



WEBINAR SESSION 11 (July 2019) – SUMMARY

An Engineer's Perspective on WASH in Health Care Facilities Presentation by Mike Paddock, Engineers Without Borders USA Comments by Kith Rathamony, Splash International

Purpose of this Webinar

Engineers play an important role in implementing and maintaining water, sanitation and hygiene (WASH) in healthcare facilities (HCF). A presenter from Engineers Without Borders (EWB) discusses the importance of proper assessment and maintenance, offering key insight into the successes and lessons learned from implementing and sustaining WASH in HCF. A commentator from Splash International, shares the experience of patient dissatisfaction with inadequate water and inappropriate waste disposal in HCF and reiterates the importance of community involvement in assessing the need for WASH in HCF.

Summary of Presentation

Engineers Without Borders USA

- Engineers Without Borders USA (EWB-USA) empowers communities to meet their basic human needs through 684 community-driven development projects in 40 countries.
- Healthcare facilities (HCF) have historically been a key partner in EWB-USA projects.
- The sustainability of water, sanitation and hygiene (WASH) interventions in HCF must include life cycle costs such as initial capital, and operations, maintenance and training, as well as appropriate technologies according to the facility' ability and willingness to pay.
- Reducing the annual operations and maintenance costs can involve investing more in the initial improvement by using resilient materials and simplifying the supply chain of tools and parts.
- The sustainability of WASH engineering projects in HCF rely on clearly identified roles and responsibilities and identifying a sustained funding stream before the project is built.
- Most governments and the WHO agree that the waste generator is responsible for its proper disposal.
- HCF must accept the responsibility of the proper final disposal of their wastewater and solid waste.
- A proper technical assessment saves time and money.

- Assessments for WASH engineering projects must include the expectations of the community “beyond the fence” of shared services like healthcare.
- Assessment forms should look at wastewater to avoid accidental harm done. For example, converting latrines to flush toilets without the inclusion of waste water treatment can cause failed soak away pits to leak sewage to the surface.

Comments from Kith Rathamony

- As a representative of Splash International in Cambodia, Mr. Rathamony visits HCF and witnesses and hears patient complaints about inadequate hygiene, a lack of cleanliness, and inappropriate waste disposal in HCF.
- The lack of appropriate WASH in HCF in Cambodia affects the patients’ opinions of the quality of service and causes patients to not want to use services provided by HCF.
- Mr. Rathamony reiterates the importance of including the perspective of the community “beyond the fence” of the HCF in assessing the needs for WASH in HCF.
- Patients want to know that there is reliable clean water and appropriate waste disposal in HCF to be certain enough that medical care is safe.

Important Discussion Points

- From an engineer’s perspective, the transient population can change water use patterns on a seasonal basis and daily water usage and cleaning patterns are different in HCF compared to schools or residences. Because the risk of not having enough water in HCF is much higher, engineers must plan to build larger storage facilities to store more water and redundant methods to ensure reliable stream of water in HCF.
- Effective maintenance training in low- and middle-income countries includes the use of a physical model that can be kept at one location where you can consistently do a training or that can be transported from place to place.
- Engineers can encourage improved behavior change by communicating with HCF staff, sharing success stories with HCF staff to show that change can happen, and setting up WASH infrastructure in a way that is conducive to encouraging regular use, e.g. the placements of sinks or considering the sink and healthcare provider ratio)
- By considering resistance to chlorination, engineers can decide if a multilevel wastewater treatment facility is needed in HCF.
- Community operations and maintenance of HCF is not sustainable in the long-term. Operations and maintenance of HCF should be owned by the operator of the HCF.
- If technical expertise is needed, most countries have an Engineer’s Association and NGOs such as EWB and Engineering Ministries International can provide training and build capacity in the area you are working in. In Cambodia in particular, you can partner with other NGOs for specific training and technical expertise via the NGOs directory and NGO networks.

- EWB has a 5-year commitment to maintain projects via country chapters. The biggest challenge is that the exit strategy needs to be identified from day 1 so that all of the stakeholders understand that EWB will prepare the community to sustain project themselves moving forward.
- To identify WASH materials that are durable for HCF, EWB identifies materials that perform well in local schools and military facilities that are locally available.

Summary of Action Items

- Ensure the sustainability of WASH in HCF engineering projects
- Take ownership of waste
- Make proper assessment observations
- Include an engineer on your team