The Home Health Care CAHPS Survey  
Part B  
Collection of Information  
Employing Statistical Methods

TABLE OF CONTENTS

**Section** **Page**

[B. Collection of Information Employing Statistical Methods 1](#_Toc226299526)

[B.1 Potential Respondent Universe and Sample Selection Method 1](#_Toc226299527)

[B.1.2b National Implementation Sampling Specifics 6](#_Toc226299531)

[B.2 Information Collection Procedures 8](#_Toc226299532)

[B.3 Methods to Maximize Response Rate 9](#_Toc226299533)

[B.4 Tests of Procedures 10](#_Toc226299534)

[B.5 Statistical Consultation and Independent Review 10](#_Toc226299535)

# B. Collection of Information Employing Statistical Methods

## B.1 Potential Respondent Universe and Sample Selection Method

The national implementation of HHCAHPS is voluntarily implemented by home health agencies (HHAs); and each participating HHA contracts with an independent survey vendor to conduct the survey for it.

### B.1.2 Sampling Patients for the National Implementation

HHAs assemble a census of their patients (both current and discharged) for the sample frame, defined as a calendar month. Each HHA submits a file containing patient information for all patients to whom the HHA provided home health care during the sample month to its contracted survey vendor. The sample frame for the national implementation is constructed aat CMS Certification Number level, which was formerly known as the Medicare provider number and is the unit of comparison for survey results reported on the Home Health Compare website. The sample frame prepared by the HHA contains all the patient data needed for fielding the survey and for analysis.

The HHA’s survey vendor reviews the frame and excludes any patients who are not eligible to participate in the Home Health Care CAHPS Survey. Patients ineligible for the survey are those who

* are receiving hospice or are discharged to hospice,
* are deceased when the sample is drawn,
* are under 18 years of age at any time during their stay,
* did not have at least one skilled home health visit in the sample month and at least two home health care visits during a 2-month look-back period starting with the last day of the sampled month,
* received routine maternity care only ,
* are “no publicity” patients,
* are residing in states that prohibit the surveying of certain patients (for example, with HIV, or other patients with protected health information status),
* are receiving only nonskilled (aide) care, or
* were included in an HHCAHPS sample during the last 5 months.

The requirement that a patient not be sampled more than twice a year is intended to reduce burden on individual patients and to increase the probability of response.

#### B.1.2b National Implementation Sampling Specifics

For the national implementation of the Home Health Care CAHPS Survey, each participating HHA sends to its contracted survey vendor each month a patient sample frame containing information about each patient who received home health care during the sample month, with sufficient information for the vendor to determine exclusions and with information needed for both fielding the survey and for patient-mix adjustment. The survey vendor removes from the sample frame patients who do not meet survey eligibility requirements and then draws a random sample of the remaining patients.

Survey vendors working under contract with HHAs are instructed to use a reliable program to generate random numbers for sampling. The Centers for Medicare & Medicaid Services (CMS) recommends that survey vendors use the free program RATSTATS, available from the Department of Health and Human Services, Office of Inspector General website, or some other validated sample selection program such as SAS to select the sample. The sampling procedure recommended is simple random sampling, but disproportionate and proportional stratified random sampling isallowed since some HHAs want to analyze their own data and view survey results for individual branches. HHAs that deviate from simple random sampling (using disproportionate sampling) are required to request an exception and obtain approval from CMS. An exception is permitted if the minimum sample is 10 per strata and the information needed to weight the data is reported to CMS.

The national survey is fielded on a rolling basis, and the results for each quarter merged with data from the 3 immediately preceding quarters and analyzed. Although the national implementation sampling is conducted on a monthly basis (with the survey initiated for each monthly sample within 3 weeks after the sample month ends), data from four quarters will be accrued, aggregated, analyzed, and reported on a quarterly basis, with the data from the most current quarter replacing data from the oldest of the four quarters. For 4 calendar quarters, a minimum of 300 completed surveys is the target for each participating HHA. If an HHA’s patient population is too small to yield 300 completed surveys, a census must be surveyed. The 300 completed surveys needed for analysis is derived from the formula for the precision of a proportion with the estimate at .5, the confidence interval of about +/- 0.05, and a confidence level of 95%. (Many agencies, with a substantial sampling fraction, can achieve a higher precision because of the finite population correction factor.)



In the national implementation of the Home Health Care CAHPS Survey, the number of patients needed for selection each month to yield a minimum of 300 completed surveys per year (25 per month) is ultimately determined by each HHA and its survey vendor. Each agency survey vendor uses its experience on other surveys with home health patients and/or other similar populations, the data collection mode, and expected response rates as guides for calculating the monthly sample sizes that are needed for the Home Health Care CAHPS Survey.

HHAs with monthly frame sizes of 90 or below should start with a sample equal to the sample frame. That is, all patients who meet the eligibility criteria will be included in the survey sample. For HHAs with larger sampling frames the sampling rate can be reduced, although it clearly will be higher than 50% until the frame exceeds about 180 eligible patients per month. Monthly sample size rates are based on the number of patients who meet survey eligibility criteria in the frames after the first test month, since that month will not have any patients who are ineligible for the survey because they would be sampled during the first month of the test file.

## B.2 Information Collection Procedures

Three modes of survey administration are allowed to give HHAs options in how they would like to administer the survey, based on their goals and resources. These three modes are described below:

* Mail-only mode
* Mailing of the questionnaire and cover letter to all sampled patients.
* Second mailing of the questionnaire with a cover letter to sample patients who do not respond to the first mailing within 3 weeks after the first questionnaire package is mailed.
* Telephone-only mode
* A maximum of five telephone contact attempts per patient to complete the survey.
* Mixed-mode
* Mailing of the questionnaire and cover letter to all sample patients.
* Telephone follow-up with all sample patients who do not respond to the questionnaire mailing. A maximum of five telephone contact attempts per patient will be made to complete the survey.

Data collection for each sampled patient must be initiated no later than 3 weeks (21 days) after the close of the sample month. Once data collection begins, it must be closed out within 6 weeks.

Survey vendors that are “approved” to conduct the Home Health Care CAHPS Survey on behalf of HHAs complete the Home Health Care CAHPS survey vendor training, which provides detailed guidance on the protocols and guidelines for all aspects of survey implementation, from sample selection to data collection and data submission.

## B.3 Methods to Maximize Response Rate

Every effort is made to maximize patient response rates, while retaining the voluntary nature of the Home Health Care CAHPS Survey. Each questionnaire mailingincludes a cover letter explaining what the survey is about, who is conducting it and why, and the name and toll-free telephone number of a survey staff member that sampled patients can contact if they have questions or need additional information about the survey. For the mail-only mode of administration, survey vendors use best practices in survey materials to enhance response rates. These best practices include using a simple font no smaller than 10 point size in the survey cover letters, allowing ample white space between questions in the questionnaire, avoiding a format that displays the questions as a matrix, using a unique subject identification number on the questionnaire rather than printing the sample member’s name, and displaying the OMB number on the questionnaire. The second mailing for the mail only implementation is expected to increase the response rate, as is the telephone follow-up portion of the mixed-mode implementation.

## B.4 Tests of Procedures

* Based on the evidence from the HHCAHPS Mode Experiment, RTI project staff recommends using the following variables as adjustment factors on HHCAHPS Survey results. Proxy respondent used
* Non-English language as the primary language spoken at home
* Age (five levels: 18-49, 50-64, 65-74, 75-84, and 85 plus)
* Education (five levels: less than 8th grade, 8th grade to less than high-school graduate, high-school graduate or GED, some college, and college graduate or more)
* Self-reported mental/emotional health status (three levels: Excellent/Very Good, Good, Fair/Poor)
* Whether a patient lives alone
* ADL deficit score, and
* Two mental health diagnosis groups (schizophrenia and dementia).

RTI staff will re-estimate regression and impact analyses during the Home Health Care CAHPS national implementation using data from a large number of HHAs to assess the stability of the evidence for these adjusters. RTI did not find that the mode of survey administration (mail only mode, telephone only mode, or mixed mode) had any significant impact on patient responses in HHCAHPS.

## B.5 Statistical Consultation and Independent Review

This sampling and statistical plan was prepared by CMS and reviewed by RTI. The primary statistical design was provided by Melvin Ingber of RTI International. Dr. Ingber can be reached by telephone at (410) 730-1506 or by e-mail at [mingber@rti.org](mailto:mingber@rti.org).