



EMORY

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HEALTH

CGSW

Center for Global Safe WASH

Leading and
Learning in WASH

Facilitating Evidence-Based Solutions for WASH in HCF

Tools to assess and improve WASH Conditions and
Sustainability of Safe Water Provision

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GE Foundation

Meeting the Fundamental Need for Safe WASH in Healthcare Facilities

Why do we need evidence?

1. To understand the problem
2. To determine what to do about the problem



Meeting the Fundamental Need for Safe Water in Healthcare Facilities

The adoption Goal 6 of the SDGs necessitates better tools to assess WASH conditions in healthcare facilities, measure sustainability, and track improvements.

To meet this need, the Center for Global Safe WASH at Emory University **developed two assessment tools:**

- 1) The WASH in HCF Scorecard** to assess WASH conditions, infrastructure, and resources in HCF
- 2) The Sustainability Metric** to evaluate sustainability of safe water provision in HCF

Collaboration for Safe Water in Healthcare Facilities

- Since 2011, the Center for Global Safe WASH (CGSW) has partnered with GE Foundation (GEF) to evaluate and improve the sustainability of water systems donated by GEF to healthcare facilities.
 - Past research in Ghana, Honduras, Rwanda (20 hospitals)
 - Sustainability metric developed and vetted
 - Current research in Cambodia and Uganda (15+ hospitals)
 - WASH Conditions Tool informed new donation program



GE water filters in hospitals in Uganda (left) and Cambodia (right).

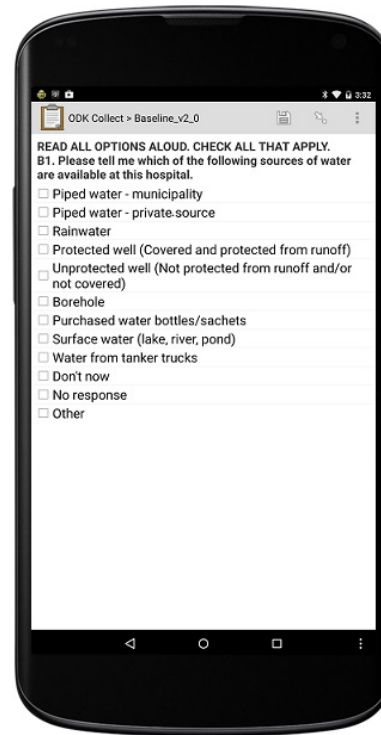
WASH Conditions Assessment Tool: Methods

The assessment tool includes the following modules based on the WHO Core indicators for WASH in HCF:

- Water Supply
- Sanitation Facilities
- Handwashing Facilities
- Cleaning Routines
- Waste management

The tool employs three methods of data collection

- Surveys
- Facility observation checklists
- Water sampling



Tool is administered on a mobile device



The assessment takes approximately 2-3 hours per site with 1 enumerator

WASH Conditions: Results

Water Supply

Indicator	Cambodia (n=10 HCF)	Uganda (N=6 HCF)
% of hospitals with water that met WHO guidelines for safe drinking water	0%	0%
% of hospitals that report treating water for at least one purpose (drinking, surgery, etc.)	60%	66%



WASH Conditions: Results

Sanitation and Handwashing Facilities

Indicator	Cambodia (n=77 latrine blocks)	Uganda (N=27 latrine blocks)
% of latrine blocks for staff that had soap and water nearby	38%	22%
% of latrine blocks for patients that had soap and water nearby		
% of toilet blocks that can be used for menstrual hygiene management	10%	52%
% of toilet blocks that are disability accessible	12%	63%
% of hospitals that report providing soap to patients for handwashing*	80%	56%
% of hospitals that report providing soap to staff for handwashing*	100%	100%



* Out of 10 HCF in Cambodia, 6 HCF in Uganda

WASH Conditions: Results

Waste Management and Infection Prevention

Indicator	Cambodia (n=10 HCF)	Uganda (n=6 HCF)
% of hospitals that report proper disposal of infectious waste	50%	66%
% of hospitals that report having a functional electric autoclave	100%	100%
% of hospitals that report washing sheets between patients	50%	83%
% of hospitals that report at least one infection prevention and control training in the last 5 years	100%	100%
% of wards observed to have environmental disinfectant (ethanol or chlorine)*	50%	83%



* Out of 48 wards observed in Cambodia and 29 wards observed in Uganda

Water Quality Data

WASH conditions and water quality data used to:

- Identify priority areas for improvement
- Compare conditions across and within regions to understand which problems are widespread vs. localized
- Select healthcare facilities to target for water treatment intervention

Impact of improved HCF water availability and quality - Ghana

“I wish on behalf of Management and Staff of Krachi West District Hospital to express our profound gratitude to the GE FOUNDATION PARTNERS for the enormous support given to the hospital over the years.

The most recent being the [installation of new water filtration machines and the financing of a project to draw water from the Volta Lake for processing by the plant](#). **The impact of this intervention is enormous. Besides providing clean quality water for healthcare delivery, it has also saved the facility on average \$150 a day which was used previously to fetch water from the Lake through the National Fire Service for processing. This is a huge savings for a facility that generate cash revenues of about \$1200 dollars A WEEK (aside bills submitted to the National Health Insurance Authority).** “

“In addition to that water supply to staff who are resident in the hospital premises has also improved dramatically and therefore **boosted morale of these staff**. **The ready availability of water has also taken away the frustration that greets our staff in the various units as they provide services to patients**. Indeed the resolution of this water problem has also projected the management of the facility in positive light and we have received open commendation from our staff as such. The list is endless.....”

Dr Hilarius Asiwome Kosi Abiwu

(BSc Med Sc. MBChB, Cert Chr. Ministry, Cert. HAM, EMBA Student.
Mandela Washington (YALI) Fellow
Medical Superintendent, (Krachi West District Hospital)
General Secretary, Medical Superintendent Group, Ghana (National)
Ag. District Director of Health Services (Krachi West District Health Directorate)

Email from March 16, 2016



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Motorbike used to bring water to hospital prior to new pump and piped system to draw water from nearby lake.

Key Components Assessed by Sustainability Tool

Technical Feasibility

- Water Quantity and Availability
- Availability of Supplies, Parts and Equipment
- Plumbing Infrastructure
- Water Quality

On-Site Capacity

- Communication
- Operation
- Preventative Maintenance and Repair
- Training

Financial and Operational Accountability

- Monitoring Performance
- Internal Oversight
- External Oversight
- Budgeting

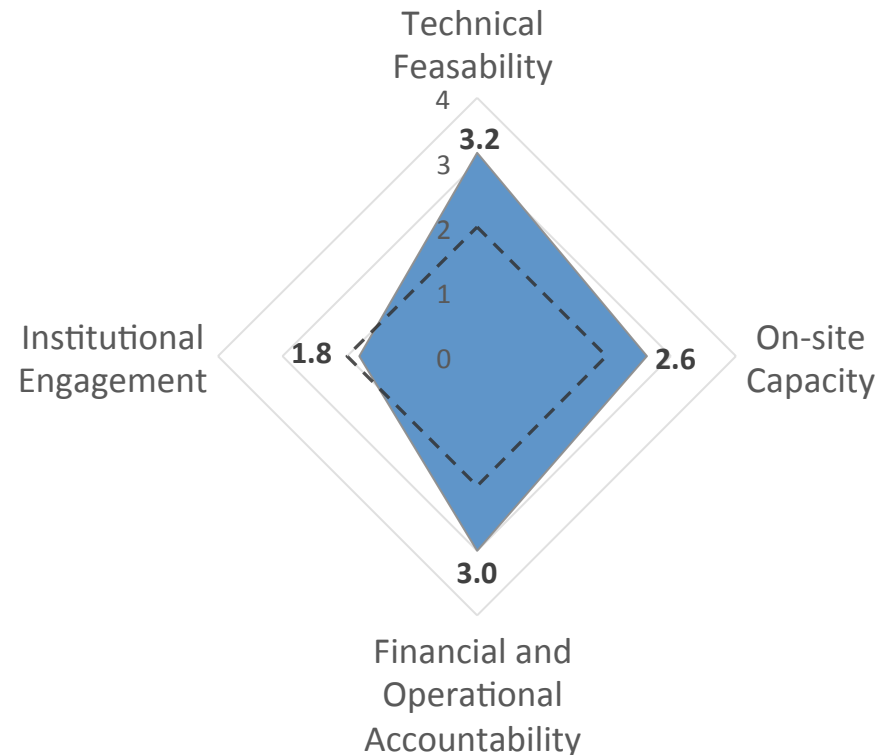
Institutional Engagement

- Staff Awareness and Support
- Staff Participation in Use of Treated Water
- Satisfaction
- Ownership

Sustainability Scores for a Cambodian Hospital

Overall Sustainability		2.6
Domain Scores		
Technical Feasibility		3.2
On-site Capacity		2.6
Financial and Operational Accountability		3.0
Institutional Engagement		1.8
Subdomain Scores		
Water Quantity and Availability		4
Availability of Supplies and Equipment		3
Plumbing Infrastructure		3
Water Quality		3
Communication		4
Operation		2
Preventative Maintenance and Repair		1
Training		4
Monitoring Performance		4
Internal Oversight		4
External Oversight		0
Budgeting		4
Staff Awareness and Support		2
Staff Participation in Use of Treated Water		3
Satisfaction		2
Ownership		0

Cambodian Hospital A

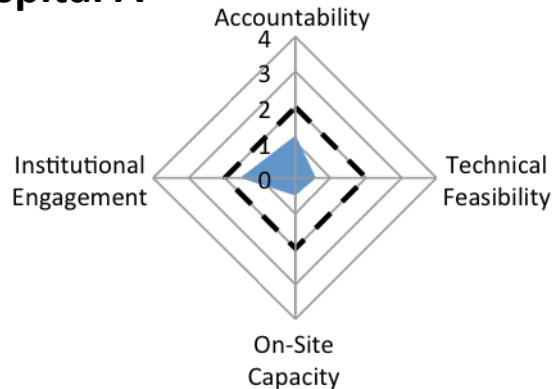


Sustainability Scores and Positive Change Between Baseline (2013) to Midline (2014)

2013

Ghana

Hospital A

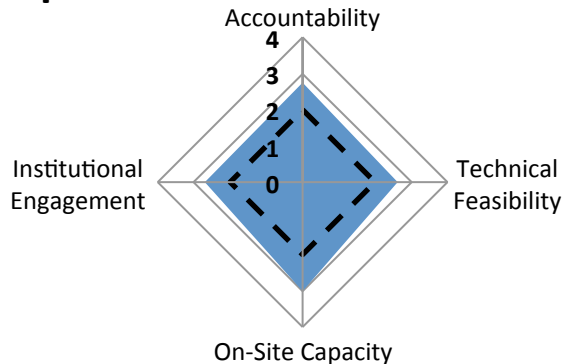


After reviewing 2013 results, the Director..

- **Institutional Engagement-** raised awareness about water quality and created an incentive structure for hospital staff to clean water storage containers.
- **Accountability-** developed a maintenance protocol and created reporting mechanism within wards. Developed a budget to ensure funding for chlorine for water treatment and disinfection.
- **Technical Feasibility-** worked with GE partners to identify and fix cross connections within the piped network to improve water quality.
- **On-Site Capacity-** made it a priority to ensure hospital staff have ability to fix problems with water treatment system

2014

Hospital A



WASH sustainability data used to:

- Identify priority areas for improvement
- Facilitate evidence-based solutions
- Track progressive realization of improved WASH in HCF
- Drive investment in operation, maintenance, and upgrades of WASH facilities

Conclusion:

Data on WASH in HCF is critical to build the evidence base for advocacy and action in the areas of WASH, HCF, and improve healthcare service provision.





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"The Ebola outbreak, which is the largest in history that we know about, is merely a reflection of the public health crisis in Africa, and it's about the lack of ***staff, stuff, and systems*** that could protect populations, particularly those living in poverty, from outbreaks like this or other public health threats,"

– Paul Farmer,
Harvard Medical School Professor
and special adviser to the United Nations on community-based medicine.

