DSW 2023 Routine Monitoring Report

Updated January 31, 2024

This report summarizes the routine monitoring data collection and analysis results for GiveWell from the Dispensers for Safe Water (DSW) program. The report includes results from twelve months of routine monitoring in 2023 for pre-expansion[1] and Phase 1 expansion[2] counties and districts and results from July to December for Phase 2 expansion[3] districts. Results presented in this report are current as of December 31, 2023.

This document was prepared by Evidence Action's Monitoring, Learning, and Evaluation (MLE) team and was developed by reviewing the results of routine monitoring by the MLE team from January through December 2023. We provide the processes, results, and caveats for arriving at the results in this report.

Background

During the grant investigation and award agreement with GiveWell in 2022, Evidence Action's MLE team developed an updated routine monitoring strategy for the DSW program to adapt to internal reporting requirements and account for agreements with GiveWell. As part of this agreement, Evidence Action will report routine monitoring results to GiveWell on a bi-annual basis, including results from the first six months of the year in July, and the full year in January of the following year.

As of December 2023, the new routine monitoring strategy has been implemented for a full year in all pre-expansion counties and districts, as well as in Phase 1 expansion districts–those that completed dispenser installations by March 2023. The updated strategy was also implemented between July and December 2023 in the Phase 2 expansion districts–those that completed dispenser installations by June 2023.

Objectives and Key Indicators

DSW routine process and performance monitoring data collection is conducted through four quarterly monitoring periods throughout the calendar year. The purpose of this data collection is to collect key process and performance indicators and routinely provide the program implementation team with ongoing information on program progress, as well as for internal and external program performance tracking. This information includes water point status, maintenance, and characteristics; community water treatment and knowledge; promoter knowledge and activities; and water point and household demographic information. The key indicators for the purpose of reporting to GiveWell are:

1. **Average number of dispensers maintained during the last year:** The average number of chlorine dispensers visited for spot checks and chlorine delivery which were found present and with all components during the spot check/chlorine delivery rounds in the last year.

[1] Pre-expansion counties and districts include: Kenya (Bungoma, Busia, Homabay, Kakamega, Migori, Siaya, Trans Nzoia, Uasin Gishu, Vihiga); Malawi (Zomba); and Uganda (Budaka, Butaleja, Buebo, Kibuku, Manafwa, Mbale, Namisindwa, Namatumba, Pallisa, Sironko, Tororo).
[2] Phase 1 expansion districts include: Malawi (Balaka, Blantyre, Mangochi); and Uganda (Bugiri, Iganga, Kamuli).
[3] Phase 2 expansion districts include: Malawi (Chiradzulu, Machinga, Mwanza, Neno); and Uganda (Bugweri, Busia, Buyende, Jinja, Kaliro, Luuka, Mayuge, Namayingo).

2. **Average number of households per water point with dispensers:** The average number of households that use the water points with dispensers, as collected during routine monitoring surveys at each water source, calculated at the district level.[4]
3. **Average number of people per household:** The average number of people who reside in each household surveyed, calculated at the district level. This information is collected from a sample of water points during household surveys administered as a part of quarterly performance monitoring.
4. **Average number of children under five per household:** The average number of children under five who reside in each household surveyed, calculated at the district level. This information is collected from a sample of water points during household surveys administered as a part for quarterly performance monitoring.
5. **Proportion of households using water sources with dispensers whose water sample tests positive for free chlorine residual (FCR):** The proportion of households surveyed in quarterly performance monitoring whose household drinking water tests positive for free chlorine residual, out of all households surveyed.
6. **Proportion of households using water sources with dispensers whose water sample tests positive for FCR and report using dispensers:** The proportion of households surveyed in quarterly performance monitoring whose water tests positive for FCR and report using the dispenser, out of all households surveyed.[5]

Importantly, we collected data for these indicators only from households that reported to collect their drinking water from the water point where the dispenser is installed. This was structured to ensure we collected data from households that have access to the dispensers.

Sampling

Process monitoring, including the spot check and chlorine delivery survey from which the average number of dispensers maintained is collected, is conducted on a routine basis at every water point with a dispenser. Thus, sampling is not conducted for process monitoring. In Kenya and Uganda, there are four quarterly rounds of visits which are averaged to determine the annual average. In Malawi, there are two biannual rounds of visits.

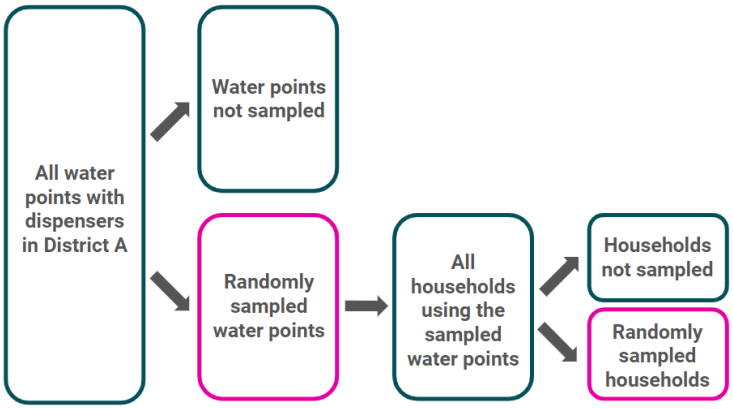
Performance monitoring, including the promoter and household adoption monitoring surveys from which households per water point, household composition, and chlorine adoption indicators are collected, is conducted at a random sample of water points each quarter. Water point and household sampling for performance monitoring data collection is conducted at the district level, meaning that a separate sample is selected distinctly for each district. The sampling frame for each district is the dispenser database and is updated quarterly and prepared by the MLE team.

[4] In 2023, we updated our protocol for collecting households per water point to utilize the promoter survey in quarterly performance monitoring. This survey uses a more rigorous method of reporting the number of households listed by the promoter for selection of household surveys. Our pre-2023 protocol for collecting this information utilized our spot check and chlorine delivery survey. This survey serves as a census of all water points with dispensers and asks respondents to directly report the number of household users, without listing the actual households. However, in discussion with GiveWell during the grant investigation, we agreed to collect households per water point using performance monitoring surveys, as these surveys, although based on a sample, are independent of program operations and allow enumerators more time at each water point for the household listing.

[5] The difference between results for indicators 5 and 6 do not necessarily reflect that the household treated their water with chlorine from a different source than the dispenser, but may also reflect that the respondent is not the one who collected the water and is thus unaware of treatment, multiple treatments being used, or a respondent's difficulty recalling.

Performance Monitoring Sample Size and Sample Selection

Two-stage cluster sampling is used for the performance monitoring data collection, where the first stage involves stratified random selection of water points and the second stage involves randomly selecting households clustered around the sampled water points.



Water points were selected from the database of active dispensers based on a sample size achieving a 90% confidence level and a 5% margin of error annually at the district level. Performance monitoring water point sample selection is conducted based on district sample sizes that are calculated at an annual level, then divided by four for each quarter, and selected without replacement for each quarter. This selection was done before data collection started. **Note**: *Because this report includes only half of the planned annual sample size for Phase 2 expansion districts, caution should be taken when interpreting results, until a full annual sample has been achieved for these districts*.

After water points are randomly sampled, four households that use each selected water point are randomly sampled through in-field randomization. After the enumerator arrives at a sampled water point, a brief interview is first conducted with the community promoter, during which a list of all households that use the water point of interest is collected. This list is transcribed on an in-field randomization form, which uses a random number list to indicate to the enumerator which households to interview, based on the list.

During the household survey, the enumerator asks the household to provide a glass of drinking water. If drinking water is provided, the household is then asked questions about their water treatment practices, including FCR testing. Households that did not or could not provide a glass of drinking water were not interviewed about water treatment practices and did not have their water tested.

Surveys

The spot check and chlorine delivery survey is administered at every water point each quarter to the community promoter responsible for maintaining and refilling the dispenser. The survey includes a spot check of the dispenser to document dispenser functionality, any missing components, or any required repairs, followed by an interview with the promoter and delivery of chlorine refills.

Promoter and household adoption monitoring surveys are conducted at all sampled water points from each quarterly sample. During the promoter survey, households are selected for an interview, after which each selected household is visited. Household surveys are

administered to a household member of each sampled household, during which household water treatment practices, FCR results, and household demographics are collected.

Results

The results of process and performance monitoring for the indicators above are included in the DSW Routine Monitoring Analysis Spreadsheet. The results include disaggregated district-level results for the full year for all pre-expansion districts and Phase 1 expansion districts. Results also include disaggregated district-level results for July to December 2023 for Phase 2 expansion districts.

Important to note

- **In Phase 2 expansion districts, indicators 2 through 6 are based on data from July to December 2023**. Thus, these samples do not meet the annual sample size to reach a 90% level of confidence and 5% margin of error around the point estimates. While these results provide directional indication of initial results, we caution the use of this data until a full annual sample is achieved as these results are subject to change. In particular:
    - We recommend reporting indicators 2 through 4 (number of households per water point, the number of people per household, and the number of children under five per household) based on full annual samples which are more robust. This includes the use of these estimates for calculation of population with access to safe water, which we calculate on an annual basis. As such, caution should be taken when interpreting the results for Phase 2 expansion districts.
    - Similarly, we recommend reporting the FCR testing results based on a full annual sample. In addition, in Phase 2 expansion districts, we expect that household adoption of the chlorine dispenser may shift during the early stages after dispenser installation, which is important given that this Phase 2 expansion data was collected in the first 6 months after installation.
- **Based on our adjustment to the protocol for collecting households per water point, our estimates of households per water point have decreased slightly.** We believe that the updated protocol, which was discussed and agreed upon with GiveWell during the grant investigation, provides a more rigorous estimate than the protocol used previously.