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Being Smarter About Safe Water

This blog was originally posted on the [Impatient Optimists blog](#) of the Bill & Melinda Gates Foundation for World Water Day.

Recently, UNICEF/WHO Joint Monitoring Programme for Water Supply and Sanitation (JMP) announced the exciting news that we have achieved one of the targets of the Millennium Development Goals (MDGs) to reduce by half the number of people who don't have sustainable access to safe drinking-water. But the [2012 JMP report](#) added the important caveat that "it is likely that the number of people using safe water supplies has been over-estimated."

Indeed, providing safe water to more than 780 million people worldwide remains quite a challenge, and innovative, low-cost approaches are needed. Perhaps a smartphone is not the first tool we would seize on when assembling a safe water toolkit, but Innovations for Poverty Action (IPA) is finding that chlorine dispensers combined with smartphones can deliver a powerful one-two punch against diarrheal diseases.

The [Dispensers for Safe Water \(DSW\)](#) program at IPA (supported with a grant from the Bill & Melinda Gates Foundation) is improving water quality by providing a point-of-collection Chlorine Dispenser System in western Kenya. Treating drinking water with dilute chlorine solution can cut child diarrhea by 41%, but this fact alone doesn't guarantee impact. Using Open Data Kit, an open source set of data collection and management tools, DSW can significantly shorten the feedback loop from data collection to course-correction, allowing us to identify challenges with real-time data and address issues at a rapid pace. Surveys are built in Excel, uploaded to a server and downloaded to a low-cost smartphone.

DSW's field officers visit chlorine dispensers in the field and identify them individually with a quick scan of their unique barcodes. Data are collected on any dispenser hardware problems, the backup chlorine supply, and their frequency of use by local community members. Daily results are then uploaded to a centralized database and available for instant analysis to guide subsequent fieldwork.

The Chlorine Dispenser System is being scaled up in Kenya, and DSW is committed to applying rigorous evidence to programs. Having real-time data available for decision making helps take the guesswork out of safe water delivery by quickly focusing efforts where they are needed most. In this way, smartphones can help bring us one step closer to providing safe water for all.

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