

UPGRADING CAPACITY OF REGIONAL MEDICAL EQUIPMENT MAINTENANCE WORKSHOPS IN UGANDA

The USAID Strengthening Uganda's Systems for Treating AIDS Nationally - SUSTAIN project assists the Ministry of Health (MOH) to upgrade the capacity of seven of its Regional Medical Equipment Maintenance Workshops located at Lira, Arua, Hoima, Gulu, Mbale, Fort Portal, and Kabale Regional Referral Hospitals to support routine repair and maintenance of various biomedical equipment at healthcare facilities in the respective regions.

Background

Current trends indicate that a number of medical equipment are increasingly being deployed in the districts to increase the diagnostic and treatment capabilities of primary healthcare facilities. However, the growth in capabilities to manage or maintain the medical equipment has lagged far behind the rate of acquisition (*Ministry of Health's National Medical Equipment policy 2009*).

Maintenance support services for this equipment both at district and referral levels are coordinated by Regional Medical Equipment Maintenance Workshops (RWs) established under Regional Referral Hospitals (RRH). However, the capacity of the Workshops is limited by lack of staff skilled in biomedical engineering, specifically maintenance/repair of sophisticated automated equipment; dilapidated workshop infrastructure; inadequate tools and equipment to use in carrying out repairs; and lack of transportation for technicians to conduct on-site equipment support supervision and repairs.



Above: Some of the pick-up trucks for supporting RWs field activities, procured with support from USAID



Some of the equipment for repair at the Gulu Regional Referral Hospital Medical Equipment Workshop; November 2013

USAID Supported Interventions

In March 2013, the USAID Strengthening Uganda's Systems for Treating AIDS Nationally project started implementing the following RWs upgrade activities:

1. *Support the Ministry to recruit, train and place seven laboratory equipment biomedical engineers at each of the RWs*

Completed

- Recruitment and placement of seven biomedical engineering technicians at each of the workshops at Kabale, Fort Portal, Arua, Mbale, Hoima, Gulu and Lira RRHs

Ongoing and future activities

- Training of the biomedical engineering technicians in basic trouble shooting, preventive maintenance and full servicing of biomedical equipment

2. *Improve infrastructure of the RWs through minor renovations*

Completed

- Infrastructure improvement needs assessment

Ongoing and future activities

- Renovations and provision of furniture

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Supported interventions continued'

3. *Provide laboratory equipment repair/maintenance toolkits to each of the seven RWs*

Completed

- Equipment needs assessment for each RW

Ongoing and future activities

- Procurement and distribution of equipment repair/ maintenance toolkits

4. *Provide routine operational logistics support to each of the RWs, including transport and communication*

Completed

- Procurement of pickup trucks, development of inventory management plans and routine operational budgets

Ongoing and future activities

- Taking inventory of all biomedical equipment in the seven regions of the country up to Health Centre III level
- Providing operational support to RWs for field and other activities, including support supervision and equipment repairs



An Anesthetic machine now in use at Gulu RRH after its repair by the biomedical engineering technician

Impact of a Biomedical Engineering Technician at Gulu Regional Medical Equipment Workshop

At Gulu RRH, Rachael Musasizi, a biomedical engineering technician was recruited in August 2013 with assistance from USAID SUSTAIN project. By November 2013, Racheal had demonstrated leadership in repairing broken equipment, servicing and training staff on the proper use and maintenance of available medical equipment.

"I am grateful because I see most equipment coming to life. Racheal has gone as far as repairing theatre beds, lights, computers, anesthetic machines and equipment which was dormant," said Sister Margaret Odokonyero – Senior Principal Nursing Officer, Gulu RRH.

Rachael's presence has resulted in use of innovative and cost effective methods to ensure functionality of previously broken down equipment. For example, the hospital's Echocardiography machine had been out of use since 2008 after its monitor screen stopped working. It required up to 20 million shillings to replace it with a new one, and the hospital was still working at raising the funds at the time Racheal was recruited. She worked with other technicians and a physician to provide a temporary solution (replaced the spoilt monitor with a computer monitor, and now the machine works perfectly as before).

Other equipment that have been repaired include an X-ray viewer for the orthopedic theater, the vital signs monitor, a pulse oxymeter, an oxygen concentrator, and an anesthetic machine.

Ensuring optimum functionality of Regional Medical Equipment Maintenance Workshops is a cost-effective and sure way of ensuring longevity of biomedical equipment, and hence better quality health services and improved patient outcomes.



Rachael Musasizi, a biomedical engineering technician at Gulu Regional Medical Equipment Workshop operating an Echo machine that had been out of use for five years. She replaced the spoilt monitor with a computer monitor.