

# **Low Income Household Water Assistance Program (LIHWAP) Water Landscape and Equity Research**

**Formative Data Collections for Program Support**

**0970 - 0531**

## **Supporting Statement**

### **Part B**

**DECEMBER 2022**

Submitted By:  
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## Overview of Study Objectives

The purpose of this information collection is to gain a deeper understanding of the context of the Low Income Household Water Assistance Program (LIHWAP) for low-income households and communities. This research will provide a foundational understanding of water poverty and the household costs associated with sustainable clean water access in states, territories, and tribes in the United States. The objectives of this study are to:

- Identify areas of need related to grantee support, training, and technical assistance for targeting outreach equitably
- Document successful approaches that grantees and water service providers are taking that we can share with other LIHWAP participants
- Identifying research priorities and gaps as we enter the second year of LIHWAP funding
- Share information with grantees and water service providers to assist with grant spend-down priorities, planning, and outreach for the remainder of FY2023.

### 1. Respondent Universe and Sampling Methods

#### *Target Population*

The target population of this data collection is water service providers; surveys will be completed by a staff member at each water service company. We will use a non-probability convenience and purposive sampling approach that targets underrepresented utilities in existing data: specifically, tribes, territories, and utilities that serve a population area of less than 10,000 people (we have obtained data that provide good coverage of larger utilities). Within these target geographies, the survey will be disseminated to LIHWAP grantee contacts, existing water service provider contacts, and to additional water service providers through stakeholders who have reached out to LIHWAP in the past. Participants will be encouraged to share the survey link with other water service providers. Respondents can be participants or non-participants in LIHWAP. Because of the non-randomized, non-probability sampling approach, the respondents may not be representative of the entire water service provider population. Despite this, survey responses will help fill gaps in existing information from water service providers across the country and will help identify support needs of LIHWAP grantees.

#### *Sampling and Site Selection*

Sites (states) will be selected based on the availability of existing data that address our research needs. There is no minimum sample size for this work, as we are not seeking generalizability, but to fill gaps in existing knowledge. We have nonetheless calculated an adequate sample size given the total approximate number of Water Service Providers ( $N = 48,839$ ), a 95% confidence level, and a 5% margin of error, resulting in  $N = 382$ . We intend to seek out approximately 500 responses to account for missing data and errors in survey responses. This will provide adequate sample size for stratification and analysis without making data potentially become identifiable.

#### *Appropriateness of Study Design and Methods for Planned Uses*

This information is not intended to be used as the principal basis for public policy decisions and is not expected to meet the threshold of influential or highly influential scientific information. Its primary purposes are to a) provide information to grantees and water service providers about the water landscape and the needs of their customers; b) to help the ACF LIHWAP team discern

novel ways in which we can provide support to grantees; c) to uncover new research or learning priorities for future water access programming; and d) to help inform priorities for broader, summative evaluative work related to LIHWAP. It is not intended to be generalizable or applicable to all water service providers and their customers across the United States. All written products in this study will clearly identify the limitations of data collection and analysis, including the non-probability sampling approach.

## **2. Procedures for Collection of Information**

### *Data Collection Processes*

Data will be collected via electronic surveys using Survey Monkey. Participants will receive a link to the survey, which will begin with a page of clear instructions regarding survey completion processes as well as who to contact with questions or support needs. The survey has been designed to be easy to read and to be fully completable online. Once submitted, the survey results will be available to the LIHWAP research team (including ACF staff and our contracting partners, ICF and Lux), who will export them in aggregate to Excel and then to analytical software (R).

### *Data Handling*

The electronic surveys will include required responses to ensure that we capture essential information from participants. This will greatly reduce the risk of duplicate responses. Additionally, validation formatting in the survey will ensure that responses include the correct information required; for example, if we need an answer on a scale from 1-5, then the only options available for response will be those that would provide a valid response (I.e., a participant could not respond with “6” or “0”). Data will never be manually entered from a paper or audio format to a digital format; this will minimize transcription errors.

A data dictionary with clear definitions of variables and how they are coded has been built and will be used to make sure that all variables are correctly coded. Preliminary descriptive analyses will help identify outliers and potentially problematic data points (errors). These data points will then be individually visited and, if needed, the survey respondent can be contacted by the LIHWAP team to ascertain the correct response. If this is not possible, then the outlying response will be handled depending on our assessment of the response (it may be imputed, deleted, marked as missing for individual values, or maintained as is).

### *Data Analysis*

As described in SSA, analytical techniques will include imputation as needed to handle missing data, descriptive techniques including t-tests and chi-squared tests to understand the basic qualities of the data across respondents, and may include more complex techniques like regression models and spatial analyses to understand how different elements of the survey associate with one another.

Whenever possible, data from other sources will be used alongside survey data to provide context about the broader water access and equity landscape. LIHWAP reporting data will be included in analyses, matched to survey responses by geography.

### *Data Use*

A detailed protocol describing data collection and analysis will be created and maintained. This protocol will be available on the LIHWAP Data Dashboard and can also be made available upon request to the public. Findings from the study will be included on the LIHWAP Data Dashboard, which is publicly accessible and is intended for use by LIHWAP grantees and water service providers. ACF intends to use these data to help inform research approaches, learning agendas, and approaches to providing grantee support.

## **3. Methods to Maximize Response Rates and Deal with Nonresponse**

### *Response Rates*

The surveys are not designed to produce statistically generalizable findings and participation is wholly at the respondent's discretion. Response rates will not be reported, but will be calculated for internal review and discussions about findings.

### *NonResponse*

As participants will not be randomly sampled and findings are not intended to be representative, non-response bias will not be calculated. Respondent demographics will be documented and reported in written materials associated with the data collection.

## **4. Test of Procedures or Methods to be Taken**

### *Development of Data Collection Instruments*

The survey was developed after individualized conversations with stakeholders who reached out to our team with questions about LIHWAP. They helped point us towards existing data, which allowed us to identify knowledge gaps, both geographically and in terms of specific content. This helped our team determine gaps in data and geographies and where to target our survey. The survey was piloted to identify weaknesses, confusing wording, and other areas for improvement. The piloting approach also helped us ensure that we were asking questions in the most efficient way possible and not including or collecting superfluous information. Piloting was conducted with fewer than 10 individuals.

Survey design followed peer-reviewed guidelines for constructing effective and efficient survey tools (Passmore et al., 2002<sup>1</sup>; Office of Management and Budget, 2006<sup>2</sup>). Using these recommended guidelines helped us minimize measurement error.

## **5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Data**

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<sup>1</sup> Passmore C, Dobbie AE, Parchman M, Tysinger J. Guidelines for constructing a survey. *Fam Med*. 2002 Apr;34(4):281-6. PMID: 12017142.

<sup>2</sup> Office of Management and Budget. Standards and Guidelines for Statistical Surveys. 2006. Accessed from [https://www.samhsa.gov/data/sites/default/files/standards\\_stat\\_surveys.pdf](https://www.samhsa.gov/data/sites/default/files/standards_stat_surveys.pdf).

Gwendolyn Donley is the lead team member responsible for the statistical aspects of the survey ([gwendolyn.donley@acf.hhs.gov](mailto:gwendolyn.donley@acf.hhs.gov)). Dr. Donley is also in charge of overseeing the collection of the survey data and will be the primary staff member processing and analyzing the data. ICF (the Inner City Fund) contracts with LIHWAP and will provide analytical and administrative support for this data collection. The ICF staff members involved with this project are Stacy Flowers, Emily Rome, Nick Thompson, and Jason Clevenger.

### **Attachments**

- Guide for Interviews with Water Service Providers
- Water Utility Affordability Survey