

Improving Hygiene in Liberia with Interactive Voice Response Technology

A Technical Brief

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The logo graphic for Breakthrough ACTION, consisting of a blue square with a white curved line and a grey sphere.

Acronyms

CLA	Collaborating, learning, and adapting
IVR	Interactive voice response
NPHIL	National Public Health Institutes of Liberia
TWG	Technical working group
WASH	Water, sanitation, and hygiene

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Background

Despite extensive steps taken by the Government of Liberia over the last five years to strengthen the country's provision of water, sanitation, and hygiene (WASH) infrastructure and services, Liberia remains one of the sub-Saharan African countries with the lowest coverage of WASH services.

Nonetheless, access to safe drinking water and toilet facilities has improved tremendously in Liberia in recent years. In fact, the Demographic and Health Survey Program reports that the percentage of households with an improved source of drinking water has increased over time, from 68% in 2007 to 84% in 2019–2020. In addition, the percentage of households with access to improved sanitation increased from 28% in 2007 to 47% in 2019–2020. However, Liberia continues to face challenges in improving health outcomes for reaching the 2030 goals.

The Government of Liberia's 2018 [Pro-Poor Agenda for Prosperity and Development](#), which focuses on uplifting the lives of people who dwell in poverty, outlined priority areas for WASH that aligned well with the [2030 Sustainable Development Goals](#). These areas include expanding access to basic safe drinking water services, improving access to safely managed drinking water supply, expanding access to basic sanitation coverage, and ending open defecation by 2025.

Another key facet of Liberia's agenda for growth is seeking to expand people's capacity to manage and strengthen WASH programming, especially in relation to hygiene. Breakthrough ACTION, a USAID-funded social and behavior change project, in close collaboration with the National Public Health Institutes of Liberia (NPHIL), developed a remote training focused on supporting hygiene initiatives at the subnational level.

Using Digital Health to Reach WASH Stakeholders Across Liberia

Breakthrough ACTION Liberia, in collaboration with local partners, applied a collaborating, learning, and adapting (CLA)¹ lens to develop and pilot remote training modules for national and subnational WASH leaders across Liberia. The project rolled out the training via an interactive voice response (IVR) system developed by Viamo, a Breakthrough ACTION partner that specializes in digital health. The training presented a prime opportunity to implement an adaptive management approach to inform future activities in Liberia.

¹ USAID. (2022, July 29). *Collaborating, learning and adapting*. <https://www.usaid.gov/evaluation/collaborating-learning-and-adapting-cla>

Intervention Overview

In 2022, NPHIL launched the Hygiene for Health campaign at the national level. Breakthrough ACTION Liberia provided technical support to NPHIL as it operationalized its strategy and promoted improved WASH behaviors at the national level. However, the campaign’s initial efforts did not include the sub-national level—a key oversight, since many of the hygiene behaviors that needed addressing occur within district, community, and household-level contexts. As such, Breakthrough ACTION Liberia worked closely with NPHIL to pilot a remote training focus on addressing the knowledge, attitudes, and skills of nearly 600 WASH leaders across 12 of Liberia’s 15 counties.

For this remote training, Breakthrough ACTION Liberia worked with subnational health teams to identify existing WASH leaders, including representatives from county WASH coordinators, surveillance officers, environmental health coordinators, county education officers, county health officers, hospital administrators, district commissioners, district health officers, education officers, and sanitation focal points. At the community level, the project also identified natural leaders, town chiefs, women, religious, and youth leaders. Each leader was identified based on the influential and/or direct role they play in overseeing or implementing WASH activities in their communities or districts.

The remote training aimed to enable each WASH leader to advocate and generate resources to care for and maintain existing WASH investments in their communities (e.g., handpumps, latrines). Training facilitators also worked to minimize duplication of efforts by donor-driven projects—especially in a resource-constrained context—by finding an innovative path to support and sustain ongoing WASH efforts. The training was specifically designed to focus on this key segment of WASH stakeholders, such as community leaders and local government authorities at the county, district, and community levels, as they take the lead in supporting community WASH behaviors.

In line with a CLA approach, the activity implementation plan included built-in opportunities to collaborate, pause, reflect, and apply updated learnings from implementation to inform the rollout of the remote training.

Collaboration: NPHIL’s WASH technical working group (TWG) developed the approach over the course of several meetings. Built to facilitate collaboration from the start, the group consisted of multiple WASH stakeholders and implementing partners with diverse backgrounds and experiences.

Pause/Reflect: A poll helped determine the best time of day to share each module with WASH leaders. Based on the poll responses, the TWG planned an initial (“soft”) launch in June 2023 to test the system and confirm times with higher call uptake. This feedback informed a larger launch in July 2023 to support increased engagement among all WASH leaders. In another example of reflection, during the pre-launch stage, the modules went out once a week and many WASH leaders tended to miss the module. WASH leaders were also less likely to initiate contact with a module (via a call). As such, Breakthrough ACTION increased the frequency of the module release to three days a week (Mondays, Wednesdays, and Thursdays, 8:00 a.m. and 6:00 p.m.) which increased pickup rates.

Apply: Before sharing modules via the IVR system, Breakthrough ACTION sensitized WASH leaders so they were prepared to engage the IVR content and system. For example, the project shared guidance in advance of the launch of the system to help county and district WASH stakeholders navigate the IVR system schedule.

The CLA-informed intervention aimed to add to the leaders' existing WASH knowledge through compelling stories and testimonials. Each role-play testimonial conveyed a WASH lesson and simulated the actions and strategies needed to coordinate a range of actors to improve WASH outcomes. For example, one such role-play focused on the value of maintaining a latrine maintenance schedule to ensure communities properly cared for and serviced their latrines. Each narrative module included a call to action or behavioral trigger for a particular WASH-promoting action (e.g., assessment, planning, design, quality control, and sustained maintenance).

The WASH technical working group developed a total of seven modules, included two specifically focused on assessing how well users retained what they learned (a midline survey and an endline survey). Once complete, the project loaded all seven modules onto the IVR platform and released one module per week with all enrolled WASH stakeholders. Breakthrough ACTION Liberia followed a theory of change, which outlined that after exposure to the role-play messages, the WASH leaders were to demonstrate expanded knowledge and renewed interest in supporting WASH-promoting behaviors within their existing networks. In addition to the surveys, Breakthrough ACTION Liberia conducted additional in-person follow-up visits to observe how the training translated to tangible shifts in health behaviors.

Results

Remote training is typically designed to enforce areas of knowledge gaps. Ultimately, the training contributed to knowledge gains among those who completed all or most of the modules. Breakthrough ACTION Liberia identified three key results areas, based on an analysis of feedback from the WASH leaders' engagement with the IVR training. Figures 1, 2, and 3 further illustrate key indicators relative to these results.

Result #1: Leaders committed strongly to completing the training

- WASH leaders who both were exposed to the WASH modules and expressed interest in them, committed to calling into the training for its full duration.
- Of the WASH leaders who began the first module and completed the first quiz, 80% (209/263) completed all five modules and quizzes. These leaders did not receive a stipend or any type of financial incentive to initiate or complete the quizzes.

Result #2: The training demonstrably raised leaders' knowledge

- Among the 209 people repeatedly exposed to the content across all modules, these participants demonstrated increased knowledge for five out of seven of the questions.

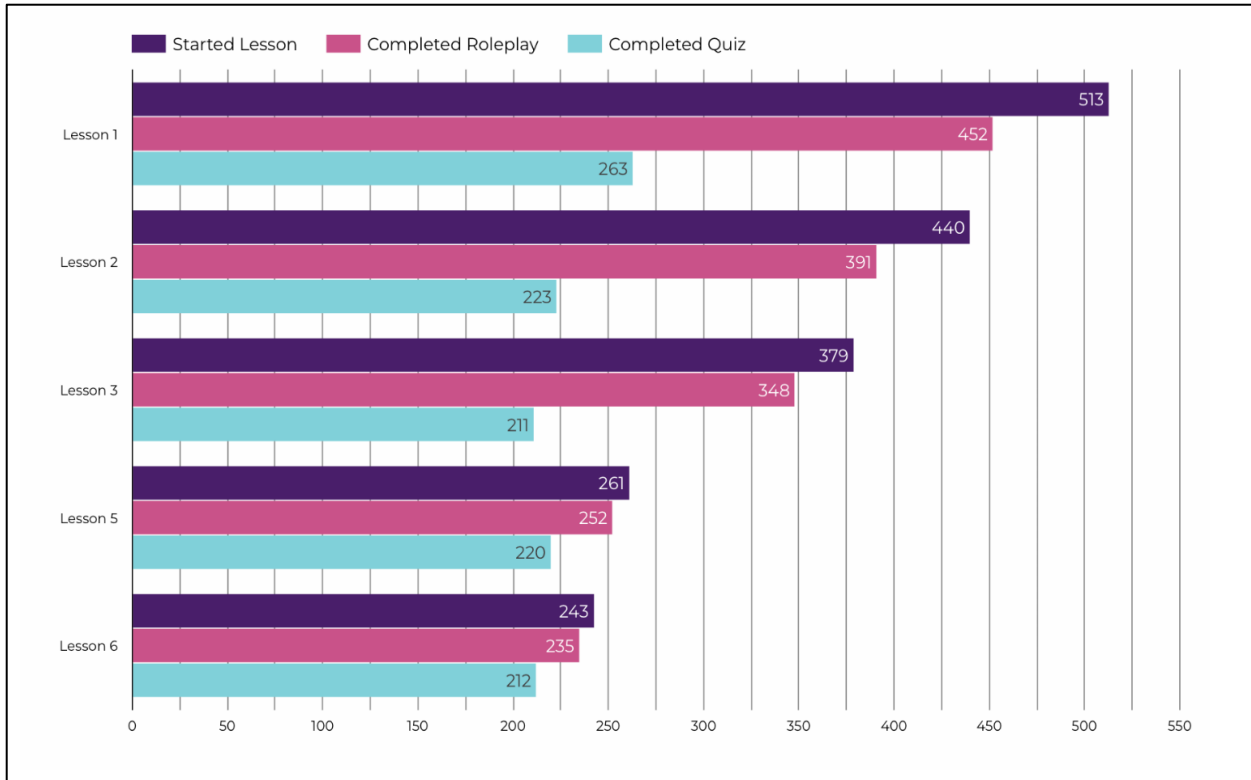


Figure 1. Completion Rates by Lesson.

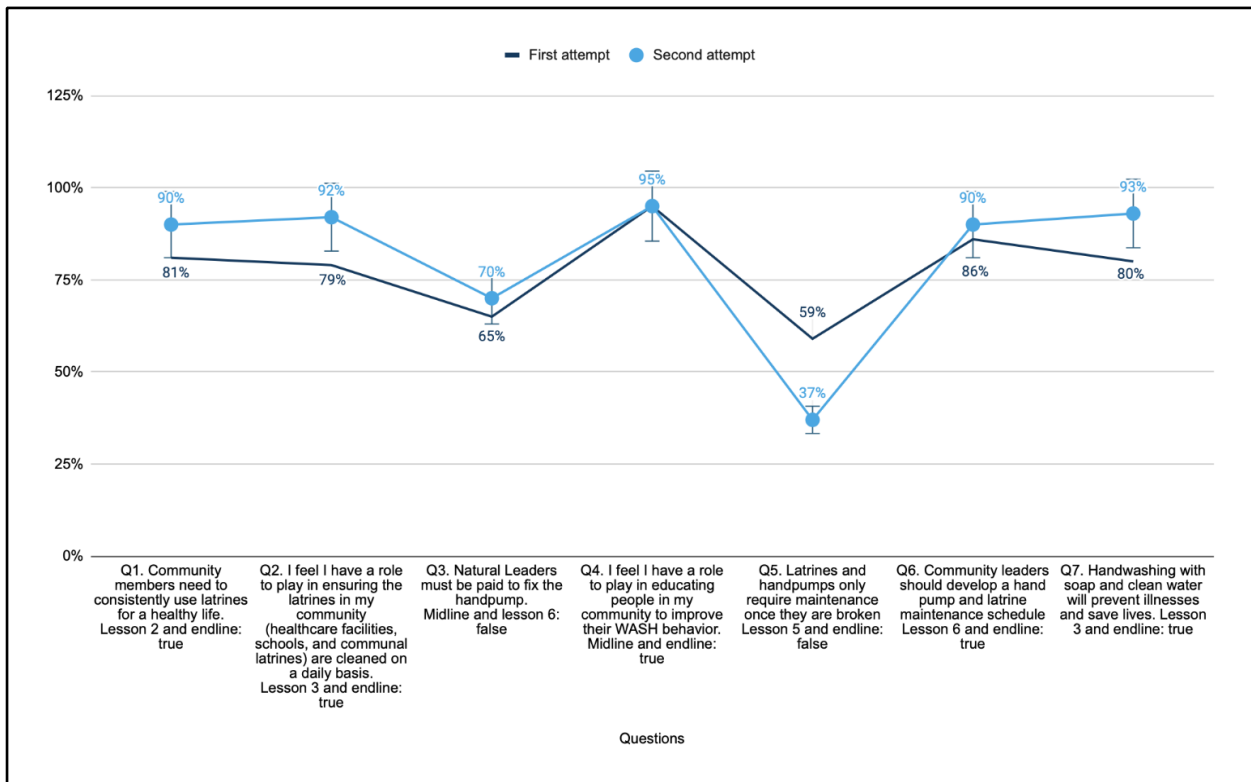


Figure 2. Comparison of Similar Questions After Exposure to Lesson.

Result #3: Leaders found the course useful and accessed it regularly

- During the endline survey, the majority of respondents (90%) felt the remote training was useful for their work.
- WASH leaders made 1,846 independent calls to proactively access the WASH module content. This shows both their interest in the content and their appetite for receiving content via remote training.

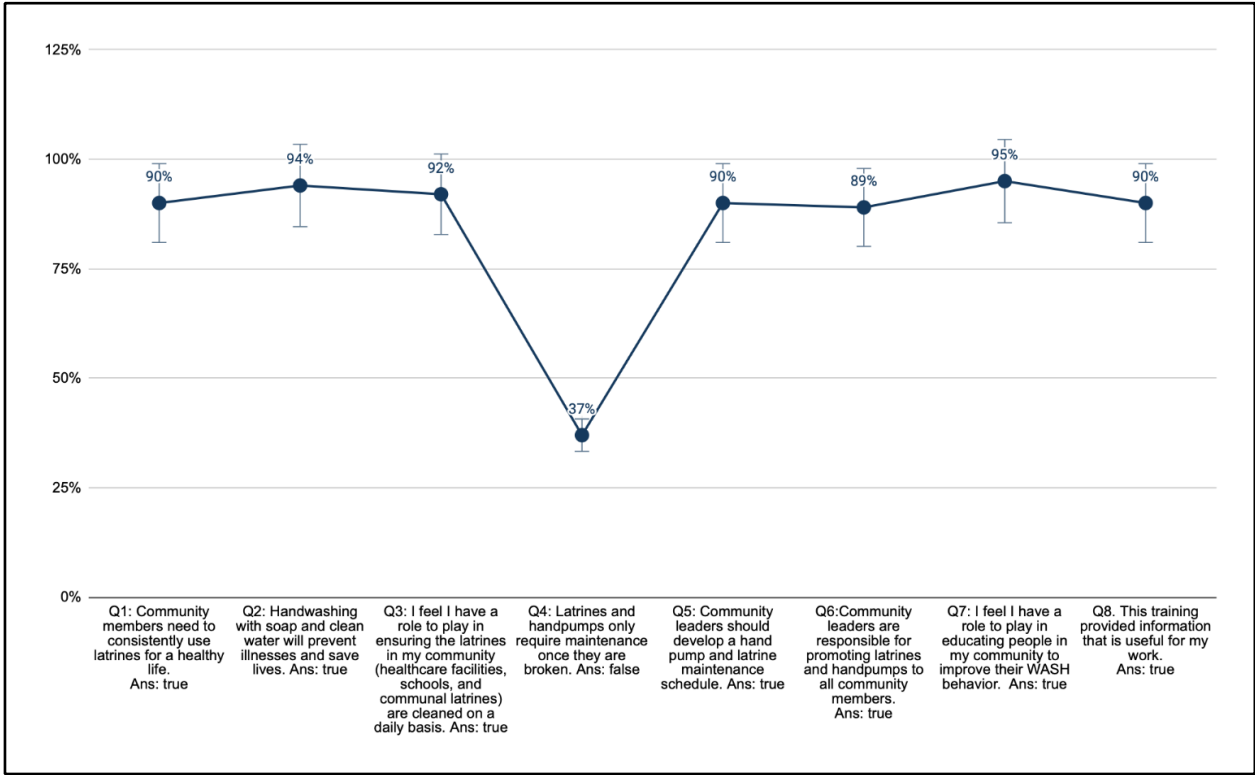


Figure 3. Usefulness of the Training.

Result #4: Leaders applied what they used in their work

As an example of this result: during follow-up visits conducted in Margibi County, Liberia, the District Health Officer for Mamba Kaba, Watta Sirleaf, shared examples of how she applied the lessons from the modules in her work. Since the training, she is doing the following:

- Reinforcing proper waste management practices, as well as handwashing practices, at the Unification Town Health Center.
- Monitoring handwashing practices and proper labelling and management of waste.
- Developing plans to extend these changes to other health facilities within her district.

Overall, Watta described the training as very educative and useful in her work towards improving quality WASH outcomes.

Lessons Learned

Pulling together 600 WASH leaders for an in-person during the Liberia rainy season would have taken significant time and resources. Rolling out a remote IVR was a creative and cost-effective approach. While it proved advantageous to the leaders and their communities, it also required a great deal of patience.

Despite challenges with network connectivity, phone ownership, phone familiarity, and the low initial interest in virtual training, this intervention provided a unique opportunity to apply a CLA lens. The lessons highlighted below serve as practical recommendations to help future projects interested in using IVR in similar settings to build on these efforts.

To ensure the topics are highly relevant to WASH stakeholders, implementers could use a comprehensive survey before implementation to gather specific topics of interest from participants, which can help tailor the module content to the intended audience's needs and ensure maximum relevance and engagement.

To facilitate increased comprehension, implementers can make WASH module content in other languages. For example, if this activity had included training modules in simple local Liberian English (Kolokwa) or local languages, in addition to English, it would have increased accessibility for participants. Since WASH stakeholders at the community level, including town chiefs and women leaders, often prefer using local languages, comprehension may have been a challenge.

To maintain caller interest, the duration of each lesson should be under four minutes. During this activity, each call lasted for more than six minutes, so some participants did not fully participate, in part due to its length. Making the content shorter and more precise will enable busy leaders to participate.

To facilitate higher engagement with the platform (and spark dialogue on the modules), implementers could promote WASH leader lesson listener groups, organized by geographic area. During such meetups, WASH stakeholders can seek advice from a neighbor on troubleshooting the IVR system. During Breakthrough ACTION Liberia's activity, some participants experienced technical difficulties when navigating the phone to respond to the quiz. Also, some participants mistook the lesson for a promo from a telecommunications company—and so they did not complete it—which suggests Liberian communities need significantly more sensitization to this form of media. Small, informal in-person sessions may promote opportunities to discuss key messages from the WASH module content.

To reduce participant dropout due to network connectivity, implementers should obtain additional, alternate phone numbers for each participant where possible. Even though the project cross-checked and tested the numbers, some participants' mobile numbers no longer worked by the time the modules were rolled out. Collecting additional numbers can serve as a failsafe if the primary contact information no longer works.

Conclusion

Implementing remote training via IVR proved a useful means of reaching a large, dispersed population across Liberia. The modules improved local leaders' knowledge, who in turn went to use what they learned in their work and interactions with others. Future IVR efforts in Liberia can use the lessons learned to establish even more successful models in the future for engaging leadership and meeting the country's WASH goals.