameroon**

- Two regional pediatric HIV management trainings (with a total of 46 HCWs trained) using revised national guidelines and developing facility-specific pediatric HIV active case finding work plans
- National guidelines and SOPs on the formation, management, and reporting of pediatric PSS groups
- Pediatric/adolescent HIV adherence counseling and treatment preparation SOPs
- National disclosure guidance and tools
- Two, two-day HCW refresher trainings involving two PEPFAR-supported regions per training
- Final training report

## Results

Building on the experiences gained in project year (PY) 1, and through the significant achievements from PY2 through PY4, EGPAF supported the MOH to address the very low national pediatric ART coverage and poor pediatric outcomes by proposing a feasible approach, developing an achievable methodology for equipping HCWs with the required capacities, and defining objectives aligned with the strategic focus areas for pediatric HIV management in the country.

## Challenges and Lessons Learned

EGPAF experienced several challenges during the implementation of these assignments. There were some significant issues with the timeline during the initial stages of the development of the PTCs; activities were delayed because the buy-in processes were slow and because EGPAF had trouble contacting regional delegations and other decentralized services of the MOH. To address these challenges, the central services of the MOH had to send official service notes to get responses. This challenge persisted during the implementation of most of the activities at all stages, as each stage required official service notes before implementation could continue.

Additionally, EGPAF and key stakeholders experienced unexpected costs associated with PTC site improvements. Finally, there were delays in the procurement process for classrooms and training equipment, which caused delays in the initiation of training and mentorship activities.

However, EGPAF learned many valuable lessons throughout the first four years of implementation of Project DELTA in Cameroon. Due to the continuous engagement of the CDC team and the buy-in of the MOH, EGPAF was able to establish an office in Cameroon, which improved the efficiency of implementing activities. Tools or documents that were not nationally validated only added to the duplicative documents in use in Cameroon. Yet we found it was expensive to nationally scale up tools or documents, for instance due to the need for workshops to last longer than a day and take place outside of Yaoundé, requiring higher per diems for trainers. In order to streamline activities and deliverables, therefore, IPs must recognize the authority of the MOH and prioritize the validation process in budgeting for the completion of deliverables.

EGPAF and key stakeholders recognized that including and engaging the DLM and MOH in all decision making was essential for the success of activities. The decision to have all PTC staff trained before reaching out to the peripheral multidisciplinary teams proved to be a worthwhile investment, as it led to involvement of all PTC staff in the management of pediatric HIV. Finally, EGPAF's recruitment of site assistants, linkage agents, data clerks, and PSS personnel to assist in each PTC was an initiative that went a long way to improve the quality of services and patient flow in each of the PTCs. Adopting an integrated approach to health care delivery, that also factors in community-based health services rather than limiting interventions to a vertical approach in service delivery, is necessary. In light of this need, EGPAF supported the creation and functioning of support groups, active searches for cases, and tracing of missed appointments and clients lost to follow-up.

# Assignment 003: PMTCT Technical Assistance to the Ministry of Health of Uganda

**Country: Uganda | Project Year(s): PY1**

## Background/Overview

Following the national roll-out of Option B+ in 2013 in Uganda, the number of pregnant and lactating women living with HIV who were initiated on ART increased significantly. The MOH felt an increased need to retain this population in care to avoid the negative outcomes resulting from poor retention in and adherence to ART. Loss to follow-up remained a critical problem for the PMTCT program in Uganda as well, due to structural, geographic, and service delivery factors. To address this burden, the MOH, with support from the Monitoring and Evaluation Technical Assistance (META) project of University of California, San Francisco, developed a framework and strategy to improve client retention and adherence to care under Option B+. The strategy allowed the MOH to monitor retention in care for all the pregnant and lactating women enrolled in Option B+ through weekly reports of missed appointments accessed through the Option B+ data dashboard. Site-level data were collected weekly and shared with stakeholders to understand the status of follow-up visit attendance across sites. The weekly reports on the follow-up visits among the women enrolled on Option B+ at that time showed that each week, an average of 40% of women initiated on ART missed their scheduled appointments.

Despite the above strategies, the burden of loss to follow-up still remained a critical problem in Uganda. In response, Uganda's MOH requested TA from EGPAF to enhance its efforts to use data from the weekly Option B+ reports to guide the improvement of retention of pregnant and lactating women in care by tracking lost patients. These activities also required central-level coordination, and standardization of interventions and monitoring to ensure effective implementation to achieve benchmarks.

## Activities Implemented

### Introduction of the PMTCT Retention Monitoring TA and Methodology

EGPAF held a series of meetings with CDC Uganda and the Uganda MOH to refine the TA needs and the scope of work (SOW), including the methodology and the definition of roles and responsibilities. These initial meetings achieved the desired buy-in and the required support from the Uganda MOH, CDC Uganda, and other stakeholders, thereby ensuring a successful implementation of all the planned activities under this assignment.

### Identifying and Piloting Indicators, and Modifying the Dashboard to Track Retention in Care

EGPAF held a series of consultative meetings with teams from the Uganda MOH, CDC Uganda, and META to thoroughly analyze all data collection tools and processes, and identify potential retention-monitoring indicators that could be included in the Option B+ dashboard, as well as the IPs, districts, and health facilities to participate in piloting the use of these indicators. Altogether 10 indicators on early maternal retention (in the first three months after initiation on ART), retention of mothers on ART through delivery, and retention and outcomes of infants through PMTCT discharge were selected and piloted in 30 health facilities in six districts supported by six IPs. Selected health workers from the pilot facilities were mentored on how to generate a report from the respective register and send it via short message service (SMS) to the country's toll-free disease surveillance line at 6767. The dashboard was configured to generate three different types of reports (i.e., retention report, cohort analysis report, and national cohort analysis report), all disaggregated by district, site, and month. All three can be found or accessed through the SMS reports portal in Digital Health Information Software, version 2 (DHIS2). Ultimately, only four indicators were recommended from the pilot for monthly reporting via SMS. META, in collaboration with EGPAF–Uganda, designed the retention dashboard, which went through a number of modifications before the final version was completed.



## Standardization of Retention Monitoring and of Tracking Option B+ Clients Lost to Follow-Up

In coordination with the MOH and IPs, EGPAF also designed appropriate methodologies to continuously monitor retention and track Option B+ patients lost to follow-up with periodic reports. To begin this effort, EGPAF, in collaboration with the MOH, established a technical working group (TWG) comprising META and PMTCT IP representatives. This working group reviewed the numerous tools and approaches that different implementers were using to monitor retention and track clients on Option B+. Through a process of development and/or adaptation, tools and SOPs for retention monitoring and tracking were harmonized. Standardized client tracking forms, mechanisms for establishing clinic appointments, systems for tracking missed appointments (follow-up visits), and related SOPs were field tested and finalized for dissemination and utilization. IPs and district health facility teams were trained on the use of the retention tools and monthly reporting requirements through the Option B+ retention data dashboard. EGPAF oversaw the initial six-month roll-out of the tools through these activities:

- Monitoring retention reporting progress through the weekly Option B+ dashboard and health management information system (HMIS) monthly reports
- Reviewing monthly retention data submitted through the dashboard and addressing any identified challenges using district response teams (DRTs)
- Facilitating the preparation of quarterly feedback reports on the sites' retention performance, and sharing them with the MOH and IPs (detailing national, regional, and district-specific performance) through quarterly review meetings

By using a participatory approach to standardize the various processes being practiced in Uganda, EGPAF strengthened efforts for monitoring retention.

## Establishing District Response Teams and Strengthening Data Use

EGPAF established a system of DRTs to provide national- and district-level technical support to improve the use of weekly Option B+ data reports to identify service gaps and track the success of interventions aimed at improving retention in, adherence to, and linkages with ART among HIV-positive women and their infants. To do so, an Option B+ task force at the national level was established. The task force comprised MOH and IP representatives, who developed terms of reference for the DRTs, which in turn addressed the retention problems identified in the weekly data reports. EGPAF supported the task force to develop SOPs for districts to rapidly respond (through the DRTs) to retention issues/challenges identified in the weekly Option B+ reports, and oriented the IPs and district health teams (DHTs) to the concept of the DRTs and the use of the SOPs at the facility level. The team adapted a training package to orient DRTs on Option B+ data verification and reporting, and on using data to determine appropriate programming actions.

The DRTs, comprising DHT members and two client representatives, were piloted in 30 health facilities within six districts in Uganda to facilitate data use forums within these districts. EGPAF staff worked with MOH personnel and district health officers to introduce a systematic data use planning and implementation guideline/template at the district level. Trained MOH coaches provided ongoing mentorship to the DRTs through coaching visits monthly to districts and quarterly to sites. EGPAF's final step was to coordinate the IPs to conduct quarterly performance review meetings of the DRTs at the national level to share progress and challenges.

## Notable Deliverables

- Protocols/SOPs for response teams on improving retention on Option B+:
  - Protocols/SOPs developed at the national level for running quarterly meetings at the district level to review Option B+ retention data
  - District-based continuous quality improvement (QI) systems using evidence identified by using Option B+ monitoring data
- A standardized methodology for ongoing monitoring of retention in the Option B+ program

- SOPs on use of data from routine monthly and quarterly reports on Option B+ retention submitted by facilities and districts through the emergency operations center system
- Adequate systems in place at facilities and districts to monitor retention monthly and identify Option B+ clients who have missed visits, including a formal response team to provide follow-up
- Adapted training package on Option B+ reporting, simplified data analysis, using data to determine appropriate responses, data verification and reporting, and data analysis and use
- Adapted training program and SOPs for retention monitoring targeted at Option B+ sites and mother-infant care points

## Challenges and Lessons Learned

EGPAF experienced several challenges during the implementation of this assignment. Some IPs experienced logistical challenges because new interventions were introduced when their respective project cycles were ending. As a result, Project DELTA had to directly support implementation at health facilities in the affected districts. Overall, sending reports by SMS in districts with poor mobile phone network coverage was a challenge throughout the pilot, and the second training had to be rescheduled twice due to competing national MOH activities that required participation from DHT members.

# Assignments 006, 028, and 033: Implementing the ECHO Model for HIV/AIDS Mentorship

**Countries: Namibia, Côte d'Ivoire, and Malawi | Project Year(s): PY2–PY5**

## Background/Overview

In June 2014, Ambassador Deborah L. Birx, MD, U.S. global AIDS coordinator, announced PEPFAR's commitment to continue to aggressively scale up adult and pediatric ART across PEPFAR countries, with a goal to achieve “epidemic control” in 5–10 countries over the next several years.<sup>6</sup> Given the more than six million individuals already on ART supported by PEPFAR, continued scale-up would require opening up new sites for ART provision at lower levels of health systems, where care is often provided primarily by nonphysician clinicians with little to no prior experience in HIV treatment. For these cadres, clinical mentorship was identified as an essential means of reinforcing skills, building competencies, and ensuring they have the knowledge and confidence to deliver high-quality ART services.<sup>7</sup>

Meeting PEPFAR's new target required a more systematic, efficient, impactful, and sustainable approach to enhancing the skills of thousands of new health care providers in HIV care and treatment, including ART provision. The purpose of these three assignments, in Namibia, Côte d'Ivoire, and Malawi, respectively, was to pilot the Extension for Community and Healthcare Outcomes (ECHO) mentorship model to increase the volume and quality of adult and pediatric ART services by establishing a systematic, evidence-informed approach to clinical mentorship that could be scaled across priority PEPFAR countries in the future.

Project ECHO was identified as a promising model of clinical mentorship. Designed and implemented by the University of New Mexico (UNM), Project ECHO aims to treat complex and chronic health conditions in rural and underserved communities by linking less experienced providers with subject matter experts (SMEs) based at local academic medical centers or Centers of Excellence. A mentoring relationship is created through the use of videoconference technology, promotion of best practices, case-based learning, and outcomes measurement. Project ECHO's goal is to develop local expertise that is equivalent to that delivered at regional or national Centers of Excellence. In each ECHO model implementation, providers who are experts in their field deliver training and hold routine videoconferences, engaging staff at up to 20 facilities at a time. During these calls, an interdisciplinary team of SMEs guides the local interdisciplinary team from each participating facility through joint case review and problem solving. Through Project DELTA, EGPAF piloted and evaluated Project ECHO in three countries under three separate assignments: Namibia in 2015–2016, and Côte d'Ivoire and Malawi in 2018–2019.

## Activities Implemented

Although implementation of Project ECHO in each country varied slightly, the general process of planning, starting up, implementing, and evaluating the pilots was similar across sites.

### Planning and Start-Up

In each country, EGPAF teams, in collaboration with UNM, introduced Project ECHO to key stakeholders to gauge interest in involvement and sustainability following the completion of the pilot phase. Teams built buy-in with stakeholders, including MOH representatives, from this point forward. Since Internet access and a reliable connection are an integral part of successfully implementing the remote ECHO sessions (dubbed TeleECHO), teams explored potential connectivity across regions within each country, and subsequently assessed specific sites to be considered as the hub and spoke sites.

<sup>6</sup> An AIDS-free generation: Delivering sustainable results with accountability, transparency, and impact. Opening plenary by Ambassador Deborah Birx, global AIDS coordinator, U.S. Department of State. PEPFAR Annual Meeting, Durban, South Africa, June 2, 2014.

<sup>7</sup> World Health Organization (WHO). Task shifting: Global recommendations and guidelines. Geneva, Switzerland: WHO Press, 2008.

## **Selection of Hub and Spoke Sites**

To select the hub site in each country, EGPAF teams explored local Centers of Excellence to determine an appropriate fit for a partner to function as the lead mentor and SME. In Namibia, the Ministry of Health and Social Services (MOHSS) served as the hub site, with assistance in didactic presentations from CDC Namibia, the University of Washington, and the International Training and Education Center for Health (I-TECH). In Côte d'Ivoire, the Côte d'Ivoire Ministry of Health and Public Hygiene, through the Côte d'Ivoire National Institute of Public Health, acted as the hub site, and in Malawi, Lighthouse Trust was engaged.

To identify the spoke sites, EGPAF teams planned and conducted site visits to assess the feasibility of extended clinical mentoring and training using the ECHO model. Additionally, the technical feasibility of site participation in ECHO sessions was assessed. Teams engaged site-level managers and HCWs to gain a better understanding of challenges and equipment needs in order to officially name the spoke sites to be involved in the pilots. Ten spoke sites were identified in Namibia, six in Côte d'Ivoire, and five in Malawi.

## **Curriculum Development**

In collaboration with key in-country stakeholders, EGPAF teams developed comprehensive curricula for each country pilot, depending on the context and needs of each country. Teams took new guidelines and relevant recommendations into consideration when developing each curriculum.

## **Evaluation Protocol Development**

In order to evaluate the ECHO pilots, development of research protocols was necessary in each country. In collaboration with relevant partners in all three countries, EGPAF teams designed a basic program evaluation and related instruments for the ECHO pilots. The evaluations included provider self-efficacy surveys, knowledge assessments (pre- and post-tests), focus group discussions (FGDs) and in-depth interviews (IDIs). The protocol went through the necessary reviews and received approvals in each country and in the United States.

## **ECHO Training**

Prior to the launch of the pilot programs, trainings were held in each country to further introduce key stakeholders to ECHO, and to orient clinical mentors and site leads. Teams defined roles and responsibilities for all involved partners. Topics and activities covered during the trainings varied depending on the country, but in general, included the following:

- Overview of the ECHO model and the goals of the program
- Review of facilitator and participant roles and responsibilities
- Orientation on ECHO forms, protocols, etiquette, and guidelines
- Instruction on software applications and databases: Zoom, Teamwork, the project's own iECHO, and UNM's electronic roll call for continuing medical education credits
- Delivery of videoconferencing equipment to representatives of participating spoke sites and signing of documents confirming delivery of equipment
- A mock TeleECHO session with participants from all clinical sites connecting via Zoom at the training venue
- Brief overview of the evaluation piece of the project
- Presentation of didactic topics and case scenarios
- Question and answer session to address participants' questions and concerns about the pilot

## **Implementation of ECHO Sessions**

Following the project launch in each country, EGPAF teams began implementation of the pilot ECHO sessions, in either a lead role or a support role. EGPAF staff provided ongoing support to hub sites and facilitators, and to mentors and site leads. EGPAF staff were also on call to troubleshoot and resolve IT-related problems with

equipment or connectivity at the spoke sites. EGPAF teams participated in the weekly ECHO sessions and routinely monitored the progress in implementation of the pilots.

In Namibia, 34 weekly sessions occurred from November 2015 to September 2016. In Côte d'Ivoire, 28 sessions were implemented from August 2018 to March 2019. In Malawi, 26 sessions occurred from November 2018 to June 2019.

## Evaluation

The evaluation piece in each country varied slightly, but overall, each documented whether TeleECHO sessions had occurred as planned, who registered to participate versus who actually participated, who facilitated the sessions, how many didactics and case scenarios were presented, and how the TeleECHO sessions were staffed. To measure effectiveness, participants in TeleECHO sessions were asked to complete questionnaires examining self-efficacy as well as a knowledge assessment, both before and after the project pilot, to measure changes. FGDs and interviews were conducted at various points throughout each pilot. Pre- and post-pilot knowledge assessment scores were compared using a linear mixed model that accounted for between-site variation. Surveys measured changes in self-efficacy, access to continuing professional development (CPD) credit, and professional satisfaction.

## Notable Deliverables

- Three successful Project ECHO pilots and evaluations, in Namibia, Côte d'Ivoire, and Malawi
- The development of communities of practice and professional social networks among local clinicians and HCWs who provide care and treatment for HIV within the national network in each of these countries

## Evaluation Results

### Namibia

Overall, participants reported improved self-efficacy in managing HIV patients, increased professional satisfaction, and reduced professional isolation. Participants earned significantly more CPD credits during the pilot period than in the same period of time before the pilot. Participants also reported better access to HIV expertise for clinical support and increased opportunities for peer-to-peer interaction and education. Qualitative analysis indicated minimal barriers to participation, enthusiasm and motivation to participate, and favorable attitudes toward expansion of ECHO in Namibia.

Implementation of the first ECHO tele-mentoring program in Africa was successful in a sub-Saharan setting with minimal barriers. In Namibia, Project ECHO enhanced opportunities for peer-to-peer support and for significantly improving the knowledge, skills, and self-efficacy of HCWs to manage the care of HIV-infected individuals. This HIV tele-mentoring program demonstrated itself as an effective means of improving access to specialty and interprofessional support.

### Côte d'Ivoire

The average score of HCWs' overall perceived behavioral capability in the management of HIV cases showed a statistically significant improvement, from 61.2 during the pre-test to 66.7 ( $p < 0.01$ ) after the last ECHO session was completed. At all the sites except one, the post-test scores were better than those of the pre-test, and the differences were all statistically significant. Among providers, test scores were higher after participating in the ECHO sessions than before, except among pharmacists, social workers, and administrative staff.

The overall professional satisfaction scores of providers increased from 67.2% on the pre-test to 79.3% on the post-test. Average scores on the evaluation of providers' knowledge of HIV case management increased from 48.6% to 75.1% ( $p < 0.01$ ).

The results of the qualitative evaluation piece show that most providers and mentors were satisfied with the ECHO initiative. Participants benefited from clinical case discussions and expert recommendations in terms of gaining new knowledge. Participants said they were able to immediately incorporate this new knowledge into day-to-day

care practices for the well-being of patients. In addition, due to the success of the ECHO project, some providers suggested the extension of ECHO sessions to other domains of medical practice in areas beyond HIV, such as infectious disease, gynecology, surgery, dental surgery, maternal and child health, and chronic disease care.

## Malawi

All participants thought the sessions were practical to their work, with 86% noting that the ECHO sessions should be continued. The majority (55%) particularly liked the case scenario portion of the ECHO sessions. Of the participants, 72% thought the duration of each ECHO session was appropriate, while 14% thought the sessions were too long and 14% thought they were too short.

Most participants provided positive feedback concerning their professional satisfaction with ECHO sessions, 93% noting that the TeleECHO sessions provided them with useful, up-to-date knowledge. A full 96% of participants noted that ECHO was a useful tool for improving the sharing of information; likewise, 96% felt that ECHO was a useful tool for national experts to provide TA in HIV care and treatment. Furthermore, 86% felt that the ECHO sessions had improved the quality of care in their clinics of operation, and 83% felt that ECHO reduced their professional isolation. The majority (83%) indicated they would like to continue participating in ECHO sessions after the end of the pilot, and 90% were interested in joining ECHO programs for other diseases.

The evaluation of the ECHO project in Malawi demonstrated that the ECHO model is feasible in Malawi, with the majority of the health care providers who participated in the TeleECHO sessions being satisfied with the sessions and the knowledge gains identified. The ECHO model is relevant to the country's health system, as it builds the capacity of workers, who are specifically assigned task shifting in an efficient way using technological innovation. ECHO sessions improved the knowledge of health care providers and assisted them to provide improved or correct care to patients.

## Challenges and Lessons Learned

EGPAF experienced several challenges during the implementation. In all three countries, delays were experienced due to the many institutional review board (IRB) approvals necessary to complete the evaluation. It is critical to plan enough time in the project design phase to develop the evaluation protocols and obtain the various approvals. Competing priorities for health care providers were a challenge at many facilities in all three countries. Although providers wished to attend the ECHO session each week, they reported struggling to finish their clinical work or found it hard to step away from routine work to attend the weekly sessions. Though no one time is optimal for all providers, EGPAF teams learned it was important to ask and identify what time of day is most convenient for providers for the session to be held.

Additionally, recommendations regarding session content included tailoring the session's content and language to the level of expertise and understanding of the intended audience (lower-level HCW cadres versus supervisory clinical staff) and involve spoke sites more heavily when selecting session topics and case presentations to encourage active participation. While Internet connectivity was a challenge each team addressed at the beginning of each pilot, multiple sites still faced connectivity issues at various points throughout the pilots. It was critical to have IT staff at each site to set up early and troubleshoot issues prior to the start of each session.

In Namibia, in the early stages of start-up, it was difficult to get the project off the ground within the originally planned time frame. Several delays of the launch can be attributed to the lack of support and buy-in from ministry stakeholders. An important lesson learned was to get buy-in from the highest levels of country leadership at the MOH as early as possible. Finally, EGPAF teams learned it was also necessary to have a senior-level IT staff member available to support the site-level IT staff in case of complex issues.

# Assignment 011: Building Capacity for Early Infant Diagnosis Data Use in Lesotho and Malawi

**Countries: Lesotho and Malawi | Project Year(s): PY2–PY3**

## Background/Overview

Approximately 1 million people are currently living with HIV in Malawi.<sup>8</sup> As of 2016, 97.9% of the country's HIV-positive women were reported to be on ART, a high rate of coverage of interventions for PMTCT.<sup>9</sup> Despite this success, Malawi has faced challenges with retention in care among women initiating ART during pregnancy or while breastfeeding. Inadequate attention has been paid to retention in and adherence to ART in the postnatal period, and progress with early infant diagnosis (EID) remains inadequate, as the majority of countries have tested less than 50% of HIV-exposed infants (HEIs) by two years of age.<sup>10</sup>

In 2015, the CDC requested that EGPAF complete the first Project DELTA assignment in Malawi to improve central management of EID program data in order to provide real-time program performance indicators to stakeholders, as well as automated and rapid delivery of testing results to the point of care (POC) in order to improve ART enrollment among HIV-infected infants. EGPAF supported efforts already underway by CHAI, UNICEF, and the MOH to address EID information system gaps. EGPAF worked with these key stakeholders to develop a centralized database, integrated with bar scanning and polymerase chain reaction (PCR) hardware such that receipt of the sample and results of testing are automatically entered into the database. These efforts supported the development and expansion of systems including a centralized, web-based dashboard with reports, maps, and graphs of program performance indicators that is accessible by clinical staff and lab staff as well as key stakeholders; an SMS system to automatically send results to SMS printers; a cellular system that allows for both “push” and “pull” querying of results to or from service providers' cell phones; and the possibility for integration with existing laboratory information management systems (LIMS).

During implementation, EGPAF requested approval to utilize existing resources from this first Project DELTA assignment in Malawi to develop a new assignment for EID data use curricula and trainings for both Lesotho and Malawi. A robust EID program with rapid delivery of accurate virological testing results back to the POC is critical to identify HIV-infected infants early and initiate them on lifesaving ART, which becomes especially important as selected countries implement testing at birth. EID laboratories, PMTCT sites, pediatric HIV program management, health authorities at national and lower levels, donors, and IPs need timely access to program performance indicators in order to identify program and service gaps rapidly and intervene to ensure service continuity.

For this Project DELTA assignment, EGPAF was requested to develop EID data use curricula and trainings for Lesotho and Malawi to create a standard training model to support national HIV/AIDS and information management programs currently developing, or seeking to improve existing, EID and viral load (VL) data management processes.

## Activities Implemented and Results

EGPAF and key stakeholders utilized existing Project DELTA work in Uganda in addition to building upon the Malawi national EID/VL database and dashboard created in the aforementioned Uganda PMTCT TA assignment (Assignment 003) during Project DELTA's PY1. Although the Malawi dashboard was functional, results were difficult to access and there was no evidence that the districts or facilities were able to understand the information and use it to develop action plans to improve service delivery and initiation of infants on ART. EGPAF and key stakeholders

8 UNAIDS. HIV and AIDS estimates, 2016.

9 Malawi population-based HIV impact assessment (2015–2016).

10 UNAIDS. On the fast-track to an aids-free generation: The incredible journey of the global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive. Geneva, Switzerland: UNAIDS, 2016.

adapted standardized methodologies for district- and facility-level staff to analyze data reports, identify problems, and prioritize actions in response. The training provided guidance at the facility level for determining the cause of identified issues, developing solutions to address issues, and following up on impact. In addition to the use of EID data to support ongoing programmatic QI, the training also provided guidance and considerations for national programs regarding EID data systems design and infrastructure.

## Ongoing Training and Training Modules

EGPAF utilized existing resources and technical expertise to create training modules that included facilitator's guides, pre- and post-training assessments, and materials adapted to the Malawi and Lesotho contexts. Specifically, standardized methodologies were adapted for district- and facility-level staff to analyze data reports, identify problems, and prioritize actions in response. EGPAF and key stakeholders used these materials to pilot and implement one-week trainings in the two countries; training packages consisted of approximately 10 modules. EGPAF then revised the standard training model based on the lessons learned and feedback from the two trainings, before finalizing the country dissemination plans in collaboration with the MOHs, PEPFAR, and other IPs and stakeholders within the two countries.

During Project DELTA's third project year, EGPAF identified resources to leverage efforts from these piloted trainings to conduct a follow-up training, site visits, and evaluation in Malawi to better understand the effectiveness of the training and the potential for national roll-out. Since the original assignment started in November 2015 in Malawi, there has been an improvement in uptake across all EID testing milestones in both the districts. In addition, district EID mentors' knowledge of EID and data use has improved in terms of indicator definition and use of data to prioritize facilities that need intensive mentorship.

## Notable Deliverables

- The development of a detailed work plan, timelines, and dissemination plans
- Standard training models for Malawi and Lesotho

## Challenges and Lessons Learned

EGPAF experienced several challenges during the implementation of this assignment. First, many participants and facilitators had incomplete or no data available to use as teaching tools. Additionally, in Lesotho, challenges in completing the EID monthly reports indicated the need for further capacity building. Furthermore, some data sources were inaccessible (i.e., DHIS2 and the EID/VL dashboard), since both were web-based and required consistent Internet access.

The implementation of these activities in Lesotho and Malawi yielded several lessons. The involvement of the various MOHs and stakeholder technical and monitoring and evaluation (M&E) experts to develop and revise the training materials and to conduct the training enhanced the quality of the modules and the training. Furthermore, ensuring close collaboration between programmatic and M&E stakeholders could result in the integration of high-quality data collection, service delivery, and existing QI program activities. Project results may further inform innovative program planning and the use of data for supportive supervision to improve service delivery for HEIs. For example, country programs can continue to monitor the turnaround time of EID results, the time to treatment for identified HIV-infected infants, and the number of infants initiated on treatment through routine data reviews and QI projects at the facility level.



# Assignment 022: Capacity Building in Cameroon

Country: Cameroon | Project Year(s): PY3–PY5

## Background/Overview

Building on previous work completed through Project DELTA in Cameroon, this assignment oversaw and operated Pediatric Centers of Excellence for the training of HCWs in order to demonstrate quality pediatric HIV care and treatment. EGPAF positively influenced policy guidelines and reinforced identification, linkages, care and treatment, follow-up, and adherence. Under Project DELTA, EGPAF played a leading capacity-building role in pediatric HIV care and treatment in Cameroon in support of the goals of the Ministry of Public Health (MOPH).

The overall purpose of the assignment was to provide comprehensive and cost-effective TA, capacity building, and program implementation expertise in the three program areas of PMTCT, clinical HIV care and treatment services for adults and children, and pediatric HIV care and treatment.

## Activities Implemented and Results

### Implementation of the Pediatric Training Center Training Model

The pediatric training center (PTC) activities began under Assignment 007 in PY2 of Project DELTA and included the creation of four PTCs, in Yaoundé (in the Centre Region), Douala (Littoral Region), Bamenda (NW Region), and Limbe (South-West, or SW, Region).

Under this assignment in PY3, the EGPAF team trained 161 HCWs on the PTC training model. Participants included doctors and nurses from satellite health facilities linked to the PTCs. Table 1 shows the breakdown of HCWs trained. The selection of participants as well as the satellite health facilities from which they were selected was done using agreed-upon selection criteria. Two nonnegotiable criteria for the selection of satellite sites were the pediatric HIV patient volume at the facility and the facility's readiness to initiate pediatric HIV care and treatment.

**Table 1.** Summary of the Number of HCWs Trained on the PTC Training Model

| PTC                   | Doctors   | Nurses    | PSS staff | Total      |
|-----------------------|-----------|-----------|-----------|------------|
| PTC Yaoundé (Centre)  | 7         | 17        | 17        | 41         |
| PTC Douala (Littoral) | 15        | 16        | 11        | 42         |
| PTC Bamenda (NW)      | 6         | 14        | 12        | 32         |
| PTC Limbe (SW)        | 6         | 23        | 17        | 46         |
| <b>Total</b>          | <b>34</b> | <b>70</b> | <b>57</b> | <b>161</b> |

In PY3, the team tested two variations of the PTC training model, a 5-day model and a 10-day model. The comparative post-training evaluation of these variant models demonstrated that the 10-day model was superior in terms of duration of exposure and more concrete understanding of concepts through practicums. The 10-day model included a two-week practical/clinical rotation and didactic sessions conducted within the PTCs, followed by three to six months of post-training mentorship in the participants' health facilities.

The evaluation of the first implementation cycle in PY3 demonstrated the benefits of the training. It also provided important feedback on various aspects of the training, as it brought out the inadequacy of the two-week sessions to fully equip health care personnel in pediatric HIV management, thereby acknowledging the benefit of and need for additional post-training mentorship. The evaluation of the first implementation cycle also resulted in other recommendations including these:

- Careful attention should be paid to ensure that facilitators receive the course material in time and devote adequate time to prepare their lessons and the exercises.
- The selection of participants and their training needs is critical in targeting the right type of participants, with the right skill set and right educational level.
- Appropriate attention should be given to organizational aspects of the course, including date selection, preparation of the training venue and rotation posts for practicums, packaging and sharing of the training materials, production of badges for participants, selection of vendors for the coffee breaks, and sharing of course agendas and other relevant information with participants well before the training.
- Post-training follow-up through mentoring should be rigorously pursued as part of the process of reinforcing the ability to observe, identify, and correct any shortcomings in practice.

From these recommendations, the project team adapted the trainings and implemented the 10-day training model in PY4. In PY4, the project team conducted eight additional pediatric HIV management trainings, for a total of 80 HCWs trained.

### Implementation of Mentorship Program at Satellite Sites

The mentorship program, whereby 22 mentors were trained, began in PY2. Under this assignment, the project team continued to train mentors in the PTC-supported sites to increase the reach of mentorship to satellites sites to improve uptake of pediatric HIV testing, care, and treatment. At the end of PY3, only 92 of the 161 participants trained through the PTC training model had enrolled in the mentorship program, and of these, only 22 had completed their SOW, resulting in a completion rate of 24%. After recruiting additional mentees, the project team mentored an additional 78 HCWs. Tables 2 and 3 show the total sites mentored as well as the distribution of those mentored by category.

**Table 2.** Summary of PTC-Supported Sites and Those Mentored in PY3

| PTC                   | Affiliated training sites | Supported sites | Sites visited for mentorship in PY3 |
|-----------------------|---------------------------|-----------------|-------------------------------------|
| PTC Yaoundé (Centre)  | 1                         | 13              | 10                                  |
| PTC Douala (Littoral) | 1                         | 15              | 7                                   |
| PTC Bamenda (NW)      | 1                         | 9               | 5                                   |
| PTC Limbe (SW)        | 2                         | 11              | 10                                  |
| <b>Total</b>          | <b>5</b>                  | <b>48</b>       | <b>32</b>                           |

**Table 3.** Distribution of Participants Enrolled in Mentorship Program by PTC and Category of HCW

| PTC                       | Number trained | Doctors | Nurses | PSS staff | Total mentored | % of total mentored |        |           |
|---------------------------|----------------|---------|--------|-----------|----------------|---------------------|--------|-----------|
|                           |                |         |        |           |                | Doctors             | Nurses | PSS staff |
| PTC Yaoundé (Centre)      | 41             | 5       | 15     | 3         | 23             | 21.7                | 65.2   | 13.0      |
| PTC Douala (Littoral)     | 42             | 6       | 6      | 3         | 15             | 40.0                | 40.0   | 20.0      |
| PTC Bamenda (NW)          | 32             | 4       | 11     | 0         | 15             | 26.7                | 73.3   | 0.0       |
| PTC Limbe (SW)            | 46             | 5       | 16     | 4         | 25             | 20.0                | 64.0   | 16.0      |
| <b>Total trained</b>      | 161            | 20      | 48     | 10        | 78             | 25.6                | 61.5   | 12.8      |
| <b>% of total trained</b> | n.a.           | 58.8    | 68.6   | 17.5      | 48.4           | n.a.                | n.a.   | n.a.      |

In PY4, EGPAF organized a workshop that brought together all mentors from the four regions. Also attending were representatives from the MOPH, representatives from the National AIDS Control Committee (NACC), directors of the health facilities where the PTCs were lodged, and HIV treatment center coordinators from the various PTCs. The workshop provided participants with the opportunity to share and discuss the achievements of the mentorship program to date, as well as lessons learned from its first implementation cycle. Participants reviewed and updated the mentoring tools to better facilitate their use, and shared and discussed various approaches to mentorship.

In PY4/5, the project team continued with the mentorship program by implementing it for the second cycle with an additional 80 trainees. Table 4 shows the distribution of those trained as well as the distribution of mentorship activities across sites from PY3 through PY4/5.

**Table 4.** Mentorship Activities in the Four PTCs, PY3–PY4/5

| Description                                       | PTC Yaoundé (Centre) |       | PTC Douala (Littoral) |       | PTC Bamenda (NW) |       | PTC Limbe (SW) |       | Total     |
|---|----------------------|-------|-----------------------|-------|------------------|-------|----------------|-------|-----------|
|   | PY3                  | PY4/5 | PY3                   | PY4/5 | PY3              | PY4/5 | PY3            | PY4/5 | PY3–PY4/5 |
| Total number of visits                            | 45                   | 41    | 20                    | 34    | 34               | 9     | 31             | 26    | 240       |
| # mentees enrolled into the mentorship program    | 22                   | 20    | 15                    | 20    | 18               | 20    | 37             | 20    | 172       |
| # mentees who completed the program <sup>11</sup> | 6                    | 11    | 3                     | 18    | 9                | 11    | 4              | 34    | 96        |
| Total number of clinical meetings                 | 41                   | 12    | 20                    | 26    | 41               | 6     | 45             | 20    | 211       |
| Total number of on-site trainings                 | 38                   | 19    | 16                    | 23    | 47               | 4     | 43             | 15    | 205       |
| Clinical meeting attendances by doctors           | 20                   | 28    | 33                    | 10    | 20               | 3     | 7              | 12    | 133       |
| Clinical meeting attendances by nurses            | 60                   | 191   | 51                    | 33    | 64               | 8     | 15             | 21    | 443       |
| Clinical meeting attendances by other staff       | 22                   | 88    | 21                    | 19    | 30               | 13    | 36             | 22    | 251       |

### Support for Test-and-Treat Strategy

In PY3, the project team organized four regional workshops to support the MOPH to rapidly scale up the test-and-treat strategy for pediatric and adolescent groups, and to sensitize HCWs on the strategy. In addition, the project helped translate the draft guidance document of this strategy from French to English. The workshops were attended by 175 participants, including clinicians (doctors and nurses) from the PTC-supported sites and other sites involved in the Accelerating Children’s HIV/AIDS Treatment initiative. The test-and-treat guidance document, along with other ministerial circular orders and service notes on test-and-treat, were printed and included in the handouts that participants received during the workshop. Table 5 shows the distribution of HCWs sensitized on the test-and-treat approach across regions.

**Table 5.** Summary of Persons Sensitized on the Test-and-Treat Approach and Roll-Out by Region in PY3

| Category | PTC Yaoundé (Centre) | PTC Douala (Littoral) | PTC Bamenda (NW) | PTC Limbe (SW) | Total |
|----------|----------------------|-----------------------|------------------|----------------|-------|
| Doctors  | 8                    | 9                     | 9                | 25             | 51    |
| Nurses   | 37                   | 23                    | 41               | 23             | 124   |
| Total    | 45                   | 32                    | 50               | 48             | 175   |

<sup>11</sup> In order to complete the program, mentees had to receive six mentorship visits.

In PY4, the project team provided further support to the MOPH to rapidly scale up the test-and-treat strategy. For this purpose, an additional module on test-and-treat was included in the existing curriculum for the training of HCWs on pediatric HIV management. This support was provided through the eight PTC trainings and reached all 80 participants at the trainings. An additional facilitator was drawn from the MOPH and was included in the pool of facilitators per PTC to deliver the training.

### **Training of HCWs on Psychosocial Support**

In Project DELTA's PY2, 31 HCWs were trained in PSS in the SW Region. At the beginning of the assignment, the CDC requested that the project train an additional 60 HCWs and establish at least one peer support group in each PTC. However, EGPAF identified a much larger need to build the capacity of PSS personnel in the PEPFAR-supported regions, and therefore trained 76 HCWs in PY3 across the three regions (NW, Littoral, and Centre). In December 2016, the project team trained an additional 14 HCWs in the four PTCs using the PTC training model (which was incorporated into the training of the third cohort of trainees). Overall, the project team conducted five trainings, for a total of 121 HCWs trained (50 in Littoral, 50 in Centre, and 25 in NW). The establishment of at least one peer support group at each PTC did not occur under this assignment but was conducted under another CDC-funded implementing mechanism, the HIV Free mechanism.

### **Subsidizing of Biannual Viral Load and CD4 Count Testing**

In PY3, the government of the Republic of Cameroon (GRC) identified poor performance on the third of the UNAIDS 90-90-90 global targets (i.e., that by 2020, 90% of all people receiving ART will have VL suppression) and identified it as a priority area of focus. Though the GRC had greatly subsidized VL monitoring costs to increase accessibility and affordability, the demand creation among clinicians to request the VL tests remained a challenge. Consequently, in PY4, under this assignment, EGPAF continued to support VL testing as well as the reimbursement of the transport costs of patients who came for VL tests. This activity aimed to ensure adequate laboratory monitoring of children and adolescents in care.

### **Training on Birth Cohort Monitoring**

In PY3, the project team worked to implement enhanced monitoring of mother-infant pair cohorts in health facilities, with the goal of promoting improved retention of patients in care. The project team formed an in-country steering committee made up of EGPAF, NACC, and CDC representatives. This committee carried out several meetings and conducted a South-to-South exchange trip to observe and assess birth cohort monitoring tools and trainings in Uganda. The steering committee shared the feedback from the visit with the in-country core team. EGPAF participated in these discussions on how best to integrate cohort monitoring into the HIV/AIDS program in Cameroon. The core team provided valuable feedback, which was then integrated into a draft project document for review by the various stakeholders.

Within this framework, in PY4, EGPAF trained 120 HCWs in the four PEPFAR-supported regions on birth cohort monitoring and data use. The EGPAF-Cameroon technical team provided post-training follow-up of these trainings to track and monitor cohorts of children and adolescents recruited into care and to ensure that they were retained in care.

### **Engagement and Support of Community Linkage Agents to Operationalize the Pediatric Linkage Strategy**

In PY3, EGPAF recruited and deployed 30 community linkage agents (CLAs) in all PTCs to actively work to trace HIV-positive children and adolescents who were lost to follow-up and bring them back to care at each PTC. This was originally intended to be a one-off activity; however, the results obtained showed that this strategy was effective in achieving the targets of the "third 90" (VL suppression). As a result, in PY4, the project team financially supported (with a stipend) 10 CLAs per PTC and paired them with hospital linkage agents to ensure that home visits, community testing, collection of antiretrovirals (ARVs) at the PTCs, and distribution of ARVs in the community were done successfully. CLAs also reached out to siblings of index cases (i.e., known HIV-positive children and adolescents) for testing through the family model. CLAs tracked children and adolescents who were lost to follow-up and brought

them back into care. Though 40 CLAs were originally engaged in PY4, some of them resigned or moved to other programs, which reduced the final number of CLAs engaged and supported to 30.

### **Quarterly Exchange Meeting**

This meeting brought together 44 participants including EGPAF staff, mentors, members of the MOPH, NACC representatives, and facility managers of the PTCs. The aim of the quarterly exchange meetings was to share experiences and lessons learned, use the opportunity to emphasize technical information and clinical skills for implementation of the PTC training model, provide refresher training on SOPs and job aids, and sensitize participants on post-training mentorship and coaching. Instead of holding quarterly meetings, EGPAF opted to hold one larger, three-day meeting that included a separate data workshop. The three-day meeting coincided with a meeting of the mentors with the MOPH and NACC personnel and the facility managers of the PTCs. The meeting enabled participants to exchange experiences on mentorship and propose a tool for collection of ART service statistics from the satellite facilities to demonstrate the impact of mentorship.

### **Notable Deliverables**

- 16 pediatric HIV management trainings implemented within the PTCs in the four PEPFAR-supported regions, for a total of 161 HCWs trained, and 8 trainings with 80 HCWs trained
- 60 HCWs across the four PEPFAR-supported regions trained on pediatric and adult patients' adherence to treatment
- Resource centers established in each of the four PTCs
- A three-day exchange meeting with all PTCs, including a comprehensive data workshop
- 2,800 biannual VL tests subsidized
- 200 mentees graduated from the mentorship program
- 80 HCWs sensitized on test-and-treat strategy for pediatric and adolescent groups
- 120 HCWs across the four PEPFAR-supported regions trained on birth cohort monitoring
- 40 CLAs engaged and financially supported (with a stipend) to ensure home visits, community testing, collection of ARVs at the PTCs, and distribution of ARVs in the community
- 100 HCWs trained on PSS
- Four half-day regional workshops of 50 HCWs each for test-and-treat sensitization and roll-out
- Decentralized therapeutic committees at PTCs
- One TOT on nutritional counseling
- South-to-South exchange trip for three MOPH staff to observe birth cohort monitoring tools and training
- 28 adolescent champions trained on treatment literacy
- 40 HCWs trained on adolescent-responsive services

### **Challenges and Lessons Learned**

One of the biggest challenges in this assignment was the available budget, as funds were inadequate in Project DELTA PY5. As a result, EGPAF was not able to continue implementing activities in PY5, and instead focused on the closeout of the assignment. An additional challenge was a delay in getting the protocol for the evaluation of the PTCs approved. Although the project made significant strides in developing the protocol and getting it through the initial review processes, the protocol was never officially approved. Due to these delays and budgetary constraints in PY5, the project was unable to successfully implement the desired evaluation of the PTCs.

Other specific challenges that the assignment experienced during the implementation period included delays in finalizing the post-mentorship assessment and, consequently, in the certification of mentees from the first mentoring cycle; some mentees could not be assessed because their health facilities were not accessible, and some mentees

simply were not ready for certification. In addition, some mentors were delayed in turning in their assessment reports. Furthermore, there was inadequate support in the form of good-quality data collection from the supported sites to demonstrate the achievements, efficiency, and impact of the mentorship program. This was a challenge for the mentors since it required full collaboration from the facility managers in the mentored sites. The project team addressed this challenge by sending data clerks from the PTCs to the supported sites and later by recruiting a strategic information and evaluation officer to be involved in this activity.

EGPAF worked to address these challenges and learned several key lessons during the project implementation period. Specifically, strong relationships and total buy-in from the MOPH and all stakeholders, including NACC representatives at the PTCs, was extremely important and was a key enabling factor that allowed the project to be successful. There were significant improvements in the data quality and indicator trends on pediatric HIV from the PTCs following the training of staff at all entry points in PY2. The PTC training model comprised theoretical training, practicum training, and mentorship, and all three components were greatly appreciated by all stakeholders working with EGPAF. Consequently, one key takeaway is that this multipronged approach is effective in training a variety of HCWs who have different learning styles.

Additionally, official service notes or circular letters from MOPH officials always backed the accomplishment of all major milestones under this project, contributing to the recognition and increased awareness of activities. In this way, having buy-in and communication from the MOPH was an enabling factor for the success of the project. The adoption of the most recent WHO test-and-treat recommendations at the national level – followed by a guidance document on the implementation of the strategy, sensitization of HCWs, and roll-out of the strategic guidance – allowed for the success of activities and alignment with national goals. Finally, regular reviews and team planning activities by EGPAF–Cameroon as well as technical inputs from the CDC and EGPAF headquarters helped lead to the success of project activities.

## Assignments 029 and 039: Assessing and Enhancing Pediatric HIV Programs in Namibia / Supporting National-Level Pediatric HIV Programming

**Country: Namibia | Project Year(s): PY3–PY5**

### Background/Overview

By early 2016, pediatric HIV treatment in Namibia was just beginning to be decentralized to district-level health facilities. Until then, mainly medical doctors initiated treatment in a few high-level facilities. Although training in the nurse-initiated management of ART equipped nurses to initiate and follow up on children at lower-level health facilities, nurses often lacked confidence in treating children with HIV. In addition, there were very few pediatric HIV/TB experts in Namibia. Primary health care (PHC) facilities that did not have ART clinics on-site identified HEIs who presented at the clinic, but did not actively pursue HEIs who were not brought back into care via routine mother-infant follow-up. Further, identified HIV-positive infants were referred to ART clinics, which presented barriers to the quality of mother-infant care and follow-up, and thus weakened the care and retention of both the mother and the infant. Within the MOHSS, the Directorate of Special Programs (DSP) leads HIV care and treatment, while routine antenatal care, PMTCT, and child health clinics are led by PHC personnel. Collaboration between the DSP and PHC needed strengthening.

In response to these identified gaps, under Project DELTA, and in collaboration with the CDC and the MOHSS, EGPAF assessed the pediatric HIV/AIDS programming and HCW capacity in Namibia, and supported the implementation of activities to improve upon these programs and strengthen national capacity. The main goal of the assignment was

to support CDC Namibia and the MOHSS to build the capacity for pediatric HIV/AIDS programming through offering trainings, developing tools and job aids, and facilitating technical and policy discussions.

## Activities Implemented

### EGPAF Introductory Technical Assistance Visit and Desk Review

At the start of this TA assignment, EGPAF's Project DELTA technical director traveled to Namibia to conduct TA consultations and meetings with partners. The objectives of the visit were to formally introduce EGPAF and the TA assignment to the MOHSS, present and discuss EGPAF's proposed TA role to the MOHSS and CDC, introduce and draft the rapid assessment tool with relevant partners, and visit pediatric HIV care and treatment sites and ART clinics to begin to assess pediatric HIV care capacity in the country.

As a follow-up to the TA visit, EGPAF conducted a rapid pediatric HIV care and treatment assessment, or situation analysis. The main component of the situation analysis was a desk review analysis of major strategic policy documents, guidelines, and assessment or survey reports. The purpose of the desk review was to gain an understanding of the status of Namibian pediatric HIV services and identify strengths, weaknesses, opportunities, and limitations of various strategies and interventions. From the review, EGPAF identified major service delivery gaps that fell into six domains: the pediatric ARV supply chain, pediatric TB screening, routine screening for HIV in children, adolescent support services, pediatric facility referral to community care, and support services and pediatric growth monitoring.

Overall, the desk review highlighted challenges in pediatric HIV service delivery. The review suggested the need for further assessment of the current models of differentiated care in Namibia, as well as a need for follow-up on any existing plans to address the early warning indicators report. EGPAF shared the findings of this desk review with CDC Namibia, the MOHSS, and other relevant stakeholders; the review was then used in combination with the initial site assessments to inform the TA that EGPAF would provide and the key focus areas for a position that would later be hired, that of the national pediatric HIV treatment coordinator (NPHTC).

### Recruiting, Hiring, and Onboarding of the National Pediatric HIV Treatment Coordinator

The main objective of the TA assignment was to build the capacity of the MOHSS around pediatric HIV service delivery by recruiting, hiring, and supporting an NPHTC to be seconded to the MOHSS. In PY4, EGPAF successfully executed a contract with Potentia, a human resources management service company, to allow for recruitment, hiring, and management of payroll services for the NPHTC position. After some delays, and in collaboration with CDC Namibia, the MOHSS, and Potentia, EGPAF successfully recruited and hired the NPHTC.

### Routine Technical Assistance and Follow-Up

Throughout the contract period, EGPAF's senior technical advisor (STA) provided TA to the NPHTC through emails and ad hoc phone calls. The NPHTC submitted reports to the STA on a monthly basis that included progress against planned activities, key learnings, and planned steps for the next month. The STA gave feedback on these activities in the form of comments and requests for clarifications and other inputs or documentation. When necessary, the STA conducted calls with the NPHTC to discuss pertinent issues.

The NPHTC's key accomplishments during the assignment included these:

- Finalizing the draft of the national guidelines on adolescents living with HIV
- Working with relevant MOHSS stakeholders to revise pediatric HIV curriculum slides
- Finalizing the teen club and M&E tools
- Scaling up teen clubs to new regions
- Supporting the kickoff of the development of the pediatric and adolescent HIV strategy
- Supporting the implementation of the QI collaborative (called NamLiVE, for Namibia Linkage to Care, Viral Load Suppression and Ending TB)



- Supporting the establishment of a think tank for pediatric and adolescent ART
- Supporting advocacy around pediatric HIV, including the inclusion of a pediatric-focused TWG within the ART TWG

## Tools and Trainings

In PY4, EGPAF successfully worked with the CDC and I-TECH to update the pediatric ART training manuals to include key aspects of the 2016 National ART Guidelines in an effort to decentralize pediatric and adolescent HIV services in Namibia. EGPAF worked with I-TECH to combine the pediatric ART and disclosure training materials into one curriculum. These have since been adopted and are in use in the regional trainings that the NPHTC conducts. EGPAF has also drafted an activity guide to support teen club activities in an effort to support key services to adolescents living with HIV.

The NPHTC conducted six pediatric ART trainings with a total of 137 participants trained, and six pediatric HIV disclosure trainings with a total of 120 participants trained. During the implementation of the assignment, CDC Namibia directly supported the NPHTC in facilitating these trainings across the different regions, and the NPHTC provided training reports directly to the MOHSS. At the CDC's request, EGPAF supported one pediatric ART training for HCWs in Omusati Region.

## Notable Deliverables

- Situation/gap analysis report and desk review with recommendations and key findings
- Combined pediatric ART and disclosure training materials
- Successful recruitment and hiring of NPHTC, seconded to MOHSS
- One-year CDC- and MOHSS-approved work plan for the NPHTC
- Training of HCWs on pediatric HIV care and treatment
- Pediatric HIV capacity enhancement report: recommendations from EGPAF to the MOHSS on best practices and next steps for increasing pediatric HIV capacity within the MOHSS

## Challenges and Lessons Learned

Gaining approval for the NPHTC from the MOHSS presented a challenge during the project period, as expectations were not always clear or met. The recruitment of the NPHTC, a highly trained and skilled position, took a long time and was a challenging process. The original candidate who was identified for the position was not approved, and the ministry canceled the recruitment of all non-Namibian doctors. Thus, the job description had to be changed to lower its qualifications in an effort to fill the position locally, and the job description approval process from the MOHSS caused significant delays in hiring. Since most of the other assignment deliverables relied on the filling of this position, those too were delayed.



Photo: Eric Bond/EGPAF, 2018

## Capacity Building – Quality Improvement

Through Project DELTA, EGPAF strove to achieve the best outcomes and ensure that individuals and partners supported by EGPAF programs received the highest quality of HIV prevention, care, and treatment services, as well as other supported services or systems consistent with international and national guidelines and policies. To achieve these goals, EGPAF implemented assignments through Project DELTA that aimed to continuously improve the design, implementation, quality, and impact of programs (including both their operational and technical components) and of service delivery, through a proven and sustainable quality management (QM) approach. By focusing on optimization of systems and processes at these programmatic and health care levels, EGPAF helped MOHs and partners provide not only outstanding health programs and services, but also a positive customer experience with enhanced resource efficiency.

# Assignment 009: Building Regional Capacity for Quality Management in Namibia

**Country: Namibia | Project Year(s): PY2–PY3**

## Background/Overview

The CDC has collaborated with the government of Namibia since 2002, working closely with the MOHSS to support the national response to the HIV epidemic. As an implementing agency of PEPFAR, the CDC provides TA and financial support for the rapid expansion of access to ART, HIV counseling and testing, EID, and PMTCT services. The CDC also supports the MOHSS in strengthening the public health system through assistance with epidemiology, surveillance, the laboratory system, quality assurance (QA), operational research, and workforce development. Namibia's estimated adult HIV prevalence rate is 14.2%, with an estimated 233,778 people living with HIV (PLHIV), of whom 126,779 are already receiving ART.

In 2015, the CDC requested EGPAF to provide TA to strengthen individual and institutional capacity within key units of the health system in Namibia for the development and execution of high-impact, evidence-informed public health interventions in line with national plans, policies, and priorities. The ultimate goal of this enhanced capacity was an increased ability of national public health institutions to provide high-quality and accessible health services in the country. EGPAF, supported by HEALTHQUAL, provided TA to the MOHSS and other relevant institutions for implementation and institutionalization of QA/QI systems.

## Activities Implemented and Results

Activities within this assignment emphasized improving national coaching capacity with a focus on high-priority regions in Namibia. EGPAF and HEALTHQUAL successfully completed the job description for the regional coaching coordinator, and drafted and finalized the standards for coaching. Prior to initiation of this assignment, the MOHSS had conducted one training for coaches, although not inclusive of the coaching standards. The finalization of the coaching standards enhanced the training and mentoring process, allowing it to expand into a more comprehensive initiative. Additionally, HEALTHQUAL rolled out a mentor training in November 2015.

In partnership with the MOHSS, the regional coaching coordinator and QI district focal person (DFP) in each of the priority regions conducted approximately five coaching and mentoring visits per year for selected sites and supported QM coaching workshops in sites in high-priority regions. Furthermore, key stakeholders supported the ECHO mentorship pilot as a coaching platform at one site in coordination with EGPAF and integrated QI into coaching roles and responsibilities in support of QI documentation and dissemination. These efforts also contributed to the development and adaptation of universal QA/QI standards used to evaluate sites and service delivery (i.e., a standard performance evaluation system) and the completed rapid assessment to inform strategic planning for program sustainability using HEALTHQUAL's National Organizational Assessment tool.<sup>12</sup>

## Notable Deliverables

- A site-level coaching strategy
- Coaching workshops
- A regional organizational assessment
- A consumer training curriculum

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<sup>12</sup> This assessment was recently conducted and identified areas where TA should be targeted. The tool covers the domains of PEPFAR's Site Improvement Monitoring System but goes into greater depth for purposes of defining coaching parameters.

## Challenges and Lessons Learned

EGPAF experienced several challenges during the implementation of these activities. There were initial delays with hiring the regional coaching coordinator. This had a spillover effect of delaying activities the regional coaching coordinator was responsible for, which included coaching and mentoring for the selected sites in priority regions and supporting QM coaching workshops at sites in high-priority regions. An additional challenge was the lack of prior approval by the country's Procurement and Grants Office for subcontractor Metrica Inc. and consultant Dan Sendzik, both of whose services were necessary in order to move forward with the hiring and onboarding of the regional coaching coordinator.

## Assignments 010, 020, 034, 040: Support for Facility- and District-Level Quality Improvement / Quality Management in Zimbabwe

**Country: Zimbabwe | Project Year(s): PY2–PY5**

### Background/Overview

Zimbabwe has made remarkable strides in the fight against HIV and AIDS and is close to reaching epidemic control. National HIV estimates from Zimbabwe's Ministry of Health and Child Care (MOHCC) reported an HIV prevalence of 12.78%, or approximately 1.3 million PLHIV in 2018.

In 2013, the Zimbabwean MOHCC began the development of the National QI Program in partnership with HEALTHQUAL<sup>13</sup> and support from EGPAF. Through these efforts and under the National QI Program, the number of national QI sites increased from 35 participating facilities in 2014 to over 350 in 2019. The HEALTHQUAL approach is founded on the principles of performance measurement, QI planning and implementation, site coaching and mentorship, and peer learning, and was adopted as an implementation approach by the MOHCC.

### Activities Implemented

In Project DELTA's PY2, the MOHCC requested TA from EGPAF to support the scale-up and sustainability of the National QI Program, efforts of which continued through Project DELTA's PY5. During Project DELTA's PY2 and PY3, EGPAF provided TA to the National QI Program through TWG and QI core group meetings in order to develop and adapt the program to the WHO's Treat All<sup>14</sup> recommendation for PLHIV in Zimbabwe. During these meetings, EGPAF–Zimbabwe customized HEALTHQUAL's training and implementation materials to the Zimbabwean context, and defined and completed some key steps for QI program implementation.

Throughout the entirety of project implementation, six coaches recruited under Project DELTA supported the setup and implementation of the QM committees in 92 health facilities (75 mainstream sites and 17 QI collaborative sites<sup>15</sup>) across 17 CDC-supported districts. The delivery of the initiative depended on these QI DFPs, who coached district- and facility-level HCWs on QI initiatives. Each QI DFP intensely supported approximately 10–18 health facilities in Zimbabwe. In Project DELTA's PY4, the MOHCC and IPs completed a review of the QI indicators to reflect emerging HIV program priorities and the updated 2016 Zimbabwe national guidelines. EGPAF–Zimbabwe successfully introduced the updated QI indicators into Project DELTA's QI/QM country project and utilized the updated indicators throughout the remainder of project implementation. In addition, in close collaboration with the MOHCC, EGPAF technical staff in Harare and at EGPAF headquarters provided backstopping support to the QI

<sup>13</sup> Please note: HEALTHQUAL was the TA and content partner for this QI initiative.

<sup>14</sup> Treat All is a recommendation from the most recent WHO guidelines (2015) that promotes an HIV test-and-treat approach. It is an important policy change for Zimbabwe, as it will increase the number of PLHIV who are initiated on treatment earlier and will help achieve the nation's 90-90-90 goals.

<sup>15</sup> In Harare, which is the 17th district in Zimbabwe, Project DELTA supported the development, introduction, and implementation of the ART4All QI collaborative and directly provided coaching/mentorship for 17 of the 27 facilities participating in the collaborative. Although the collaborative is related to the National QI Program, it is more focused, with fewer indicators, which were tracked and reported separately.

DFPs while supporting QI project development and ensuring activity coordination and roll-out at the national level. All QI DFPs supported QI/QM activities under the National QI Program through district- and facility-level coaching to support Zimbabwe's national progress in the development and implementation of QI through the provision of TA at all levels of the health delivery system. Throughout the course of implementation, EGPAF capitalized on proven expertise to provide ongoing TA and supply facilitators for MOHCC-led QI trainings funded by the Global Fund; EGPAF also trained over 200 HCWs.

## Implementation of the Quality Improvement Collaborative

Furthermore, a key component of EGPAF–Zimbabwe's QI/QM activities was the support EGPAF–Zimbabwe provided for the implementation of the Treat All QI collaborative in the greater Harare Metropolitan Province. From January 2017 through December 2018, EGPAF–Zimbabwe staff and QI DFPs provided coaching to 17 sites, provided support for the management and coordination of the QI initiatives, designed and implemented the revised QI indicators, and convened and facilitated several learning sessions. Throughout implementation, almost 200 HCWs received coaching and mentorship support from QI DFPs on the methods and approaches of the QI collaborative. QI DFPs also supported the documentation of the QI collaborative's initiatives, success stories, and storyboards for disseminating lessons learned during QI implementation within health facilities.

Throughout the implementation of this project, EGPAF's QI DFPs successfully coached facility and district teams on the components of these SOWs, including the integrated QI initiatives, in order to ensure efficiencies during implementation and the sustainability of the achievements made under Project DELTA. During each coaching and mentoring session, QI DFPs assisted health facility staff to identify priority areas for improvement, and to develop new initiatives to implement in order to improve staff performance and highlight QI initiatives. Mentored facility staff routinely updated and maintained "QI corners"<sup>16</sup> in the supported health facilities, which contributed to the visibility of these QI initiatives. The QI DFPs reported their collected data through the QI collaborative's database.

## Quality Improvement Coach Certification

Additionally, key activities under this assignment supported by EGPAF were processes associated with national QI coaching certification. EGPAF, ministry stakeholders, and key IPs collaborated to develop a national QI coaching certification process in order to define the needed criteria and skills to provide QI/QM support at the national and district levels, continue health system strengthening initiatives in the country, and ensure the sustainability of this QI/QM initiative in Zimbabwe. The EGPAF–Zimbabwe QI DFPs were the first cohort of QI coaches to work in the national program. The QI coach graduation ceremony occurred on March 16, 2018, conducted by the QA/QI Department of the MOHCC and presided over by the department director. During this ceremony, 41 QI coaches (including EGPAF's QI DFPs) were awarded their certifications.

## Notable Deliverables

- Six EGPAF-supported DFPs trained as QI coaches/mentors and certified through a national certification process led by the MOHCC
- Harmonization of existing national QI/QM plans or tools
- Updating of existing national QI/QM plans or tools, in line with new WHO guidelines
- A QI training targeting 26 health facility staff, in keeping with Project DELTA's contribution to the national QI program expansion targets for 2017–2018
- Facility visits for QI coaching at least once per quarter to each QI site
- Development of a QI change package with ranked tested changes that resulted in service QI

<sup>16</sup> QI corners are specific spaces within a facility where QI teams display their QI work by highlighting the achievements and results of the various facility QI initiatives. For example, annotated run charts on the different QI projects the facility is working on are commonly featured in QI corners.

## Results

The EGPAF–Zimbabwe team recorded significant improvements across most QI indicators throughout the implementation years of this assignment. A multitude of detailed data may be referenced in the EGPAF–Zimbabwe Project DELTA 034/040 QI PY4 final report, the Project DELTA PY5 final report, and the accompanying project report detailing the QI change package information from October 2015 to September 2018. Following implementation, the tested changes were modified and improved; staff used peer learning sessions to provide feedback to HCWs. In this way, teams harvested ideas for changes that resulted in improvement across all service delivery areas targeted with QI initiatives. Many tested changes were successful (i.e., adapted and adopted) in the respective service delivery area. For example, 36 facilities worked on improving same-day ART initiation for newly diagnosed patients, 48 facilities worked on improving patient retention on ART six months after initiation, and 52 facilities worked on improving the retesting of HIV-negative pregnant women from the 32-week period through the onset of labor. Additionally, 35 facilities focused on improving DNA PCR sample collection among HEIs less than two months of age, and 23 facilities addressed efforts to improve ART initiation for children younger than 15 years.

## Challenges and Lessons Learned

The EGPAF–Zimbabwe team experienced several challenges and learned associated lessons during the implementation of these QI assignments. EGPAF experienced delays in the implementation of activities dependent upon MOHCC processes and approvals, such as the systematic introduction of new indicators from the expanded performance management framework, and the adoption and implementation of the site graduation criteria. These challenges were compounded by the understanding that the profile of QI in the broader HIV care spectrum was not optimal, due to the lack of predictable and consistent coordination platforms within the MOHCC. Additionally, sensitization and capacity building, duties that are often imparted separately to individual health facility teams, remained the QI coach’s responsibility. This arrangement is inefficient and may result in sensitization trainings that vary from site to site, depending on the facility dynamics (i.e., the availability of the same staff across each of the coaching sessions). There was also inconsistent decommissioning of paper registers and migration to the electronic patient management system in some of the facilities. Such inconsistency makes performance management difficult and prone to errors.

Throughout this project, the QI team worked to identify critical areas to target with QI interventions; the team also identified the need to broaden data collection tools and methods to cover all population segments receiving services from the national HIV prevention, treatment, and care program. These data had to be high in quality and comprehensive to allow for effective decision making across all levels of the health delivery system. These demands also needed to be addressed amid ongoing site-level QM/QI coaching, which would require more intensive coach-provider interactions than were initially intended in the project’s SOW and budget. EGPAF developed migrating tools that were used in the supported facilities to abstract the relevant data points from the electronic patient management system for use in QI indicator performance reporting. To address the challenges the paper-based system posed for qualitative data, the EGPAF–Zimbabwe and national QI teams developed improved intervention themes to incorporate into the existing QI M&E tool and provided TA to the national electronic health records unit to develop a comprehensive QI module to produce relevant QI reports for implementation and monitoring.

During the peer learning sessions supported by EGPAF–Zimbabwe and the national teams, staff brought up facility-level data for analysis and discussion. Although it was apparent that facility-level HCWs understood QI principles and approaches, gaps still existed around the institutionalization of QI (e.g., regular, relevant meetings at the facility level to systematically discuss service improvement, and conceptualization of service gaps as system failures that may be proactively addressed and prevented). The documentation of service provision remains an area that most of the facilities have room to improve upon. For example, stable clients that arrive at facilities to receive 6 months of ART often go undocumented, resulting in an inaccurate measurement of the “12-month retention” indicator. EGPAF–Zimbabwe also noted a discrepancy between guidance provided in the national ART guidelines and that given in the country’s operational and service delivery manual. The national ART guidelines recommend scheduling monthly visits for the first three months a client is on ART, while the manual omits the second month’s visit. This inconsistency was a challenge for project staff, specifically when they tried to standardize and compare early patient behaviors as tracked by the QI indicator “missed appointments in the first three months of ART.” In addition to these programmatic

challenges, VL monitoring was weak, primarily due to long laboratory delays, sometimes upwards of three months. Although laboratory data now suggest that sample collection for VL specimens is as high as 40% across the country, program data show that uptake is less than 10%, as facilities are unable to return VL results to clients on time, often due to sporadic commodity shortages and inadequate health facility personnel to run specimens and capture VL testing data.



Photo: Eric Bond/EGPAF, 2017

## Data Systems

Through multiple Project DELTA assignments, EGPAF improved the collection, accuracy, and use of strategic information for program optimization planning, decision making, and policy development. Through research, training, and mentorship, EGPAF provided crucial TA to CDC support missions and MOHs to assess and improve local strategic information and evaluation capacity, and strengthen national data systems through a standards-based approach.



# Assignment 001: Malawi's Centralized Early Infant Diagnosis Database

**Country: Malawi | Project Year(s): PY1–PY2**

## Background/Overview

Approximately 1 million people are currently living with HIV in Malawi.<sup>17</sup> As of 2016, 97.9% of HIV-positive women were reported to be on ART, which indicates high coverage of interventions for PMTCT.<sup>18</sup> Despite this success, Malawi has faced challenges with retention in care among women initiating ART during pregnancy or while breastfeeding. Inadequate attention had been paid to retention in and adherence to ART in the postnatal period, and progress with EID remains inadequate, as the majority of countries have tested less than 50% of HEIs by two years of age.<sup>19</sup>

In 2014, the CDC requested that EGPAF complete a TA assignment to improve central management of EID program data in order to provide real-time program performance indicators to stakeholders, as well as automated and rapid delivery of testing results to the POC, resulting in improved ARV enrollment among HIV-infected infants. A robust EID program with rapid delivery of accurate virological testing results back to the POC is critical to identify HIV-infected infants early and initiate them on lifesaving ART. EID laboratories, PMTCT and pediatric HIV program management, health authorities at national and lower levels, donors, and IPs need timely access to program performance indicators in order to identify program and service gaps rapidly and intervene to ensure service continuity.

## Activities Implemented and Results

During the first stage of scope development of this assignment, the CDC held discussions with several PEPFAR countries to determine the appropriateness of this mechanism as a way to provide targeted TA to support the advancement of existing EID data management systems. Malawi was selected as the first country for engagement through this project, with the possibility of extending activities to a second country depending on need and funding availability.

## Development of Systems and the Centralized Database

Under this Project DELTA assignment, from September 2013 through March 2015, EGPAF supported efforts already underway by CHAI, UNICEF, and the MOH to address EID information system gaps. EGPAF worked with these key stakeholders to develop a centralized database (integrated with bar scanning and PCR hardware such that receipt of samples and test results were automatically entered into the database). These efforts supported the development and expansion of systems that included a centralized, web-based dashboard with reports, maps, and graphs of program performance indicators that is accessible by clinical staff, lab staff, and key stakeholders; SMS to automatically send results to SMS printers; a cellular system that allows for both “push” and “pull” querying of results to/from cell phones of service providers; and the possibility for integration with existing LIMS. At the time of the implementation of these assignment activities, eight laboratories stored PCR test results and other data related to EID in local database systems. These eight local systems were integrated into the overall national-level database hosted by the MOH data center. EGPAF supported efforts initiated by CHAI, with the CDC, UNICEF, LIMS, and Baobab Health Trust (the MOH-contracted IT partner in country), to address gaps in the existing EID information system and develop a centralized data system for EID and VL.

<sup>17</sup> UNAIDS. HIV and AIDS estimates. 2016.

<sup>18</sup> Malawi population-based HIV impact assessment (2015–2016).

<sup>19</sup> UNAIDS. On the fast-track to an aids-free generation: The incredible journey of the global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive. Geneva, Switzerland: UNAIDS, 2016.

EGPAF's TA addressed the EID information system gaps by improving the turnaround time for EID test results, streamlining and centralizing the processing of EID samples and results, increasing access to EID data and its use for decision making, and encouraging ongoing EID program QI.

## Notable Deliverables

- The development of end-user requirements to inform revisions to a web-based data dashboard<sup>20</sup>
- A central EID database
- A central system beta test
- An instructional workshop for key stakeholders

## Challenges and Lessons Learned

The EGPAF–Malawi team experienced several challenges during the implementation of this assignment. The team experienced significant delays in mobilization of and routine coordination between multiple stakeholders, in addition to initial challenges with beginning activity implementation. The necessary implementation time was more significant than was originally estimated, and not enough resources were allocated to easily complete this work. Finally, procurement planning did not involve the MOH early enough in the overall process.

The implementation of the EID database activities in Malawi also yielded several lessons. It promoted communication among stakeholders and responsiveness from providers and authorities such as government officials and key external stakeholders. During implementation, EGPAF encouraged South-to-South information sharing, and there was strong communication between all teams.

# Assignment 004: Tanzania Option B+ Lifelong ART for Pregnant and Lactating Women Assessment and Response Enhanced Monitoring System

**Country: Tanzania | Project Year(s): PY1**

## Background/Overview

In 2013, Tanzania's Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) developed a standardized and enhanced monitoring system to support roll-out of Option B+. The enhanced system to monitor lifelong ART for pregnant and lactating women (LLAPLa), referred to as the LLAPLa Assessment and Response System (LARS), was designed to facilitate rapid identification of and response to site- and district-level challenges in three critical programmatic areas: (1) drug and supply availability, (2) retention of women initiated on ART, and (3) QA of HIV testing. Sites implementing LLAPLa were assessed during routine site visits by IPs and council health management teams (CHMTs) using the LARS tool. LARS has three components: Module 1, a site selection or targeting algorithm; Module 2, a 60-item assessment questionnaire; and Module 3, a report on solutions to identified problems, response status, and issue resolution over time.

Under Project DELTA, EGPAF worked closely with the MOHCDGEC, the National AIDS Control Programme (NACP), the PMTCT unit under the Reproductive and Child Health Section of MOHCDGEC, PEPFAR, regional health management teams (RHMTs), and CHMTs throughout the development of the overall enhanced monitoring system. EGPAF and these key stakeholders worked together to integrate LARS into the national system and roll it out across the country.

<sup>20</sup> Informed by discussions with EGPAF and resulting documentation, CHAI Malawi (with support from CHAI Kenya) implemented all revisions (i.e., design, coding, etc.) to data dashboards.

## Activities Implemented

### Protocol Development

EGPAF developed a data management protocol to direct all potential query and reporting activities, beyond those routine data management activities of the MOHCDGEC or IPs, within the period of performance of this assignment. The protocol was reviewed and approved by the CDC's associate director of science.

### Pilot of the LARS Tool

The LARS pilot was conducted in 11 of the country's 25 mainland regions. Nine of the country's 10 IPs actively participated in the pilot, which produced data on nearly 100 facilities. During this time, a draft outline providing broad details on how LARS might be implemented was completed. The outline included considerations with respect to staffing, communication, and resources that the MOHCDGEC and CDC Tanzania should address to effectively roll out LARS nationally.

EGPAF and the MOHCDGEC conducted a pilot orientation workshop for the 34 IP and MOHCDGEC staff who would field the pilot. The goal of the two-day training was to familiarize staff with the tool to allow them to pilot it effectively in the field. In addition, as part of the workshop, staff selected the facilities they planned to survey during the pilot and provided feedback on the tool's site selection mechanism.

A second workshop was held in order to allow staff to enter their pilot data, in effect testing the tool's data entry component and allowing pilot staff to provide feedback to the LARS development team on how this and other components of the tool might be improved. Initially, another objective of the second workshop was to analyze the pilot data; however, issues with participant composition and delays during the workshop in entering the data precluded significant data analysis during this workshop.

A third and final workshop (the TOT orientation workshop) had three objectives: to analyze the pilot for each of the regions represented using complete data, which in the interim had been entered by MOHCDGEC; to educate staff on how to use the LARS reporting formats in DHIS2; and to solicit feedback on the finalized versions of the LARS tool components, the LARS SOPs, and the draft LARS roll-out and implementation plan. The materials produced as a result of these three workshops covered site selection, instrument use at the facility level, and data entry and analysis, and they served as the basis for developing a comprehensive training curriculum for the LARS roll-out and implementation.

### LARS Instrument Components Fully Operationalized in the DHIS2

The components fully operationalized in the DHIS2 included two data entry screens, seven discrete dashboards, and one zip file of resources. The latter contained the latest paper versions of the tools and SOPs, and could be downloaded from the website.

### Finalization of Module 2 and Module 3 LARS Instruments

Module 2 is a 60-item assessment questionnaire designed to be used by CHMT and IP staff during site visits. The questionnaire is organized into three discrete sections: (1) Commodities, (2) M&E/Early Retention/EID, and (3) Lab. The latter includes commodity items stored in the lab to facilitate ease and efficiency of administration. The questionnaire can be administered on paper or on a laptop. A key component of the Module 2 questionnaire is a "reasons" section that allows the interviewer to determine and record the "root cause" for a given negative item response. Such knowledge, in turn, is useful in completing Module 3.

Module 3, also known as the action plan or action plan sheets, allows interviewers to record and qualify information concerning recommendations and corrective actions. The sheets contain (1) a standardized set of check-box corrective action recommendations at both the facility and district levels, together with (2) the title of the person responsible at both levels, (3) the person's name, and (4) a date by which this person is responsible for completing the recommendations. The bulk of space on the form, however, is devoted to allowing the interviewer to explain and

qualify corrective action information related to a given item number on the Module 2 questionnaire. Like Module 2, Module 3 is also designed to be administered on paper or a laptop.

### **Development and Vetting of LARS Training Slides, Exercises, and Materials**

EGPAF and the LARS development team developed and vetted training materials in order to train and roll out the LARS tool. Materials included training slides and exercises to form the basis of a comprehensive LARS trainers' manual.

### **Familiarization of MOHCDGEC and IP Staff with LARS Tool and Data Analysis**

The LARS team aimed to have a group of MOHCDGEC and IP staff well versed in all aspects of the instrument and data analysis. Close to 34 staff participated in the pilot, and roughly one-third of these individuals attended all three of the trainings and hence had a good sense of LARS administration, data entry, and data analysis and interpretation.

### **Notable Deliverables**

- Development of modules, training materials
- Development of electronic system, integrated in DHIS2
- Training of IP and CHMT/MOHCDGEC staff on implementation of LARS

### **Results**

- Transparency of LARS results via DHIS2
- Successful integration of LARS into the national HMIS
- Use of the tool by CHMTs

### **Challenges and Lessons Learned**

The EGPAF team experienced several challenges and associated lessons learned during the implementation of this assignment. Understanding the Tanzanian context and various existing stakeholder relationships was extremely important to facilitate the development and implementation of activities. Additionally, ensuring that limited human resources at the disposal of the project were effectively expended and managed to produce the requisite deliverables in an 11-week time period was a significant consideration during the implementation of this assignment. This included a focus on determining specific deliverables (e.g., an 11-region pilot and three trainings of two days each), prioritizing people's activities, assigning tasks, setting up a realistic production schedule that worked for everyone, and avoiding burnout (particularly for the DHIS team). All of this required management in the face of uncertainty, especially around CDC clearance and determining how best to handle training logistics and scheduling.

# Assignment 008: Early Infant Diagnosis Data Management Toolkit

**Countries: Global | Project Year(s): PY3–PY4**

## Background/Overview

The CDC Division of Global HIV and Tuberculosis (DGHT) Maternal and Child Health Bureau (MCHB) identified EID and the associated data systems as a priority for TA in an effort to support countries to increase access to and uptake of EID services for HEIs and link those identified as having HIV to care and treatment. A robust EID program with rapid delivery of accurate virologic testing results back to the POC is critical to identify HIV-infected infants early and initiate them on lifesaving ART. EID laboratories, PMTCT and pediatric HIV program management, health authorities at national and lower levels, donors, and IPs need timely access to program performance indicators in order to identify program and service gaps rapidly and intervene to ensure service continuity.

The purpose of this specific assignment was to develop the EID Data Management Toolkit, a compendium of resources to support national HIV/AIDS and information management programs currently developing, or seeking to improve, existing EID and VL data management systems. The toolkit would provide guidance and key considerations for national programs regarding (1) the design and infrastructure of the data management system, (2) effective utilization of data entered into the system, and (3) roll-out of POC EID platforms and their influence on data systems and flows. The CDC DGHT MCHB asked EGPAF to provide TA in this assignment, and EGPAF identified key technical resources internally and also within MOH TWGs and other partners. There was a consultative engagement with these internal and external technical resources, including inputs from the CDC MCHB team, to come up with a relevant design.

## Activities Implemented

First, EGPAF developed a work plan inclusive of review dates by the CDC and/or other stakeholders as identified, and then planned and convened regular check-in calls with the CDC and/or other stakeholders to discuss assignment progress. Prior to beginning development of the toolkit content, EGPAF mapped out the format, structure, and content areas of the toolkit, and shared an outline draft with the CDC for review. The toolkit outline was then used to develop content and design the structure of the toolkit sections and ancillary documents. EGPAF shared each toolkit section with the CDC for review prior to finalization of the overall deliverable. EGPAF headquarters incorporated feedback received into final toolkit. Finally, EGPAF provided some recommendations for dissemination of the final toolkit for use by the CDC, end users, and other stakeholders.

## Notable Deliverables

- The developed, finalized, and printed toolkit, containing the following elements:
  - Training materials and implementation guidance on how to use the district EID data to improve EID programs, for use in the EID data use training
  - A guide on how to manage EID data during specimen collection and processing (titled “HIV Test Results Management and Transmission and Use of Data from POC EID Testing Points”)
  - A guide on alternative approaches when POC EID testing is not available
  - Guidance on how to maintain the quality of POC EID data
  - Guidance on how to plan, conduct, and communicate triangulation of EID data from the various sources
  - Samples of essential EID data management forms:
    - Dispatch forms
    - Monthly reporting forms
    - Outpatient monthly reporting forms

## Results

In order to create a resource guide that would remain relevant in a variety of settings, EGPAF engaged representatives from various ministries to gather lessons learned on the topic of national-level EID data management approaches. Previous Project DELTA work from Malawi, Uganda, and Lesotho, as well as other EGPAF experiences from Kenya and a global Unitaid/EGPAF project, was gathered to create the comprehensive EID Data Management Toolkit. This assignment allowed EGPAF to transfer knowledge and lessons learned from successful programs that might have otherwise remained unshared.

In Malawi, data use and data-driven training and mentorship promoted ownership and accountability, resulting in improved performance, including overall EID uptake. The toolkit helped stakeholders to understand the indicators, the use of data, and clinic service flows to identify gaps in service delivery along the EID cascade. In addition, such QI initiatives helped improve EID indicators, and the following impact was seen at the facility level:

- Rooms created for testing HEIs/children in the outpatient department (OPD)
- Mother and infant hospital visits synchronized
- Integration of EID services under one roof
- Active follow-up of missed appointments and improved tracing of testing defaulters at 2, 12, and 24 months of age

## Challenges and Lessons Learned

One of the major challenges of this assignment was the amount of time needed to complete the toolkit. Various technical staff from key entities involved in the work faced competing priorities throughout the life of the assignment. Expectations for the work also shifted, which caused other challenges. The original idea for the development of the guide was to incorporate information and lessons learned from the Unitaid/EGPAF project, Optimizing EID and Treatment for HIV-Infected Infants, whose objective was to optimize EID of HIV through the integration of POC testing. This project was still in early stages, however, so using lessons learned was not feasible. After discussion with the CDC, Section Three was changed to “EID Data Management in a Changing Environment” to ensure the guide would be relevant in an ever-changing field.

# Assignments 013 and 025: National Scale-Up of Retention Monitoring and Data Use in Uganda

**Country: Uganda | Project Year(s): PY2–PY3**

## Background/Overview

In Uganda in 2012, a national policy shift occurred to transition from PMTCT Option A to Option B+. This shift was in response to the global plan for the elimination of mother-to-child transmission of HIV (EMTCT) and to improve the health of mothers by 2015. By September 2013, the Option B+ strategy had been scaled up to all districts in Uganda. Following the national roll-out of Option B+, the number of pregnant women initiated on ART increased significantly and, with it, the need to help them stay in care to avoid negative outcomes resulting from poor retention in care and adherence to ART. The MOH decided to integrate health service delivery for HIV-positive mothers and their exposed infants at mother-infant care points to strengthen retention in care, increase service coverage, and improve health outcomes. IPs identified a cadre of linkage facilitators to assist with linking mothers and infants within the health facilities to these care points.

Building on the TA EGPAF provided to the Ugandan MOH in previous years, the work under two assignments, in PY2 and PY3, aimed to further scale up various interventions to improve the quality of PMTCT services in Uganda, at a national level.

## **Activities Implemented**

### **Option B+ Retention Monitoring National Training Materials**

EGPAF supported the MOH to finalize the Option B+ retention monitoring national training materials to include components for strengthening supportive supervision and mentoring using the new Option B+ retention indicators developed in PY1, and to incorporate birth cohort monitoring materials. Additionally, EGPAF developed a national scale-up plan for implementation of a standardized methodology for monitoring real-time postnatal retention of mothers and infants on Option B+.

In PY2, EGPAF conducted a regional learning session to collect promising practices from the PY1 pilot sites, and supported a learning trip for MOH and EGPAF staff to travel to Kenya to work with the CDC Kenya team to understand and incorporate the infant cohort monitoring module into the existing retention monitoring training materials. Following completion of all materials, EGPAF held a dissemination meeting with MOH and IP representatives to share the site-level training materials and national scale-up plan, and to prepare IPs for proper supervision of the roll-out of the new system.

### **Training of Trainers on Option B+ Retention Monitoring**

In collaboration with the MOH, EGPAF conducted one TOT to establish a pool of 40 regional trainers on Option B+ retention monitoring. The IPs then utilized these trainers to roll out trainings in their respective districts. EGPAF provided the MOH with the site-level training materials and coordinated with IPs to have them printed. Technical representatives from the EGPAF team provided support to two site-level mentorships conducted by regional and district teams to further strengthen the capacity of the regional and district coaches/mentors.

### **Experience Sharing – Quality Improvement Learning Session**

EGPAF facilitated a learning session to share experiences and to harvest and adopt promising practices to further guide the roll-out of retention and birth cohort monitoring in Uganda.

### **Enhanced Birth and Maternal Monitoring**

In addition, EGPAF supported the national roll-out of early retention monitoring for HIV-positive pregnant and lactating women on ART, integrated with HEI cohort analysis. EGPAF focused specifically on the data analysis and visualization components of the cohort monitoring by supporting IPs, districts, and facilities to upload data into existing dashboards for data analysis and visualization. This led to the development of a DHIS2-based real-time Option B+ retention monitoring dashboard that was adopted by the MOH. This process facilitated identification of retention gaps in the first three months of ART initiation among pregnant and lactating women living with HIV.

### **Integrated Birth Cohort Monitoring Curriculum and National Roll-Out Plan**

EGPAF developed the integrated birth cohort monitoring curriculum, titled “Improving HIV Programs in Uganda through the Use of EMTCT and EID Cohort Data.” The curriculum was developed from three sets of existing training materials, including materials received during a learning visit to Kenya. The curriculum content included instruction for a five-day course with short presentations, guided plenary discussion, and applied exercises. It also included a field visit during which health workers abstract, analyze, and interpret data using a QI approach. This curriculum strengthened the capacity for monitoring of EMTCT EID programs in Uganda through the use of birth cohort data, with the ultimate goal of improved health outcomes for mothers and infants across the HIV continuum.

## National Roll-Out of District Response Teams

To support the roll-out of DRTs in Uganda, EGPAF facilitated an orientation workshop for IPs and selected district health officers to discuss the concept of DRTs and the terms of reference for the DRT package. The orientation also utilized actual data from the districts to demonstrate how participants could prioritize follow-up activities as part of the national roll-out process. Additionally, EGPAF supported the orientation of national and regional trainers on the DRT package, and facilitated two learning sessions with all DRT teams to share experience and harvest promising practices. This support allowed DRTs to respond to the data generated through cohort monitoring.

## Notable Deliverables

- Three national training curriculum packages, on these topics:
  - Retention monitoring and data use
  - Improving HIV programs through the use of EMTCT and EID cohort data
  - Strengthening supportive supervision and mentoring by DRTs using the new Option B+ weekly and retention indicators
- A plan for the roll-out of mother-infant retention monitoring and data use
- A pool of 40 national trainers of trainers to support the national roll-out of retention and birth cohort monitoring in Uganda
- A real-time Option B+ retention monitoring dashboard for Uganda that can be accessed via DHIS2 or at <http://dashboard.mets.or.ug>. The retention indicators on the dashboard have been formally included as part of standard monthly facility PMTCT indicators to be reported through the MOH DHIS2.
- Documented promising practices and lessons learned from PMTCT retention and birth cohort monitoring

## Challenges and Lessons Learned

EGPAF experienced numerous challenges and lessons learned during the implementation of this assignment. Delays in harmonizing the SOW between EGPAF and the MOH resulted in late initiation of the implementation of the assignment. The continuous functionality of the online dashboard, including smooth data entry and visualization, was dependent on optimal mobile phone network coverage and Internet connectivity at site level. The scale-up of the DRT approach did not happen as envisioned because the concept was perceived as a structure parallel to the DHTs, which perform more or less the same roles as the DRTs. Efforts were instead focused on building capacity for data QM and utilization processes. The MOH, with support from EGPAF, conducted a rapid situational analysis in selected pilot and nonpilot districts to collect basic information on available structures in the district to further inform optimal approaches to institutionalize data use.

Additionally, the trainees and trainers much appreciated the use of data extracted in real time from the Option B+ dashboard to analyze and untangle service delivery issues while conducting the trainings. The retention dashboard has improved HIV service delivery for HIV-positive pregnant women, mothers, and children on lifelong treatment through improved HIV commodity stock management and improved retention of mother-infant pairs in care, as well as identification and tracking of clients lost to follow-up. Finally, integrating learning trips to countries that have implemented the innovations related to the TA and including the key stakeholders in the trip (e.g., MOH officials, IP personnel) enhanced the understanding and buy-in from the stakeholders.



# Assignment 014: Operationalizing the B+ Rapid Assessment and Response System in Tanzania

**Country: Tanzania | Project Year(s): PY2**

## Background/Overview

As mentioned for the Tanzania Option B+ Rapid Assessment and Response Enhanced Monitoring System assignment for Project DELTA (Assignment 004), Tanzania began implementation of Phase 1 of the national LLAPLa program, at 569 of almost 5,000 sites, in October 2013. Close monitoring and timely evaluation of the Option B+ roll-out were critical to ensure that rapid course corrections of the program could occur, thereby strengthening the continued roll-out of the LLAPLa program.

Through that assignment, the project was requested by the Ministry of Health and Social Welfare (MOHSW) to develop a rapid assessment and response (RAR) system to enhance the monitoring of the LLAPLa roll out. This assignment resulted in the establishment of the LARS tool, which enabled rapid identification of and response to site-level challenges in the three critical programmatic areas of commodity availability, early retention of women initiated on ART, and QA of HIV testing. The MOHSW considered implementation of the RAR monitoring system to be routine program monitoring and QI, a priority for the LLAPLa program roll-out.

Within the overall RAR system, sites implementing LLAPLa were assessed during routine site visits by PEPFAR IPs, CHMTs, and district health management teams using the LARS tool. Also under this system, prompt investigation and resolution were required for sites underperforming within any of the three critical programmatic areas. This assignment was a follow-on assignment and complemented the national strategy for supportive supervision and mentoring site visits, with an aim of strengthen the integration into the national strategy.

## Activities Implemented and Results

### Supporting the Secondment of a National LARS Coordinator at the MOHSW

The main purpose of this activity was to support the recruitment, hiring, orientation, and other related costs for a national LARS coordinator (LARSCo). EGPAF developed an onboarding and training plan and accompanying materials for the orientation and training of the LARSCo. EGPAF led the planning meetings between EGPAF, PEPFAR, and the MOHSW to ensure a full work plan was developed for the LARSCo, including all expected deliverables and milestones during the person's tenure. Following the training, EGPAF worked with the LARSCo to ensure that critical project elements, such as project planning, design, setup, and implementation, were addressed. EGPAF provided continued oversight and technical support to the LARSCo throughout the assignment.

### Ensuring Operationalization of the Rapid Assessment and Response System Using the LARS Tool

The LARSCo was ultimately responsible for the roll-out of the tool and for helping to fine-tune aspects of it in order to make the system a success. To assist with this process, EGPAF was involved in the development of a full roll-out and implementation plan, including schedule, implementers, and budgets, as appropriate. Team members worked with the LARSCo to modify the RAR system components (tool, SOPs, database, dashboard) based on lessons learned and feedback from the roll-out. EGPAF helped to ensure that the implementation plan stayed on track and that the activities of the various partners were coordinated and shared among all. At the end of this assignment, the MOHSW had hired the LARSCo, allowing for continued implementation of the LARS tool.

The results of this extensive work and collaboration included the development of a highly capable, unified core team, in the form of the LARSCo and staff from the University of Dar es Salaam (UDSM) and MOHSW, that can continue to evolve and improve the tool; a LARSCo who is highly capable and both comfortable with and confident in his own ability to manage the LARS effort moving forward; and a LARS tool that was fully embedded in the national M&E system (i.e., DHIS2).

## Notable Deliverables

- A finalized, well-tested paper tool that has been transferred into electronic modules and largely operationalized and validated in the DHIS2
- The creation of a plan for rolling out as well as implementing the tool in the longer term; this has included detailed SOPs on how the tool can be used by various levels of the health system
- Successful completion of TOT and initial roll-out trainings

## Challenges and Lessons Learned

EGPAF experienced challenges and lessons learned during the implementation. Programming and validating the reporting formats for the Module 2 (completeness) and Module 3 (action status) reports proved to be more challenging than intended, involving the development of detailed logic models and flowcharts by the consultant. The LARSCO's decision to incorporate the "rationale for negative response" check box sections, though making the tool far more user-friendly and vastly improving the completeness of these items, had created a survey with multiple and varied skip patterns. These skip patterns, in turn, made calculating "missing data" or the "completeness" of an individual survey more complicated because there were multiple ways to accurately "complete" a survey.

Additionally, programming of the Module 3 action status report had been similarly complicated, involving linking response values on Module 2 data entry items to the presence or absence of a corresponding Module 3 action plan data entry item in order to present a dashboard illustrating the following contingencies:

- Whether the facility has been surveyed or not
- And, in the event that the facility was surveyed,
  - Whether the action plan item was completed in the event there was an issue related to that action plan item;
  - Whether the action plan item was correctly omitted because the facility is performing appropriately on that item;
  - Whether the action plan item was (incorrectly) not completed (i.e., missing) even though Module 2 identified the item as a problem; or
  - Whether the cataloguing of the Module 2 survey question and the Module 3 action plan items as "incomplete" (because both are missing) necessitates follow-up by the CHMT or viewer.

Teams and key stakeholders also experienced challenges in ensuring the effective use of the tool as a vehicle to improve the PMTCT, as was documented in the onboarding and orientation report. MOHSW staff had more experience with identifying problems and less with translating such information or findings into effective, timely remedial action. Creating plans and a structure to effectively remedy identified problems was a challenge for the MOHSW, and ensuring that information was used by the system at each level to spur QI was difficult – particularly at lower levels of the health system (e.g., the facility and CHMT levels), where individuals typically gathered and reported data not for their own use but for national MOHSW staff's or donors' use. Changing behavior such that CHMTs and RHMTs would analyze, use, and interpret these data themselves and, most important, act on it to facilitate program improvement was a significant task but essential to achieve assignment objectives.

# Assignment 018: Improving HIV Data Systems, Management, and Use in Tanzania

**Country: Tanzania | Project Year(s): PY3–PY4**

## Background/Overview

In 2015–2016, CDC Tanzania and PEPFAR had been providing technical and financial support to the MOHCDGEC and NACP to establish and continuously improve M&E data systems, health information systems, and business processes related to use of health information. CDC Tanzania supported short-term and embedded technical experts to work closely with MOHCDGEC and NACP to strengthen national data systems and processes that were required to deliver quality HIV services and to collect and manage information for evidence-informed decisions.

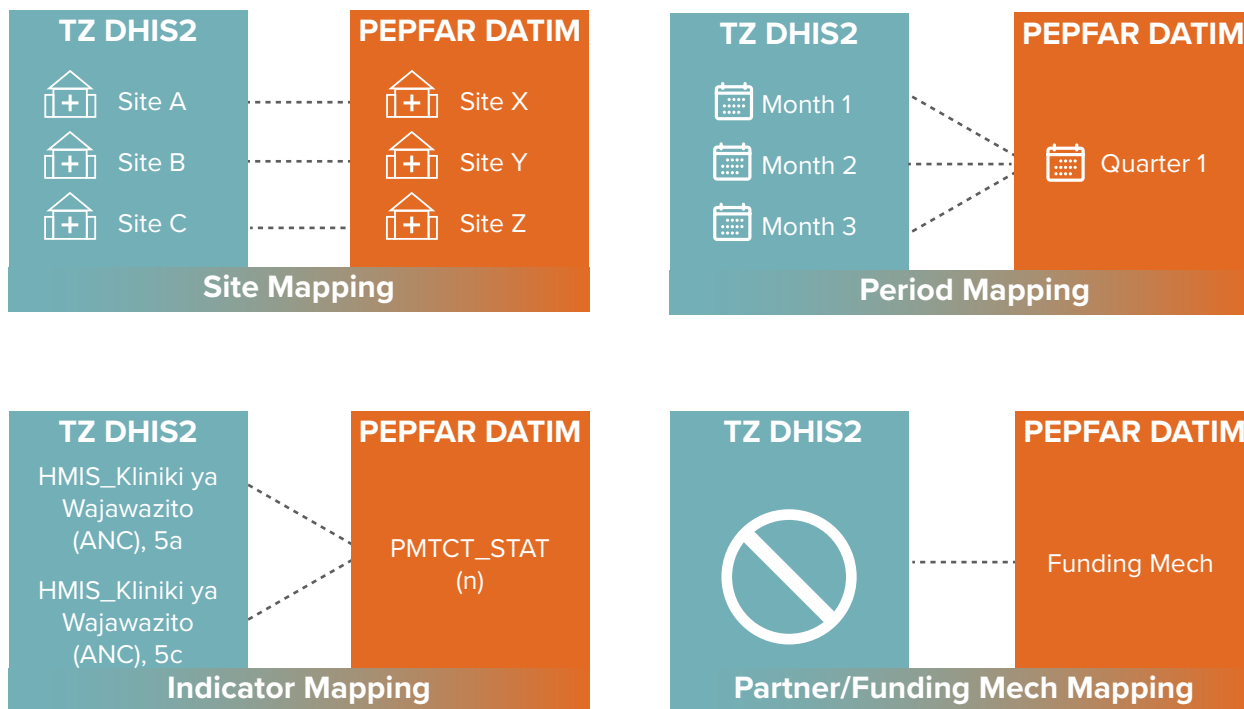
To continue the strengthening and improvement of data systems management and use, CDC Tanzania requested EGPAF to facilitate and provide technical support to the Tanzania MOHCDGEC and NACP. Specifically, EGPAF supported the implementation of specific deliverables related to continuous improvement of M&E data systems and use as well as health information systems and business processes.

## Activities Implemented

### DHIS2/DATIM Data Element Information

EGPAF's goal under this activity was to facilitate data exchange between Tanzania's national DHIS2 system and PEPFAR's Data for Accountability, Transparency and Impact Management (DATIM) system. PEPFAR required data from multiple sources within the MOHCDGEC system, so creating interoperability between the two systems increased data quality in both systems, and thereby strengthened the national system. The benefits of completing this activity were twofold: for national DHIS2 stakeholders, the process allowed for a greater focus on data quality at all levels, and for PEPFAR stakeholders, higher-quality data permitted more targeted programming and allocation of funding.

EGPAF partnered with UDSM to develop a “road map for data exchange” to document and outline the processes necessary to automatically migrate data from the national HMIS (in DHIS2) to PEPFAR's DATIM reporting system. Although both systems were built on the same platform (DHIS2), they were not inherently interoperable. Both reporting systems utilized the same data model; however, each entity was uniquely configured, making an automated data exchange between the two systems challenging. There were a number of prerequisite key components of each system that had to be matched to the other, including sites (organization units), indicators (data elements), the time period (period), and the partner or funding mechanism (Figure 1).



**Figure 1.** Data Exchange Components

There were multiple methods for input of data into the DATIM system. Most important, no data entry, regardless of the method, was possible unless all metadata were properly associated and validated. The road map document details the advantages and disadvantages of each method for data exchange. The methods for data input into DATIM included manual entry (via the web), an import/export application, and the DATIM application programming interface (API). The proposed data exchange framework process aligned its processes within the existing DATIM data submission structures to leverage the existing resources and network. Proposed activities included these:

- Indicator and health facility verification
- Data submission transfer into DHIS2
- Data verification and resubmission in DHIS2
- Batch data upload to DATIM
- Data verification and approval in DATIM
- Soft and hard deadlines

The road map outlined recommendations for consideration among stakeholders, which were discussed at a stakeholders' meeting in November 2017. Recommendations included the following:

- Assuming that identifier mapping was maintained both accurately and in a timely manner, the most feasible immediate option for data exchange was the use of the import/export application.
- Another feasible solution was to conduct a direct data transfer using the web API, which was tested by UDSM in the development of this guidance.
- The final and most feasible solution was a data exchange into DATIM using the web API through a third-party system. This would require intensive mapping work, as a majority of these third-party tools require mapping two times: mapping the national DHIS2 to the tool, and mapping DATIM to the tool.
- The test data migration conducted through this activity underscored the significance of standard identifier mapping, and brought to light the fact that any of the data exchange options from DHIS2 to DATIM can be implemented relatively quickly in Tanzania. The government of Tanzania, PEPFAR, and IPs need to carefully weigh the pros and cons of each method prior to determining the appropriate next steps.

Another task completed under this activity was an indicator mapping exercise for PEPFAR to MOHCDGEC/DHIS data elements. EGPAF mapped PEPFAR indicators to MOHCDGEC/DHIS data elements and presented them in a usable format for interoperability between DHIS and DATIM. EGPAF supported the MOHCDGEC, NACP, and UDSM team to populate English data element names for HIV data tools. Later in 2017, EGPAF also provided technical support to the PEPFAR data alignment activity, including indicator mapping and extraction of selected data in specified formats.

## **Data Quality**

In collaboration with UDSM, EGPAF provided data quality–related TA to the MOHCDGEC M&E/HMIS team and NACP. More specifically, EGPAF and UDSM developed data validation criteria, analyzed DHIS2 and related HMIS/M&E data, and assisted with building HMIS/M&E team capability. An experienced staff member from UDSM provided focused mentorship to develop validation queries and reports, along with recommendations for routine use to follow up on missing and problematic data. The team reviewed available data to support MOHCDGEC goals, explored data analysis, and correlated data from different systems. Specific calculations were made in DHIS2 to document the percentage of reporting that was complete and timely, what other reports were necessary, and population projections.

UDSM staff worked with the HMIS team to review and revise the existing data quality guidelines and set a schedule for running all DHIS2 validation to identify outlier/exception reporting and other reports to highlight other data issues. Additionally, the team revised the SOPs for data management, and assessed and standardized the process for dissemination of DHIS2 information (via the HMIS portal, printouts, file sharing, etc.). Last, UDSM staff worked with NACP to develop guidance on the routine data transfer from the NACP care and treatment database into DHIS2, along with the development of quality control (QC) measures.

## **Quality Improvement**

To ensure continuous QI and to support health system advances in Tanzania, EGPAF supported the Health Service Inspectorate and Quality Assurance Section of the Division of Health Quality Assurance, under the MOHCDGEC, to monitor the national Big Results Now (BRN) health initiative.

Through this assignment, the team, in collaboration with UDSM, created a transparent mechanism for tracking implementation of quality improvement plans (QIPs) that were developed after the star rating assessment of each health facility under BRN, led by the MOHCDGEC. The tracking system, the Accelerated Quality Improvement Tracking system (AcQuIT), was developed to enable the rapid improvement of health facility performance and services to provide the highest-quality health care services to the Tanzanian population. It was designed to enable coaches, managers, and IPs to guide health workers in using continuous QI to enhance key aspects of health service delivery and ultimately improve the star rating of the health facility.

AcQuIT was then embedded into the existing BRN star rating dashboard within DHIS2. The team systemically identified implementation challenges and gaps in health facilities' BRN star rating QIPs, identified the reasons for the gaps, and provided support to address the challenges. An improvement guide with recommendations for all levels of the health system to carry out actions to assist health facilities effectively implement QIPs and achieve a higher star rating was developed.

EGPAF and UDSM piloted the system and improvement guide in six facilities located in Ilala and Magu Districts. The purpose of the pilot was to assess the utility of the tool for purposes of health workers' performance improvement activities (in response to BRN star rating assessments). The team also tested whether the structure of the tool was adequate and user-friendly. The BRN QI system's electronic data entry tool and scorecard (both DHIS2 modules) were also assessed during the pilot.

Following the pilot, the team conducted a TOT on the AcQuIT system for 38 national BRN assessors. The training aimed to equip participants with an understanding of the system and to teach them how to use the DHIS and access tools for follow-up. Participants learned how to prioritize the sections within the improvement guide based on the BRN baseline assessment and follow up with data entry and generation of scorecards. IPs were also engaged during a

separate TOT. Nineteen representatives from various IPs were trained on the system. IPs were encouraged to become involved in action planning and acting in a supervisory role to support the MOHCDGEC in the roll-out and oversight of the new system.

To operationalize the AcQuIT online system in the country M&E system, EGPAF, in collaboration with Management Sciences of Health (MSH), MOHCDGEC, and UDSM, developed a plan for implementing roll-out training to various levels of the health system. Groups to be oriented, especially RHMTs, were selected based on the following criteria: regions with high HIV prevalence, those with low VL suppression among PLHIV ages 15+ (as per Tanzania HIV impact survey report, 2017), regions with poor performance in star rating indicators (as per the MOHCDGEC 2017/2018 star rating reassessment report), and regions with many health programs/interventions.

The objectives of the orientation were as follows:

- To orient participants in accessing and creating QIPs before roll-out so that their feedback and inputs are captured and they are involved in the process
- To train individuals in how to create a QIP follow-up tool based on their priorities, and to plan for QIP follow-up at facilities
- To train participants on how to enter QIP follow-up data in DHIS2 and access QIP to see how the quality of facilities has improved from previous baseline assessment
- To train participants on how to access facilities' scorecards from assessments and follow-ups, and interpret them

The team organized and conducted orientations for staff from MOHCDGEC; the President's Office, Regional Administration and Local Government (PO-RALG); U.S. government (USG) partners; and RHMT staff. In total, 45 MOHCDGEC and PO-RALG staff; 40 staff from 20 USG partners under the CDC, USAID, and the U.S. Department of Defense (two per IP); and 100 RHMT members from 20 USG-supported regions were oriented on the AcQuIT system roll-out.

## **Notable Deliverables**

Notable deliverables to highlight for this assignment may be further categorized as related to DHIS2/DATIM data element information, data quality, or QI.

### **DHIS2/DATIM Data Element Information**

- Road map for implementation of data migration/exchange from DHIS2 to DATIM nationally, including feedback gathered during the stakeholders' meeting
- Completed DATIM indicator mapping for PEPFAR indicator alignment activity, accompanied by Comma-separated values extraction from the national DHIS2

### **Data Quality**

- Development and review of existing standard reports in DHIS2 and recommendations for improvement and use
- Final report documenting the process by which MOH staff will continue routine data quality checks and validation
- Data quality guidelines, including a data dissemination plan
- Analysis and dissemination of data in various forums including regional medical officers' meetings and M&E unit meetings

## Quality Improvement

- Development of the BRN QIP monitoring tools (renamed by MOH as AcQuIT) and integration into DHIS2. Tools developed include these:
  - Follow-up tool in DHIS2
  - Data entry module
  - Scorecard
  - User manual
- Pilot of the AcQuIT tool, reporting of findings, and making of necessary amendments prior to hand-over to the Health Service Inspectorate and Quality Assurance Section of the MOHCDGEC
- TOT for national BRN assessors on the use of the AcQuIT monitoring tool
- AcQuIT system orientations for MOHCDGEC and PO-RALG staff, USG partners, and RHMTs
- AcQuIT system orientation report

## Results

- A fully nationally owned AcQuIT system, integrated into the national DHIS2, which has been successfully linked to the existing star rating assessment
- Integration with national DHIS2: tools including QIP and scorecard integrated into DHIS and printable
- Linkage of follow-up with star rating assessment: follow-up assessment can be traced back to annual assessments
- Transparency and availability: tools can be accessed at all levels, including national, RHMT, CHMT, IP, and facility
- Improvement steps used in assessment: standard improvement steps are part of QIPs
- Approved by national star rating system and part of follow-up guideline (AcQuIT system)

## Challenges and Lessons Learned

There are a number of challenges and lessons learned to highlight within this assignment. With the ever-changing PEPFAR indicator requirements, it was difficult to complete a mapping exercise. The exercise revealed that there were zero indicators that were a “perfect match” – that is, where the disaggregates were captured in the national reporting system exactly as they were reported in DATIM<sup>21</sup> – and some indicators (or parts of indicators) were not found at all in the DHIS2 system. Decisions on new indicators need to be made alongside the design of national systems. While the data exchange road map provided recommendations on how to transition from manual data entry and use a data exchange process, the current PEPFAR policy does not allow IPs to use stand-alone data exchange tools. The only approved use of DATIM’s web API (outside of the development instance of DATIM) is through DATIM4U, which is a stand-alone version of the global DATIM web-based application that can be implemented exclusively for a PEPFAR country team. Furthermore, the success of the AcQuIT system in being fully adopted into the national system is in part due to a high level of ownership at the national level by the Health Service Inspectorate and Quality Assurance Section. However, its successful implementation has been hampered by less capacity at the regional and district levels to use the system, which called for longer-term TA support for the actual roll-out.

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<sup>21</sup> Note that with the addition of super-fine age disaggregates in fiscal year 2018, this statement deserves even more emphasis. The national DHIS2 system simply does not collect data in such detail.



Photo: Eric Bond/EGPAF, 2018

## HIV Care and Treatment

Through various assignments, Project DELTA contributed to the development of an accessible and comprehensive platform through which adults could access HIV services. The goal of these assignments was to ensure that patients in EGPAF's care have the support they need to live long and healthy lives through integrated and comprehensive health services, as well as PSS.



# Assignment 021: Conducting HIV Drug Resistance Surveillance in Malawi

**Country: Malawi | Project Year(s): PY2–PY5**

## Background/Overview

Approximately 1 million people are currently living with HIV in Malawi.<sup>22</sup> As of 2016, 97.9% of HIV-positive women were reported to be on ART, which indicates high coverage of interventions for PMTCT.<sup>23</sup> Despite this success, Malawi has faced challenges with retention in care among women initiating ART during pregnancy or while breastfeeding. Inadequate attention had been paid to retention in and adherence to ART in the postnatal period, and progress with EID remains inadequate, as the majority of countries have tested less than 50% of HEI by two years of age.<sup>24</sup> EGPAF–Malawi is a key partner in providing TA to Malawi’s MOH to increase access to high-quality, comprehensive HIV and related health services.

ART programs in resource-limited settings are characterized by the use of limited ARV regimens and often limited use of VL testing to monitor treatment outcomes. To maximize the long-term effectiveness of first-line ART and ensure sustainability of ART programs, it is essential to monitor and minimize the emergence and further spread of HIV drug resistance (HIVDR). Even in settings with optimal ART program management, some degree of HIVDR is expected to emerge in populations receiving ART, which could affect the response to second-line ART, in addition to being a source of transmission of HIVDR. Therefore, the WHO recommends that HIV treatment scale-up always be accompanied by a robust assessment of drug resistance emergence and transmission. It became increasingly important to assess, in a standardized and nationally representative manner, the extent to which, at different points over time, those initiating or currently on ART achieve VL suppression and the extent to which HIVDR is emerging among individuals failing ART. These assessments provide critical information to assess the performance of programs in maximizing viral suppression, inform the optimal selection and management of second-line therapies, and provide insight on the extent to which patients are switching therapies unnecessarily. By obtaining population-level data on HIVDR in different populations, its various elements can inform program-level decision making regarding, for example, optimal first and second lines for both children and adults. HIV programs can identify gaps in service delivery and implement appropriate policy responses to improve individual and population outcomes.

In PY2, the CDC requested that EGPAF complete a TA assignment to provide assistance to the Malawi MOH in the area of HIVDR surveillance. The work would use cross-sectional study designs to assess nationally representative levels of HIVDR and VL suppression in both adults and children receiving ART (in whom HIVDR is acquired drug resistance, or ADR) and those initiating ART (in whom it is pretreatment drug resistance, or PDR). This surveillance approach was based on a CDC-developed generic protocol to be conducted at regular intervals in order to determine resistance prevalence, patterns, and trends, with this assignment representing the implementation of the first survey. With this surveillance, Malawi was the first country to adapt the CDC’s generic protocol for use in implementing both the pediatric and adult components.

## Activities Implemented and Results

### Protocol Development

The CDC requested that EGPAF assess nationally representative levels of HIVDR and VL suppression in both adults and children receiving ART and those initiating ART, using cross-sectional study designs. In close collaboration with the CDC and the MOH, EGPAF adapted the generic protocol, conducted technical and ethical reviews, and developed

<sup>22</sup> UNAIDS. HIV and AIDS estimates. 2016.

<sup>23</sup> Malawi population-based HIV impact assessment (2015–2016).

<sup>24</sup> UNAIDS. On the fast-track to an aids-free generation: The incredible journey of the global plan towards the elimination of new HIV infections among children by 2015 and keeping their mothers alive. Geneva, Switzerland: UNAIDS, 2016.

all relevant training materials. Prior to starting the surveillance activities, EGPAF, in collaboration with the Malawi MOH, conducted a rapid analysis to identify where VL monitoring platforms exist, to map policies for recommended first- and second-line ART regimens, and to inventory prior HIVDR surveys performed. Alongside other stakeholders, EGPAF finalized the adaptation of the generic protocol developed by the CDC, titled “Cross-sectional Survey of HIVDR to the Malawian Context: A Generic Protocol for Adults and Children Receiving Antiretroviral Therapy and for Adults Initiating Antiretroviral Therapy,” before developing the design methodology and determining the target population to survey, the sample size, the site selection methodology, and inclusion/exclusion criteria for patients for both the PDR and the ADR components of the survey. EGPAF led discussions that focused on preparing for the roll-out of the surveillance activities and served to engage national-level stakeholders to secure buy-in and create a plan for the dissemination and utilization of survey findings.

## Trainings

EGPAF, together with the MOH, conducted pre-study visits to sample clinics and labs to assess readiness, and introduced the study to the health managers and HCWs of the selected clinics. The health facility site coordinators and staff were oriented to the protocol and to specific site procedures during the week prior to the initiation of the survey. EGPAF, in collaboration with the MOH, developed the training materials. The training was conducted by the MOH Epidemiology Unit and HIV Reference Laboratory, with support from EGPAF, and included background, survey procedures, sample collection, and ethical considerations. Finally, EGPAF facilitated and monitored blood sample collection for the PDR and ADR study components by enrolling eligible patients at each site, obtaining consent from eligible patients and collecting minimum demographic information, drawing blood, preparing dried blood spots, and facilitating the transportation of the samples to the National Reference Laboratory.

EGPAF–Malawi teams completed all planned site supervision visits by March 2019, and data collection under this Project DELTA assignment ended in mid-2019. EGPAF and the CDC created a database to securely store the data, and final revisions to the database and data entry were successfully completed in mid-2019. EGPAF also supported the processing of specimens by the National Reference Laboratory for VL according to the standards for dried blood spot specimen collection and handling for HIVDR testing.

## Notable Deliverables

- A finalized and approved HIVDR survey protocol adapted to the Malawi context
- Successful completion of the capacity-building training of health facility staff in conducting HIVDR surveys in accordance with the adapted protocol
- PDR and ADR sample collection, data collection, and transportation to the MOH National Reference Laboratory (EGPAF will transfer the database to I-TECH once the samples have been genotyped by the National Reference Laboratory)

## Challenges and Lessons Learned

The EGPAF–Malawi team experienced various challenges during the implementation of these activities. Notably, the team experienced significant delays in receiving protocol approvals; in addition, the mobilization of, and routine coordination between, multiple stakeholders was time- and labor-intensive. EGPAF technical and research teams experienced significant issues regarding data quality from the site-level abstraction, necessitating additional time for data review and cleaning, and resulting in further delays in completing the final data set. Finally, a significant challenge was the lack of necessary resources – the initial budgeted amount of funds was not sufficient to fully complete the scope as intended.

The implementation of the HIVDR activities yielded several lessons. It promoted communication among stakeholders and responsiveness from providers and authorities, such as government officials and key external stakeholders. Communities and facilities were engaged with the process and interested in the final outcomes of the assignment, and CDC Malawi and additional partners agreed on the extended timelines through close collaboration with the MOH National Reference Laboratory and I-TECH.

# Assignment 023: Supporting Test-and-Start and Community-Based ART Activities in Namibia and Zambia

**Countries: Zambia and Namibia | Project Year(s): PY3–PY5**

## Background/Overview

WHO guidelines recommend initiation of ART for all individuals living with HIV, regardless of CD4 count. Achieving the PEPFAR-endorsed goal of 90-90-90 by 2020 requires a 100% increase in the number of HIV-infected people on lifelong ART, from 15 million to 30 million. In low-resource and low- to middle-resource settings, where health systems are currently saturated by the HIV epidemic, TA is required to identify new, innovative, cost-effective, and efficient approaches to scale up HIV testing, treatment, and VL monitoring services. The purpose of this assignment was to support the test-and-start initiative and evaluate community-based ART (C-BART) activities in two countries, Namibia and Zambia.

In Namibia, the MOHSS initiated steps toward the phased implementation of activities for the evaluation of the ongoing C-BART. EGPAF, through Project DELTA, provided TA to the MOHSS for evaluation of the C-BART model to determine further expansion opportunities. Since the implementation of a C-BART program in Namibia, this was the first evaluation of the innovative C-BART service delivery program in the northern Namibia districts of Okongo and Eenhana. The evaluation was designed to inform potential scale-up of the approach as a strategy to achieve treatment for all. The goal of the evaluation was to describe the implementation process of the C-BART program in Okongo and Eenhana Districts during the period January 2007 to July 2017; evaluate the effect of the program as measured by rates of retention in and adherence to treatment at 6, 12, 24, and 36 months; and assess patient and health worker acceptability and program challenges.

In Zambia, in conjunction with the Zambian MOH and CDC, EGPAF supported the initial steps required prior to implementation of activities at the sites for the test-and-start initiative in the first phase in collaboration with IPs. In addition to engaging the Zambia MOH at the national, provincial, and district levels, EGPAF collaborated with the University of Maryland, the key service delivery partner in the Southern Province supporting PMTCT at the community and health facility levels.

## Activities Implemented

### C-BART Phase I: Planning and Preparation

For the Namibia portion of the assignment, EGPAF worked with the Namibian MOH to understand and clarify existing C-BART activities currently taking place in Namibia. EGPAF then developed a C-BART evaluation protocol. EGPAF collaborated with CDC Namibia and the ministry to develop the accompanying data collection and management tools for the C-BART evaluation. The tools and protocol were submitted and approved by all three IRBs, including the local IRB in Namibia; the CDC's associate director of science; and EGPAF's IRB consultant, Advarra. A detailed timeline and work plan were then developed for the evaluation, including data collection and analysis activities that were conducted by the CDC and the ministry. EGPAF then facilitated and supported the hiring, training, and deployment of research assistants, including the data collection process itself.

### Data Collection, Analysis, and Reporting

Data were collected at each of the participating service points. EGPAF and the MOHSS, with support from CDC Namibia, were responsible for providing tools for data abstraction to collect quantitative data on patient characteristics and outcomes from the national database of the electronic patient management system, the electronic dispensing tool, and Meditech. EGPAF, with the support from MOHSS and CDC Namibia, was responsible for data collection for the qualitative evaluation using focus group discussions (FGDs), in-depth interviews (IDIs), and key informant interviews.

Following the implementation of the study in Namibia, the data from the study sites were compiled, cleaned, and analyzed by CDC Namibia, with support from EGPAF, CDC Atlanta, and the MOHSS. The findings were shared with the wider group for discussion prior to development of a formal report and abstract for publication. Recommendations for the roll-out of the C-BART model were made in the report.

## Test and Start

For the Zambia portion of this assignment, EGPAF began by collaborating with key stakeholders to understand and clarify roles, responsibilities, and test-and-start activities and gaps. EGPAF developed test-and-start site readiness assessment tools in collaboration with the MOH and other IPs. Tool development took place within the Southern Province and included several activities. First, EGPAF assembled a core group for tool development in collaboration with the MOH and other IPs. Then selected members from the team conducted site visits within the Southern Province. In collaboration with the MOH, EGPAF developed drafts of the tool and piloted the tool in the Southern Province. EGPAF also planned and facilitated a stakeholder meeting/validation workshop. Once the final draft of the tool was finalized, EGPAF conducted the site readiness assessment for the sites. The assessment included questions assessing infrastructure, human resources, and data management.

## C-BART

As part of the C-BART activity in Zambia, EGPAF collaborated with local partners and the ministry to understand and clarify existing activities taking place in Zambia related to C-BART. Under this activity, EGPAF developed a C-BART evaluation protocol and then submitted it to the IRB for initial approvals. The evaluation piece in Zambia was later canceled and funds redirected to other Project DELTA assignments.

## Notable Deliverables

### Namibia:

- C-BART evaluation protocol
- C-BART evaluation report
- Abstract of C-BART evaluation for submission to academic conference/publication

### Zambia:

- Test-and-start site readiness tool (assessing sites currently implementing service delivery)

## Namibia C-BART Summary Results

After exclusion of 446 patient records due to record errors or missing information, 1,031 records (for 909 adults and 122 children) were included in the quantitative analysis.

**Adult demographic and clinical characteristics:** Over 50% ( $n = 504$ ) of adult patients were from Okongo District.<sup>25</sup> Of the 405 Eenhana District patients, 21% were down-referred directly from the hospital, while 79% were first referred from the hospital to nurse-initiated and -managed ART (NIMART) sites, and then down-referred from NIMART sites to C-BART sites.

Among C-BART patients overall, 64% ( $n = 586$ ) were female, and 60% ( $n = 494$ ) were single, separated, or widowed. The median age at ART initiation was 38 years (interquartile range, or IQR: 32-46), with 38% of patients ( $n = 344$ ) having been initiated on ART at ages 35–44 years. Over 46% ( $n = 422$ ) of patients initiated ART in the period 2011–2014, and 90% ( $n = 802$ ) were assessed to be in WHO clinical stage 1 or 2 of the disease at the time of initiation. However, 48% ( $n = 413$ ) of patients had a CD4 count of  $\leq 200$  cells/ $\mu\text{L}$  at ART initiation. Over 85% ( $n = 778$ ) of adult patients at C-BART were on ART for at least a year before they were down-referred. The remaining 14% were down-referred within a year after starting ART. The median time that patients were on ART prior to down-referral

<sup>25</sup> In Okongo District, patients are referred directly to C-BART from the district hospital. There are no nurse-initiated and -managed ART sites, unlike in Eenhana District.

was 45 months (IQR: 20-74), with Okongo patients down-referred earlier, after a median of 31 months (IQR: 14-57), compared with 71 months (IQR: 45-92) for Eenhana C-BART patients and 63 months (IQR: 36-93) for Eenhana NIMART/C-BART patients. Patients were in C-BART for a median of 17 months (IQR: 9–32), with Okongo patients having a longer median time, of 28 months (IQR: 10–61) in C-BART. In Eenhana District, these median times were 8 months (IQR: 6–10) for C-BART patients and 11 months (IQR: 9–12) for NIMART/C-BART patients.

**Adult retention in care:** In Okongo District, 91% ( $n = 141$ ) of patients were still in care at 60 months from the time they were down-referred to C-BART. Across both districts, 99% ( $n = 522$ ) of patients were retained in care at 12 months, including 100% ( $n = 158$ ) of C-BART and NIMART/C-BART patients in Eenhana District, the maximum period of observation for these sites.

**Adult ART adherence:** Adherence data were available for 345 adults (38%). Over 80% of Okongo patients achieved good adherence, defined by a score of  $\geq 75\%$ , as per Namibia standards. Adherence data were available for only 3 Eenhana patients, too few to analyze.

**Adult viral suppression:** Overall, 98% ( $n = 800$ ) of the 817 patients alive and on ART with available VL results were virally suppressed, and 98% ( $n = 532$ ) were virally suppressed at least 4 months after down-referral, with no significant difference between districts.

**Pediatric demographic and clinical characteristics:** About half of the 122 children (51%,  $n = 62$ ) were from Okongo District, and overall, 56% ( $n = 68$ ) were male. About half of the children (51%,  $n = 62$ ) initiated ART at ages 5–14 years, and 28% ( $n = 34$ ) initiated ART at  $< 2$  years of age. About half of the children (51%,  $n = 62$ ) initiated ART between 2007 and 2010, while 42% ( $n = 51$ ), initiated ART from 2011 to 2014. Most children were in WHO clinical stage 1 or 2 at ART initiation (80%,  $n = 95$ ), though 53% ( $n = 50$ ) were assessed to have advanced or severe HIV immunodeficiency by CD4 count or percentage at ART initiation.

**Pediatric retention in care:** The retention in care among children for whom this information was available ( $n = 28$ , all from Okongo District) was similar to that of the adults, with 96% being retained in care at 60 months.

**Pediatric ART adherence:** Among the 44 children for whom these data were available (all from Okongo), only 64% had adherence scores of  $\geq 75\%$ .

**Pediatric viral suppression:** Of the 108 pediatric patients alive and on ART with available VL results, 94 (87%) were virally suppressed. Of the 108 children, 75 (69%) had an available VL result from at least 4 months after their down-referral, and viral suppression was similarly high (87%) among these patients.

**Descriptive characteristics of C-BART patient deaths:** There were 23 deaths recorded during the period reviewed. The mean age of the deceased patients was 44 years; 57% ( $n = 13$ ) were male, and 62% ( $n = 13/21$ ) were single. The majority of deaths occurred from 2014 to 2016 ( $n = 18$ ), and the median time from ART initiation until down-referral was 15 (IQR: 12–27) months. The median time patients were in C-BART was 24 (IQR: 16–44) months. The median time from the last VL test to death was 8 months (IQR: 1–13), and the median CD4 count was 129 cells/ $\mu\text{L}$  (IQR: 87–248) at the start of ART, though only 3 patients were assessed to be in WHO clinical stage 3 at ART initiation.

Findings from the IDIs and FGDs confirmed that the idea of providing treatment nearer to patients' residences came from nurses at Okongo District Hospital in 2006–2007. Nurses had observed patients arriving in groups due to shared transportation, which overcrowded the facility. Over time, the idea of C-BART gained acceptance among both the patients/community and the HCWs, due to reduced patient/community costs and reduced health worker workload. In addition, the shorter waiting times increased patients' time for income-generating activities. The introduction of health extension workers (HEWs) was important in following up patients who missed C-BART visits and in linking HCWs and the community. Challenges to the program, however, were lack of privacy, lack of infrastructure, inconsistent arrival times of the HCWs, lack of SOPs, lack of M&E systems, and minimal training for HEWs and nurses.

The costing analysis found that the total estimated program expenditure on C-BART was US\$93,736 (1,160,451.60 Namibia dollars, or NAD), with the Okongo cost being US\$40,980 (NAD 507,332) and the Eenhana cost US\$52,756

(NAD 653,119). The cost per site was US\$2,561 (NAD 31,705) for Okongo and US\$2,931 (NAD 36,286) for Eenhana. The cost per patient per year was US\$58.54 (NAD 725) in Okongo and US\$68.78 (NAD 852) in Eenhana. At 61%, labor constituted the largest cost component, followed by clinical site and supplies at 25%, capital costs at 11%, and travel/transportation at 3%.

The C-BART program appears to have been successful in its goals of ensuring program retention, ART adherence, and viral suppression. Retention was higher than the national retention indicators of 88.5% at 12 months and 70.2% at 60 months. C-BART patient viral suppression was also higher than the national rate of 77% as well as the Ohangwena Region's 86% viral suppression rate. C-BART retention was comparable to that reported by other community ART programs, including community adherence groups in other African countries. ART adherence among C-BART patients was also higher than the national estimate of 62% of ART patients, with a C-BART adherence score of  $\geq 75\%$ .

Retention, adherence, and viral suppression were similar for the Okongo and Eenhana sites, despite the fact that compared with Okongo's, the Eenhana C-BART program more systematically applied the criterion that only patients who had been stable on ART for six months could be down-referred into the program. This result brings into question the need for a six-month stability criterion for down-referral to C-BART.

The mortality analysis highlighted that 20 of the 23 C-BART patients who died had a clinical visit within three months of their death, a fact that needs to be explored further. These patients may have been failing treatment, yet all were still on first-line therapy. This result has implications for strengthening the quality of ART care in the C-BART program. Also, the majority of patients were men, and many of them had initiated ART at older ages, suggesting that more efforts are needed to get men onto ART earlier.

Though the retention of children was comparable to that of adults in the C-BART program, adherence and viral suppression were markedly lower. Due to limitations in assessing adherence, it might be that patients' true adherence is higher than that represented, and more so for children than for adults. Nevertheless, adherence and viral suppression, taken together, are still lower for children than for adults, indicating a need for closer adherence support and VL monitoring for children in C-BART care.

The qualitative findings suggest that the C-BART program is well accepted and supported by patients, the community, HCWs, program managers, and policymakers. The program has responded to a need in a rural, sparsely populated region of Namibia, and in doing so, has engaged communities, community leaders, and patients in such a way that they have become partners with the HCWs and the program managers in supporting patients on ART, with potential positive outcomes for all of the stakeholders. Additionally, the program provides a platform to potentially integrate primary health care with comprehensive HIV care. However, the lack of privacy and limited infrastructure at the C-BART sites, the lack of standard procedures, inadequate patient tracking and evaluation systems, insufficient training of HEWs and nurses, and inconsistent arrival times of the C-BART team have limiting effects on the program. These effects could be mitigated by increasing the formalization of the program, improving its systems, and finding resources to improve its infrastructure and facilitate privacy.

The total costs to implement the C-BART program in Okongo and Eenhana Districts, as well as the estimated annual per-patient costs, seem reasonable when considering the reduced burden at the health facility and reduced costs to patients in the form of lower transportation costs and less waiting and travel time, and given the limited number of benchmarks available in the literature. It may be useful also to estimate the annual per-patient cost of the ART clinics to compare with C-BART costs. These costing data may facilitate policymakers' budgeting and planning for resourcing the response to the HIV epidemic, including the potential scale-up of a C-BART model across Namibia.

Overall, C-BART is a well-accepted program that, in partnership with the community, has been effective in improving patient retention, ART adherence, and viral suppression. Its costs appear to be reasonable, and cost savings may have been realized through both a reduced patient burden on the health facility and a reduced cost burden on patients.

## Challenges and Lessons Learned

This robust, extensive evaluation and associated assignment activities yielded multiple limitations, challenges, and lessons learned. First, the Namibia evaluation had to rely on data abstracted from patient health records, which may have quality concerns such as missing data and data entry errors. Linking patients across the three database systems was a particular challenge, most notably in Meditech, which did not have a field for the commonly used unique patient identification number.

Limitations and challenges with the qualitative analysis (of the IDIs and FGDs) included the potential for response bias (respondents may report what the interviewer would like to hear), differential nonresponse (the characteristics of participants who refuse to be interviewed may be different from those who agree to the interview), and recall bias (participants may selectively recall stakeholders and events). Experienced interviewers and FGD facilitators were carefully selected and trained to mitigate these potential biases. A challenge in capturing the costs of and resources needed for the C-BART program was the availability and quality of the necessary documentation. In addition, the retrospective estimation of the time program staff spent on C-BART activities may not be as accurate as if these data had been captured prospectively, but EGPAF worked closely with MOHSS staff to identify the necessary documents and to triangulate the data to assure validity.

## Assignments 025, 035, and 045: Support for Differentiated Service Delivery Models of Care in Uganda

**Country: Uganda | Project Year(s): PY3–PY5**

### Background/Overview

In PY3 and PY4, Project DELTA initiated TA to the Uganda MOH to develop and include differentiated service delivery (DSD) in the 2016 national consolidated HIV prevention, care, and treatment guidelines. Additionally, EGPAF supported the development of job aids, SOPs, training materials, and a national roll-out plan and guidance for the implementation of the DSD models.

In PY5, Project DELTA, under this assignment, supported activities aimed at closing in on the 95-95-95 targets. EGPAF continued to support national coordination of DSD activities, roll-out of DSD implementation guidelines, and implementation of DSD models, and supported limited activities in the evaluation of the DSD roll-out in Uganda. The DSD roll-out was implemented following a phased approach, as per MOH guidance. In line with guidance from CDC Uganda, additional support in various areas was added to the assignment scope. EGPAF supported care and treatment programs with a primary focus on MOH leadership of SURGE interventions, PMTCT-related gender-based violence (GBV) activities, EID and maternal retention, cohort monitoring activities, and implementation of the roll-out of the revised consolidated guidelines for prevention and treatment of HIV in Uganda.

### Activities Implemented

#### Differentiated Service Delivery

##### *DSD Technical Advisor*

EGPAF supported the Uganda MOH to roll out DSD in the country by seconding a DSD technical advisor to the MOH AIDS Control Program. The technical advisor oversaw and supported the national roll-out of DSD implementation guidelines, monitored and tracked progress of milestones in DSD roll-out and implementation, and coordinated and participated in DSD national TWG-related stakeholder meetings.

## *DSD National Technical Working Group*

The DSD National TWG was mandated to develop policy and implementation guidance for DSD of HIV and TB services in Uganda, as well as overseeing its phased roll-out in the country. Between July 2017 and March 2019, EGPAF facilitated the TWG to hold eight national-level DSD coordination meetings.

### *On-Site DSD Mentorship*

Project DELTA supported the second and third on-site DSD mentorship activities in Busana HC III, Mukono HC IV, Katakwi HC IV, Fort Portal Regional Referral Hospital, Jinja Regional Referral Hospital, and Tororo Hospital, which were the facilities within which the DSD training package was pretested. By the third visit, all facilities were at different levels of DSD implementation. However, all five facilities were implementing the basic facility-based approaches for stable and unstable clients, but none was implementing the community drug distribution point model.

### *Supportive Supervision*

Two DSD supportive supervision activities were conducted with EGPAF support, the first in September 2018, in 9 regions, and the second in March 2019, in 13 regions. Great progress had been made in DSD implementation since the first supervision, but quality gaps still existed at all levels: IP, district, and health facility. The DSD technical advisor and two officers from the MOH were supported to attend a learning session hosted by SUSTAIN, a USAID-supported IP, in March 2018, in the Lango Region. The USAID Regional Health Integration to Enhance Services in South-West Uganda project (with EGPAF–Uganda) harvested best practices from 13 pilot sites within its region of operation.

## **PMTCT Impact Evaluation and Gender-Based Violence Training**

### *PMTCT Impact Evaluation Supportive Supervision*

EGPAF supported the MOH to conduct a supportive supervision of the PMTCT impact evaluation study. It took place in the regions of Acholi, Central 1, Central 2, East Central, Eastern, Karamoja, Lango Mbarara, Rwenzori, and West Nile.

### *PMTCT Impact Evaluation Performance Quality Assurance/Quality Control Meetings*

Following the impact evaluation, the MOH was supported to conduct two-day QA/QC feedback meetings in each of the regions within which the evaluation had been conducted.

### *Gender-Based Violence Regional Training of Trainers*

EGPAF supported the training of 32 trainers in GBV in August 2018 in Seeta, Mukono District.

## **Gender-Based Violence Assessment**

EGPAF supported the conducting of a GBV assessment on availability, readiness, and quality of sexual and gender-based violence (SGVB) services in 50 health facilities in 22 districts in October 2018, in the 10 regions of Acholi, Central 1, Central 2, East Central, Eastern, Karamoja, Lango, Mbarara, Rwenzori, and West Nile. Findings will be used to improve and ultimately scale up GBV services in the country.

## **HIV Care and Treatment**

EGPAF held four TOTs, training a total of 158 participants on the revised consolidated guidelines for prevention and treatment of HIV. The TOT courses were conducted to update clinical mentors and trainers on the revised consolidated guidelines for HIV prevention and treatment to enable them to conduct regional and facility-based trainings. Additionally, a national dissemination meeting with key stakeholders such as partners and MOH representatives was held in September 2018, followed by meetings on dissemination of the guidelines in 13 regions.



## Notable Deliverables

### Differentiated Service Delivery

- One DSD technical advisor employed (seconded to the MOH)
- DSD technical advisor's annual report
- Report on the DSD national TWG meetings
- Summary report on the supportive supervision visits
- Report on best practices and lessons learned

### PMTCT Impact Evaluation and Gender-Based Violence Training and Assessment

- Impact evaluation supportive supervision reports
- Impact evaluation performance QA/QC meeting reports
- GBV TOT report
- Regional assessment reports on availability, readiness, and quality of SGBV services

### Care and Treatment

- TOT reports including a list of national trainers in the revised consolidated guidelines for prevention and treatment of HIV
- A report summarizing national and regional dissemination of the 2018 national HIV prevention, care, and treatment guidelines

## Challenges and Lessons Learned

There was a severe shortage of ARVs, which slowed the roll-out of DSD and the prolonged revision of HMIS tools, which affected documentation and reporting of DSD. In addition, competing priorities, such as SURGE activities, HIV strategic planning, and HMIS tools review, also delayed the roll-out of the DSD initiative. Furthermore, the IP-driven nature of the DSD roll-out, entirely dependent on the IPs' ability to prioritize the roll-out, resulted in some additional delays, as did the limited number of available copies of the 2018 revised consolidated guidelines for HIV prevention, care, and treatment to disseminate. As a result, EGPAF and stakeholders understand that buy-in and collaboration by the MOH and IPs from the beginning of implementation (including SOW development) are paramount to the success of these activities. Finally, a dedicated officer to coordinate the DSD activities at the national level leads to better collaboration between different and key stakeholders.



Photo: Eric Bond/EGPAF, 2018

## HIV Care and Treatment – Pediatric and Adolescent

Every week, more than 2,000 children in Africa die due to AIDS-related causes. Reaching those children and youth, and their families and communities, was an important goal of Project DELTA. The project worked to improve and expand children's and adolescents' access to HIV testing, provide them with sustainable access to the best available treatments, and ensure viral suppression. Additionally, EGPAF supported health care systems to respond to the complex needs of children and adolescents.

# Assignment 016: The 2016 Young Adult Survey of Zimbabwe

**Country: Zimbabwe | Project Year(s): PY4–PY5**

## Background/Overview

The 2016 Zimbabwe Population-Based HIV Impact Assessment (ZIMPHIA) findings indicate that approximately 1.4 million people are living with HIV in Zimbabwe, of whom 1.2 million are between 15 and 64 years of age. While Zimbabwe has made significant progress in reducing overall HIV incidence and mortality, new HIV infections and risk of HIV-related mortality in adolescents and young adults remains high.<sup>26</sup> The government of Zimbabwe acknowledged that a lack of comprehensive data on violence against children was one of the challenges in planning, implementing, monitoring, and evaluating appropriate policies and programming around child protection in Zimbabwe. To address this need, the Young Adult Survey of Zimbabwe, hereafter referred to as the Zimbabwe Violence Against Children Survey (VACS II), began in 2016. This was a national household survey that focused on estimating the prevalence of violence against Zimbabwean youth ages 13 to 24, and characterizing the relationship between childhood violence and HIV. The survey estimated the prevalence of sexual, physical, and emotional violence against children; estimated the prevalence of HIV among females ages 16 to 24; characterized recent HIV infections among youth; identified potential risks and protective factors for violence against children; identified health and social outcomes of violence against children; and assessed the knowledge and utilization of services available for children who have experienced violence in Zimbabwe (as well as barriers to accessing such services). The VACS II followed the template of CDC violence against children surveys that were previously implemented in Zimbabwe (e.g., the National Baseline Survey on Life Experiences of Adolescents 2011 and the 2001–2002 Young Adult Survey) as well as in other countries across the globe.<sup>27</sup>

## Activities Implemented

In 2016, the CDC requested EGPAF–Zimbabwe to complete the TA assignment in Zimbabwe to implement VACS II to identify risk factors among children and youth. The goal was to inform stakeholders' efforts to reduce violence against children and improve children's health to support the development of targeted and informed prevention programs and policy initiatives for young people in Zimbabwe. In Project DELTA's third and fourth project years, the EGPAF–Zimbabwe team prioritized the development of the VACS II work plan and budget, developed and organized meetings of the VACS II survey steering committee,<sup>28</sup> and formed four key TWGs.<sup>29</sup>

## Study Details

The study was a national household survey that used a multi-stage, cluster sample survey design. The Zimbabwe National Statistics Agency (ZIMSTAT) used information from the 2012 Zimbabwe National Census to originally compile the sampling frame. This study design was meant to yield nationally representative prevalence estimates of violence against girls and female youth, and boys and male youth, ages 13 to 24, as well as function as a representative estimate of the association between childhood violence and HIV acquisition. HIV counseling and testing was offered to all eligible respondents ages 16 to 24, and HIV incidence and VL testing were conducted on all newly identified HIV-positive specimens and on all of the specimens of respondents who self-reported as HIV-positive and were able to provide proof of their status or treatment.

<sup>26</sup> Ndebele W et al. Risk of death among those awaiting treatment in Zimbabwe: Adolescents are at particular risk. *J Int AIDS Soc* 2015;18(1):19247.

<sup>27</sup> More information on the VACS II survey may be found at <http://www.cdc.gov/violenceprevention/vacs/>.

<sup>28</sup> The VACS II survey steering committee includes members from the MOHCC, Ministry of Labour and Social Welfare, National Statistics Agency, National AIDS Council, Ministry of Local Government, Ministry of Women's Affairs, Ministry of Primary and Secondary Education, other government line ministries, UNICEF, and other key implementing partners in Zimbabwe.

<sup>29</sup> The four TWGs were on (1) sampling, (2) social welfare, (3) laboratory services, and (4) communication and community linkages.

A total of 33,091 out of the 33,525 sampled households (98.7%) were visited during data collection, of which 10,418 households had eligible respondents and 17,471 had no eligible respondents. Of the visited households, 1,042 were unoccupied, 2,306 had no one at home, and 597 refused to be interviewed. Of the 10,418 eligible respondents, 8,715 individual respondent questionnaires (83.6%) were completed. The overall response rate was 82.1%, as the sample size for completed respondent questionnaires was 10,622. A total of 4,364 HIV biomarker questionnaires were completed, out of a sample of 6,229 (70.1%).

## **Post–Data Collection Activities**

EGPAF–Zimbabwe and the associated key stakeholders successfully completed national data collection in August 2017. ZIMSTAT began the data weighting process at this time, and completed the VACS II data weighting and shared the weighted data sets with EGPAF for verification in late 2017. EGPAF then shared the cleaned and weighted data sets with CDC Zimbabwe and CDC Atlanta. As part of the VACS II process, the CDC Division of Violence Prevention (DVP) was responsible for all primary data analysis and for developing the preliminary and final VACS II reports. Per a timeline provided by the CDC in late 2017, CDC teams conducted VACS II data analysis from late 2017 through mid-2018, and drafted the preliminary VACS II report before sharing it with EGPAF–Zimbabwe and headquarters teams, and the project’s key stakeholders. The final version of the VACS II preliminary report was shared with EGPAF in April 2018 and with the MOHCC and the Ministry of Public Service, Labour and Social Welfare (MOPSLSW) in July 2018.

EGPAF–Zimbabwe and the MOHCC provided essential support and TA to the CDC Zimbabwe and CDC Atlanta teams, and conducted a VACS II data analysis and data-to-action workshop in July 2018. This workshop involved the VACS II core team, key government ministries, and other stakeholders, and facilitated the adoption of the data analysis conducted by the CDC’s DVP, essential for in-country buy-in. In addition, the workshop was the initial opportunity for EGPAF–Zimbabwe to present the preliminary report to the survey steering committee, the MOHCC, the MOPSLSW, and other stakeholders. This allowed for a review of the data, initial results, and target priority areas for discussion, and contributed to the development of the National Action Plan framework, which was handed over to the Zimbabwean MOPSLSW in July 2018. This process also guided the development and finalization of the VACS II dissemination plan, which EGPAF–Zimbabwe submitted to the CDC Zimbabwe and MOHCC teams in August 2018.

Continually, per the outcome of discussions and lessons learned from the initial VACS II data analysis and data-to-action workshop, the CDC requested an abridged, secondary data-to-action workshop, under the DREAMS (Determined, Resilient, Empowered, AIDS-free, Mentored, and Safe) partnership of PEPFAR, to allow for the further engagement of key DREAMS representatives in Zimbabwe. EGPAF–Zimbabwe and headquarters teams worked closely with CDC Zimbabwe and CDC Atlanta, key government ministries, and stakeholders to organize and lead this second workshop, which was successfully conducted in September 2018. This workshop intensely focused on informing and engaging DREAMS partners on survey data. Additionally, given the discussions during both data workshops, in October 2018 EGPAF organized a separate meeting for extensive discussion and dissemination of the survey results to the MOPSLSW to ensure buy-in and facilitate implementation of activities in the national action plan. This meeting ensured that the ministry was fully engaged with VACS II results and with activities included in the national action plan, allowed the MOPSLSW the opportunity to provide direct feedback on the survey results, and offered the opportunity for additional communication in advance of the planned activities. EGPAF–Zimbabwe and headquarters teams continued to build upon stakeholders’ engagement with these results, and successfully launched the survey results in Harare on October 25, 2018. This launch event involved the VACS II core team, the survey steering committee, government ministries, national and provincial representatives, and key stakeholders involved in child welfare and HIV program implementation in Zimbabwe.

Additionally, EGPAF–Zimbabwe organized and led two district-level refresher trainings for community child-care workers in two of the six DREAMS districts in Zimbabwe in order to encourage use of the VACS II results by the MOPSLSW and DREAMS partners. These refresher trainings allowed EGPAF–Zimbabwe to share key findings from the VACS II with community child-care workers, as it is their responsibility to provide child welfare services within their respective communities. The intent of these trainings was to contribute toward a reduction in the prevalence of

violence against children and a decreased risk of HIV infection, as well as promote protective factors against HIV infection among children and young adults. EGPAF successfully completed these trainings with community case workers from Bulawayo and Mutare Districts in November and December 2018. EGPAF–Zimbabwe also provided mobile phone airtime to the community child-care workers on a monthly basis to support prompt communication with district child welfare officers in the MOPSLSW for enhanced follow-up of children and young adults experiencing physical, emotional, and sexual violence. Additionally, EGPAF–Zimbabwe printed and distributed the revised M&E tools that the community child-care workers used.

## Documentation Development

At the end of Project DELTA's PY4 (January to March 2018), EGPAF–Zimbabwe collaborated with the CDC, ZIMSTAT, National AIDS Council (NAC), MOHCC, MOPSLSW, and other associated key stakeholders to identify additional topics for manuscript development, and then submitted a brief manuscript plan to the CDC. Throughout 2018 and 2019, EGPAF–Zimbabwe teams continued to consult with the CDC, MOHCC, MOPSLSW, NAC, ZIMSTAT, and other key stakeholders in Zimbabwe to focus on the development of key research questions to guide manuscript development using VACS II data. Specifically, over November 26–29, 2019, EGPAF organized and led a manuscript development workshop with key stakeholders in the country. This workshop covered topics that included a review of the data and survey results; the allocation of manuscript topics to the respective authors; and presentation and plenary sessions for developing the abstract, introduction, methods, results, and discussion sections of the manuscripts.

Finally, the CDC shared the first draft of the final VACS II report in September 2018; EGPAF provided extensive feedback, which was compiled and submitted to the CDC in October 2018. The CDC then shared the second draft of the final VACS II report in November 2018, and EGPAF's additional round of feedback was sent in late November 2018, followed by EGPAF's third round of feedback in February 2019. Per the CDC's request in early 2019, EGPAF secured the MOHCC's letter of approval for this survey report in early March 2019. The CDC submitted the final VACS II report into its internal clearances processes in March 2019, and EGPAF received the CDC-approved version of the report in August 2019. EGPAF professionally copy-edited and designed the report in October and November 2019; this process included multiple additional rounds of feedback from the CDC and ministry stakeholders, as the draft of the designed report was shared with CDC, Together for Girls, the MOHCC, and the MOPSLSW for review and approval. EGPAF printed the final survey report in November 2019 and disseminated both print copies and electronic versions of the report to key stakeholders in Zimbabwe, including the CDC, MOHCC, ZIMSTAT, MOPSLSW, and NAC, through existing mechanisms. Hard copies of the print report were shared during existing planned meetings, including those of the National Research Monitoring and Evaluation Advisory Group and national HIV TWGs, in addition to other national-level and subnational TWGs and meetings in-country.

## Notable Deliverables

- Implementation and completion of VACS II
- Completion of VACS II data analysis
- Finalization of the preliminary VACS II report
- Data analysis and data-to-action workshop
- Development of a National Action Plan framework
- Creation of a VACS II dissemination plan
- Secondary DREAMS data-to-action workshop
- Launch of the survey results in Harare
- Two district-level refresher trainings for community child-care workers
- Manuscript development workshop
- Finalization, printing, and dissemination of the VACS II final survey report

## Results

Zimbabwe 2017 VACS results indicate that males are more vulnerable to physical violence and females are more vulnerable to sexual violence. Service utilization by youth who experience violence in Zimbabwe is low and warrants an effort to ensure safe disclosure and service-seeking opportunities, as well as to ensure that quality services exist. Mental health issues as an outcome of violence are a significant problem in Zimbabwe and suggest the need for targeted interventions and programming. Gender norms and beliefs of youth in Zimbabwe highlight the need for children to be taught an understanding of gender roles in relationships.

The VACS HIV data reflect the need for risk communication efforts that engage youth in HIV education. In addition, they reveal that adolescent girls and young women who have experienced violence are more likely to be HIV positive. These findings highlight the need to better understand the directionality of the association between violence and HIV. Finally, the results underscore the critical and urgent need to incorporate violence programming in HIV prevention and care. Please refer to the December 2019 detailed final report titled “Young Adult Survey of Zimbabwe” for additional results and information.

## Challenges and Lessons Learned

The EGPAF–Zimbabwe team experienced several challenges during the implementation of VACS II. First, there were a few differences in the protocols submitted to the four IRBs. The process of harmonizing these four protocols resulted in delays in protocol approval from the four IRBs, causing delays in initiating data collection and affecting available funding. In addition, data collection teams were restricted from accessing some enumeration areas due to severely damaged transport infrastructure caused by unusually excessive rains and floods, as well as some informal mining areas that had not yet been repaired, which resulted in significant delays in meeting daily data collection targets. Another data collection delay was due to the lack of electricity in some enumeration areas, which caused teams to spend time searching for areas to charge their netbooks. There was also a challenge in implementing the response plan as the Zimbabwean MOPSLSW experienced difficulty in addressing all reported cases of violence on time, citing a lack of resources.

Overall, the survey sample size was too large to complete in a four-month period with the available funding and resources, and project teams experienced relatively high attrition among survey staff. EGPAF experienced a financial shortfall during the implementation of data collection activities in early 2017 (Project DELTA’s PY4). The Office of the U.S. Global AIDS Coordinator approved additional funding to support the completion of the VACS II data collection and associated activities. The CDC provided the necessary additional funds, and data collection was successfully completed in the second week of August 2017. Additionally, EGPAF originally planned to complete data collection, survey data analysis, and the remaining associated activities (e.g., the data workshops, the development of the National Action Plan framework, and the dissemination of the report) post–data analysis, before the end of Project DELTA’s PY4. To accommodate the additional time requested by the CDC and stakeholders to complete data analysis, draft the preliminary and final survey reports, and receive internal approval of the final survey report, it was necessary to shift programmatic activities, project deliverables, and the associated funds to be carried over from Project DELTA’s PY4 to PY5 (and thus through November 2019). This carry-over was in addition to the supplementary programmatic activities the CDC requested to occur post–data analysis. To successfully accommodate these requests and address the necessary changes associated with the revised timeline, EGPAF–Zimbabwe and headquarters teams liaised closely with CDC stakeholders to revise the PY4 and PY5 project work plans and budgets, and the CDC approved the carry-over of funds into PY5, rescheduling the aforementioned deliverables and activities to occur from April 2018 through November 2019.

The implementation of the VACS II yielded multiple lessons. As the protocol was submitted to different IRBs, there was a significant need for appropriate version control to ensure better management of the multiple IRB requirements and a smooth flow of implementation. In addition, splitting teams into two regions in the country (north and south), and installing a research supervisor and a functional satellite laboratory in each region was an innovation that successfully enabled the teams to efficiently and effectively implement the fieldwork. Research supervisors, the EGPAF–Zimbabwe leadership team, CDC Zimbabwe, the VACS II survey steering committee, and

core team members provided continuous supervision of the implementation teams and assisted with addressing some of the survey implementation challenges. The continuous engagement of CDC Zimbabwe and CDC Atlanta was instrumental in mobilizing resources for completion of data collection. Daily reports from the survey teams apprised the research supervisors about any challenges, to best inform necessary and timely support.

## Assignment 019: Piloting a Family Approach to Close the Antiretroviral Therapy Gap in Mozambique

**Country: Mozambique | Project Year(s): PY3**

### Background/Overview

Integrated TB and HIV activities are recommended for countries combating the TB/HIV epidemic. Tailored approaches for screening, diagnosis, and linkage to care according to age and other factors are needed in order to provide optimal care for both TB and HIV. In many resource-limited settings, minimal contact tracing is done, even among high-risk contacts such as PLHIV and children, as coordination and management of large amounts of data related to contact tracing can be difficult, and better tools are required to facilitate this activity.

The goal of this assignment was to pilot an approach that would find undiagnosed cases of TB and HIV in Mozambique by rapidly evaluating people residing in the households of people diagnosed with TB. This project catalyzed targeted testing and treatment by providing comprehensive screening for TB and HIV, and linkage to care, at the level of individual household units. It facilitated early case detection for both HIV and TB, and prompted initiation of ART among people diagnosed with HIV.

This approach aimed to enhance care and treatment through comprehensive HIV testing and counseling (HTC) and TB screening for all family members of persons diagnosed with TB. The approach included the following activities:

- Development of an electronic contact tracing register for implementing TB contact tracing and household HIV testing
- Design and piloting of clinical referral and decision-making tools to guide clinicians toward prescription of TB treatment and provision of HIV care and treatment as indicated
- Approaches for support of families in navigating care for children exposed to TB
- Piloting of a feasible combination of specimens and tests for bacteriologic diagnosis of TB in children
- Sensitization and training of community health workers (CHWs) in pediatric TB, utilizing enhanced pediatric TB diagnosis and case management tools

This pilot study provided information for the MOH and other stakeholders on the feasibility and effectiveness of household-based TB contact screening for TB and HIV, and linkage to appropriate care in Mozambique.

### Activities Implemented

Through this assignment, EGPAF supported the development and setup of the study, which included the planning and development of tools (including an e-tool for community contact tracing), job aids, patient and sample flows, and SOPs. EGPAF supported the development and review of the study protocol and ensured that all appropriate approvals were received. EGPAF conducted regular on-site supervision to ensure proper sample and patient flows, utilization of registers, and initial data collection. EGPAF also supported the implementation of contact tracing activities and the e-tool.

## Notable Deliverables

- Finalized study protocol adapted to Mozambique context
- SOPs, tools, and training materials for use by CHWs, facility coordinators/supervisors, lab technicians, and clinicians
- Functional e-tool for use by CHWs for contact tracing activities and appropriate linkages to care
- CHWs from selected sites trained on home visits to newly registered patients with TB, home-based specimen collection and sample transport, and use of the e-tool
- Facility coordinators/supervisors from selected sites trained on contact tracing activities
- Laboratory technicians from selected labs trained in processing samples and interpreting results of testing by GeneXpert for various sample types
- Clinicians from selected sites trained on diagnosing TB empirically in children

## Challenges and Lessons Learned

The team faced challenges in coordinating meetings with the various key stakeholders, making it difficult to get updates on progress and critical pieces of information, such as what supplies labs needed to continue the work after the MOH's planned procurements. Another challenge was the additional step of methodology validation for fecal sample testing, which, coupled with the longer protocol review process, resulted in study delays. It is essential to ensure adequate time to engage key stakeholders and complete the required activities associated with protocol reviews, approvals, and data validation. Additionally, shifting this work to the CDC and EGPAF bilaterally was a challenge.

## Assignments 024 and 036: Developing and Validating a Pediatric and Adolescent HIV Testing Eligibility Screening Tool in Uganda

**Country: Uganda | Project Year(s): PY3–PY4**

### Background/Overview

Data from Uganda show a disparity in HIV testing among children and adolescents, compared with adults. In 2018, HIV testing among all ages in Uganda was 84%, while the testing rate for children 0–14 years old was only 66%.<sup>30</sup> Low HIV prevalence among children and adolescents exacerbates challenges in HIV diagnosis among younger age groups. Results from the 2018 Uganda Population HIV Impact Assessment showed HIV prevalence among 0- to 14-year-olds was 0.5%, corresponding to 96,000 children and adolescents.<sup>31</sup>

The WHO recommends that all individuals who attend health facilities in high-HIV-burden settings be offered HTC, regardless of the reason for attendance.<sup>32</sup> Uganda adopted this policy of provider-initiated HIV testing and counseling (PITC) in 2005, but it was not applied as the standard in all primary health care facilities. A report compiled by the Uganda Ministry of Health AIDS Control Program in January 2020 showed that Uganda had identified only 67% of children (0–14 years old) and 63% of adolescents (15–19 years old) living with HIV by 2019.<sup>33</sup> In addition, there is low uptake and lack of guidance to target children and adolescents in need of HIV counseling and testing services in Uganda.

30 UNAIDS. UNAIDS data 2019. Geneva, Switzerland: UNAIDS; 2019. [https://www.unaids.org/sites/default/files/media\\_asset/2019-UNAIDS-data\\_en.pdf](https://www.unaids.org/sites/default/files/media_asset/2019-UNAIDS-data_en.pdf)

31 PHIA Project. Uganda Population-based HIV Impact Assessment: UPHIA 2016–2017. Extended summary sheet: preliminary findings. Kampala, Uganda: Ministry of Health; 2018.

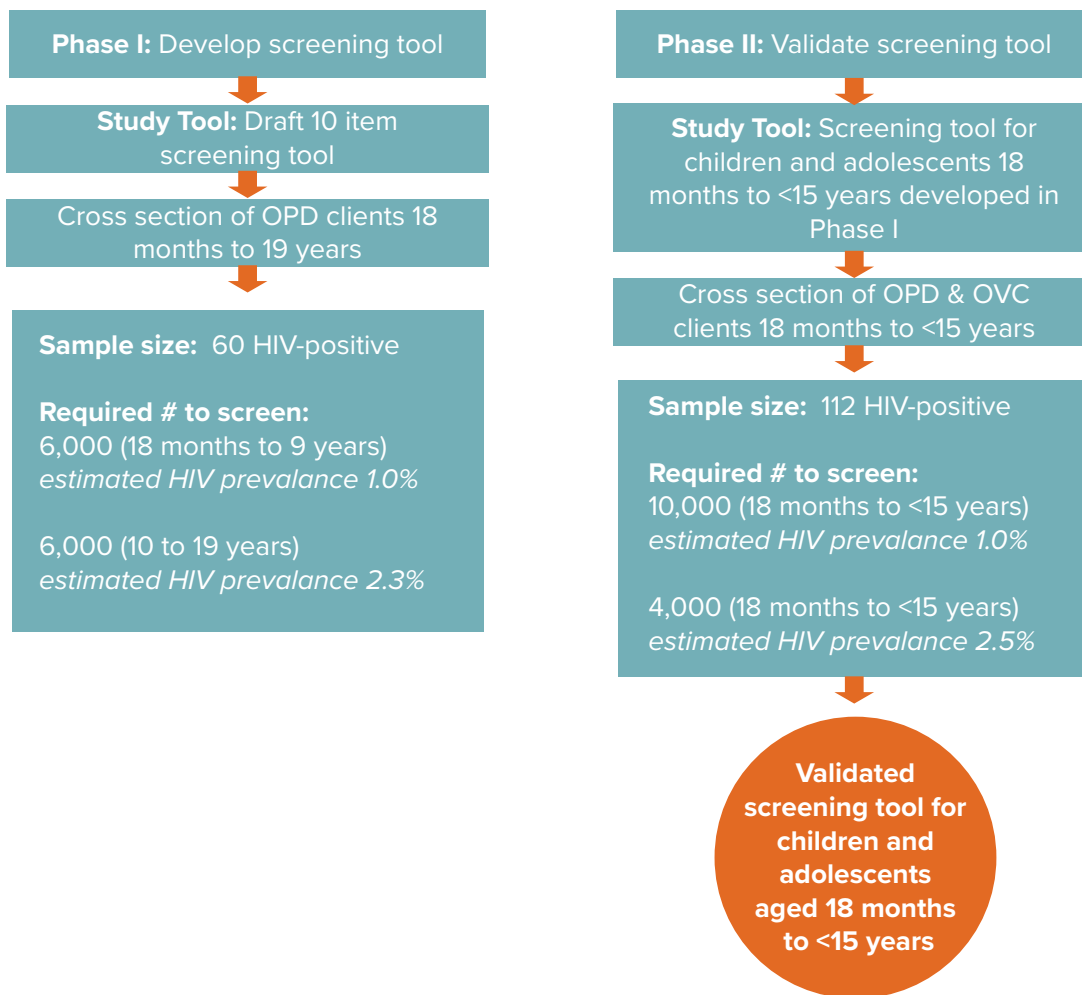
32 World Health Organization (WHO). Consolidated guidelines on HIV testing services for a changing epidemic. Geneva, Switzerland: WHO; 2019. <https://www.who.int/publications-detail/consolidated-guidelines-on-hiv-testing-services-for-a-changing-epidemic>.

33 Republic of Uganda, Ministry of Health, AIDS Control Program. Draft annual national targets for critical HIV prevention and treatment services 2020–25. Unpublished report; January 2020. Republic of Uganda. The Uganda HIV and AIDS country progress report July 2015–June 2016. Kampala, Uganda: Uganda AIDS Commission; 2016.



One of the key challenges of HIV testing of children is that individuals younger than 12 years require guardian consent for an HIV test. This may not be possible given that some children seek health care unaccompanied, are orphaned, and/or have unstable guardianship arrangements.<sup>34</sup> In some instances, the parent or accompanying adult may refuse to give consent for the minor to be tested for HIV. However, prevalence of HIV in children is much lower than in adults and therefore testing all children may not be an efficient or cost-effective strategy in a resource-constrained setting, such as Uganda. The most recent 2019 WHO guidance for low-burden settings recommends HIV testing for “adults, adolescents or children who present in clinical settings with signs and symptoms or medical conditions that could indicate HIV infection, including TB and [sexually transmitted infections],” and “HIV-exposed children and symptomatic infants and children.”

In 2017, the Uganda MOH, in collaboration with the CDC and EGPAF’s Project DELTA, developed and validated an HIV risk screening tool for children and adolescents in Uganda. The assignment was implemented in two phases. In Phase I, known HIV risk factors and symptoms were used to construct a pediatric and adolescent HIV risk-screening tool. Figure 2 presents a schema of study activities for each phase and describes the study tool, study population, sample size, and number of children and adolescents who were screened. During Phase II, the tool developed in Phase I was validated among children and adolescents ages 18 months to 14 years.



**Figure 2.** Pediatric and Adolescent HIV Testing Eligibility Screening Tool Study Schema

*Note: OPD = outpatient department; OVC = orphans and vulnerable children.*

<sup>34</sup> McKinnon B, Vander Morris A. National age-of-consent laws and adolescent HIV testing in sub-Saharan Africa: a propensity-score matched study. Bull World Health Organ. 2019;97(1):42-50.

## Activities Implemented

### Phase I

#### *Protocol and Screening Tool Development Workshops*

Key technical staff from the MOH Uganda, CDC Uganda, Baylor-Uganda, CHAI, and EGPAF were involved in two workshops to discuss study objectives, design, methodology, statistical considerations, and operational issues to inform protocol development and design of the screening tool. The team derived a set of 10 questions that were to be evaluated in Phase I of the study. To be considered for inclusion, the questions had to be highly sensitive, acceptable to the screeners, quick and easy to administer, inexpensive, and reliable during administration. The list of questions was then refined using the following criteria:

1. Ability to elicit binary (yes/no) or scaled responses
2. Ease of understanding by the health workers and the respondents
3. Ease of interpretation by the primary health workers and the respondents
4. Ease of translation to the respective local languages in the various participating regions and ability to maintain the meaning

The following questions, written to be directed toward caregivers of younger children and toward older adolescents themselves, were identified for the screening tool:

1. Has the child/have you been admitted to a hospital in the last three months?
2. Has the child/have you been sickly in the last three months?
3. Has the child/have you had recurring skin problems?
4. Has one or both of the child's/your biological parents died?
5. Has the child/have you had difficulty in performing daily activities such as playing, schooling, or working in the past three months?
6. Is the child/are you growing well?
7. Has the child/have you lost weight in the last three months?
8. Has the child/have you ever had TB?
9. Has the child/have you had discharge or sores in the private parts?
10. Is the mother of this child/your mother HIV-positive?

#### *Preparations for Implementation of the Study*

A number of activities were undertaken to prepare for the implementation of Phase I of the study. Activities included protocol reviews and approvals, study staff recruitment, study staff training, and orientation and site activation of the participating districts and sites.

#### *Data Collection*

Potential participants attending OPD services at study facilities were approached to participate in the study. A participant selection tool was used to assess study eligibility, and participants provided consent and assent, as applicable, before undergoing any study procedures. Research Assistants (RAs) administered the screening tool to eligible children, adolescents, and caregivers after obtaining informed consent and assent (as applicable). Data on demographics and answers to the screening tool item questions were collected.

## *Study Monitoring*

Internal site monitoring for QA by the in-country investigators commenced immediately after site activation to resolve any emerging issues faced by the RAs. External QA site monitoring visits by teams from CDC Atlanta, CDC Uganda, and EGPAF headquarters were conducted in September 2018. The sites monitored included Hoima Regional Referral Hospital, Mukono Health Centre IV, St. Charles Lwanga Buikwe Hospital, Kawolo Hospital, Entebbe General Hospital, Kojja Health Centre IV, and Namayumba Health Centre IV.

## *Data Analysis*

To successfully complete the statistical methods for Phase I, EGPAF staff summarized the demographic characteristics (specifically gender and age) and HIV status of the children, stratified by age groups. For each age group, EGPAF staff examined the distribution of the individual question responses, and for each screening question, they estimated the predictive accuracy or ability to discriminate between HIV-positive and -negative children using sensitivity, specificity, positive predictive value (PPV), and negative predictive value (NPV) measures. Staff generated a risk score by adding up the number of questions with a positive response and fitted a logistic regression on HIV status as a function of the risk score. They then identified the optimal number of questions that had the best predictive ability using a receiver operating characteristic curve, and explored various ways of selecting questions to include in the screening tool, including subsets of questions with sensitivity greater than or equal to 50%, subsets selected using stepwise logistic regression, and subsets based on a variable selection method. An optimal set of questions and rules was then established, and the performance of the tool in the sample was examined using sensitivity, specificity, PPV, and NPV.

## *Site Deactivation and Closeout*

After EGPAF study co-investigators cleaned the Phase I study data, staff deactivated Phase I sites in May 2019. During site deactivation, EGPAF awarded certificates of recognition to all participating RAs and district and facility teams, and retrieved all study documents from the sites. Study closeout for both Phase I and Phase II sites was simultaneously completed from February 12 to March 13, 2020, following the completion of data cleaning and analysis. This procedure ensured that all study-related activities were appropriately reconciled, recorded, and reported in accordance with the protocol and regulatory requirements.

During the site closeout visits, the EGPAF research team (consisting of a study coordinator, a regulatory officer, and a senior technical advisor) held closeout debriefing meetings with DHT and health facility teams. A PowerPoint presentation on the overview, progress, expected outcome, and impact of the Pediatric and Adolescent HIV Testing Eligibility Screening Tool (PATEST) study was shared with staff from facilities and DHTs, and each study site was served with a written notification of study closeout. The research team answered questions and addressed concerns and comments raised by the facility and district stakeholders as necessary.

## **Phase II**

### *Preparations for Implementation of the Study*

Before implementing Phase II of the study, modifications were made to the study protocol. These changes were necessary to continue to meet study timelines and resource allocations due to the slow enrollment in Phase I. Phase II of the study was modified to include recruitment of study participants from a combination of selected facility OPDs as well as community settings where services to orphans and vulnerable children (OVC) are offered.

Similarly to preparations for Phase I, EGPAF recruited and trained study staff, and conducted orientation and site activation of the participating districts and sites.

### *Data Collection*

In both community and facility sites, data collectors screened children, obtained consent and assent, and enrolled participants into the study. The same consent and assent procedures used during Phase I were used in Phase II. Once enrolled, the participant was administered the pediatric HIV risk screening tool by the data collector and then referred to the HIV counselors for HIV testing services.

At facility sites, children and adolescents were recruited from OPDs by RAs with the assistance of facility staff. A private area or room was used for screening, enrolling, and administering the pediatric HIV risk screening tool. In community settings, children and adolescents were recruited from lists of individuals eligible for OVC services compiled by IPs. During community intervention point (CIP) events, RAs enrolled participants with the assistance of para-social workers from the IP organizations. Confidential areas were established at CIP events for study enrollment, administration of the pediatric HIV risk screening tool, and HIV counseling and testing services.

### Study Monitoring

A monitoring plan was developed to ensure that the study was carried out in accordance with the study protocol and regulatory requirements. Following site activation and initiation of data collection, routine internal monitoring for QA, early course corrections, and compliance with the protocol and SOPs were conducted. During regular monitoring visits, a checklist was used to assess data quality and data collection procedures. Internal monitoring visits were conducted on a regular basis.

### Data Analysis

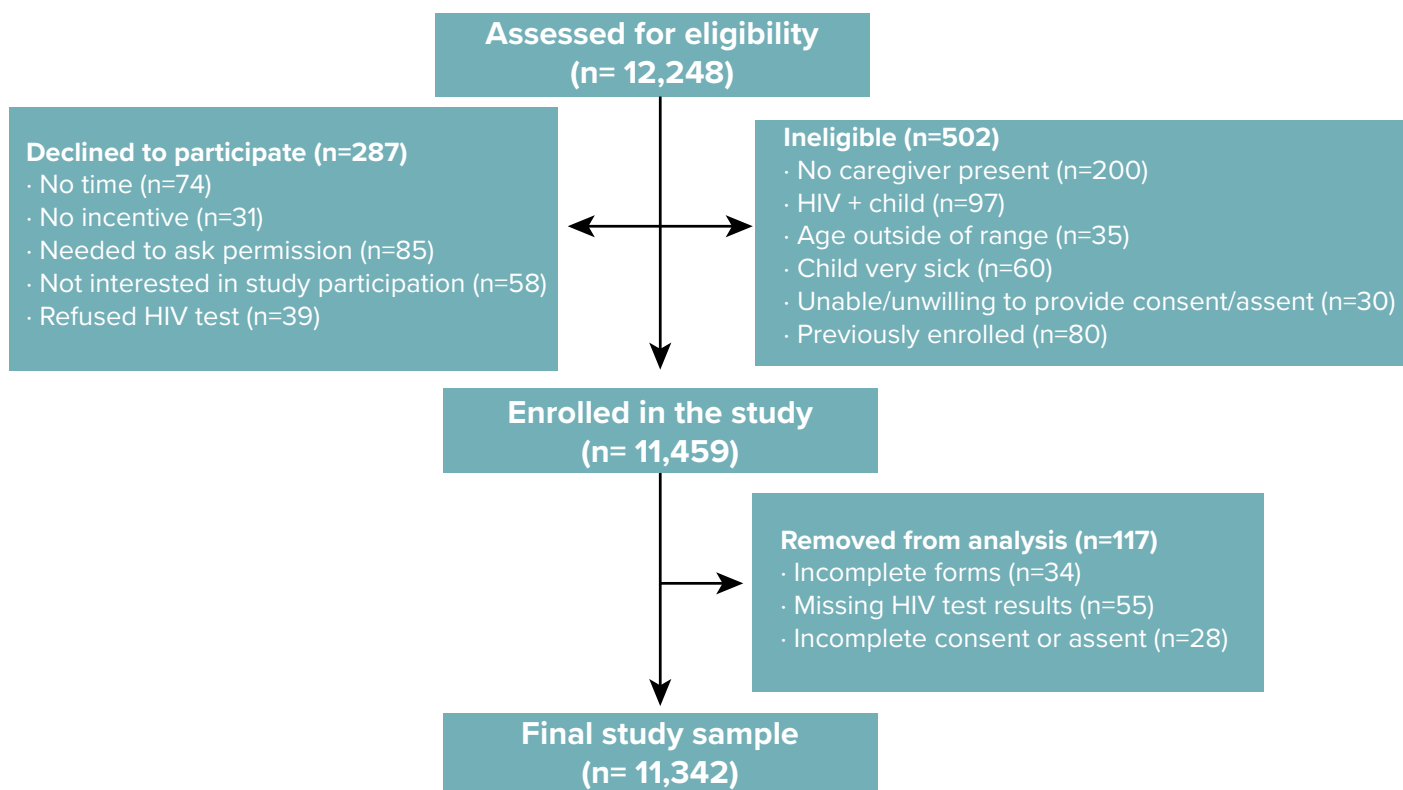
The tool was validated externally in the age group from 18 months to 14 years. EGPAF validated the performance of the screening tool in a separate sample by estimating the sensitivity, specificity, PPV, and NPV, and associated 95% confidence intervals (CIs).

## Notable Deliverables

- The validated HIV testing eligibility screening tool

## Results

EGPAF screened 12,248 children ages 18 months to 14 years, of whom 11,459 were enrolled in the study (Figure 3). After the exclusion of 117 who had incomplete consent or assent forms, incomplete questionnaires, or missing HIV test results, the final sample size was 11,342.



**Figure 3.** Flow Chart for Enrollment in Phase II

The majority of the participants were recruited from facility sites rather than community sites, at 72.7% versus 27.3%, respectively (Table 6). Among all children, 37.5% were 18 months to 4 years of age, 37.2% were 5–9 years, and 25.3% were 10–14 years, with a median age of 6 years. There were similar proportions of males and females, with 53% of participants being female. The testing yield was 1% overall and slightly higher (1.2%) among children 10–14 years old. Maternal HIV status was unknown for 24.9% of participants 10–14 years old and for 15.9% of all participants, accounting for 1,804 children.

**Table 6.** Phase II Validation Sample Participant Characteristics (N = 11,342)

| Characteristics   | Response | 18 mos.–4 years<br>(n = 4,252) | 5–9 years<br>(n = 4,217) | 10–14 years<br>(n = 2,873) | 18 mos.–14 years<br>(n = 11,342) |
|---|----------|--------------------------------|--------------------------|----------------------------|----------------------------------|
| <b>N (%)</b>  |          | 4,252 (37.5%)                  | 4,217 (37.2%)            | 2,873 (25.3%)              | 11,342 (100.0%)                  |
| <b>Study Site</b>   |          |                                |                          |                            |                                  |
| Community   |          | 1,899 (22.4%)                  | 734 (17.3%)              | 1,200 (41.8%)              | 3,099 (27.3%)                    |
| Facility  |          | 6,570 (77.6%)                  | 3,518 (82.7%)            | 1,673 (58.2%)              | 8,243 (72.7%)                    |
| <b>Median age (min–max) (yrs)</b>                                 |          | 3 (1.5–4)                      | 7 (5–9)                  | 12 (10–14)                 | 6 (1.5–14)                       |
| <b>Gender</b>   |          |                                |                          |                            |                                  |
| Male  |          | 2,055 (48.3%)                  | 1,976 (46.9%)            | 1,298 (45.2%)              | 5,329 (47.0%)                    |
| Female  |          | 2,197 (51.7%)                  | 2,241 (53.1%)            | 1,575 (54.8%)              | 6,013 (53.0%)                    |
| <b>HIV status</b>   |          |                                |                          |                            |                                  |
| Positive  |          | 40 (0.94%)                     | 40 (0.95%)               | 35 (1.22%)                 | 115 (1.01%)                      |
| Negative  |          | 4,211 (99.0%)                  | 4,176 (99.0%)            | 2,837 (98.8%)              | 11,224 (99.0%)                   |
| Indeterminate   |          | 1 (0.02%)                      | 1 (0.02%)                | 1 (0.03%)                  | 3 (0.03%)                        |
| <b>Has the child (have you) been sick in the last 3 months?</b>   | Yes      | 1,652 (38.8%)                  | 1,540 (36.5%)            | 933 (32.5%)                | 4,125 (36.4%)                    |
| <b>Has the child (have you) had recurring skin problems?</b>      | Yes      | 991 (23.3%)                    | 906 (21.5%)              | 428 (14.9%)                | 2,325 (20.5%)                    |
| <b>Is the child (are you) growing well?</b>                       | No       | 350 (8.2%)                     | 377 (8.9%)               | 226 (7.9%)                 | 953 (8.4%)                       |
| <b>Has the child (have you) lost weight in the last 3 months?</b> | Yes      | 991 (23.3%)                    | 875 (20.8%)              | 457 (15.9%)                | 2,323 (20.5%)                    |
| <b>Has the child (have you) ever had TB?</b>                      | Yes      | 22 (0.5%)                      | 26 (0.6%)                | 14 (0.5%)                  | 62 (0.6%)                        |
| <b>Is the mother of this child (your mother) HIV positive?</b>    | Yes      | 782 (18.4%)                    | 870 (20.6%)              | 642 (22.4%)                | 2,294 (20.2%)                    |
|   | Unknown  | 422 (9.9%)                     | 666 (15.8%)              | 716 (24.9%)                | 1,804 (15.9%)                    |

Overall, the sensitivity of the tool was 87.8% (95% CI: 80.4%–93.2%) (Table 7). Sensitivity was slightly higher among children recruited from OPD sites, at 88.1% (95% CI: 80.5%–93.5%), than among children from communities providing OVC services, at 83.3% (95% CI: 35.9%–99.6%).

**Table 7.** Sensitivity, Specificity, PPV, and NPV of the Screening Tool in the Validation Sample

| Validation Sample | Sensitivity<br>(95% CI) | Specificity<br>(95% CI) | PPV<br>(95% CI) | NPV<br>(95% CI)  | Number Needed to Test<br>(95% CI) |
|-------------------|-------------------------|-------------------------|-----------------|------------------|-----------------------------------|
| OPD and OVC sites | 87.8 (80.4–93.2)        | 62.6 (61.6–63.4)        | 2.4 (1.9–2.8)   | 99.8 (99.7–99.9) | 43 (36–53)                        |
| Only OPD          | 88.1 (80.5–93.5)        | 69.0 (68.0–70.0)        | 3.7 (3.0–4.5)   | 99.8 (99.6–99.9) | 28 (23–34)                        |
| Only OVC          | 83.3 (35.9–99.6)        | 45.6 (43.9–47.4)        | 0.30 (0.1–0.7)  | 99.9 (99.6–100)  | 338 (145–1,039)                   |

This screening tool, validated in OPD and community settings, has high sensitivity and reasonable specificity. It focuses testing resources on children and adolescents more likely to be living with HIV, and significantly reduces the number needed to test from 61 under current testing algorithms to 43 across both settings and 28 in OPDs, making targeted OPD testing as efficient as pediatric index testing in Uganda. This tool can supplement existing testing guidelines for providing an HIV test to all children with HIV-positive mothers by including additional symptom-related indicators for children with mothers who have an unknown or negative HIV status, avoiding 68% of unnecessary HIV tests. Use of such a screening tool should balance the potential to expedite the rate of case identification with the possibility of missing the diagnosis of a child or adolescent living with HIV.

Implementing this six-question screening tool in the OPD context could be an effective means to identify children living with HIV in a low-resource setting. It reduces the number of children who need to be tested to identify one child living with HIV, compared with universal testing, and does so more equitably, and it is easy to administer. Nevertheless, screening questions specifically designed for a community setting may need to be identified to improve the performance of the tool.

## Challenges and Lessons Learned

EGPAF experienced multiple challenges and lessons learned during the implementation of this assignment. First, there were some issues associated with the ability of the screening tool to capture asymptomatic children, in addition to screening and recruitment challenges – only one health worker based at busy clinics with the ability to administer the tool. There was also difficulty in identifying undiagnosed HIV-positive children and adolescents using the tool. The yield in both OPD and OVC sites was very low even while the existing unvalidated programmatic screening tools were in use.

Finally, children underwent screening using unvalidated programmatic screening tools in some facilities where the study was implemented. This implies that only children eligible from such screening were approached by the RA and enrolled into the study. While the predictive accuracy of these unvalidated tools was not known, potential study participants might have been excluded.

The study team also acknowledged that screening questions specifically designed for a community setting may need to be identified to improve the performance of the tool.

# Assignment 031: Reducing Gender-Based Violence through Adolescent Empowerment

**Countries: Global (Uganda and Namibia) | Project Year(s): PY5**

## Background/Overview

Adolescent girls and young women (AGYW) are vulnerable to GBV, which greatly contributes to their risk of acquiring HIV. This assignment was designed to complement ongoing DREAMS and OVC activities and to prevent GBV.

The WHO, CDC, UNICEF, and other international partners united to develop a set of strategies with evidence-informed interventions that have shown success in reducing violence against children in the technical package INSPIRE: Seven Strategies for Ending Violence Against Children.<sup>35</sup> The CDC prioritized strategies related to norms and values change, parent and caregiver support, and education and life skills, and the agency needed a partner to provide TA on these strategies to local IPs. One of the priority interventions for the CDC included the IMpower program from No Means No Worldwide (NMNW).

NMNW developed the IMpower program to provide violence prevention training for both male and female youth. IMpower teaches girls verbal and physical skills to help prevent sexual assault and other forms of GBV, while reshaping boys' harmful beliefs around gender and sexuality, and teaching them skills to intervene when anticipating or witnessing violence.

In PY5, the CDC requested that EGPAF provide TA to build NMNW's capacity to expand its global trainer network and provide support to selected locally based IP organizations to deliver IMpower. Additionally, the CDC requested that EGPAF support a regional post-GBV and PSS training webinar focused on the common elements treatment approach (CETA) to PSS, which was developed based on discussions in coordination with CDC Atlanta, EGPAF teams, and the CDC missions.

## Activities Implemented

### Support of IMpower Implementation in Uganda through NMNW Master Trainer Capacity Building

In order to support implementation of the IMpower program, EGPAF developed a sub-agreement with NMNW and collaborated to develop an appropriate work plan and timeline for the global master trainer development. EGPAF and NMNW developed work plans and timelines in collaboration with CDC and USAID in-country teams to support the training to be implemented by DREAMS and OVC IPs. Through the partnership with NMNW, EGPAF built internal capacity for global master trainers to implement the IMpower intervention on a larger scale, while providing project management support for IMpower instructor trainings in Uganda. Additionally, EGPAF provided basic logistical support to NMNW to conduct training of instructors for the IMpower intervention in Uganda, and supported NMNW's and IPs' M&E activities for the NMNW-led IMpower instructor trainings.

### Webinar on Common Elements Treatment Approach

For the second activity under this assignment, EGPAF collaborated with CDC headquarters to determine the objectives and focus of the training webinar. EGPAF coordinated, planned, and implemented a training webinar with key USG stakeholders to provide an overview of CETA, including how CETA can be a violence prevention intervention, and to discuss implementation details for countries to consider as they planned for the 19th annual Conference of the Parties (COP 19, held November 11–22, 2013) under the UN Framework Convention on Climate Change. EGPAF also coordinated with the key speaker, from Johns Hopkins University. In addition, EGPAF engaged a rapporteur

<sup>35</sup> The INSPIRE acronym denotes the seven strategies: implementation and enforcement of laws; norms and values; safe environments; parent and caregiver support; income and economic strengthening; response and support services; and education and life skills.

to work with presenters and develop a short brief highlighting the key points from the webinar, including results, recommendations, and next steps. These recommendations could potentially be included in COP 19 guidance and plans.

## Notable Deliverables

- In Uganda, through the NMNW master trainer capacity building, there is increased organizational, regional, and country-level capacity for the implementation of the IMpower intervention.
- Five global master trainers were trained; master trainers will train up to 100 IMpower instructors, who will lead the training activities in Uganda.
- DREAMS and OVC staff acquired a greater understanding of PSS options through the CETA-focused webinar.

## Challenges and Lessons Learned

While scaling rapidly over the life of the project, NMNW concurrently built and piloted the internal and external systems needed to roll out future IMpower programs. Through a mixture of direct experience, partner and donor feedback and engagement, and data collected through its M&E system, NMNW learned an incredible amount that the organization has been able to immediately incorporate into the tools and strategies it will use moving forward.

# Assignment 041: Preventing and Responding to Gender-Based Violence in the Child and Adolescent Population in Cameroon

**Country: Cameroon | Project Year(s): PY5**

## Background/Overview

At the request of the CDC, through Project DELTA, EGPAF worked with partners and the Cameroon MOH to create a robust TA plan to address GVB/SGVB and mitigate the life-altering effects of violence. This plan included policy landscape and site assessments to inform changes, capacity building at all levels of the health system, and community awareness and engagement to link survivors to GBV services at nearby health facilities.

During implementation of the assignment, EGPAF–Cameroon supported the MOH to decentralize, expand, and deliver high-quality HIV services in the country. EGPAF helped build the institutional capacity of the four Pediatric Training Centers of Excellence to support capacity building and service delivery for pediatric and adolescent HIV management.

Leveraging its existing program, expertise, and role at the Pediatric Training Centers of Excellence in Cameroon, EGPAF–Cameroon developed strategies to champion GBV and post-violence clinical services into the health care system and implement interventions. The focus on the program revolved around training of health care providers and staff of partner organizations, identifying and linking victims of GBV to a comprehensive package of care, and developing and distributing prevention and educational resources in six districts of the Yaoundé and Douala clusters (Yaoundé: Djoungolo, Nkolndongo, and Cité Verte; Douala: Deido, New Bell, and Nylon Districts).

## Activities Implemented

### Site Assessments

As part of project startup, the EGPAF team completed rapid site assessments in the sites to evaluate the quality of services being offered to GBV survivors. This site assessment was conducted in six health facilities: Nylon District Hospital, Hôpital Gynéco-Obstétrique et Pédiatrique Yaoundé, Central Hospital of Yaoundé, Laquintinie Hospital,



Centre d'Animation Social et Sanitaire (CASS) Nkoldongo, and Mboppi Baptist Hospital. The assessment looked at availability of GBV services, including departments dedicated for GBV, personnel available and trained to respond to GBV cases, HIV services provided, and availability of GBV care infrastructure.

### **Stakeholder Engagement Matrix and Plan**

EGPAF collaborated with partners who had experience implementing GBV programs, such as the United Nations Population Fund (UNFPA), CARE, and Réseau National des Associations de Tantines (RENATA). The assignment aimed to leverage these relationships in order to efficiently deliver comprehensive GBV prevention and response services, while avoiding duplication of efforts. The team used existing expertise within the various ministries to implement policies and programs at the national level, while simultaneously ensuring coordination and communication across ministries at all levels.

Through these relationships, the assignment established a periodic national-level GBV multisectorial coordination meeting, bringing together key stakeholders from different sectors to share experiences and give feedback on different GBV interventions. This meeting functioned as the GBV TWG of the MOH. The meetings, which started in March 2019, were held monthly for three months and then changed to quarterly.

Another key deliverable was development of a stakeholders' matrix and stakeholder engagement/management plan. This document guided the implementation team on whom to engage, at what phase of the project, and in what domain.

### **Development of Gender-Based Violence Tools**

EGPAF supported the MOH and the NACC to develop tools for GBV care. Since no GBV tools previously existed in health facilities in Cameroon, these tools were a major deliverable under this assignment. After development of the various tools, the team organized a series of workshops with key stakeholders to review, adapt, and validate the tools. Tools developed under this project included GBV registers, a screening tool, a referral and counter-referral tool, a job aid (or GBV handbook), a consent form, an SOP for first-line support, and a confidential patient history and identification form.

### **Trainings and Capacity Building**

During the implementation phase of the project, health care providers, CBO staff, and others were trained both off-site and on-site on how to increase awareness of and access to quality service delivery for GBV survivors. EGPAF–Cameroon and UNFPA provided TA to the MOPH to develop the GBV training modules, which the project team used to train participants on service delivery models for post-violence care and referrals. Table 8 outlines the type of training, the approach used, and the number of people trained.

**Table 8.** GBV Trainings in Cameroon, PY5

| Type of training                       | # people trained | Length of training (days) | # of trainings | Description  |
|--|------------------|---------------------------|----------------|--|
| Off-site training of service providers | 37               | 5                         | 2              | During the startup phase, a five-day training took place in a neutral location outside of the facility. Providers were trained on clinical management of rape (CMR) and PSS to survivors.  |
| On-site training of service providers  | 267              | 2                         | 7              | Service providers were identified from different entry points in each facility and asked to participate in a two-day training in the facility. This training focused on providing CMR and PSS to survivors. The goal of this approach was to train staff from at least 90% of the entry points at the level of the facilities. |
| Off-site training of CBOs              | 50               | 2                         | 2              | Participants for this training came from CBOs working with the key populations (men who have sex with men, sex workers, OVC, and AGYW) as well as community leaders in pilot catchment areas. The aim of this training was to build capacity on GBV case finding and referrals.  |
| GBV TOT for CMR and PSS                | 47               | 5                         | 2              | HWCs from Littoral and Centre Regions were trained on how to train others on clinical and psychosocial management of GBV.  |
| GBV TOT for M&E                        | 25               | 3                         | 1              | Data managers and data clerks from Littoral and Centre Regions learned how to facilitate trainings on M&E of GBV activities.   |
| <b>TOTAL</b>                           | <b>426</b>       |                           |                |  |

### Development of Referral Pathways (Directory)

Before the onset of this project, few partners were engaged in effective linkage to care for GBV survivors. At the facility level, few or no defined referral pathways existed between entry points. Community-to-facility referrals were a challenge due to poor communication between community structures, health facilities, forensic services, and social support structures. There were no standardized documentation processes in place to identify GBV survivors who were referred to the health facilities by community partners.

With these gaps in mind, EGPAF, in collaboration with the MOH, supported health facilities to strengthen internal referral systems and build the capacity of staff to improve their skills on case identification and referrals. At the community level, EGPAF organized workshops with community leaders, CSOs, CBOs, and other IPs to develop referral directories to facilitate community-to-facility referrals. Community partners were also provided with standardized referral registers.

Through collaboration and training, the project contributed to the establishment of referral systems and improvement of community capacity to respond to GBV. The team also leveraged relationships with USAID partners to develop demand creation at the community level to target GBV survivors within key populations.

## Notable Deliverables

- GBV training to providers at selected sites
- GBV training to CBOs on case finding and reporting
- GBV care tools
- GBV program monitoring plan for IPs
- GBV networking and referral plan including IPs and CBOs in development (including teaching IPs and facilities how to generate resource and referral lists)
- Report on best practices and lessons learned

## Results

Table 9 presents GBV data registered at the six project sites as of the time of field implementation. It is worth noting that data clerks were trained on the use of data collection tools such as the GBV dashboard and Microsoft Power BI. As stakeholders in GBV services, data clerks were sensitized on basic knowledge of GBV, root causes, consequences, and prevention measures. GBV indicators developed in the course of this project were discussed with them, emphasizing the key indicators that they had to look out for.

**Table 9.** Target Achievement of GBV Trainings in Cameroon, PY5

| Target Achievement  |                 |          |                               |                             |          |                               |        |          |                               |
|---|-----------------|----------|-------------------------------|-----------------------------|----------|-------------------------------|--------|----------|-------------------------------|
| Variables   | Sexual Violence |          |                               | Emotional/Physical Violence |          |                               | All    |          |                               |
|   | Target          | Achieved | % Achieved (Threshold = 100%) | Target                      | Achieved | % Achieved (Threshold = 100%) | Target | Achieved | % Achieved (Threshold = 100%) |
| <b>Sex</b>  |                 |          |                               |                             |          |                               |        |          |                               |
| Female  | 78              | 141      | 181%                          | 54                          | 142      | 263%                          | 132    | 283      | 214%                          |
| Male  | 6               | 3        | 50%                           | 12                          | 18       | 150%                          | 18     | 21       | 117%                          |
| <b>Age</b>  |                 |          |                               |                             |          |                               |        |          |                               |
| <15   | 12              | 74       | 617%                          | 18                          | 6        | 33%                           | 30     | 80       | 267%                          |
| >=15  | 72              | 70       | 97%                           | 48                          | 154      | 321%                          | 120    | 224      | 267%                          |
| <b>All</b>  | 84              | 144      | 171%                          | 66                          | 160      | 242%                          | 150    | 304      | 203%                          |
| Health Facility   | Sexual Violence |          |                               | Emotional/Physical Violence |          |                               | All    |          |                               |
|   | Target          | Achieved | % Achieved (Threshold = 100%) | Target                      | Achieved | % Achieved (Threshold = 100%) | Target | Achieved | % Achieved (Threshold = 100%) |
| CASS Nkoldongo  | 14              | 22       | 157%                          | 11                          | 68       | 618%                          | 25     | 90       | 360%                          |
| HGOPY: Hôpital Gynéco-Obstétrique et Pédiatrique de Yaoundé | 14              | 21       | 150%                          | 11                          | 7        | 64%                           | 25     | 28       | 112%                          |
| Hôpital Central de Yaoundé                                  | 14              | 39       | 279%                          | 11                          | 4        | 36%                           | 25     | 43       | 172%                          |
| Hôpital de District de Nylon                                | 14              | 40       | 286%                          | 11                          | 38       | 343%                          | 25     | 78       | 312%                          |

|                                |           |            |             |           |            |             |            |            |             |
|--------------------------------|-----------|------------|-------------|-----------|------------|-------------|------------|------------|-------------|
| Hôpital Laquintinie            | 14        | 10         | 71%         | 11        | 37         | 336%        | 25         | 47         | 188%        |
| Mboppi Baptist Hospital Douala | 14        | 12         | 86%         | 11        | 6          | 55%         | 25         | 18         | 72%         |
| <b>All</b>                     | <b>84</b> | <b>144</b> | <b>171%</b> | <b>66</b> | <b>160</b> | <b>242%</b> | <b>150</b> | <b>304</b> | <b>203%</b> |

Based on donor targets and expectations, EGPAF–Cameroon was expected to support sites to provide post-SGBV care to 150 individuals. The project supported 304 survivors (and provided most with timely and effective post-exposure prophylaxis, or PEP), coming in at 203% of the target. More specifically, the program served 171% of the target number for survivors of sexual violence, and 242% of the target number for survivors of emotional/ physical violence. The identified cases comprised both males and females across the age spectrum from 1 to 39 years. A number of cases ( $n = 18$ ) were in the age cohort of later adolescents (15–19 years).

Turnaround time for case reporting, and the provision of PEP to SGBV cases, were both areas of focus for improvement in the project. As shown in Table 10, the median turnaround time for case reporting was 2 days, but it ranged between 0 and 30 days. Of the 144 sexual violence cases, 56.9% (82/144) were reported within 72 hours of the incident. Of eligible SGBV survivors, 67% (55/82) received PEP. Of all SGBV cases, 81.9% (249/304) had unknown HIV status. Of those, 86.3% (215/249) were tested for HIV. Just 0.9% (2/215) were HIV-positive. Although these outcomes surpassed the donor’s target, the need to further strengthen PEP response for sexual violence survivors was acknowledged.

**Table 10.** Testing Turnaround Time and PEP in GBV Cases, Cameroon, PY5

| Turnaround time  | # GBV cases | # GBV cases who received PEP | % of cases who received PEP |
|------------------|-------------|------------------------------|-----------------------------|
| Same day         | 39          | 27                           | 69.2%                       |
| 1 day            | 19          | 13                           | 68.4%                       |
| 2 days           | 16          | 10                           | 62.5%                       |
| 3 days           | 8           | 5                            | 62.5%                       |
| More than 3 days | 26          | 8                            | 30.8%                       |
| NA               | 36          | 6                            | 16.7%                       |
| <b>All</b>       | <b>144</b>  | <b>69</b>                    | <b>47.9%</b>                |

## Challenges and Lessons Learned

GBV services are complex and intensive – with a short implementation period of 12 months, on some occasions, some activities did not carry the magnitude that they deserved because some high-level stakeholders could not be available during the activity. Therefore, the team carried out parallel interventions in two regions in order to meet deadlines. This was challenging at times, given the human resources available for the project.

The assignment also faced challenges in adapting to the use of tools, especially the GBV screening tool. The adaptation challenges led to a slow uptake of GBV screening at some entry points in the health facilities. Cost barriers to access post-GBV services were an issue for the project. This challenge was mitigated through advocacy with UNFPA to provide post-rape kits in EGPAF-supported sites. Furthermore, because medical doctors working in the government health facilities are the only ones authorized to sign medical certificates, survivors who reported GBV in private or faith-based facilities could not have their medical certificates signed. This issue limited the linkage to forensic services.

As a result of these challenges, the full engagement of the MOH was key to successful implementation of the assignment. With full buy-in and engagement from the MOH at an early stage, it was easy to get other stakeholders to participate. Consultations with stakeholders already serving communities and vulnerable populations enabled services to become available across the continuum of care. Additionally, training service providers via an on-site training approach was very effective and cost-efficient. During the assignment, more service providers were trained through the on-site training approach with a very limited cost, as opposed to off-site training. In addition, participants in the on-site training came from different entry points to make sure to increase the number of GBV cases identified using the screening tool. As a result, more than 80% of the facilities' entry points were covered with the screening activity for GBV.

Finally, it was of great importance to train above the site-level health cadre. These trainings provided the opportunity to sensitize this cadre on GBV and stress the importance of integration of GBV into other routine health programs in the country. After receiving trainings from the GBV project, the districts appointed focal points to follow up GBV activities in the field. These focal points were able to participate in supervision activities and also integrate GBV in their operational work plans.



Photo: Eric Bond/EGPAF, 2017

## Prevention of Mother-to-Child Transmission of HIV

The risk of mother-to-child transmission of HIV (MTCT), which accounts for more than 90% of new childhood HIV infections in the world today, can be eliminated by providing an HIV-positive mother effective ART and support services throughout pregnancy, delivery, breastfeeding, and the rest of her life. Through Project DELTA, EGPAF worked to provide women with services to prevent transmission of HIV to their infants and ensure that a woman's journey through the HIV continuum – from pregnancy through the rest of her life – is met with responsible, knowledgeable, and caring health programs.

# Assignment 015: Community Engagement to Improve PMTCT Service Delivery in Malawi

**Country: Malawi | Project Year(s): PY2–PY5**

## Background/Overview

In 2016, the CDC requested that EGPAF complete a TA assignment in the area of community engagement through a partnership with a highly respected international CSO, Cooperative for Assistance and Relief Everywhere Inc. (CARE)<sup>36</sup>. After completing all necessary and required procurement procedures, EGPAF established a sub-agreement with CARE to implement CARE's Community Score Card® (CSC) approach. CARE Malawi first developed the CSC in 2002 as part of a project aimed at designing innovative and sustainable models to improve health services. CARE's CSC brings together the community, service providers, and other stakeholders in a collaborative process to identify needs of and barriers to service quality and delivery. Project DELTA funded the implementation and evaluation of CARE's CSC approach that has been adapted to the PMTCT settings in Malawi. CARE conducted the CSC from September 2017 to September 2018 in 11 selected health facilities and their catchment areas in two priority PEPFAR scale-up districts, Dedza and Ntcheu. EGPAF evaluated the CSC through a pre-post design to measure the change in maternal retention across the PMTCT service cascade (including ART) and the change in EID uptake following CSC implementation. Additionally, the project estimated the cost of the adapted CSC implementation. Secondary objectives of the evaluation were to assess satisfaction, perceived quality of services, and trust between patients and health care providers, and any changes to these because of the CSC.

The CSC aims to engage both clinical service providers and community-based users in dialogues to identify solutions to the barriers to delivery and utilization of health services. While the CSC has demonstrated a positive impact on health services related to general maternal, neonatal, and child health, as well as on other health service domains, to date it has not been adapted, used, or evaluated in an HIV health service delivery setting. As HIV remains a stigmatized health issue, this project adapted elements of the CSC approach originally aimed at broad-based community engagement, to focus on engaging providers and users of PMTCT clinical services. Specifically, this adaptation focused on the engagement of HIV-positive pregnant and breastfeeding women and their influential family members (i.e., male partners or other immediate family members supporting their care). By engaging women who are likely to need PMTCT services or who could support others to take up PMTCT services, as well as their partners and family members, the CSC may lead to action plans and solutions that could creatively address the barriers to PMTCT and improve service outcomes.

## Activities Implemented

CARE and EGPAF adapted CARE's CSC for use in the PMTCT context before CARE led the implementation of the CSC. The CSC, a social accountability approach grounded in the ethos of patient-centered care, has been shown in other health sectors to improve service use and access, satisfaction with services, and accountability to patients' needs and desires. While the CSC had been used in settings related to general maternal, neonatal, and child health as well as other health service domains, it had not previously been adapted, used, or evaluated in an HIV health service delivery setting. As HIV remains a stigmatized health issue, this project adapted elements of the CSC approach originally aimed at broad-based community engagement to focus on engaging providers and users of PMTCT clinical services. The adaptation and implementation of the CSC within PMTCT settings aimed to improve clinical outcomes for HIV-positive pregnant and breastfeeding women and their families by strengthening community engagement in HIV service delivery.

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<sup>36</sup> CARE is an international humanitarian organization delivering emergency relief and long-term international development programs. CARE's mission is to work around the globe to save lives, defeat poverty, and achieve social justice; it operates programs in more than 40 countries throughout Africa, Asia, Europe, and Latin America.

The core implementation strategy of the CSC is a participatory forum that engages both service users and service providers throughout five phases, which are implemented to engage stakeholders in a collaborative process of identifying needs, naming barriers, and crafting local and sustainable solutions through issue generation and interface meetings. The traditional CSC consists of five core phases,<sup>37</sup> repeated on a regular basis (each repetition called a “round”) for the life of the project. CARE implemented three rounds of these phases with PMTCT service providers, users, and the community from October 2017 to September 2018. EGPAF evaluated the CSC on the change in program performance indicators and on the cost and cost-effectiveness of the adapted CSC intervention; this evaluation was a mixed study including a quantitative survey and qualitative methods.

“Previously, we had a lot of concerns which lacked a platform where they would be addressed; [this was] the same [case] with health care workers. [But] with the introduction of CSC, we had that platform to express ourselves. During these meetings we were able to understand other challenges that exist in the system.”

– PMTCT client, Golomoti Health Center

## Notable Deliverables

- Successful adaptation of the CSC for PMTCT
- Completion of all of the aforementioned CSC rounds
- Implementation and finalization of the evaluation
- CSC cost analysis
- Robust CSC project brief
- Detailed CSC final evaluation report

## Results

The CSC evaluation found that retention in PMTCT services and EID uptake were not significantly different for CSC participants before and after the intervention. Other components of the evaluation, however, did highlight many other observed benefits of the CSC intervention – both clients and HCWs reported that CSC was a productive process that created meaningful changes to PMTCT services, improved client-HCW relationships, and generated greater mutual respect. Clients and HCWs liked having a platform to express their concerns (*see text box above*). Clients also noted that they better understood why it was important to bring their male partners to health visits, and felt community and political leaders gained more knowledge about HIV. HCWs and clients both reported that after the CSC, HCWs were friendlier toward their clients and more considerate about opening and closing the clinic on time. HCWs felt more confident in speaking up about ways to improve the facility and its service delivery.

Discussions regarding concerns identified through the CSC process led to important service delivery changes at the facilities, toward a more client-centered approach. For example, facilities began to provide services in larger rooms and offer integrated services, such as weighing children. Before the CSC, some facilities offered ART pick-up only on a certain day of the week. After the CSC, facilities began offering ART pick-up on other days, to improve client privacy and avoid unintended disclosure.

Finally, by engaging community leaders, the CSC approach also led to mobilized resources for the needs of clients and HCWs. Government funding and community member labor resulted in a new extension to one facility’s maternity wing. Local government authorities funded the construction of bathrooms for pregnant women and caregivers at another facility. Use of local development funds and pooled community funds also improved facility access, due to

<sup>37</sup> The five core phases are (1) planning and preparation, (2) conducting the Score Card with the community, (3) conducting the Score Card with service providers, (4) interface meeting and action planning, and (5) action plan implementation and follow-up.



better road maintenance near the location and provision of fuel for ambulances. The district health management team worked with development partners to purchase container tents to provide additional rooms at the ART clinic, which made ART pick-up more convenient and confidential for PMTCT clients.

## Challenges and Lessons Learned

The EGPAF–Malawi team experienced several challenges during the implementation of this evaluation. Protocol approvals took more than a year, and during this period, EID uptake improved in the selected sites. Thus, the baseline was higher at the start of the CSC than when the project was planned. In addition, as the power calculations were based on the lower assumed baseline, the ability to detect a statistical difference was reduced. Furthermore, due to time constraints, patient outcomes (retention and EID uptake) were measured while the CSC intervention was in progress and, for most, prior to the completion of all three rounds. Given that the full impact of the process may not be evident in facilities until all rounds are completed, it is possible that there would have been an improvement in outcomes, if measured following full exposure. The measured patient outcomes were dependent on behavior change by HCWs, communities, and patients themselves through the intervention. Finally, implementation was difficult to standardize, because facilities and communities differed in their engagement and approach, and because the mobilization of and routine coordination between multiple stakeholders was time- and labor-intensive.

The implementation of the of the CSC evaluation activities yielded multiple lessons. It promoted communication among stakeholders and responsiveness from providers and authorities such as government officials. Communities and facilities were engaged with the process and were interested in continuing with the intervention, and qualitative feedback was made available to clinics to improve their operations. As discussed above in the Results section, CSC activities resulted in service integration and provided an opportunity for facilities to exchange successes and lessons learned. Results suggest that the CSC approach was successful at building stronger relationships between women and HCWs, improving self-efficacy among HCWs, making service delivery more client-centered at the facility level, and mobilizing resources to support quality service delivery. Analysis of the facility and community costs showed that costs associated with the CSC approach were primarily for human resources and meetings.

The CSC approach can be a tool for facility-level QI forums, used to better comprehend the perspectives and challenges experienced by clients receiving care and HCWs providing HIV services. By establishing trusting and respectful relationships between clients and HCWs, adjusting service delivery to be more client-centered, and sustaining dialogue between clients, community leaders, and HCWs, the CSC approach may lead to further improvements in service delivery through collective action. Ultimately, positive client-HCW relationships and improved service delivery are likely to result in higher client satisfaction in services and better overall outcomes in Malawi's effort to eliminate MTCT.



Photo: Eric Bond/EGPAF, 2018

## Policy and Guideline Development

At the global and regional level, EGPAF collaborated with major stakeholders and partners to drive global and local focus, support, leadership, and resources needed to end the HIV epidemic in children, adolescents, and families. Using the Project DELTA mechanism to foster partnerships with MOHs, EGPAF assisted with the development of various guidelines that outlined country-level policies and protocols to continue the fight against AIDS.

# Assignment 005: Pediatric HIV Testing and Counseling Technical Assistance to the Ministry of Health of Uganda

**Country: Uganda | Project Year(s): PY1–PY2**

## Background/Overview

In 2014, the Ugandan MOH launched a new national treatment policy to expand ART eligibility to all children under 15 years of age. The MOH had recently performed internal reviews to investigate low levels of ART coverage, which led to nine pediatric scale-up strategies, as well as inviting a pediatric HIV interagency TA visit from PEPFAR headquarters agencies. Through these collaborative efforts, several gaps were described in the cascade of HIV services for children that contributed to low coverage. Gaps identified included low uptake of pediatric HTC, and testing performed that often did not align with the highest-risk populations (i.e., those where the likelihood of identifying HIV-infected children was highest). Additionally, of those children who were tested and identified as HIV-infected, linkage to care and treatment services was often poor, and upon national review, 60% of inpatient wards were testing less than 50% of the admitted children.

Based on these gaps, CDC Uganda requested TA from EGPAF to support the MOH to improve identification of HIV-positive children through high-quality pediatric HTC services and the successful linkage of those children to care and treatment.

## Activities Implemented and Results

### Framework for Target Setting

In order to increase the coverage of pediatric HTC services and the uptake of ART and care among infected children, it was determined that national, regional, and district targets for pediatric HTC must be established and the use of routine program data must be expanded. It was agreed that targets would be based on the population in need of services, rather than on facility attendance, as some children may not access health facilities. A number of assumptions were also discussed and accepted to be used in setting pediatric HTC targets. Based on the agreed-upon assumptions, it was determined that the number of HIV-infected children who needed to be identified would be the sum of the total estimated number of HIV-infected children in that district minus the number already in the care and treatment program. Districts then allocated numbers of infected children to the different health facilities according to their catchment populations. With this methodology a mapping of districts and facilities with the highest proportions of unidentified children was completed to facilitate prioritization during efforts to reach more children in need of services.

### Capacity Building for Pediatric HIV Testing and Counseling

To achieve the targets for pediatric HTC for identifying HIV-infected children, the team acknowledged that the capacity of the MOH, districts, facilities, and PEPFAR IPs needed strengthening.

The following steps were taken in order to build capacity at all levels:

- **Baseline assessment:** Prior to facility-level training and mentorship, there was a need to establish the baseline performance of facilities with regard to pediatric HTC and linkage to care, and to document current practices for pediatric HTC. Baseline data provided a basis for documenting any changes in practice, as well as the enablers for those changes, so that they could then be used for nationwide scale-up of pediatric HTC.
- **Strengthened pediatric PITC at selected health facilities:** A number of health facilities were selected to provide learning for best practices and compilation of SOPs and a change package to guide a nationwide scale-up of pediatric HTC.

- **Selection of indicators for monitoring performance of facilities in providing pediatric HTC services and linking positive children to care:** Indicators were selected to monitor facility performance in pediatric HTC services and linking positive children to care. These indicators were meant to institutionalize and make testing of children a routine practice in health facilities, and may not have been the same indicators as those used for population-based targets for reaching infected children.
- **Development of a training curriculum on pediatric HTC:** While the existing PITC policy and MOH training curriculum was clear, it was mainly for adults. To include children in the package, EGPAF developed a module for pediatric HTC as part of the national curriculum for PITC.
- **TOT:** EGPAF held a training of 33 national, regional, and district trainers for pediatric HTC. The overall goal of the training was to build the competencies of PITC trainers to deliver quality training, mentoring, and supervision in pediatric HTC.
- **Facility-level training of health workers in pediatric HTC:** Following the development of a training module and training of national, regional, and district trainers, facility staff were trained on-site. The aim was to train as many health providers who come into contact with children at the health facility as possible. The training was held at 20 health facilities.
- **Development of a coaching guide:** EGPAF developed a coaching guide to support facility-level mentorship, based on QI principles. This guide strengthened the capacity of facility staff working in pediatric HTC, especially that of pediatric HTC–focused QI teams using QI tools to improve pediatric HTC, linkage to care, and initiation on ART.
- **Facility-level mentorship:** National and regional coaches/mentors in pediatric HTC were oriented on the new tool and proceeded to conduct coaching sessions at each of the 20 health facilities.
- **Collection and documentation of promising practices:** Promising practices on pediatric HTC were collected from the SUSTAIN and Mildmay projects in Uganda and from other EGPAF projects outside of Uganda. These were used during the development of the training curriculum or module, during the TOT, and during facility-level training and mentorship.
- **A harvest meeting:** A learning session wherein best practices were shared and ranked by implementing sites was held both to develop a change package and to further build the capacity of HCWs in pediatric HTC.

## Notable Deliverables

- A framework for setting national, regional, and district targets for pediatric HTC and linkage to care, and a national road map for rolling out this framework
- A pediatric-specific dashboard added to the MOH emergency operations center dashboard system to monitor progress toward achieving targets for pediatric HTC and linkage to care
- A set of recommended national-level tools including training curricula and SOPs to support implementation of pediatric HTC and linkage to care
- A “change package” of promising practices aimed at improving testing and linkage performance using QI methods. This change package was officially adopted by the MOH and rolled out nationwide.

## Challenges and Lessons Learned

The most challenging aspect of the assignment was balancing the need for new indicators to monitor program performance with the additional reporting workload on health workers.

# Assignment 030: Assessing the Legal and Policy Environment for Adolescent Girls' and Young Women's Access to Pre-exposure Prophylaxis

**Country: Global | Project Year(s): PY3**

## Background/Overview

AGYW (ages 15–24) continue to be disproportionately burdened by HIV/AIDS in sub-Saharan Africa. Daily HIV pre-exposure prophylaxis (PrEP) offers a unique opportunity for persons at substantial risk of acquiring HIV, including AGYW, to reduce their chances of acquiring HIV. As policymakers plan for the roll-out of PrEP across sub-Saharan Africa, policymakers and stakeholders should assess whether PrEP policies and programs are considering the unique needs of AGYW.

Adolescents often have less access to prevention and treatment services and are less likely to use non-adolescent-centered services – attributable, in part, to stigma encountered from health care providers at general clinics. In addition, adolescents often desire to be covert about sexual activity. Investing in broader youth-friendly sexual and reproductive health services that create an atmosphere of trust will improve the effectiveness of prevention efforts. Engaging adolescents in a process of identifying their wants and needs concerning HIV prevention and treatment is critical to curbing the burden of disease among this age group. PrEP, as part of a combination prevention package, could serve as a bridge to protect adolescents during a period of time in which they are at substantial risk of HIV exposure. PrEP is unlike any other prevention strategy currently available for young women, because it is user-driven, efficacious, and discreet, and it has the potential to empower women at high risk of HIV to have significant control over their risk of HIV acquisition.

## Activities Implemented

EGPAF, through CDC funding, collaborated with University of Washington, which led the development of a policy landscape analysis on the PrEP environment in Uganda, South Africa, and Kenya in consultation with respective MOHs and PEPFAR teams of these countries. The EGPAF–Kenya and EGPAF–Uganda teams provided input on the local policies, and supported and led sharing and requesting feedback from the MOHs. EGPAF led collaborative discussion calls as well as monitoring overall project timelines and the budget.

## Notable Deliverables

- Policy considerations report on PrEP in Uganda, Kenya, and South Africa
- Overall policy brief
- Three country-specific briefs

## Results

If used appropriately and as part of a comprehensive package of prevention, PrEP could be transformative in the global fight against HIV and AIDS for AGYW, who too often lack the power to negotiate other prevention methods. To realize its potential for this population, governments should carefully analyze their policy approach in the context of the AGYW Access to PrEP Framework (Table 11). Specifically, policymakers and stakeholders should assess how to ensure that PrEP services are provided in AGYW-friendly delivery sites, that clinical eligibility and adherence support systems take into account the unique needs of AGYW, that legal barriers and facilitators are analyzed and addressed, that PrEP affordability mechanisms are put in place, and that community and AGYW outreach strategies are implemented. A breakdown in any one of these access categories could undermine the potential that PrEP offers for AGYW. The AGYW Access to PrEP Framework consists of 13 policy considerations to be taken into account when developing and implementing PrEP policies.

**Table 11.** Adolescent Girls' and Young Women's Access to PrEP Framework

| <b>AGYW-Friendly Delivery Systems</b>   |
|---|
| How will PrEP services be offered in locations that cater to AGYW?  |
| What type of training/education will health care providers undergo on providing PrEP services to AGYW?                                    |
| <b>Clinical Eligibility and Adherence Support</b>   |
| How is clinical eligibility for PrEP defined, and does it allow for individualized assessments of substantial risk for AGYW?              |
| Are pregnant and breastfeeding women eligible for PrEP?   |
| What types of PrEP adherence education, support mechanisms, and monitoring will be used to improve PrEP adherence among AGYW?             |
| <b>Legal Barriers and Facilitators</b>  |
| Do age of consent laws permit all or substantially all AGYW at substantial risk of acquiring HIV to self-consent to PrEP services?        |
| Can caregivers and other nonparental guardians consent to PrEP services on behalf of AGYW who are not old enough to self-consent to PrEP? |
| Can AGYW be subject to criminal penalties, either directly or indirectly, for engaging in sex work?                                       |
| Can AGYW be subject to criminal penalties for engaging in consensual sex with other adolescents?  |
| Is PrEP medication registered by the country's drug regulatory authority for prevention and for use in adolescents?                       |
| How will the confidentiality of AGYW seeking PrEP be protected?   |
| <b>Affordability Mechanisms</b>   |
| Are mechanisms in place to make PrEP services available for free or at an affordable price for AGYW?                                      |
| <b>Community and AGYW Outreach</b>  |
| How will education and marketing outreach campaigns be used to educate AGYW and the community about PrEP?                                 |

Policies in effect for Kenya, South Africa, and Uganda provided useful examples of how some of these considerations have been addressed in national laws and policies, but those policies, generally, did not include specific strategies to promote access to PrEP for AGYW.

## Way Forward

Through Project DELTA, EGPAF was able to support national programs, MOHs, CDC country teams, and local IPs in a wide variety of technical, programmatic, and operational areas. Project DELTA successfully utilized cross-cutting implementation approaches across all TA assignments, including customization to client needs, geographically differentiated approaches, team efficiency and coordination, and data use for improvement.

Project DELTA's unique operating system and ability to cater to a country's specific needs and context allowed EGPAF to provide or coordinate expert comprehensive health service TA and service delivery in a number of areas, including HIV prevention services; PMTCT services; pediatric, adolescent, and adult HIV services; GBV services; capacity building; and linkage to other health services. Notably, EGPAF provided TA to establish national tools, SOPs, and registers for use in high-quality data collection, validation, and reporting.

Following the success of Project DELTA, EGPAF will continue to reinforce its commitment to high-quality implementation of programs to identify local TA priorities, design innovative approaches that effectively address key gaps within local contexts, deliver TA, and assess outcomes. Through the CDC's follow-on award, Project DELTA2, EGPAF will continue to serve as a key partner to MOHs in the prevention, care, and treatment of HIV, and remains well positioned to support the ongoing global fight to end HIV and AIDS, and to act as a leading voice for children, youth, and families to live long, healthy lives.

To conclude, EGPAF is extremely grateful to the CDC for providing the necessary resources to implement this project, leveraging the CDC's support to sustainably collaborate with MOHs and partners to contribute to the fight against HIV across Africa.

## Appendix – Assignment List

| TA # | Country            | Assignment Title  |
|------|--------------------|---|
| 001  | Malawi             | Malawi Centralized Early Infant Diagnosis Database  |
| 002  | Cameroon           | Cameroon Pediatric HIV Care and Treatment Technical Assistance  |
| 003  | Uganda             | PMTCT Technical Assistance to the Ministry of Health of Uganda  |
| 004  | Tanzania           | Tanzania Option B+ Rapid Assessment and Response Enhanced Monitoring System   |
| 005  | Uganda             | Pediatric HIV Testing and Counseling Technical Assistance to the Ministry of Health of Uganda   |
| 006  | Namibia            | Piloting an HIV/AIDS Care and Treatment Mentorship Model in Namibia   |
| 007  | Cameroon           | Accelerating Prevention of Mother-to-Child Transmission / Antiretroviral Therapy Integration in Cameroon                              |
| 008  | Global             | Early Infant Diagnosis Data Management Toolkit  |
| 009  | Namibia            | Building Regional Capacity for Quality Management in Namibia  |
| 010  | Zimbabwe           | Supporting Facility- and District-Level Quality Improvement / Quality Management in Zimbabwe  |
| 011  | Malawi and Lesotho | Building Capacity for Early Infant Diagnosis Data Use in Lesotho and Malawi   |
| 012  | Cameroon           | Generating Pediatric HIV Treatment Evidence and Increasing Capacity in Cameroon   |
| 013  | Uganda             | Scaling Up the Use of B+ Retention Data in Uganda   |
| 014  | Tanzania           | Operationalizing the B+ Rapid Assessment and Response System in Tanzania  |
| 015  | Malawi             | Community Engagement to Improve Prevention of Mother-to-Child Transmission Service Delivery in Malawi                                 |
| 016  | Zimbabwe           | Conducting the 2016 Young Adult Survey of Zimbabwe  |
| 017  | Cameroon           | Accelerating Children’s HIV/AIDS Treatment in Cameroon  |
| 018  | Tanzania           | Improving HIV Data Systems, Management, and Use in Tanzania   |
| 019  | Mozambique         | Piloting a Family Approach to Close the Antiretroviral Therapy Gap in Mozambique  |
| 020  | Zimbabwe           | Continuing Support for Facility- and District-Level Quality Improvement / Quality Management in Zimbabwe                              |
| 021  | Malawi             | Conducting HIV Drug Resistance Surveillance in Malawi   |
| 022  | Cameroon           | Implementing Pediatric Training Centers in Cameroon   |
| 023  | Namibia and Zambia | Supporting Test-and-Start and Community-Based Antiretroviral Therapy Activities in Namibia and Zambia                                 |
| 024  | Uganda             | Refining and Validating a Pediatric and Adolescent HIV Testing Eligibility Screening Tool for Primary Health Care Providers in Uganda |



|     |               |   |
|-----|---------------|---|
| 025 | Uganda        | Supporting Enhanced Monitoring and Differentiated Care in Uganda  |
| 028 | Côte d'Ivoire | Replicating the ECHO Model for HIV/AIDS Mentorship  |
| 029 | Namibia       | Assessing and Enhancing Pediatric HIV Programs in Namibia   |
| 030 | Global        | Assessing the Legal and Policy Environment for Adolescent Girls' and Young Women's Access to Pre-exposure Prophylaxis               |
| 031 | Global        | Reducing Gender-Based Violence through Adolescent Empowerment   |
| 033 | Malawi        | Implementing the ECHO Model for HIV/AIDS Mentorship   |
| 034 | Zimbabwe      | Ongoing Support for Facility- and District-Level Quality Improvement / Quality Management in Zimbabwe                               |
| 035 | Uganda        | Rolling Out the Differentiated Service Delivery Model of Care in Uganda   |
| 036 | Uganda        | Validating a Pediatric and Adolescent HIV Eligibility Screening Tool Among the Orphans and Vulnerable Children Population in Uganda |
| 039 | Namibia       | Supporting National-Level Pediatric HIV Programming, Continued  |
| 040 | Zimbabwe      | Continuing Support for Facility- and District-Level Quality Improvement / Quality Management in Zimbabwe                            |
| 041 | Cameroon      | Preventing and Responding to Gender-Based Violence in the Child and Adolescent Population in Cameroon                               |
| 045 | Uganda        | Continuing Support for Differentiated Service Delivery Models of Care in Uganda   |



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