



## ABSTRACT

### AFTER THE FLOOD: AN EVALUATION OF IN-HOME DRINKING WATER TREATMENT WITH COMBINED FLOCCULENT-DISINFECTANT FOLLOWING TROPICAL STORM JEANNE -- GONAIVES, HAITI, 2004

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#### Background

Tropical Storm Jeanne struck Haiti in September 2004, causing widespread flooding that contaminated water sources, destroyed water treatment systems, displaced hundreds of families, and killed approximately 2,800 persons. Local leaders distributed PUR, a flocculent-disinfectant for household water treatment, to affected populations. We evaluated knowledge, attitudes, practices, and drinking water quality among PUR-recipients.

#### Methodology

In mid-November, we interviewed 100 households in three rural communities that received free emergency distribution of PUR and PUR-related education. Water sources were tested for fecal contamination and turbidity; stored household water was tested for residual chlorine.

#### Results

All households relied on untreated water sources (springs [79%], wells [15%], and rivers [6%]). Although water sources tested were non-turbid (< 1 NTU), fecal coliform bacteria were detected in all sources (range 1->200 cfu/100 ml). Forty-two percent reported drinking water sometimes made them sick, and 33% of households reported a child with diarrhea during the past month. In-home drinking water treatment increased from 37% to 100% of households after the flooding. PUR had been tried at least once by all study participants, and was the most common treatment method (58%), followed by chlorination (30%), plant-based flocculation (6%), boiling (5%), and filtration (1%). Seventy-eight percent of respondents correctly answered five questions about how to use PUR; 81% reported PUR easy to use; and 97% reported that PUR-treated water appeared, tasted, and smelled better than untreated water. All said they would continue using PUR if available and affordable. Chlorine was present in 11 (50%) of 22 stored drinking water samples reportedly treated with PUR.

#### Conclusion

When local leaders of remote communities helped with education and distribution, PUR-related knowledge was retained and the product was well accepted. This highly effective water purification method could protect disaster-affected communities from waterborne disease.

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