About the project

Knowledge for Change (K4C) is an organisation that supports knowledge and skills exchange among health professionals mainly between Uganda and UK. With funding from THET, we are able to build capacity and improve biomedical engineering in Ugandan through mentorship, training and other professional support to technicians across the country. The project currently supports 17 Biomedical Engineering personnel in their career development so they can provide better services to health facilities.

A WORD FROM THE PROJECT MANAGER

Dr Robert Ssekitoleko, EngD

We are very delighted to be contributing towards improving Uganda’s healthcare through building the capacity of Biomedical Engineers and Technicians. Our approach of using the knowledge exchange model through training and more importantly mentorship by locals and internationals is proving to be very popular. We have achieved many things since we started the second phase in September 2015 and found some challenges as would be expected. Special thanks to each and every one of the technicians, supervisors, managers, clinicians and all the stakeholders for making our efforts fruitful.

We hope to continue improving healthcare provision through efficient effective medical equipment management.

1. THE LAUNCH

The project launch workshop of phase two was held on September 21st, 2015 and was attended by various delegates including hospital managers, senior medical personnel and biomedical engineers and technicians. It was also attended by officials from the Ministry of Health, Ugandan Industrial Research Institute (UIRI), the Ugandan Protestant Medical Bureau (UPMB), universities and private companies around the country as well as the project lead from the University of Salford UK and students from Makerere University.

ENG. ARAFAT WAKULIRA, OUR NEW LONG TERM VOLUNTEER

Earlier this year, the project was pleased to welcome Eng. Arafat Wakulira, who previously worked for Barts Health NHS Trust, UK as a Clinical Scientist and Quality Manager. He mainly supports technicians in Fort Portal and Mbarara Regional Referral hospitals, Virika hospital and Kisiizi Church of Uganda hospital. Arafat supported these hospitals to complete medical equipment inventories and is involved in delivering & coordinating technician training.
Among the topics discussed at the launch were the achievements and challenges of phase one of the project, along with the plans for the second phase. The attendees got involved in an interactive session where they discussed various topics related to Uganda’s healthcare and equipment management system.

2. Selection of technicians

We are happy to report that the project supports more hospital technicians than in Phase I. We have also added new hospitals to the project. We now support over 12 technicians across 10 Hospitals including: Mulago RRH (2 techs), Kisenyi HCIII, Kisiizi COU (2 techs), Kabubbu HCIII (1 tech), Gulu RRH, Fort Portal RRH (1), Virika (1), Hoima RRH (2), Mbarara RRH (2) and Mengo COU Hospital (1).

The technicians were selected by their managers based on their commitment to the facility, overall performance and enthusiasm for their work. A total of 7 new technicians were added to the project.

3. Technician Training

The project has so far facilitated three training sessions for technicians with more to come. Two of the trainings were in the UK; the first in Nov-December 2015 at Avensys on Medical Equipment Technologies (attended by Patrick Semata from Mulago and the Project manager), and the other by Gradian Health Care systems in February 2016 on the Universal Anaesthesia Machine (UAM) (attended by the project manager). The first training for all the technicians we support in Uganda was held at Hoima Regional Referral Hospital in March 2016 under the theme “medical equipment management and electrical safety”. We are currently at Hoima Regional Referral Hospital covering Introductory Electronics and Medical Imaging. This training has improved knowledge, skills and confidence.

The technicians undergo routine medical equipment refresher training to improve their knowledge and skills. The most recent was done on Thrive Network Donated paediatric equipment (picture shown below).

In addition to the training, the technicians attend a workshop every 3 months in order to discuss the issues affecting them in their work as biomedical engineering personnel. Two workshops have been held; one in Mbarara and the other in Hoima. In the workshop, the other stakeholders in equipment care in the hospitals are invited, including managers, nurses, doctors and clinicians from neighbouring medical facilities to discuss ways to improve medical equipment care at all fronts. The next workshop will be held in Fort Portal on 17th June, 2016 after a two week training program on medical imaging equipment and electronics.
4. Development of the evaluation card

In order to continuously assess the skill sets of the technicians we have designed a data collection tool to be used by the technicians themselves to monitor their progress. This led to the development of the medical equipment management card which enables the technicians to record the work they do on a daily basis. At the end of the month, they generate a report which collates the work they have done over the month and records challenges, achievements and plans for the following month. The monthly report is sent to the project lead and his team, who use it to evaluate the gaps in service delivery that are encountered by the technicians and in turn use that information to plan for training and mentoring support.

5. Medical equipment inventories and routine visits

The project lead has visited all the facilities that the project supports apart from Gulu Hospital. During these visits the technicians are supported with various activities including user training, installations, maintenance and repair, equipment testing and most importantly, medical equipment inventory.

Installation and commissioning of paediatric equipment in Mbarara Regional Referral Hospital during a hospital visit. In the centre is the hospital director Dr Barigye with Dr Robert Ssetoko and Eng. Arafat Wakulira (R)

Among the ten hospitals whose technicians the project supports, a total of seven facilities have had their inventories and reports done in the time since the project started. The inventories have significantly improved the technicians’ knowledge of the equipment in their hospitals. As a direct effect, they can plan for their facility’s biomedical engineering units appropriately.

We have noticed that Fort Portal Regional Referral Hospital already has an effective inventory management system and as such, we have brought all the other technicians to observe and learn.

6. Meeting with UNAMHE Executives

The Knowledge for Change team managed to schedule and meet with UNAMHE executives regarding capacity building of Biomedical Engineers and Technicians in Uganda. Among the critical issues discussed was certification of the technician trainings and registration of biomedical engineering personnel under the Ugandan Institute of Professional Engineers (UIPE) as one of the steps in reviving UNAMHE activities in Uganda and increasing support for professionals in the field.

After deliberations, the UNAMHE executives with the K4C team

7. Commonwealth applications

The UK Commonwealth Professional Fellowship scheme provides opportunities for professionals working in low resource settings to work for a short period in the UK in order to gain better experience. This year in May, we submitted applications for nine of our technicians. If the applications are successful the technicians will spend a period of six weeks in UK partner hospitals to learn how they can improve their skills. In the past, we have taken six technicians.
8. Full time Ugandan Volunteers, In-country Evaluation team

We are happy to say that starting this month, June 2016, the project has two new Ugandan volunteers, working as the in-country Monitoring and Evaluation team. The two, Ms Jessica Nantume (R) and Eng. Maria Nassali (L), will evaluate project progress and compare to the set milestones and figure out ways to get the project to work more efficiently and effectively. They will also support the technicians in carrying out their duties as part of the project. They will therefore collect data from the technicians and their managers pertaining to the project activities and Biomedical Engineering in the country.

9. Selection of Test equipment for Medical Equipment

Test equipment are among the most vital set of tools that a Biomedical Technician can have in order to manage medical equipment sustainably. This was demonstrated recently in a technician training where an oxygen concentrator was supposedly working well, but on testing it, the oxygen concentration delivered was 21%. The importance of having test equipment was clearly highlighted by this case.

In response to this need and other previous observations, K4C included in the project proposal, a budget for test equipment for the participant facilities and selection of the most needed test equipment for the medical equipment was chosen in consultation with the technicians and the requirements of each hospital. The process of requisition is underway.

10. Challenges and achievements

As well as all the positive cases cited above, we have managed to incorporate the technicians from the first project phase into the second phase as trainers and mentors. This has been demonstrated at the training where they take part in training their fellow technicians in areas where they excel, in addition to supporting the newer technicians at their places of work. The technicians also talk to Biomedical Engineering students about their work in a bid to inspire them. The students at Makerere University have been fully supported by the technicians with the help of the project manager.

Our biggest challenge so far has been getting everyone in the hospital; cleaners, porters, nurses, doctors, procurement officers, accountants etc to fully support the technicians’ activities. We hope to encourage the building of Medical Equipment Management Teams (MEMT) in each hospital comprising representatives from all units.

11. Future activities

The project will host a conference on January 16th and 17th 2017 on medical equipment in Uganda in conjunction with UNAMHE and the biomedical engineering student bodies. All stakeholders in the medical industry in the country will be invited, along with guest speakers from around the world.

We are in the process of registering all our biomedical personnel with UNAMHE. This will open up so many opportunities for the technicians both in and out of the country.

A list of all other activities will be circulated in due course.

Acknowledgements

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