

Global Scaling Up Handwashing Project

# Handwashing Behavior Change at Scale: Evidence from a Randomized Evaluation in Vietnam

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## INTRODUCTION

Preventable diseases resulting from poor hygiene behavior are responsible for a tremendous disease burden among the world's poor, especially infants and children under five. Diarrhea alone accounts for 11% of child deaths worldwide—more than HIV/AIDS and malaria combined. Washing hands with soap has been shown to reduce diarrhea in young children by as much as 48%, and is frequently referred to as among the most effective and inexpensive ways to avert child deaths. It has been called the “do-it-yourself” vaccine, yet despite its low cost and proven benefits, rates of handwashing with soap are very low throughout the world.

Handwashing campaigns employing a range of methods are common in developing countries, but little is known about the effectiveness of these campaigns in getting people to wash their hands with soap. Few have been rigorously evaluated, and none on a large scale. Where evaluations have been done, they are often under trial conditions, with provision of soap and close follow-up of trial participants.

Beginning in 2009, the Water and Sanitation Program's Global Scaling Up Handwashing project initiated a randomized controlled trial impact evaluation of a large-scale handwashing campaign in three provinces of rural Vietnam (Hung Yen, Thanh Hoa and Tien Giang). The results of the study show the campaign was successful in reaching its target audience and led to greater knowledge of good handwashing practice. Caregivers reported washing their hands with soap more often. However, when observed in the home rates of handwashing at the key times emphasized by the campaign were low.

## KEY IMPACT EVALUATION FINDINGS

- Caregivers in treatment communities reported higher exposure to handwashing messages, especially through the Vietnam Women's Union
- The handwashing campaign led to modest improvements in handwashing knowledge, and may have impacted certain beliefs about handwashing
- Caregivers reported washing their hands with soap more often, but observations in the home revealed low rates of handwashing at key times emphasized by the campaign
- Improvements in handwashing behavior reported by caregivers do not appear sufficient to lead to impacts on child health or caregiver time savings

The improvements in handwashing behavior reported by caregivers were not sufficient to result in impacts on child health or reductions in time spent caring for sick children.

**Television ads and face-to-face communication spread handwashing with soap campaign messages to mothers and caregivers.** The handwashing campaign messages were delivered through two main channels. These included television ads at the regional and national level that ran for a year starting in January 2010, and interpersonal communication (IPC) activities that took place between January and



**Vietnam Women's Union members teach women to wash hands with soap in the market.**

October 2010, carried out by specially trained members of the Vietnam Women's Union, village health workers, and teachers. Village activities were targeted at mothers, grandparents, and women of childbearing age and included, among others, group meetings, household visits, and distribution of promotional items. The communication campaign was developed through formative research with the target audience.

Messages aimed to dispel existing caregiver beliefs that even clean-looking and clean-smelling hands can have germs, and to increase caregiver knowledge of the times for handwashing with soap that are critical for reducing pathogen transmission—after contact with feces and before touching food. The campaign sought to promote handwashing as something practiced by “good mothers” to ensure the welfare of their children, and emphasized the need to make soap and water readily available for handwashing.

**A randomized controlled trial impact evaluation established the causal link between the handwashing campaign and behavioral and health outcomes.** Rural Vietnamese communes<sup>1</sup> within each intervention province were first paired up by size and geographic location. Communes in each pair were then randomly assigned to either a treatment or control group. A total of 140 communes were assigned to receive

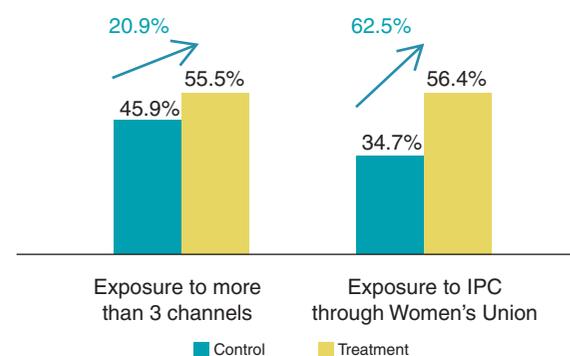
<sup>1</sup> A Vietnamese commune is an administrative sub-division of the district. The average population of the communes in this study is 7,577 people (1,807 households) with a population range of 409 to 27,898 (172 to 5,531 households).

a combination of the TV ads and IPC activities (treatment) and another 70 were assigned to only the TV ads (control). Thus, the study evaluated the combined effect of the TV ads and IPC activities at the community level compared with the TV ads alone. A sample size totaling 3,150 households was visited in late 2009 before the intervention began, in July 2010 as a midpoint in the intervention, and in early 2011 after the intervention had ended. Over 94% of households participated in the three rounds of data collection.

**Caregivers in treatment communities reported higher exposure to handwashing messages, especially through the Vietnam Women's Union.** Caregivers in treatment communities reported exposure to handwashing messages through three or more channels 56% of the time, whereas only 46% in the control communities reported the same. Caregivers in the treatment communities were also nearly two-thirds more likely to have talked with someone from the Women's Union about handwashing in the past month (56.4% in treatment vs. 34.7% in control; see Figure 1). Still, a large proportion (45.9%) of the control group also reported exposure to handwashing messages through three or more channels, possibly the result of the increasing number of information sources on handwashing in Vietnam, such as marketing campaigns of private soap companies or other public sector hygiene messages related to Avian Influenza or H1N1 virus.

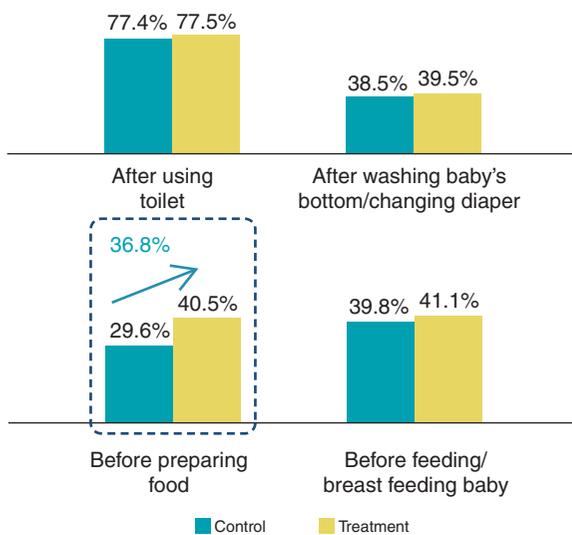
**The handwashing campaign led to improvements in handwashing knowledge, and may have impacted certain beliefs about handwashing.** Knowledge about the best way to wash hands increased substantially from a baseline of 79.4% to 97.7% at endline. However a similar increase was found in the

**Figure 1: Exposure to the Women's Union and Other Campaign Channels**



control arm (97.3% at endline), so this is more likely the result of a general trend towards greater knowledge. Caregivers in the treatment group were more aware of the importance of handwashing with soap in diarrheal disease prevention (87.8% in treatment vs. 84.9% in control), and were almost 40% more likely to identify before food preparation as a critical time for handwashing relative to the control group (40.5% in treatment vs. 29.6% in control; see Figure 2). Additionally, some caregiver beliefs about handwashing were impacted by the campaign, such as the need to wash hands even though they have not touched unhygienic objects.

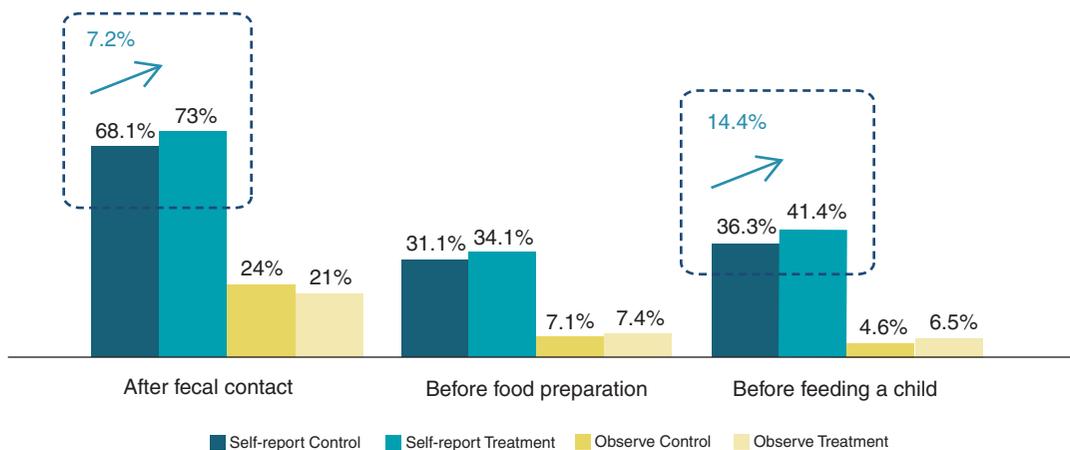
**Figure 2: Caregiver Knowledge of Critical Times for Handwashing with Soap Emphasized by the Campaign**



**Caregivers reported washing their hands with soap more often, but observations in the home revealed low rates of handwashing at the key times emphasized by the campaign.** When asked, nearly three-quarters (7.2% more relative to control) of caregivers in the treatment arm reported washing their hands with soap after fecal contact, and a little over 40% (14.4% relative to control) before feeding a child. However, when they were observed in the home the actual rates of handwashing at these times were much lower and there were no statistically significant differences in observed handwashing rates between treatment and control groups (see Figure 3). Self-reported measures are generally less reliable than observed measures, and as demonstrated here they are often subject to bias. In contrast to the reported rates, less than one-quarter of caregivers in treatment areas were observed to wash hands with soap after fecal contact and less than 10% before feeding a child.

**Improvements in handwashing behavior reported by caregivers do not appear sufficient to lead to impacts on child health or caregiver time savings.** Diarrhea prevalence is 16.6% lower in the treatment group relative to the control (4.5% in treatment vs. 5.4% in control); however the difference is not statistically significant. Given the lack of observed impact on handwashing behavior we cannot attribute this difference to the handwashing campaign. Likewise, the evaluation found no reductions in time spent caring for sick children, which could in turn be used for money generating activities leading to increased household welfare.

**Figure 3: Self-reported vs. Observed Handwashing with Soap**



**Even under enabling conditions of high baseline knowledge and access to soap and water, changing handwashing behavior is difficult.**

The handwashing campaign did not provide soap and water to intervention households and did not seek to only improve knowledge of handwashing in the target audience. Formative research and baseline survey findings found these conditions were already in place. Despite this, handwashing with soap behavior in the target population has not changed substantially as a result of the intervention, which sought to influence the motivating factors and barriers to handwashing such as beliefs about the need for handwashing and placement of soap in an accessible location.

These results suggest that even under seemingly optimal conditions where knowledge and access to soap and water for handwashing are not main constraints, behavior change campaigns that intend to reach a mass audience face tradeoffs in terms of intensity and effectiveness. In other words, large declines in diarrhea found previously in highly-controlled pilot interventions may be difficult to achieve in practice unless

the intensity of these methods can be replicated at large scale.

The households in the communities where this intervention was done were found to be relatively advantaged when compared with other, more remote and ethnically heterogeneous areas of rural Vietnam. Diarrhea prevalence is low in the households studied and child growth measures taken at baseline indicate just a small proportion of children are clinically malnourished.

Furthermore, based on indicators of access to improved sanitation, safe water sources and safe drinking water treatment practices, the environmental fecal contamination that these children are exposed to may be expected to be small. Still, we cannot rule out the possibility that had the study been done on a more vulnerable population the rates of handwashing observed would have resulted in health impacts. Indeed, handwashing with soap remains a key preventive measure for areas with a high burden of diarrheal disease and malnutrition in children, especially where these other environmental health improvements are not in place.

— Claire Chase and Quy-Toan Do

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## Related reading

For the full report, please see: Claire Chase and Quy-Toan Do, *Handwashing Behavior Change at Scale: Evidence from a Randomized Evaluation in Vietnam*, World Bank Policy Research Working Paper Series, 2012 (forthcoming). When published, the report will be available at [www.wsp.org](http://www.wsp.org).

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## About the project

Global Scaling Up Handwashing is a project by the Water and Sanitation Program (WSP) focused on applying innovative behavior change approaches to improve handwashing with soap behavior among women of reproductive age (ages 15–49) and primary school-age children (ages 5–9). It was implemented by local and national governments with technical support from WSP in four countries: Peru, Senegal, Tanzania, and Vietnam. For more information, please visit [www.wsp.org/scalinguphandwashing](http://www.wsp.org/scalinguphandwashing).

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