Background

According to the Global Tuberculosis Report 2014, Uganda is one of the seven out of 22 high tuberculosis (TB) burden countries that met all Millennium Development targets for TB. The Uganda Ministry of Health (MOH) reported that the number of Ugandans with TB infection declined from 88,560 to 64,000 in 2014.

However, the MOH noted that significant challenges still exist, including the emergence of drug-resistant TB (DR-TB), a very high TB/HIV co-infection rate, sub-optimal antiretroviral therapy (ART) coverage for co-infected patients and the need for improved access to TB diagnostic facilities, such as WHO-approved rapid diagnostic tools like Gene Xpert machines. According to a 2010 MOH drug resistance survey, the magnitude of multi-drug-resistant TB (MDR-TB) in Uganda was estimated at 1.3% among new TB cases and 12.1% among TB re-treatment cases. By June 2012, 294 MDR-TB cases were reported to the National TB and Leprosy Program (NTLP). However, the majority of these patients had not been initiated on second-line TB treatment due to lack of streamlined programmatic management of MDR-TB in the country.

USAID/Strengthening Uganda’s Systems for Treating AIDS Nationally (SUSTAIN) is a project that works closely with MOH’s NLTP to strengthen the capacity of public hospitals to effectively manage and prevent both susceptible and MDR-TB in Uganda.

USAID/SUSTAIN-supported Healthcare Facilities for TB and MDR-TB

HIV Prevention, Care and Treatment & TB Services

Drug-Resistant Tuberculosis Centre

Type of Healthcare Facility

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The USAID Strengthening Uganda’s Systems for Treating AIDS Nationally (SUSTAIN) project supports the Uganda Ministry of Health to strengthen sustainable and innovative approaches for HIV and TB service delivery at selected healthcare facilities. This project is made possible by the support of the American people through the United States Agency for International Development (USAID). The content of this publication does not necessarily reflect the views of USAID or the United States Government. For more information, please visit www.sustainuganda.org.
USAID/SUSTAIN Strategic Approach

In line with the support needs and gaps identified by the NTLP, USAID/SUSTAIN uses key strategic approaches to strengthen the capacity of supported regional referral hospitals (RRH) for TB and MDR-TB management including:

- Strengthening service provider knowledge and skills;
- Expanding monitoring and evaluation (M&E) systems for TB/HIV and MDR-TB;
- Improving physical infrastructure for MDR-TB patient isolation and optimum TB infection control practices; and
- Increasing surveillance for MDR-TB among presumptive cases, prevention of MDR-TB and improved patient monitoring.

Key Activities and Interventions

Support for TB/HIV services started at project inception in 2010. Over the years, TB services have evolved from enhancing case detection to optimizing TB/HIV collaborative activities and TB treatment success through quality improvement initiatives. In 2012, the project’s scope was broadened to cover the implementation of DR-TB care. In a phased approach, DR-TB treatment was initiated at three RRHs (Mbale, Gulu and Fort Portal), then rolled out to three more facilities (Masaka, Mubende and Kabale). Arua DR-TB treatment site—previously supported by Medicines San Frontiers—was handed over to SUSTAIN in 2014.

Participants in a TB training session organized by USAID/SUSTAIN in Gulu RRH. ©URC 2013

Strengthening health provider skills: In collaboration with NTLP, the project facilitated the training of TB care teams at SUSTAIN-supported facilities on TB/HIV and DR-TB clinical case management, TB/HIV collaborative activities, TB infection control and health management information system (HMIS) development and utilization. After the trainings, both virtual (telephone) and on-site mentorships and coaching were conducted quarterly to further address knowledge and skills gaps. SUSTAIN also supported the dissemination of national guidelines, job aides and standard operating procedures to all health facilities.

Applying quality improvement (QI) approaches to TB care processes: The project supported the formation of TB care work improvement teams (WITs). Team members were trained to identify gaps and initiate QI projects, such as the linkage of TB/HIV co-infected patients on ART and follow-up for missed appointments.

Conducting TB case detection: The project supports the use of an intensified TB case finding guide, presumptive TB registers and Genexpert for TB diagnosis in children to improve pediatric TB case detection.

Establishing inter- and intra-facility linkages for patient care and support: In order to minimize patient loss between points of care and improve treatment success rates (TSR), the project is strengthening referral networks and collaboration between supported hospitals and lower health facilities in their catchment by supporting hospital care teams to organize inter-facility meetings. In addition, the project works with the respective regional TB focal persons and District TB and Leprosy Supervisors. Other activities include strengthening the use of appointment books and a patient tracing register, involving sub-county health workers in supporting community-based directly observed treatment (DOT), using community linkages coordinators in community engagement and supporting home visits for patients who miss appointments and cannot be reached by phone.

Implementing infection control activities: Hospital nurse teams are supported to design and implement TB infection control improvement projects aimed at enhancing the implementation of administrative TB infection control measures (triage, fast tracking, patient separation and patient education) at patient care points. The project has established hospital TB infection committees and provided TB care teams with personal protective equipment (N95 respirators and masks) to enhance TB infection control measures.

Reducing TB burden in HIV settings: The project is strengthening the implementation of infection control practices, intensified TB case finding and Isoniazid preventative treatment. USAID/SUSTAIN further supports the utilization of Gene Xpert for TB diagnosis among HIV patients by sensitizing community health workers and disseminating the Gene Xpert algorithm in all supported hospitals. These activities—coupled with the institutionalization of HIV testing and counseling among TB patients, the initiation of all co-infected patients on Contrimoxazole preventive therapy (OPT) and the timely linkage to ART—have significantly reduced the burden of TB in HIV settings.

Establishing TB/HIV one stop services: Utilizing the national guidelines for TB/HIV ‘one stop’ care model developed by NTLP, the project has supported the establishment of one stop TB care model at six hospitals (Arua, Fort Portal, Hoima, Kabale, Mbale and Mubende). USAID/SUSTAIN is using the best practices collected from these sites to roll out the model to other facilities.

Managing documentation/records of routine TB care activities: The project conducts mentorships on proper records management and using data to improve care outcomes at facilities. USAID/SUSTAIN ensures availability and use of the MOH’s HMIS by providing the required tools and registers when needed and by working with and supporting care teams to improve the recording, reporting and routine utilization of data.

Strengthening supply chain management systems: Through on-site trainings, the project enhances provider skills in TB logistics management, including use of MOH’s supply chain management information systems, to ensure availability of both susceptible and DR-TB related medicines and supplies.
Providing TB/HIV laboratory-related services: The project facilitates the procurement and installation of new equipment—including fluorescent microscopes and their spare parts and safety hoods for TB microscopy—and the improvement of human resource capacity (skills and quantity) for laboratory services.

Providing logistical and technical support for the coordination of ambulatory and hospitalization models of DR-TB care: The project provides DR-TB expert panel members for each treatment hospital with facilitation to conduct activities, including home assessment and contact tracing, support supervision at lower health facilities where patients receive DOT and panel meetings where decisions to start DR-TB treatment and patient follow-up management are reached.

Strengthening DR-TB patient adherence: The project supports patient adherences by providing enabling incentives like monthly stipends to cater for transportation costs to the treatment centers.

Key Achievements and Progress To-date

Improved TB/HIV collaborative activities: USAID/SUSTAIN has experienced sustained improvement in TB/HIV collaborative activities, including: a 7% increase (90% to 97%) for HIV testing and counseling for TB patients; a 12% increase (85% to 97%) for CPT for TB/HIV co-infected patients; and a 29% increase (54% to 83%) in ART for co-infected patients between 2012 and 2015 (Figure 1).

Figure 1. Sustained improvement in TB/HIV collaborative activities, Jan 2012 - Sept 2015

Table 1. Number of identified drug-resistant TB patients at supported facilities, 2012-2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Mbale</th>
<th>Gulu</th>
<th>Fort Portal</th>
<th>Masaka</th>
<th>Kabale</th>
<th>Mubende</th>
<th>Arua</th>
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<td>8</td>
<td>13</td>
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<tr>
<td>Total</td>
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<td>23</td>
<td>13</td>
<td>9</td>
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Increased identification and enrolment of DR-TB patients on treatment: As of March 2016, 825 patients were cumulatively notified at the existing 15 sites countrywide. Of these, 190 patients were enrolled and managed at seven SUSTAIN-supported sites (Figure 2).

Figure 2. Number of identified drug-resistant TB patients at supported facilities, 2012-2015

Enhanced healthcare service provider skills: TB care teams from all project-supported hospitals receive quarterly on-site mentorship and QI coaching. Up to 422 staff at supported hospitals have been trained and mentored in the following areas:

- Basic TB/HIV co-infection management and the application of quality improvement methods in routine service delivery;
- Isoniazid preventive therapy;
- Management of drug-resistant TB; and
- Programmatic management of DR-TB.

Improved space and infrastructure for DR-TB activities: In collaboration with the MOH Infrastructure Division, USAID/SUSTAIN remodeled and handed over six TB wards—Kabale, Masaka, Mubende, Gulu, Mbale and Fort Portal. These specialized isolation units now provide appropriate space for MDR-TB case management and optimal TB infection control practices.
Delivered quality laboratory services for TB patients: USAID/SUSTAIN has supported the MOH to renovate and equip 17 hospital laboratories. Additionally, the project supports these and other hospital labs to:

- Participate in a National TB Reference Laboratory External Quality Assurance scheme for TB microscopy;
- Conduct monitoring for DR-TB patients (clinical chemistry, hematology and thyroid stimulating hormone assays) and enhance established sample referral networks for transportation of sputum samples for culture and drug sensitivity testing;
- Utilize Gene Xpert equipment and manage consumables for Xpert testing; and
- Effectively quantify, order for, report and manage laboratory reagents.

As a result, the project has enhanced case detection and TB sputum monitoring at supported hospitals. The proportion of TB sputum results that have been conducted in the appropriate turnaround time has increased from 63% in December 2014 to 75% in June 2016 (Figure 3).

Improved documentation and data management for TB and DR-TB services: USAID/SUSTAIN supported the transition of DR-TB data management systems from paper based to electronic based systems. The transition supports the generation of complete and timely DR-TB reports and provides access to web based DR-TB data to guide clinical decision making and program management of drug-resistant TB at all the seven DR-TB sites.