



USAID/E3 Water Communications and Knowledge Management (CKM) Project

## GLOBAL WATERS RADIO

### Robert Dreibelbis on Handwashing Behavior Change in Bangladesh

#### *Interview Transcript*

**Global Waters Radio:** You are tuned in to Global Waters Radio, a podcast series produced by the Water Team at the U.S. Agency for International Development. The series offers listeners insights from USAID officials, development partners, thought leaders, and experts from across the water sector, as they discuss current USAID water programming and cutting-edge research from around the world.

With Global Handwashing Day right around the corner on October 15th, this week on the podcast we're speaking with Robert Dreibelbis. Robert is an Assistant Professor at the University of Oklahoma's Department of Civil Engineering and Environmental Sciences, as well as the Department of Anthropology. He now also lectures at the London School of Hygiene and Tropical Medicine. Today, we're talking with him about a very successful handwashing behavior change pilot project he was recently involved with in Bangladesh. Robert is going to share his thoughts on how the project induced handwashing behavior change without using traditional behavior change techniques.

**So to start things off Robert, give us a little more background about your team's study and talk about the concept of "nudging" and how that relates to handwashing behavior change.**

**Robert Dreibelbis:** Yeah, so I'm here to talk about the study of looking at behavior change related to handwashing with soap after toileting among primary school aged children in Bangladesh. The study was done in a rural area a couple of hours northwest of Dhaka, and we were working in two primary schools. So all of the participants of the study were between ages of around six to eleven. So what we were really hoping to do with this particular study was just to assess the feasibility of using nudges to change handwashing behaviors. So nudges are a concept that instead of changing how people make decisions or the factors that people utilize when making decisions, you change the context in which those decisions are actually made. And it's really kind of changing the environment in which you make a decision. For us, that was handwashing with soap.

**GWR:** Well tell us more about changing the context, changing the environment for handwashing. Did the schools you worked in have water and sanitation infrastructure that facilitated handwashing behavior change?

**RD:** We picked two schools—both of these schools had improved water supply access, they had a groundskeeper, so they had fairly robust infrastructure. They already had existing sanitation facilities, and before the intervention, there was just kind of a tube well that they would put a dish next to with soap in it that students can use to wash their hands throughout the day. So the first thing we did for this study, and I think it's important in any kind of replication of this event, was first we decided our main focus would be handwashing after exiting the toilet. So we were really focused on changing behaviors after one very, very specific event. So anytime a student left the latrines, what can we do to make sure that they were washing their hands? What we ended up with was a very, very simple improvement in infrastructure, and on top of that, adding the nudges. So the infrastructure, we built raised concrete platform—to child height—added a very large plastic container—I think it held about 80 liters of water—and we built even a little soap dish onto the concrete platform. Once we had that in place, we started adding the “nudge portion” of the intervention. We built a brick path going from the latrines to these kind of new handwashing stations. I think the largest brick path was maybe 15 feet. And then, a lot of paint. We painted the concrete bright greens so the handwashing station and the brick path were now these bright green colors. We added on top of that, a set of footprints, modeled after child size footprints that led directly from the latrines to the handwashing station with a big golden arrow pointing directly at the handwashing station at the end of this path, to kind of be a trigger for that behavior without providing any new information, or hygiene education, or steps on washing your hands, or all the other things that we traditionally think of in a hygiene promotion campaign.

**GWR: Right, and that's a great point. This particular handwashing intervention didn't use games or classroom activities to get students thinking about handwashing in new ways, instead the approach pretty much revolved around bricks and paint. So give us a sense of how the students responded in the early going, and how did you monitor their handwashing activity?**

**RD:** Well before we did anything, we positioned trained observers in each of the schools to kind of sit in discrete locations and monitor whether or not children were washing their hands when leaving the latrine. We got fairly detailed information on the behaviors: We recorded whether or not they washed one hand or two hands; whether or not they used soap or some other kind of cleansing agent; and we used the most restrictive definition, in terms of they had to wash both of their hands with soap in order for us to call it a handwashing event. At baseline, before we did anything, other than just watching what was there, about four percent of students were washing their hands at the tube wells with the soap that was provided when they were exiting the latrine. Once we improved the infrastructure alone—so once we added the handwashing station and had the new handwashing tank out there—it went up to about 18 percent. So a relatively large jump considering we didn't do much at all. But then, once we started layering on the nudges, that's when we saw the huge jumps in handwashing. So once we built the brick path, that number went up quite a bit to I think about 58 percent. So right around 60 percent of kids were now washing their hands. And this is data collected the day after we built the brick path. And then once we added on the paint, we saw another 10 percent jump. So around 68 percent of students were washing their hands with soap. And part of the questions we had was how long would that effect really last? And one thing we noted was that two weeks later, so after we installed the nudges, we went back to the schools and observed handwashing. And assuming—I kind of had the assumption, this hypothesis, that after that bump after we added everything, we would kind of see things decline over time, so kind of a trickling-down or a tapering-down of the effect. But two weeks after we had finished the intervention, handwashing with soap was actually at 72 percent. So it had actually gone up by four percent in

these schools. And then we went back another four weeks later—so a total of six weeks after we finished the intervention—and handwashing had remained right at 72 percent.

**GWR: In terms of what other handwashing behavior change projects might take away from this study, what are some of the other X factors that you think contributed to the success of this intervention?**

**RD:** You know, we were very lucky with this intervention and I think it's something that warrants further exploration in other studies. The schools' groundskeepers were really involved in the intervention and they kind of adopted it. Every morning they would put the water out and make sure there was soap available. And that's kind of a rarity in these school handwashing interventions, that supplies are made available to the students. But that was also one of the reasons we chose to work in a school. We really only had to change this one bit of infrastructure to hit multiple students. So we were seeing over the various data collection rounds, we witnessed over a thousand toileting events. We could improve the infrastructure and have that infrastructure serve a large number of people. I think children are a little more receptive to these kind of subtle cues. There are fewer distractions in a school environment, there's not a lot of things competing for someone's attention. So really, children may be a little bit more receptive, particularly in a school environment, to these cues that really kind of influence behaviors without changing the cognitive process that goes along with them.

**GWR: Going forward, what do you see as some of the main questions for investigation for developing this approach to handwashing behavior change?**

**RD:** Part of the question that we have about this is why does it work? There's a very pragmatic approach to this that, it doesn't matter why, we saw big changes. But the researchers in us, we want to understand what's the mechanism that's really feeding into this large improvement in handwashing. So trying to understand if we have changed behaviors enough to start new habits or if we have changed social norms around handwashing or, what are the various ways that this intervention could actually be influencing behavior. We're also keen on trying to see how this would work in other institutional settings. I think something like a healthcare setting is another great example. We know that handwashing with soap in healthcare settings is suboptimal across the world, and can we use this similar approach and kind of changing infrastructure, changing the availability and the placement, or color, or any of the ways that we could nudge handwashing in a healthcare setting to improve hand hygiene among healthcare workers.

**GWR: Great. Well, Robert, thanks so much for joining us to help celebrate Global Handwashing Day.**

**RD:** Great. Thanks a lot!

**GWR:** For more information about the nudging study Robert has been discussing, have a look at the links below. And you can stay updated on handwashing events around the world using the hashtag #GlobalHandwashingDay. For more handwashing news, follow the Water Team on Twitter @USAIDWater, and as always if you have a topic you would like to see us cover in a future edition of the podcast, drop us a line at [waterteam@usaid.gov](mailto:waterteam@usaid.gov).

This is Global Waters Radio.