Adequate water, sanitation and hygiene (WASH) is essential for health care facilities (HCFs) around the world. The World Health Organization recently developed a tool to address these concerns, known as the Water Sanitation and Hygiene Facilities Improvement Tool (WASH FIT). Embangweni Mission Hospital in Northern Malawi started implementing the tool in July of 2017. The tool utilizes existing facilities and organizations for a comprehensive approach to WASH improvement. Therefore, appropriate foundations for successful implementation are important to recognize and foster. Existing facilities, committees, infrastructure and resourcefulness of staff have all meaningfully contributed to the unique implementation in Embangweni. The foundations from Embangweni can help provide insight to WASHFIT implementation in future locations.

Introduction

One would expect HCFs to have WASH services that meet minimum requirements due to the nature of services they provide and the expertise they have. Contrary to this, the first-ever global review of WASH in HCFs revealed huge gaps in some domains. Data gathered from 54 low and middle-income countries indicate 38% do not have access to improved water sources within 500m. Coverage of improved sanitation in the African region is 42%. On a positive note, provision of water and soap or alcohol-based hand rub for hand hygiene is 65% while 81% reported having improved sanitation facilities (WHO/UNICEF, 2015). A health facility assessment conducted by Organised Network of Services for Everyone (ONSE) in 256 Malawian facilities echoes findings of the global review in terms of access to improved sanitation (84%). Access to improved water sources is higher than what the global review reports (74%). Critical to note, 4 out of 256 facilities do not have access to any kind of water source. Hand hygiene is lower than the global review with 41% of HCFs possessing handwashing facilities at critical locations. Only 43% of these facilities have soap available (ONSE, 2017).

The Centre for Global Safe WASH at Emory University in collaboration with the Synod of Livingstonia Health and Development Departments conducted a WASH Conditions (WASHCon) Survey in 15 HCFs (3 hospitals, 11 Health Centres and 1 Health Post). Their assessment considered 5 domains including water supply, sanitation facilities, cleaning routines, handwashing and waste management. Each domain included a list of indicators. An indicator assessment was used to analyse the data. This was based on a three-point system with three levels of each indicator. The overall score for the 15 HCFs was 2.4 out of 3, indicating that some minimum WASH standards were not met. Water supply and handwashing were two major challenges in these facilities. Some HCFs scored as low as 1.8 and 1.4 respectively (CGSW, 2016). Slight disparities in WASH provisions were observed between levels of care, with hospitals scoring an average of 2.28, while the average score for health centres was 2.35.
In July 2017, the Development and Health Departments started implementing Water Sanitation and Hygiene Facilities Improvement Tool (WASH FIT) (figure 2) in 5 HCFs (1 Hospital and 4 Health Centres) to address the gaps identified by the WASHCon survey. This paper will look at pre-requisites for WASH FIT and will highlight some best practices already implemented by the facilities. These insights will illuminate the importance of building on existing structures within HCFs.

**The WASH FIT methodology**

WASH FIT is a comprehensive approach of assessment and improvement of WASH in HCFs which focuses on actions. It is adaptation of the Water Safety Plans (WSPs) designed by WHO in 2016. It is a management tool that holistically protects health and upholds dignity through the assessment and management of risks from insufficient or unsafe water supply, inadequate sanitation and poor hygiene practices.

**Location and background of targeted WASH FIT HCFs**

Embangweni Mission Hospital is located in northern Malawi in the Mzimba District and serves a population of over 100,000 people. Four Health Centres rely on this central hospital: Mhalaunda, Mpasazi, Kalikumbi, and Mabili (Figure 1). These mission facilities are run by the Church of Central African Presbyterian - Synod of Livingstonia and grouped within the Christian Health Association of Malawi (CHAM).

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**Figure 1. WASH FIT methodology**

Enabling environment for WASH FIT

The WASH FIT methodology recognises that having a strong leader at a facility or at District level is one of the key factors for success as they are able to drive meaningful change albeit limited resources. In February 2017, The Malawi Ministry of Health in collaboration with WHO/UNICEF hosted the launch of Quality of Care Network. The 9 participating countries aim to halve maternal mortality, new-born deaths and stillbirths in 5 years by improving quality of care. In his keynote speech, the Honourable Minister of Health Dr Peter Kumpalume (2017) said Government of Malawi will strive to do everything possible to support this network and promote equity, quality and dignity. This commitment has been fulfilled as the Ministry of Health has now established a department of quality assurance. To address decentralisation, the Ministry has since recruited Regional Quality Assurance Coordinators and Quality Assurance Officers at every District in the country. Furthermore, the Ministry is in the process of coming up with policies and strategies to guide the nation in improving quality of care. Quality of care cannot be improved without improving WASH conditions.

In addition to the government, other key players in WASH like WaterAid Malawi, University of North Carolina, World Vision International and other stakeholders present at the launch are taking strides in being part of this movement. Apart from collecting data on WASH conditions and sponsoring WASH interventions in HCFs, WaterAid is supporting the “Community of Practice”. This is a forum where organisations practicing WASH in HCF related work and relevant government departments meet to share experiences and lessons learnt. This forum is fundamental in providing information vital for policy direction.
Gaps in facilities vs available resources
A situation analysis conducted of the 5 HCFs in question with onsite tours, interviews and assessments with facility management. The analysis revealed the facilities have infrastructural resources available to help them improve WASH services. All facilities have multiple water sources installed by various donors. The majority of them are non-functional or in poor condition and in need of maintenance. Only the hospital had water running from the taps piped into the facility. The Health Centres had plumbing works inside the facilities but the taps were non-functional. Similarly, the Hospital was the only facility with power supplied from the national grid with a back-up generator. The Health Centres had the wiring in the facilities with solar panels available but no power. A variety of reasons contributed to the absence of power; typically, the inverter or batteries were damaged or vandalised.

Other facilities, toilets, for example, are also available. These facilities need special attention to ensure they are properly cleaned and managed. Some items considered waste were visibly present at all the HCFs. Admirably, the administration of the hospital had started working on reducing junk yard waste by re-using it. Broken beds, wheel chairs, incubators, scrap vehicles and other broken hospital equipment were being transformed by a hired welder into various kinds of items including chairs, tables, TV stands, and trolleys.

Considerable improvements in these facilities are possible without financial investment. Rather, improvement requires a strong team to direct new resources coming to the HCFs informed critical management decisions to ensure security and maintenance of existing structures.

WASH related structures present at or around the facilities
Before implementing WASH FIT, a situation analysis was done to ascertain existing structures. There was need to understand how the HCFs operate and who is involved in what operation. WASH FIT strongly recommends having a diversity of members and discourages formation of new teams if facilities already have teams looking into issues of WASH (WHO/UNICEF, 2016). The box below outlines available structures at the Hospital and their functionality. The functionality has been measured on a scale of 1 to 3 (1 = not active and 3 = very active) based on how often members meet, attendance of members during meetings and outputs of the meetings. Note that these committees/structures are responsible for the hospital and the 4 Health Centres under this hospital. In addition, membership of these committees comprises representatives from the Hospital, Health Centres and members of the community drawn from all 5 HCFs.

Lessons learnt
The following lessons can be drawn:
• Implementing partners in most cases do not conduct in-depth assessments at facilities before investing. Conversely, management teams in charge of facilities do not direct projects when they come to their facilities. The reason for this could be that they don’t have a say in donor funded project or they don’t have a plan to follow in improvements they want to undertake at the facilities.
• Health Care Facilities have many committees in place that have different but similar roles that could end overlapping and cause confusion. The diversity of committees could also mean that the same people will be on different committees which could end up overburdening the concerned members.
• To begin the steps of improving WASH in HCFs, existing infrastructure needs maintenance, repairs or upgrades instead of new infrastructure.
• Some items considered to be waste can be re-used and made into useful items for the hospital. For instance, broken metal equipment or furniture can be welded and made into other items that facilities would have otherwise spent money on. This not only helps in saving resources but also reduces the amount of junk around the facilities.
### Structures and their roles

The following is a list of the committees present at or around the hospital and their roles:

- **Hospital Advisory Committee (HAC):** This committee is described as the "link" of the hospital to the rest of the community. Its membership comprises people from the surrounding community and hospital members of staff. As the name suggests, they advise management and other committees on various aspects including administration and health care. (Functionality score = 2. They meet once every quarter/when needed and attendance is always satisfactory);

- **Quality Assurance Committee (QAC):** This committee has an array of members from almost each department at the hospital and they tackle a number of issues related to the hospital ranging from disease trends to WASH. (Functionality score = 3. They meet once every month with good attendance and regularly monitor all aspects of facility health delivery systems);

- **Infection Prevention and Control Committee (IPCC):** This committee has a huge task of conducting audit within the facilities to determine possible hazards and ensure staff are aware of required procedures to follow so that re or cross contamination/infection is prevented. (Functionality score = 2. They meet once every month and although attendance is good, whatever is discussed does not translate to action. This is evidenced by insufficient hand washing stations, lack of soap or alcohol-based hand rub, improper bed space and lack of documented cleaning protocols/hygiene messages);

- **Waste Disposal Management Committee (WDMC):** This committee is responsible for ensuring all waste generated by the hospital is safely disposed (Functionality score = 2. They meet once every month with good attendance);  

- **Primary Health Care Unit:** This is the preventive section of the hospital. Their role is to facilitate extensive community health programs like malaria control, family planning, Orphan care, maternal & child health, water sanitation & hygiene and AIDS control. (Functionality score = 1. They are not a committee but the public health section of the HCFs so they don’t have scheduled meetings. At the moment they don’t have any funded outreach program apart from Maternal and Child Health which is funded by government);

- **Village Development Committee (VDC):** This is a committee at Group Village Headman level responsible for development work in the community they serve. HCFs are within their communities so engaging them at every stage of any project is paramount. (Functionality score = 3. They have regular meetings more than the planned once a month and support development work of the HCFs by mobilisation community members to participate and acting as the communication bridge between the HCFs and the communities);

- **Shallow wells teams:** These teams comprise members of the community surrounding the HCFs. Their main role is help in facilitating construction of protected shallow wells in the community. They also help in repair and maintenance of water supply system of the HCFs since they all use ground water systems. (Functionality score = 3. They are not a committee and don’t have scheduled meetings but they support provision of water sources and repair/maintenance of existing sources both in the communities and at HCFs. They have the required technical skills);

- **Sanitation masons/entrepreneurs:** This is a group of people trained by the Livingstonia Synod in construction of different kinds of sanitation facilities. They have taken up sanitation as a business. They concentrate on improving sanitation in their communities but could be a good resource at the HCFs. (Functionality score = 2. They are not a committee and don’t have scheduled meetings but they support with construction of improved sanitation facilities in the communities but provide less support at HCFs); and

- **Agriculture committee:** These are responsible for facilitation and advancing new agricultural techniques to improve household food security. They have a stake in WASH because they are also interested in water for irrigation. Furthermore, their farming knowledge can be used for beautifying hospital environments. (Functionality score = 2. They meet regularly but their actions are not directly related to WASH in HCF)

### Recommendations

Implementation of WASH FIT should concentrate on engaging and empowering facility management teams to effectively work on revamping or improving available infrastructure. Some things like facilitating team meetings, developing improvement plans and developing guidelines need strong management support. In addition, management should make deliberate provisions to allocate some funds for improving WASH. The HCF should always have power and avoid damage to invertors or batteries.

Coordination is crucial. As expressed in Lessons learnt, funding directed toward assessments need to ensure similar assessments were not already recently completed. Funding directed toward infrastructure needs to support and coordinate with other external funding partners offering similar improvements. To do
this, the HCFs need to take an active part in management of necessary improvements. In this way, the facilities themselves can facilitate external partner connections and avoid duplication of effort.

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References
ONSE 2017 Health Facility Assessment – Water, sanitation and hygiene findings. ONSE: Lilongwe Malawi.
CGSW 2016 Water, Sanitation and Hygiene in Health Care Facilities – Health care facility using the WASHCon tool. Emory University: Atlanta Georgia.

Note
Water and Sanitation for Health Facility Improvement Tool (WASH FIT) is a management tool adapted from the water safety plan (WSP) approach which is recommended in the WHO Guidelines for Drinking-water Quality as the most effective way of ensuring continuous provision of drinking water.

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