

Scope of work for consultancy to review I-TECH program-monitoring system and mobile application for HIV testing and treatment program in Zimbabwe

The International Training and Education Center for Health (I-TECH), housed in the Department of Global Health at the University of Washington, is seeking short-term consultant(s) to:

- Conduct a review of the program monitoring and reporting system for its PEPFAR-funded HIV testing and treatment program in Zimbabwe and to make recommendations to improve the system.
- Conduct a review of a tablet-based mobile application that collects aggregate- and individual-level HIV-related data in health facilities in Zimbabwe.

Interested individuals can apply for one or both of these consultancy opportunities.

Background:

I-TECH is implementing a large-scale HIV testing and treatment program in Zimbabwe. The program is funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through a cooperative agreement with the U.S. Centers for Disease Control and Prevention (CDC). In Zimbabwe, I-TECH works in 345 facilities in 20 districts and is working with the Zimbabwe Ministry of Health and Child Care (MOHCC) to implement HIV provider-initiated and index-contact HIV testing, linkage to care, antiretroviral therapy (ART) initiation and retention as well as community-based testing and linkage to care. At these facilities, I-TECH enhances the workforce of the ministry by seconding staff who provide direct service delivery (DSD) as well as technical assistance. In addition, staff are deployed at district and province levels to provide mentorship support and help with collection of data for program monitoring.

Program data are collected to report on defined PEPFAR indicators (called MER indicators) as well as process-oriented indicators (e.g. for index-contact testing) and administrative variables (related to staff presence and performance at a clinic). Data are abstracted from paper registers and forms as there is no patient-level electronic data system in use at all facilities

Program data are retrospectively abstracted at the facilities using a variety of methods, some of which rely on MOHCC data systems and some developed by I-TECH. The MOHCC uses a DHIS2-based system to collect monthly aggregated data from facilities, and the I-TECH office in Zimbabwe receives monthly data downloads from the MOHCC which are used to inform some of the MER indicators. Recently, data from the DHIS2 system has become less useful because of PEPFAR-mandated age and other disaggregation that does not align with MOHCC registers. Thus, most of the data is collected by I-TECH staff from MOHCC registers onto paper forms, which are entered into Excel spreadsheets by district-level I-TECH staff. These spreadsheets are sent to province and Harare offices where they are merged and analyzed to generate reports.

In addition to the paper system a purpose-built tablet-based mobile application is being used at some clinical sites to collect aggregate and some patient-level data. Data entry into the tablets is

done by seconded I-TECH staff in the health facilities. To date, the mobile app has been partially implemented because of the need for software updates to match changing indicators and because some facility staff have low levels of computer literacy, thus find the system challenging to use.

At some sites, the MOHCC is rolling out a patient management system (ePMS) for patients receiving ART. Data from patient ART booklets are entered into the system to generate patient appointment schedules and other reports. ePMS data are not used for PEPFAR reporting by I-TECH. Data entry is lagging at some sites due to a reduction in data-entry staff following the termination of a Global Fund grant.

The I-TECH Zimbabwe program-monitoring system is used primarily to generate data required for PEPFAR reporting. This requires considerable effort in view of the number of indicators and the level of disaggregation that PEPFAR requires. However, the system's utility would be improved if the data-management system could more easily and regularly generate reports and data visualizations (e.g. data dashboards) at facility and district levels. Thus, this consultancy is being sought in order to identify measures that would improve:

- The efficiency of the system to avoid duplication of data collection and processing and reduce the time required to generate reports and provide feedback to facility, district, and headquarters I-TECH and MOHCC staff
- The utility of the data so that dashboards and reports can be easily generated with sufficient granularity (e.g. clinic-level trend data) to allow course corrections in program implementation, and so that reports are accessible by MOHCC and other key stakeholders
- Appropriateness of the technologies that are being used for data entry (e.g. tablet-based, vs. tablet or mobile telephone or PC)
- Flexibility – so that various data-entry and flow options (e.g. paper vs. electronic) are available based on the capacity level of clinic staff and availability of tablets or internet connectivity.
- Data security – ensuring that data files are stored in a secure manner with adequate backups and that measures are in place so that access to data files is restricted to authorized users.

Scope of work:

The I-TECH Zimbabwe program is looking for individual(s) to review its program monitoring and reporting system. The consultant(s) should be familiar with the organization of program-monitoring systems of health programs in resource-limited settings including collection, transmittal, consolidation, analysis and reporting of data from complex health programs that collect episodic and longitudinal HIV-program data. Extensive experience in electronic data-management systems is required for the consultancy.

The review will have two components: A) review of the program-monitoring data system and B) review of the tablet-based mobile application. Applicants can propose to complete either (A or B) or both (A and B) of these components, depending on their expertise:

Component A - Review of data system with recommendations for improvement.

- The review should consider the triple priorities of: 1) providing data to program staff so that they can monitor the progress of program implementation at the clinic level; 2) efficiently meeting PEPFAR reporting requirements; and 3) supporting MOHCC data systems and processes, where possible. The review should consider management of aggregate data obtained from clinic registers for reporting of MER indicators as well as person-level data from patient health records (e.g. for tracking of partner testing) to help with monitoring of processes such as ART defaulter tracking and testing of contacts of index clients. The review would assess appropriateness of data-collection instruments as well as methods for data entry, compilation, verification, analysis and report generation.
- Recommendation on selection of a harmonized cloud-based, data-management system that would allow for distributed data entry using PCs and tablets, include the ability to import data from the mobile application and the MOHCC DHIS2 system, export data to DATIM (PEPFAR data reporting platform), generate dashboards, perform project-specific routine and ad-hoc data queries, and data visualizations useful for guiding site-level program improvement.
- Outline of a plan for the implementation of the above-mentioned recommendations. The plan should identify sequence, timing, and level of effort required of implementing data system changes.

Component B) Review of mobile application:

- The review should assess appropriateness of the system and functional requirements and product design given the data management tasks and goals, conformance of the developed product with the requirements and design. The review should include review of the product's technical documentation with discussion and clarification from the system developers (as needed), software code review, assessment of interoperability, and functional testing of a demonstration version of the product.
- The review should also assess technical performance of the product in field settings, ease-of-use for typical users in field settings in Zimbabwe, and data security.

Logistics:

- The consultancy would include review of documents and a one-to-two week visit to the Zimbabwe I-TECH office and selected clinical sites. The timing would be negotiable but ideally would occur in May, June, or July 2018.
- It is expected that the review would require 15-20 work days (including travel time to Zimbabwe) for Component A and 10-15 days for Component B. If one consultant does both components, then the total number of days would be less.
- The outputs from the consultancy would be:
 - Component A: a report with observations, recommendations, and proposed plan for improvement of the data system. This would include flow diagrams

illustrating the movement of data from point of collection to reporting (currently and proposed) and recommendations concerning software products.

and/or

- Component B: a report of findings regarding the mobile application and recommendations for improvement. This would include a grading of the functionalities and an explanation of the level of effort required to improve (or, if needed, replace) the application.

The method and timing of work and outline of the report(s) would be agreed upon prior to the start of the consultancy.

To express interest in the consultancy, please provide:

- Letter of interest with explanation of relevant experience in:
 - Component A: assessing and improving health-program data systems in low-income settings. Specific experience working with HIV programs is desirable.
 - Component B: experience in designing, developing, and/or reviewing mobile applications for the collection and management of clinic data in low-income settings
- Please indicate whether you are proposing to work on Component A, Component B, or both Components A and B
- General description of the approach that would be taken to conduct the review(s)
- CV(s) of consultant(s)
- Proposed timeline for the review(s)
- Daily consultancy rate and any other relevant budgetary details

Please send all materials before April 20, 2018 to Marleyse Borchard: borchard@uw.edu

Please address technical questions to Dr. Stefan Wiktor: wiktors@uw.edu

Professor, Department of Global Health, University of Washington, Seattle WA, USA

Technical Advisor, HIV Testing and Treatment Program, I-TECH Zimbabwe