

## Healthcare Worker Hand Hygiene in Cambodia

Handwashing is considered one of the most effective and inexpensive methods of preventing the spread of infection. In the healthcare setting, proper handwashing is crucial for the safety of patients and healthcare workers. Healthcare facilities have a high density of patients, some of whom are immune-compromised and therefore particularly vulnerable. As staff visit one patient to another, clean hands can break the chain of infection.

Yet, healthcare facilities in resource-limited countries often do not have access to soap and water for hygiene purposes. A recent study showed that only 44% of HCF had soap and running water.<sup>1</sup> In Cambodia, this lack of WASH infrastructure is of particular concern. An assessment from 2016 of outpatient wards and delivery rooms in five provinces found that only 3% of the 117 HCF had a functional hand hygiene station at all critical points of care and within five meters of toilets.<sup>2</sup>

Through funding from the General Electric Foundation (GEF), the Center for Global Safe Water, Sanitation and Hygiene at Emory University (CGSW) monitored water treatment systems installed in 10 hospitals. While working in these hospitals, the limited access to water within the wards, particularly for patients, became apparent. The CGSW partnered with WaterSHED to provide their innovative portable sink to these hospitals.

## WaterSHED's Handwashing Innovation: The HappyTap



HappyTap at a HCF  
in Cambodia

A local, non-governmental organization based in Cambodia, WaterSHED builds the market for water, sanitation, and hygiene products and services. To address hand hygiene, their team developed the 'HappyTap' – the first handwashing enabling technology purpose built for low-income communities. Launched in 2014 this award-winning portable sink was designed to remove structural barriers that prevent people, especially children and their caregivers, from habitually washing their hands with soap. It brings water and soap together to make handwashing more convenient, accessible, and fun. The HappyTap is currently marketed in Cambodia, Vietnam, and Bangladesh.



HCF staff member utilizing  
portable handwashing sink

### Footnotes:

1. Ryan Cronk and Jamie Bartram, "Environmental conditions in health care facilities in low-and middle-income countries: coverage and inequalities." In *International journal of hygiene and environmental health* 221.3 (2018): 409-422.
2. Cambodia National Institute of Public Health, "Public Health Care Facilities on Water, Sanitation and Hygiene of Five Provinces in Cambodia." Full Report (2017).

## **Bringing the HappyTap to the Hospital**

While WaterSHED has tested the HappyTap in households and primary schools, they had never introduced the handwashing device in a healthcare facility. The CGSW and HappyTap initially targeted one hospital that demonstrated the biggest need for handwashing stations. This hospital had no sink in the pediatric or post-surgery ward at baseline. During a scoping visit, staff expressed a concern that up-keep of portable sinks would be difficult if they were shared with the patient population. So project partners agreed the initial trial would introduce HappyTaps only in staff areas, with the potential for additional HappyTaps for patient use at a later time.

The hospital director signed an agreement to care for the sinks. Four HappyTaps were presented to the hospital in a small event for staff championing the importance of handwashing. The HappyTaps was positioned in wards with limited access to water and set up on metal carts with wheels to allow for mobility. Liquid soap was placed next to the sink, another preference of hospital staff who described liquid soap as more “luxurious” and easier to use. Official Ministry of Health handwashing posters were mounted on the wall above the HappyTaps.

Four months later, after the hospital director signaled his satisfaction with the product, four additional HappyTaps were introduced for patient use. The partners again worked with the hospital to determine strategic locations for the sinks’ placement. Meanwhile, to test another approach, four HappyTaps, with accompanying carts and soap were provided to a second hospital. The hospital director was not given any recommendations on where to set up the HappyTaps nor for whom the HappyTap should be designated, allowing for the hospital to make those decisions internally.



Hospital staff in Cambodia receive donated HappyTaps

## **Monitoring the HappyTap**

During the following year, the CGSW visited the hospitals to check on the functionality of the HappyTaps and collect feedback from users. During this time, one of the 12 HappyTaps was reported as nonfunctional, while another had a leaky handle. They also remained in their primary location, despite the fact that they were mobile; staff explained that the initial location was ideal. The HappyTaps were kept clean, though those designated for patient somewhat less so. The trays were regularly reported as being wet and with water in the bucket underneath, indications that they had been recently used. Staff described using the HappyTaps multiple times a day, either at the same or greater frequency than their usage of permanent sinks within the hospital. Staff consistently agreed that the HappyTap was easy to use and convenient, however they noted that the refilling of water was a disadvantage of the product.

Six months after the program closed, the CGSW returned to the two hospitals for a final visit. At the first, six of the original eight HappyTaps were functioning, clean and had soap. Meanwhile, the other two had fallen into disuse. At the second hospital, one of the original four was functioning as built, while another been jerry-rigged with pipe to replace the tap.

### **Training on Handwashing**

In addition to introducing the HappyTap directly into the hospitals, the CGSW purchased the portable sinks for WASH training activities. During these interactive trainings at the hospital, groups of 20 to 30 people would need to practice handwashing. Such an activity is challenging with limited water and soap access in the training room. Both facilitators and participants agreed that the HappyTap was a practical solution. The Ministry of Health has since requested for HappyTaps to be present at upcoming training workshops involving handwashing.



Hospital staff complete handwashing training with HappyTaps

### **Conclusions**

This trial found that the HappyTap is suitable for the healthcare facility environment and did expand access to soap and water for handwashing. Follow-up visits demonstrated that jointly deciding in advance where the HappyTap should be located, who the designated users were, and who was responsible for sink maintenance were important aspects to its sustainability. Additionally, raising awareness through a kick-off event on the importance of handwashing and the use of the HappyTap may have increased staff engagement. The HappyTap was also found to be useful for training activities on handwashing. In healthcare facilities where the construction of permanent sinks is not feasible, the HappyTap offers an affordable alternative that is satisfactory to staff and facility management.

### **About the Center**

The Center for Global Safe Water, Sanitation, and Hygiene (CGSW) focuses on increasing access to safe drinking water, adequate sanitation, and appropriate hygiene as part of a global strategy to break the cycle of poverty and disease in developing countries. For more information, please visit [www.washcon.org](http://www.washcon.org) or email [WinHCFaction@emory.edu](mailto:WinHCFaction@emory.edu)

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