

Technical Assistance Guide for Analyzing Data from the Consumer Assessment of Healthcare Providers and Systems Home and Community-Based Services (HCBS CAHPS[®]) Survey

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I. INTRODUCTION

A. Overview of the Survey

Medicaid home and community-based services (HCBS) provide opportunities for Medicaid participants to receive services in their own home or community rather than institutions or other isolated settings. These programs serve a variety of targeted population groups, such as older adults and people with intellectual or developmental disabilities, physical disabilities, and/or mental health or substance use disorders.¹ With the majority of Medicaid long-term services and supports (LTSS) now provided in the community, mechanisms for measuring the quality of care delivered in those settings becomes imperative. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) Home and Community-Based Services Survey, hereinafter referred to as the HCBS CAHPS Survey, provides standardized performance measures for HCBS programs.² Specifically, the survey gathers direct feedback from Medicaid participants receiving HCBS, or their designated proxies responding on their behalf, about their experiences with their program.

The goal of the survey is to provide standardized participant experience measures for HCBS programs that are applicable to all populations served by these programs, including the following populations:

- Older adults;
- Individuals with physical disabilities;
- Individuals with intellectual or developmental disabilities;
- Individuals with an acquired brain injury; and
- Individuals with mental health or substance use disorders.³

The assessment will enable HCBS programs to identify areas in which quality can be improved and to provide stakeholders with performance comparisons across HCBS programs. Survey sponsors are encouraged to voluntarily participate in submitting data to the HCBS CAHPS Survey Database, which provides cross-program and cross-state results, as appropriate, that can inform comparisons and program improvement. Survey sponsors include state Medicaid agencies that administer HCBS programs as well as operating entities that manage and oversee a specific HCBS program within a state (e.g., Medicaid state agencies, other state agencies such as departments of aging, non-state governmental entities such as counties, and managed care plans [MCP]).

The Centers for Medicare & Medicaid Services (CMS) used the foundational design principles of all CAHPS surveys to inform HCBS CAHPS Survey development.⁴ The HCBS CAHPS

¹ For more information, visit <https://www.medicaid.gov/medicaid/quality-of-care/quality-of-care-performance-measurement/cahps-home-and-community-based-services-survey/index.html>

² CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality.

³ The pilot group included individuals with serious mental illness served by HCBS programs. The HCBS CAHPS Survey Administration Guide expands use of the HCBS CAHPS Survey to individuals with mental health and substance use disorders.

⁴ For more information, visit www.ahrq.gov/cahps/about-cahps/index.html

Survey received the CAHPS trademark on June 22, 2016. In addition, 19 measures derived from the survey received endorsement from the National Quality Form (NQF) on October 25, 2016.⁵

B. Purpose of the Guide

This *Technical Assistance Guide for Analyzing Data from the HCBS CAHPS Survey* (Data Analysis Guide) serves as a key component of materials created to help survey sponsors conduct the analysis of data and report results from the HCBS CAHPS Survey. More specifically, this document accompanies the [CAHPS Analysis Program](#) (written for SAS [SAS Institute, Inc.]) and the document titled [Instructions for Analyzing Data from CAHPS Surveys](#).⁶ This Data Analysis Guide explains the following topics:

1. Potential uses of the survey data, including a description of the 19 NQF-endorsed measures derived from survey items and considerations for reporting results to stakeholders;
2. Preparation of the survey data for analysis, including the steps for transforming the raw HCBS CAHPS Survey responses into data for use by the CAHPS Analysis Program and HCBS CAHPS Database. Sponsors can use this guide in conjunction with the document titled [Preparing Data from CAHPS Surveys for Analysis](#). It is important to read both documents to conduct analyses for the HCBS CAHPS Survey;
3. Issues specific to analyzing data from the HCBS CAHPS Survey, including the steps for calculating scores. Sponsors can use this guide in conjunction with the document titled [Instructions for Analyzing Data from CAHPS Surveys](#). It is important to read both documents to conduct analyses for the HCBS CAHPS Survey; and
4. Additional resources for using the HCBS CAHPS Survey to produce scores and related data analysis, including the HCBS CAHPS Database reports.

II. USING THE SURVEY DATA

Survey sponsors can use the results from the HCBS CAHPS Survey to identify opportunities for improvement and track progress toward goals. Sponsors include state agencies that administer Medicaid and other state-funded HCBS programs as well as other entities that manage and oversee a specific HCBS program within a state (e.g., MCPs and non-state governmental entities such as counties).

⁵ For more information, visit

<http://www.qualityforum.org/Qps/MeasureDetails.aspx?standardID=2967&print=0&entityTypeID=1>

⁶ Agency for Healthcare Research and Quality (AHRQ). *Instructions for Analyzing Data from CAHPS® Surveys: Using the CAHPS Analysis Program Version 4.1*. Document No. 2015. Rockville, MD: AHRQ; 2012.

<https://cahpsdatabase.ahrq.gov/files/CGGuidance/Instructions%20for%20Analyzing%20CAHPS%20Surveys.pdf>

A. Uses of the HCBS CAHPS Survey

An HCBS quality strategy should include multiple sources of information to form a full assessment of program quality. Feedback from participants receiving HCBS provides one very important source of information about service quality. CMS developed the HCBS CAHPS Survey for voluntary use in Medicaid HCBS programs as a tool for gathering feedback from participants about their experiences, in order to support quality assessment and improvement, as well as for public reporting by states that choose to do so. States that wish to participate in this public reporting and receive comparative data across programs and states have the opportunity to submit their findings to the HCBS CAHPS Database.

1. Participate in the HCBS CAHPS Survey Database

State survey sponsors and other entities administering the HCBS CAHPS Survey are encouraged to submit their data to the HCBS CAHPS Survey Database. This opportunity allows states to receive cross-program and cross-state comparative data that can facilitate analysis and program improvement. These valuable data are provided free to participating states. States can use the survey findings to:

- Raise general awareness about participant experience with HCBS;
- Assess the current status of participant experience with HCBS programs;
- Identify strengths and opportunities for participant experience improvement;
- Examine trends in HCBS participant experience over time; and
- Evaluate the impact of participant experience improvement initiatives and interventions.

2. Track Program Performance

The HCBS CAHPS Survey can be used for program quality management and to help document program successes. In addition, by fielding the survey over a short time period (no more than a few months), sponsors can obtain a point-in-time performance snapshot and identify areas for improvement. Further investigation may be required to determine the cause of any performance problem identified. Another way to use the survey is to repeat survey administrations to track performance over time and monitor changes. For example, comparing performance before and after implementation of a program improvement project can provide an assessment of the project's impact.

3. Compare Program Performance

The HCBS CAHPS Survey can support comparisons among programs serving individuals with different types of disabilities, provided that there is a sufficient participant sample for each program or subprogram group. The HCBS CAHPS Survey also may be used to evaluate subprogram accountable entities, such as MCPs serving HCBS participants in managed long-term services and supports (MLTSS) programs as well as HCBS providers (including case management agencies) serving large numbers of participants. See [Section III.A \(*Determining Unit of Analysis and Desired Scoring Method*\)](#) for details about determining the appropriate unit of analysis.

4. Comply with Quality Monitoring Requirements

All Medicaid HCBS programs have quality monitoring requirements, regardless of the Medicaid authority under which the program operates. Results from the HCBS CAHPS Survey can help states monitor their adherence to the Medicaid program's HCBS federal quality requirements (e.g., HCBS participant health and welfare⁷), and the home and community-settings and person-centered planning requirements in the 2014 HCBS final rule.⁸ MCPs that are increasingly being used by state Medicaid agencies to bear risk in delivering LTSS, including HCBS, also have quality monitoring requirements associated with them.⁹

B. National Quality Forum-Endorsed Measures

The HCBS CAHPS Survey includes 19 measures endorsed by the National Quality Forum.¹⁰ These measures include 7 scale measures and 12 measures derived from single survey items. Scale measures include multiple questions that measure similar topics and are analyzed as a group. NQF-endorsed measures, considered the gold standard for health care measurement in the United States, provide assurance to the user that measures underwent rigorous testing. *Exhibit 1* provides a list of the 19 measures. [Appendix A](#) provides a crosswalk of the survey items that are used in the calculation of each measure.

⁷ 42 C.F.R. § 441.302(a). State Assurances, Health and Welfare; 2000.

⁸ CMS-2249-F/CMS-2296-F. Medicaid Program; State Plan Home and Community-Based Services, 5-Year Period for Waivers, Provider Payment Reassignment, and Home and Community-Based Setting Requirements for Community First Choice and Home and Community-Based Services Waivers, 79 Fed. Reg. 2947; January 16, 2014.

⁹ For more information, visit <https://www.medicaid.gov/medicaid/managed-care/guidance/medicaid-and-chip-managed-care-final-rules/index.html>

¹⁰ For more information, visit <http://www.qualityforum.org/Qps/MeasureDetails.aspx?standardID=2967&print=0&entityTypeID=1>

Exhibit 1: National Quality Forum-Endorsed Measures Derived from the HCBS CAHPS Survey

Measures	Description of Services
Scale Measures	1. Staff are reliable and helpful
	2. Staff listen and communicate well
	3. Case manager is helpful
	4. Choosing the services that matter for you
	5. Transportation to medical appointments
	6. Personal safety and respect
	7. Planning your time and activities
Global Ratings Measures	8. Global rating of personal assistance and behavioral health staff
	9. Global rating of homemaker
	10. Global rating of case manager
Recommendations Measures	11. Would recommend personal assistance/behavioral health staff to family and friends
	12. Would recommend homemaker to family and friends
	13. Would recommend case manager to family and friends
Unmet Measures	14. Unmet need in dressing/bathing due to lack of help
	15. Unmet need in meal preparation/eating due to lack of help
	16. Unmet need in medication administration due to lack of help
	17. Unmet need in toileting due to lack of help
	18. Unmet need with household tasks due to lack of help
Physical Safety Measure	19. Hit or hurt by staff

See [Section IV \(Analyzing the Survey Data\)](#) for details on how to produce the scores for each of these measures.

C. Reporting to Stakeholders

Scores for HCBS CAHPS measures are designed to convey performance information to key stakeholders, including program managers and internal state staff, CMS, participants, providers, MCPs, state legislatures, and the general public. Sponsors should consider the audience when deciding how to report results to each group.

HCBS program participants and family members of participants may find it easier to understand scores that are on scales they have encountered before. HCBS CAHPS measure scores can be transformed to a 0- to 100-point scale to allow for easier interpretation. Another format that participants and family members may find easily understandable is a top box score, which is a reflection of the percentage of survey respondents that experienced the most positive outcome for a measure. [Section III.A.2 \(Desired Scoring Method\)](#) has further discussion of options for presenting scores.

III. PREPARING THE SURVEY DATA FOR ANALYSIS

The sections below outline the specific actions needed to prepare data for analysis. In general, it is advisable to prepare data for analysis in the following order:

1. Determine unit of analysis and desired scoring method;
2. Clean the data;
3. Apply criteria for inclusion; and
4. Recode the data.

A. Determining Unit of Analysis and Desired Scoring Method

1. Unit of Analysis

The unit of analysis is the level for which a score is produced. For the HCBS CAHPS Survey, the unit of analysis is generally the accountable entity (e.g., HCBS program, MCP). An accountable entity is the operating entity responsible for managing and overseeing a specific HCBS program within a given state. Although state Medicaid agencies administer Medicaid HCBS programs under various legal authorities, other entities frequently operate Medicaid programs including non-Medicaid state agencies (e.g., department of aging), non-state governmental entities (e.g., county), or MCPs under MLTSS programs. In those cases, the operating entities contract with direct service and support providers and case managers. The sponsor should determine the appropriate unit of analysis (e.g., program level, MCP level), based on objectives identified for the data analysis and characteristics of the available data (e.g., survey design, sample size, variables).

2. Desired Scoring Method (Top Box Scores or Mean Scores)

Sponsors must decide how to best present scores for their intended audiences. The two recommended ways to present scores include: top box scores and mean scores on a 0–100 scale.

Sponsors may want to use top box scores for public reporting, as individuals without a research background generally find top box scores easier to understand. Top box scores also may be more appropriate to present to accountable entities. Top box scores, by nature, are lower than mean scores on a 0–100 scale and can therefore “raise the bar” to help accountable entities focus on performance improvement.

Alternatively, sponsors may wish to present scores on a 0–100 scale. The advantage of this method is that the score reflects the full range of participant experiences of care and may provide a more precise measure. Compared to top box scores for a set of states or programs the average scores for the same HCBS provider often are compressed into a small part of the 0–100 range or show less variation. For example, two HCBS programs might have the same top box score (e.g., percentage of respondents selecting the most positive response category). However, one program may have many more responses in the most positive category, whereas the other program may have more variability in responses, capturing values in the first and second most positive categories. The second program would have a lower score than the first program when using the mean 0–100 scale score. *Exhibit 2* shows examples of 0–100 mean scores and top box scores for several measures derived from the HCBS CAHPS Survey; *Exhibit 3* demonstrates how a measure’s raw mean score, 0–100 mean score, and top box score could be calculated (see [Section IV.A \[Calculating Global Ratings Measure Scores Top Box\]](#) for more information).

Exhibit 2: Example of 0–100 Mean Scores and Top Box Scores

	Mean Score	Top Box Score
Global Rating of Personal Assistance/ Behavioral Health Staff	89.5	77% (% Rating personal care assistant [PCA] “9” or “10”)
Would Recommend Personal Assistance/ Behavioral Health Staff	93.5	82% (% would “definitely” recommend their PCA)
Transportation to Medical Appointments	96.1	91%

Exhibit 3: Example of Calculating Raw Mean Scores, 0–100 Mean Scores, and Top Box Scores

Respondent	Item 1 Response (0-4 scale)
1	4
2	3
3	3
4	2
5	4

Type of Scoring Method	Results
Mean	3.2 $(=(4+3+3+2+4)/5)$
Mean 0-100 scale	73% $(=((3.2-1)*100) / (4-1))$
Top Box	40% $(=2/5)$

B. Applying Criteria for Inclusion

1. Determination of Eligibility to Complete Surveys

Participants eligible for the HCBS CAHPS Survey include Medicaid participants who are at least 18 years of age in the sample period and have received HCBS services for 3 months or longer, as well as their proxies. The interviewer further determines survey eligibility by asking three cognitive screening questions that the individual should answer in a meaningful way to continue the interview. These questions are referred to as cognitive screening questions because they generally assess a participant’s cognitive ability to participate in the survey. The questions anchor the respondent and interviewer to complete the relevant sections of the survey. The HCBS CAHPS Survey does not contain traditional cognition-related questions.

- Q1. Does someone come into your home to help you?
- Q2. How do they help you?
- Q3. What do you call them?

Individuals who are unable to answer these open-ended cognitive screening items with responses do not proceed with the interview and are effectively excluded from the survey measures. Some measures also have topic-specific screening items, as discussed below.

All respondents are eligible to answer a set of survey items based on the type of service(s) they received. Collectively, these are referred to as “key items,” and do not include items from the *About You* section. For CAHPS Surveys, analysis should be limited to “complete” surveys. According to the CAHPS definition, a complete survey includes substantive response¹¹ from the respondent to at least half of the items that all respondents are eligible to answer in the survey.

Identifying a standard set of key items that all respondents are eligible to answer is more challenging for the HCBS CAHPS Survey because, by design, respondents are asked different questions based on the HCBS services they receive through a specific HCBS program (e.g., people who do not receive homemaker services, or are in a program that does not offer homemaker services, are not eligible to answer the homemaker questions in the HCBS CAHPS Survey). In addition, the items that all respondents are eligible to answer are affected by whether the sponsor adds questions at the end of the core CAHPS questions and before the *About You* section. Similarly, a sponsor may decide to restrict proxy respondents from answering certain questions on behalf of the HCBS program participant. Due to these user variations, each sponsor should make their own determination about which questions each respondent is eligible to answer, based on the services the respondent receives.

An example of a “key item” for all respondents that receive personal assistance or behavioral health services is described below:

Q16. In the last 3 months, did you need help from {*personal assistance/behavioral health staff*} to get dressed, take a shower, or bathe?

- ¹ YES
- ² NO → GO TO Q20
- ⁻¹ DON'T KNOW → GO TO Q20
- ⁻² REFUSED → GO TO Q20
- ⁻³ UNCLEAR RESPONSE → GO TO Q20

Since the following question only applies to those who responded “yes” to the question above, it is **not** a key item:

Q17. In the last 3 months, did you always get dressed, take a shower, or bathe when you needed to?

- ¹ YES → GO TO Q19
- ² NO
- ⁻¹ DON'T KNOW → GO TO Q19
- ⁻² REFUSED → GO TO Q19
- ⁻³ UNCLEAR RESPONSE → GO TO Q19

¹¹ Substantive responses include all responses *other than* “DON'T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE.” Note that the response “NO” is considered a substantive response.

2. Assistance Completing the Survey and Proxy Respondents

Sponsors may allow certain respondents to complete the survey with assistance from another individual. This may include one or more of the following forms of assistance:

- Answers all or some questions on behalf of the respondent (proxy respondent);
- Restates a question for the respondent;
- Prompts or translates a question for the respondent; and
- Helps the respondent with the use of assistive technology.

Prior to HCBS CAHPS Survey implementation, sponsors should decide if participants should serve as the sole respondent for a question(s) or if proxy respondents are allowed. Proxy use is identified by Question 102 in the HCBS CAHPS Survey (“Who Helped the Respondent?”). Those sponsors that do not allow proxy support should build a skip pattern into the survey for proxy respondents (removing item(s) for which proxies are not allowed). Responses for items for which proxy responses are not allowed should then be coded as “missing.” [Section IV.E \(Methods for Calculating Scores\)](#) contains information on how to include assistance completing the survey as a case-mix adjuster.

C. Cleaning Data

Once a survey sponsor receives data from a survey vendor, the sponsor should review and clean the data by checking for common types of data errors. The following sections describe several of these types of errors, with instructions for addressing each. Most of these errors should not be an issue for computer-assisted telephone interviewing (CATI) or computer-assisted personal interviewing (CAPI) administration because the computer-assisted systems should help reduce most coding errors. However, sponsors should review and check for such errors because incorrect programming of CATI and CAPI programs can still result in these types of data errors.

1. Checking for Out-of-Range Values

Out-of-range values occur when a respondent has a value in the dataset that is outside the upper or lower bounds for a given survey item. For example, in *Exhibit 4*, the Global Rating of the homemaker question uses a scale from 0 to 10, where a respondent’s answer of “11” is an out-of-range value.

If sponsors find out-of-range values, they should recode the values as “missing”.

2. Checking for Values Not Matching Survey Administration Guide Response Options

The variables should be checked to ensure they contain response values as defined by the [Technical Assistance Guide for the Administration of the HCBS CAHPS Survey](#) (Survey Administration Guide). In instances where the data values are different from the Survey Administration Guide specifications, the response values should be recoded in coordination with the survey vendor.

Exhibit 4: Example of Out-of-Range Value

Respondent ID#	Q46
1	8
2	8
3	7
4	9
5	10
6	11
7	6
8	7
9	8
10	8

For example, consider Q18 (“In the last 3 months, was this because there were no *{personal assistance/behavioral health staff}* to help you?”). Positive responses for Q18 are coded inversely when compared to other parts of the HCBS CAHPS Survey; accordingly, the Survey Administration Guide specifications state that Q18 should be reverse coded with either “Yes” or “No” responses. However, the data output for this question will appear as “01” (instead of “Yes”) and “02” (instead of “No”) for this field. In this instance, it is recommended to perform frequency checks on the survey responses and coordinate with the accountable entity or survey vendor to recode the values to the expected values.

3. Checking for Duplicate Responses

Duplicate responses refer to instances in which a participant’s response to one or more questions appears more than once in the dataset. A respondent should be represented only once in the dataset. *Exhibit 5* shows that the respondent identification number 6 appears in the dataset twice for a specific question.

In many instances, simply deleting the duplicate response will appropriately clean the data if both cases where the duplicate responses are found contain the same values for all items. However, if two cases with the same respondent ID have different values for the same item, the original records should be reviewed to determine whether the two cases actually reflect different respondents.

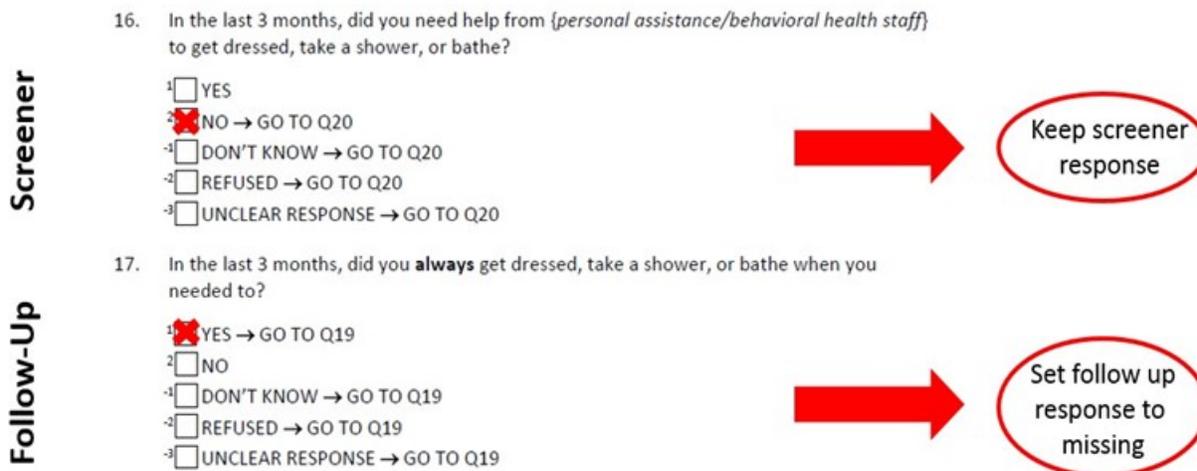
Exhibit 5: Example of Duplicate Response

Respondent ID#	Q13
1	3
2	3
3	4
4	3
5	4
6	3
6	3
7	2
8	4
9	3
10	3

4. Checking for Failed Skips

A failed skip occurs when a respondent answered questions from a section that should not have been administered to them on the basis of what the participant answered in a “screener” item. In these cases, the values of the items that the respondent should NOT have answered should be recoded as “missing.” *Exhibit 6* shows an example of how to correct failed skips.

Exhibit 6: Example of Failed Skip Correction



5. Checking for Indeterminate Eligibility

Indeterminate eligibility occurs when the respondent does not provide an answer to the screener item but did answer subsequent questions in that section. If the response to a “screener” item is missing AND if the follow-up question has a valid response, THEN the follow-up response should be retained and no edits should be made to the screener question.

D. Recoding Data

In a few instances, the sponsor should recode the data before analyses in four different scenarios:

- Complete recoding in cases where values are different from Survey Administration Guide response options (for reverse coded items);
- Recoding of demographic variables used as case-mix adjusters;
- Recoding for creating mean scores on 0–100 scale or top box scores; and
- Recoding to combine response option modes.

In all instances, to preserve the original responses, the sponsor should create a new variable for recoded items instead of overwriting the original response.

Sponsors should recode data in the following order:

1. Recoding “DON’T KNOW,” “REFUSED,” and “UNCLEAR RESPONSE” as missing values;
2. Reverse coding items;
3. Recoding items if case mix adjusting;
4. Recoding for mean scores on 0–100 scale or top box scores; and
5. Combining response option mode data.

1. Recoding “DON’T KNOW,” “REFUSED,” and “UNCLEAR RESPONSE” as Missing Values

Responses that have values of “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE” should be recoded as missing values for analyses. This applies to all items in the survey.

2. Reverse Coding Items

Reverse coding ensures that the highest value corresponds to the most positive response, given the specific topic and wording of the question. [Appendix B](#) includes an asterisk at the end of the question text for HCBS CAHPS Survey items that will need to be reverse coded.

For example, *Exhibits 7A* and *7B* show that Question 29 has the standard response options of “Never,” “Sometimes,” “Usually,” and “Always.” The most positive response to this question is “Never,” indicating that the respondent never has a hard time understanding their personal care assistant (PCA) because of an accent or the way the PCA speaks English. However, “Never” has a value of “1” in the original coding, rather than the highest value of “4.” Thus, the sponsor needs to reverse code the values.

Exhibit 7A: Example of Reverse Coding for Negatively Worded Items

Q29. In the last 3 months, how often were the explanations that *{personal care assistant staff}* gave you hard to understand because of an accent or the way they spoke English?

Exhibit 7B: Example of Reverse Coding for Negatively Worded Items

Original Coding	Reverse Coding
Never (1)	Always (1)
Sometimes (2)	Usually (2)
Usually (3)	Sometimes (3)
Always (4)	Never (4)

We recommend creating a new variable for each recoded item with combined response data, adding an indicator such as “RC” to the end of the variable name. For example, if Question 76 in the dataset is Q_76, then the reverse coded variable would be named Q_76_RC.

3. Recoding Case-Mix Adjusters

Respondent characteristics and survey mode characteristics that are used as case-mix adjusters need to be recoded before producing adjusted scores with the CAHPS Analysis Program. To produce adjusted scores using the CAHPS program, some case-mix items in the survey should be recoded to create several binary (dummy) variables (see [Section IV.D.8 \[Factors for Case-Mix Adjustment\]](#) for more information). This means that the recoded variable will have the following values:

- 1 = respondent has that specific value of the characteristic; or
- 0 = respondent does not have that specific value of the characteristic

Example:

Q84. What is your age? (18–24, 25–34, 35–44, 45–54, 55–64, 65–74, 75 years or older) would be transformed into seven variables:

- age_18_24 (0/1) (0 = person is not 18–24; 1 = person is 18–24)
- age_25_34 (0/1) (0 = person is not 25–34; 1 = person is 25–34)
- age_35_44 (0/1) (0 = person is not 35–44; 1 = person is 35–44)
- age_45_54 (0/1) (0 = person is not 45–54; 1 = person is 45–54)
- age_55_64 (0/1) (0 = person is not 55–64; 1 = person is 55–64)
- age_65_74 (0/1) (0 = person is not 65–74; 1 = person is 65–74)
- age_75_plus (0/1) (0 = person is not 75+; 1 = person is 75+)

Refer to [Section IV.D.8 \(Factors for Case-Mix Adjustment\)](#) for additional discussion on case-mix adjusters.

4. Recoding for Mean Scores on 0–100 Scale and Top Box Scores

Mean Scores on a 0–100 Scale. Scores on a 0–100 scale represent mean scores that have been transformed to a 0–100 scale. For example, items in the HCBS CAHPS Survey that use the standard CAHPS response categories have values that range from 1 to 4 before transformation. To produce scores on a 0–100 scale, sponsors will need to transform scores using the following general formula:

$$\frac{\max_{new} - \min_{new}}{\max_{old} - \min_{old}} \cdot (v - \max_{old}) + \max_{new}$$

The values in the above formula are defined as follows:

- \max_{old} = the maximum value of the old scale;
- \min_{old} = the minimum value of the old scale;
- \max_{new} = the maximum value of the new scale;
- \min_{new} = the minimum value of the new scale; and
- v = respondent's score on the old scale.

For example, consider the original CAHPS response categories range from 1 to 4 and respondent's score is 3. Then the new score in the transformed 0–100 scale is 66.67, which is calculated as follows:

$$\frac{100 - 0}{4 - 1} (3 - 4) + 100 = \frac{100}{3} (-1) + 100 = \frac{200}{3} = 66.67$$

where $\max_{old} = 4$, $\min_{old} = 1$, $\max_{new} = 100$, $\min_{new} = 0$, $v = 3$.

Top Box Scores. Top box scores present the percentage of people who answered the most positive response option for a single-item measure. Top box scores for scale measures present the average, across all items in the scale measure, of the percentage of people who answered the most positive response option for each item in the scale measure (i.e., the average top box score for the items in the scale measure).¹² To produce top box scores, data will need to be recoded so that each item has a value of 1 if the respondent chose the most positive response category and a value of 0 if the respondent did not choose the most positive response category. This will produce scores that range from 0 to 1, which then can be converted to 0–100 by multiplying by 100. The most positive categories are listed below:

The AHRQ CAHPS Analysis Program—otherwise known as the “CAHPS macro”—is a free program written for SAS users to conduct analyses that produce valid comparisons of performance across entities for CAHPS instruments. The CAHPS macro can automate many of the manual data manipulations described in this document. For more information on the CAHPS macro, visit <https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html>.

- “Always” for scale items (or “Mostly yes” for alternate response option);
- “9” or “10” for Global Ratings (or “Excellent” for alternate response option); and
- “Definitely yes” for Recommendation Items.

6. Combining Response Option Mode Data

The HCBS CAHPS Survey offers two response option modes for survey respondents: (1) a standard response option mode that aligns with response options of other CAHPS surveys, and (2) an alternate simplified response option mode. Sponsors that choose to report mean scores will need to combine responses from the two response options prior to producing scores.

The example below describes differences between the response option modes:

- Standard question and response: In the last 3 months, how often did personal assistance staff come to work on time? (“Never”/“Sometimes”/“Usually”/“Always”); and
- Alternate question and response: Do personal assistance staff come to work on time? (“Mostly yes”/“Mostly no”).

Any sponsor who offers both response options when fielding the survey will need to combine answers to survey items before analyzing the data. The two main types of data transformations to combine data include:

- Transforming alternate two-point “Mostly yes”/“Mostly no” responses to the standard four-point “Never”/“Sometimes”/“Usually”/“Always” scales; and

¹² For more information on top box scores, consult page 10 of *Preparing Data from CAHPS® Surveys for Analysis*. <https://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/helpful-resources/analysis/preparing-data-for-analysis.pdf>

- Transforming standard 0–10 responses to alternate five-point Global Rating “Excellent”/“Very Good”/“Good”/“Fair”/“Poor” scale.

“Never”/“Sometimes”/“Usually”/“Always” and “Mostly yes”/“Mostly no” Items. The sponsor should use the following logic to combine standard “Never”/“Sometimes”/“Usually”/“Always” responses with analogous “Mostly yes”/“Mostly no” responses:

- Ensure that standard responses are coded as—
 - Least positive option = 1
 - Second least positive option = 2
 - Third least positive option = 3
 - Most positive option = 4
- Recode alternate responses as—
 - Least positive option = 1
 - Most positive option = 4

The sponsor may then use a statistical package of choice to merge the separate variables for standard and alternate responses, so that one new variable represents all data.

Global Ratings. The sponsor should use the following logic to combine standard Global Ratings with alternate Global Ratings:

- Keep alternate responses on a five-point “Excellent”/“Very Good”/“Good”/“Fair”/“Poor” scale. Recode alternate responses as—
 - Poor = 1
 - Fair = 2
 - Good = 3
 - Very Good = 4
 - Excellent = 5
- Recode standard responses as—
 - 0,1,2 = 1
 - 3,4 = 2
 - 5,6 = 3
 - 7,8 = 4
 - 9,10 = 5

Once completed, the sponsor may use a statistical package of choice to merge the separate variables for standard and alternate ratings, so that one new variable represents all data.

The sponsor should create a new variable for each item with combined response data. For example, the combined data for Q_29 (which retains the original data) would be named Q_29_C.

IV. ANALYZING THE SURVEY DATA

The following section outlines the steps for calculating scores, considerations for case-mix adjustment, and an alternative method for creating unadjusted scores. Text in this section refers to responses from the HCBS CAHPS Survey and technical assistance guide; reference version 1.0 of the instrument for acceptable responses to each question. This section also assumes that sponsors and their delegates have completed all steps described in [Section III \(*Preparing the Survey Data for Analysis*\)](#) of this guide.

By submitting to the HCBS CAHPS Database, survey sponsors also receive a private Excel feedback report comparing sponsor's results to aggregated database results; access to online reporting system, chartbooks, de-identified research datasets; and technical assistance with the submission process.

HCBS CAHPS Survey participants respond to different items within the instrument based on the service(s) they receive. Consequently, sponsors should only use eligible responses for analysis of the survey results ([Section III.B \[*Applying Criteria for Inclusion*\]](#)), with *eligible responses* defined as those participants who indicated they received a service on the “Identification Questions” section, which includes:

- Q4. In the last 3 months, did you get *{program specific term for personal assistance}* at home?
- Q6. In the last 3 months, did you get *{program specific term for behavioral health specialist}* at home?
- Q8. In the last 3 months, did you get *{program specific term for homemaker services}* at home?
- Q11. In the last 3 months, did you get *{program specific term for case manager services}* at home?

The NQF-endorsed HCBS CAHPS Survey measures produce top box scores. This means that the **numerator** reflects the number of eligible respondents who give the most positive response to the underlying survey item(s). [Sections IV.A–IV.D \(*Calculating Global Ratings Measures Scores—Calculating Scale Measure Scores*\)](#) provide details regarding the definition of the most positive response for each survey item and specific guidance for calculating top box scores (not mean scores). Only substantive responses (e.g., “Never,” “Sometimes,” “Usually,” or “Always;” “Mostly yes” or “Mostly no”) should be included when calculating the denominator for a scale.

The **denominator** for all measures reflects completed surveys from respondents eligible for the HCBS CAHPS Survey for the underlying survey item(s), disregarding responses of “DON’T KNOW” and “REFUSED.” For certain measures (e.g., scale measures that are a linear combination of multiple survey item responses) denominator for measure indicates denominator for each of the underlying survey item(s). [Section III.B \(*Applying Criteria for Inclusion*\)](#) describes the criteria for determination of complete surveys. For calculation of specific measures (numerator and denominator), refer to [Sections IV.A–IV.D](#).

A. Calculating Global Ratings Measures Scores (Top Box)

The Global Rating measures derived from the HCBS CAHPS Survey consist of three measures for separately rating personal assistance and behavioral health staff, homemaker staff, and case

managers provided by the HCBS program. There are two different response options for all three items: the standard CAHPS response (0–10) and an alternate or simplified version (“Excellent,” “Very Good,” “Good,” “Fair,” and “Poor”) (see *Exhibit 8*).

Exhibit 8: The Global Ratings Measures Derived from the HCBS CAHPS Survey

Survey Item ^a	Measure	Alternate Question Text	Alternate Response Values ^b
35	Global Rating of Personal Assistance and Behavioral Health Staff	How would you rate the help you get from { <i>personal assistance/behavioral health staff</i> }? Would you say...	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
46	Global Rating of Homemaker	How would you rate the help you get from { <i>homemakers</i> }? Would you say...	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
54	Global Rating of Case Manager	How would you rate the help you get from the { <i>case manager</i> }? Would you say...	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

Top box scores for these measures will represent the proportion of respondents who gave a rating of “9 or 10” for the standard response or “Excellent” for the alternate response (numerator). The steps for calculating the overall rating of the three scores (without case-mix adjustment¹³) are shown below.

Step 1: Identify the cases to be included in each calculation (relevant question for measure of interest). These are participants who received the service that is the focus of the measure (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager). For the cases to be included in the calculation, calculate the total number of respondents who answered the question (Y), excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE” for the top box score. For the case manager questions, include respondents for whom a response of “Yes” is received for questions 11 and 48.

Step 2: Calculate the numerator (X) as the number of respondents (among “Y”) for whom the overall original rating is “9 or 10” or “Excellent” (or “1” for the binary (“0”/“1”) recoded value where “1” represents original rating of “9 or 10” or “Excellent”).

¹³ Case-mix adjustment is a way to control for the influence of consumer characteristics on scores (described in more detail in [Section IV \[Analyzing the Survey Data\]](#)).

Step 3: Calculate the top box score as X divided by Y.

Example for *Global Rating of Case Manager Measure*

If 411 respondents answered (excluding “DON’T KNOW”, “REFUSED” and “UNCLEAR RESPONSE”), *Global Rating of Case Manager* (denominator), and 376 of the respondents rated their care a “9 or 10” or “Excellent” (numerator),

Then $X = 376$ and $Y = 411$. The ratio of $376 / 411 = 0.914$

Multiply $0.914 \times 100 = 91.4$

The measure score is 91.4

B. Calculating the Recommendation Measures Scores (Top Box)

The Recommendation Measures derived from the HCBS CAHPS Survey indicate whether a participant would recommend their personal assistance and behavioral health staff, homemaker, or case manager to family and friends. These are three distinct measures that are presented separately. If the sponsor follows all steps in [Section III \(Preparing the Survey Data for Analysis\)](#), the most positive responses will be coded as “Definitely yes” (see *Exhibit 9*).

Exhibit 9: The Recommendation Measures Derived from the HCBS CAHPS Survey

Survey Item ^a	Measure	Question Text	Response Values ^b
36	Would recommend personal assistance / behavioral health staff to family and friends	Would you recommend the {personal assistance/behavioral health staff} who help you to your family and friends if they needed help with everyday activities?	Definitely no = 1 Probably no = 2 Probably yes = 3 Definitely yes = 4
47	Would recommend homemaker to family and friends	Would you recommend the {homemakers} who help you to your family and friends if they needed {program-specific term for homemaker services}? Would you say you would recommend the {homemakers}?	Definitely no = 1 Probably no = 2 Probably yes = 3 Definitely yes = 4
55	Would recommend case manager to family and friends	Would you recommend the {case manager} who helps you to your family and friends if they needed {program-specific term for case-management services}? Would you say you would recommend the {case manager}?	Definitely no = 1 Probably no = 2 Probably yes = 3 Definitely yes = 4

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

Top box scores for these measures will represent the proportion of respondents who gave a rating of “Definitely yes” (numerator). The steps for calculating the three scores (without case-mix adjustment) are shown below.

Step 1: Identify the cases to be included in each calculation. These are participants who received the service that is the focus of the measure (i.e., personal assistance and behavioral health, homemaker, or case manager).

Step 2: For the cases to be included in calculation, sum the number of respondents who answered the question (Y), excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE.” For the case manager questions, include those individuals for whom a response of “Yes” is recorded for questions 11 and 48.

Step 3: Calculate the number of respondents (X) among “Y” for whom the overall original rating is “Definitely yes” (recoded to “1”)

Step 4: Calculate the proportion “P” of survey responses with an overall original rating of “Definitely yes” (recoded to “1”) as X/Y.

Example for *Recommendation of Homemaker Measure*

If 401 respondents answered Recommendation of Homemaker (denominator),
and 351 of them answered “Definitely yes” (numerator),

Then $X = 351$ and $Y = 401$
The ratio of $351 / 401 = 0.875$
Multiply $0.875 \times 100 = 87.5$

The measure score is 87.5

C. Calculating the Unmet Need and Physical Safety Measures Scores (Top Box)

The Unmet Need measures derived from the HCBS CAHPS Survey indicate whether certain needs (i.e., help with bathing, meals, medicine, toileting, and household tasks) are not being met because of a lack of staff. These are scored so that higher values indicate better care (i.e., no unmet need). The Physical Safety measure indicates whether any staff hit or hurt the participant. These six distinct measures are presented separately. If the sponsor follows all steps in [Section III \(*Preparing the Survey Data for Analysis*\)](#), the most positive responses will be coded as “1” and the rest as “0” (see *Exhibits 10 and 11*).

Exhibit 10: The Unmet Need Measures Derived from the HCBS CAHPS Survey

Survey Item ^a	Measure ^b	Question Text	Response Values ^c
18 [screeners = 16 and 17]	Unmet need in dressing/bathing due to lack of help	<i>[If respondents indicate that they need help to get dressed, take a shower, or bathe, and did not always get dressed/shower/bathe when needed, they are asked]</i> In the last 3 months, was this because there were no {personal assistance/behavioral health staff} to help you?	Yes = 1 No = 2
22 [screeners = 20 and 21]	Unmet need in meal preparation/eating due to lack of help	<i>[If respondents indicate that they need help with meals, such as help making or cooking meals or help eating, and were not always able to eat when hungry, they are asked]</i> In the last 3 months, was this because there were no {personal assistance/behavioral health staff} to help you?	Yes = 1 No = 2
25 [screeners = 23 and 24]	Unmet need in medication administration due to lack of help	<i>[If respondents indicate that they need help taking their medicines, such as reminders to take a medicine, help pouring them, or setting up their pills, and did not always take medicine when they were supposed to, they are asked]</i> In the last 3 months, was this because there were no {personal assistance/behavioral health staff} to help you?	Yes = 1 No = 2
27 [screeener = 26]	Unmet need in toileting due to lack of help	<i>[If respondents indicate that they need help with toileting, they are asked]</i> In the last 3 months, did you get all the help you needed with toileting from {personal assistance/behavioral health staff} when you needed it?	Yes = 1 No = 2
40 [screeener = 39]	Unmet need with household tasks due to lack of help	<i>[If respondents indicate that their household tasks, like cleaning and laundry, do not always get done when needed, they are asked]</i> In the last 3 months, was this because there were no {homemakers} to help you?	Yes = 1 No = 2

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b When interpreting Unmet Need measures based on the instructions in this guide, the value refers to individuals who gave the most positive response, of “No,” due to lack of help.

c Bold values identify completed surveys that count toward the numerator.

Exhibit 11: The Physical Safety Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Measure ^b	Question Text	Response Values ^c
71	Hit or hurt by staff	In the last 3 months, did any {staff} hit you or hurt you?	Yes = 1 No = 2

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b When interpreting the Physical Safety measure based on the instructions in this guide, the value refers to individuals who were not hit or hurt by staff.

c Bold values identify completed surveys that count toward the numerator

Top box scores for these measures will represent the proportion of respondents who gave a rating of “No” (numerator). The steps for calculating the scores (without case-mix adjustment) are shown below.

Step 1: Identify the cases to be included in the calculations. For the first three *Unmet Need* measures, there are two screening questions asking whether the respondents needed assistance with these activities and, if so, whether they accomplished the activities when needed. Only individuals who needed help and were not able to accomplish the activity should be included (please note that recommendations for assessment of indeterminate eligibility apply to questions in the *Unmet Need* section).¹⁴ A fourth *Unmet Need* measure has a single screening question; only respondents who did not accomplish activities when needed should be included. The remaining *Unmet Need* measure also has one screening question asking if the respondents needed assistance; only individuals who needed assistance should be included.

Step 2: Calculate the proportion “P” of survey responses with an original response of “No” (recoded to “1”) or “Yes” for item. The proportion P is defined as follows: $P = X/Y$, where:

- The denominator, Y, is the number of respondents who answered the question (or relevant survey item), excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE.”
- The numerator, X, is the number of respondents for whom the original response is “No” (recoded to “1”) or “Yes” for the item.

Example for *Unmet Need* Measure

If 105 respondents answered the *Unmet Need with Household Tasks due to Lack of Help* (excluding “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”) (denominator), and 75 of them answered “No” (numerator),

Then $X = 75$ and $Y = 105$

The ratio of $75 / 105 = 0.714 \times 100 = 71.4$

The measure score is 71.4

Example for *Physical Safety* Measure

If 398 respondents answered the *Physical Safety Measure* (denominator), and 395 of them answered “No” (numerator),

Then $X = 395$ and $Y = 398$

The ratio of $395 / 398 = 0.992$

Multiply $0.992 \times 100 = 99.2$

The measure score is 99.2

¹⁴ For a description of indeterminate eligibility, see [Section III.C.5 \(Checking for Indeterminate Eligibility\)](#).

D. Calculating Scale Measure Scores (Top Box)

Scale measures are composed of multiple questions that ask about related topics or domains of care. *Exhibits 12–18* describe the individual items included in each scale measure derived from the HCBS CAHPS Survey. If sponsors follow all steps in [Section III \(Preparing the Survey Data for Analysis\)](#), the most positive responses will be coded as “1” and the rest as “0.”

When calculating the denominator for a scale measure, if a respondent did not correctly follow the skip instruction for a screening question, responses to follow-up questions governed by that screening question are not included in the denominator. Please note that recommendations for assessment of indeterminate eligibility to measures in this section.¹⁵

1. Calculating the Score for the Staff Are Reliable and Helpful Measure

The score for this scale is produced by combining responses to the six questions in *Exhibit 12*.

Note that the response categories for Questions 13, 14, 19, 37, and 38 are “Never,” “Sometimes,” “Usually,” and “Always,” and, for Question 15, the response categories are “Yes” and “No.”

Exhibit 12: The Staff Are Reliable and Helpful Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
13	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } come to work on time? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
14	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } work as long as they were supposed to? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
15	In the last 3 months, when staff could not come to work on a day that they were scheduled, did someone let you know that { <i>personal assistance/behavioral health staff</i> } could not come that day?	Yes = 4 No = 1
19	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } make sure you had enough personal privacy when you dressed, took a shower, or bathed? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
37	In the last 3 months, how often did { <i>homemakers</i> } come to work on time? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4

¹⁵ For a description of indeterminate eligibility, see [Section III.C.5 \(Checking for Indeterminate Eligibility\)](#).

Survey Item ^a	Question Text	Response Values ^b
38	In the last 3 months, how often did {homemakers} work as long as they were supposed to? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

The scoring on this scale will represent the proportion of respondents who responded “Always” to Questions 13, 14, 19, 37, and 38, and “Yes” to Question 15. The steps for calculating the score for the *Staff are Reliable and Helpful* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Staff are Reliable and Helpful* calculation. These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the six questions in *Exhibit 12*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 13 is “Always”
- P2 = Proportion of respondents whose original response to Question 14 is “Always”
- P3 = Proportion of respondents whose original response to Question 15 is “Yes”
- P4 = Proportion of respondents whose original response to Question 19 is “Always”
- P5 = Proportion of respondents whose original response to Question 37 is “Always”
- P6 = Proportion of respondents whose original response to Question 38 is “Always”

The proportions P1 through P6 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had a valid response (provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents who gave the most positive response (among the valid responses) to each (i.e., responded “Always” to Questions 13, 14, 19, 37, and 38, and “Yes” to Question 15).

Step 3: Calculate the average of these six proportions to derive the score for the *Staff are Reliable and Helpful* scale.

The score for the *Staff Are Reliable and Helpful* scale = $(P1 + P2 + P3 + P4 + P5 + P6) / 6 \times 100$.

Calculating the Score for the Staff Listen and Communicate Well Measure

Example for *Staff Are Reliable and Helpful* Measure

- For Question 13: If 280 of the total of 396 responses are “Always,” then $P1 = 280 / 396 = 0.707$
- For Question 14: If 255 of the total of 401 responses are “Always,” then $P2 = 255 / 401 = 0.635$
- For Question 15: If 260 of the total of 398 responses are “Yes,” then $P3 = 260 / 398 = 0.653$
- For Question 19: If 240 of the total of 396 responses are “Always,” then $P4 = 240 / 396 = 0.606$
- For Question 37: If 243 of the total of 401 responses are “Always,” then $P5 = 243 / 401 = 0.605$
- For Question 38: If 301 of the total of 399 responses are “Always,” then $P6 = 301 / 399 = 0.754$

Then, $(P1 + P2 + P3 + P4 + P5 + P6) / 6$
 $= (0.707 + 0.635 + 0.653 + 0.606 + 0.605 + 0.754) / 6 = 3.96 / 6 = 0.660 \times 100 = 66.0$

The measure score is 66.0

The score for this scale is produced by combining responses to the 11 questions in *Exhibit 13*.

Exhibit 13: The Staff Listen and Communicate Well Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
28	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } treat you with courtesy and respect? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
29	In the last 3 months, how often were the explanations { <i>personal assistance/behavioral health staff</i> } gave you hard to understand because of an accent or the way { <i>personal assistance/behavioral health staff</i> } spoke English?	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
30	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } treat you the way you wanted them to? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
31	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } explain things in a way that was easy to understand? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4

Survey Item ^a	Question Text	Response Values ^b
32	In the last 3 months, how often did { <i>personal assistance/behavioral health staff</i> } listen carefully to you? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
33	In the last 3 months, did you feel { <i>personal assistance/behavioral health staff</i> } knew what kind of help you needed with everyday activities, like getting ready in the morning, getting groceries, or going places in your community?	Yes = 4 No = 1
41	In the last 3 months, how often did { <i>homemakers</i> } treat you with courtesy and respect? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
42	In the last 3 months, how often were the explanations { <i>homemakers</i> } gave you hard to understand because of an accent or the way the { <i>homemakers</i> } spoke English?	Always (Mostly yes) = 1 Usually = 2 Sometimes = 3 Never (Mostly no) = 4
43	In the last 3 months, how often did { <i>homemakers</i> } treat you the way you wanted them to? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
44	In the last 3 months, how often did { <i>homemakers</i> } listen carefully to you? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
45	Do you feel { <i>homemakers</i> } know what kind of help you need?	Yes = 4 No = 1

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

Note that the response categories for Questions 28, 29, 30, 31, 32, 41, 42, 43, and 44 are “Never,” “Sometimes,” “Usually,” and “Always,” and for Questions 33 and 45 the response categories are “Yes” and “No.”

The scoring on this scale will represent the proportion of respondents who responded “Always” to Questions 28, 30, 31, 32, 41, 43, and 44; responded “Never” to Questions 29 and 42; and responded “Yes” (recoded to “1”) to Questions 33 and 45. The steps for calculating the score for the *Staff Listen and Communicate Well* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Staff Listen and Communicate Well* calculation. These are participants who were supported by at least one provider type (i.e., personal care

assistant, behavioral health interventionist, homemaker, or case manager), based on the individual's response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the 11 questions in *Exhibit 13*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 28 is “Always”
- P2 = Proportion of respondents whose original response to Question 29 is “Never”
- P3 = Proportion of respondents whose original response to Question 30 is “Always”
- P4 = Proportion of respondents whose original response to Question 31 is “Always”
- P5 = Proportion of respondents whose original response to Question 32 is “Always”
- P6 = Proportion of respondents whose original response to Question 33 is “Yes”
- P7 = Proportion of respondents whose original response to Question 41 is “Always”
- P8 = Proportion of respondents whose original response to Question 42 is “Never”
- P9 = Proportion of respondents whose original response to Question 43 is “Always”
- P10 = Proportion of respondents whose original response to Question 44 is “Always”
- P11 = Proportion of respondents whose original response to Question 45 is “Yes”

The proportions P1 through P11 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had a valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON'T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents (among valid responses) who gave the most positive response to each (i.e., “Always” to Questions 28, 30, 31, 32, 41, 43, and 44; responded “Never” to Questions 29 and 42; and responded “Yes” to Questions 33 and 45 [recoded to “1”]).

Step 3: Calculate the average of these six proportions to derive the score for the *Staff Listen and Communicate Well* scale.

Example for *Staff Listen and Communicate Well Measure*

- For Question 28: If 280 of the total of 396 responses are “Always,” then $P1 = 280 / 396 = 0.707$
- For Question 29: If 255 of the total of 401 responses are “Never,” then $P2 = 255 / 401 = 0.635$
- For Question 30: If 240 of the total of 396 responses are “Always,” then $P3 = 240 / 396 = 0.606$
- For Question 31: If 243 of the total of 401 responses are “Always,” then $P4 = 243 / 401 = 0.605$
- For Question 32: If 301 of the total of 399 responses are “Always,” then $P5 = 301 / 399 = 0.754$
- For Question 33: If 260 of the total of 398 responses are “Yes,” then $P6 = 260 / 398 = 0.653$
- For Question 41: If 255 of the total of 401 responses are “Always,” then $P7 = 255 / 401 = 0.635$
- For Question 42: If 240 of the total of 396 responses are “Never,” then $P8 = 240 / 396 = 0.606$
- For Question 43: If 243 of the total of 401 responses are “Always,” then $P9 = 243 / 401 = 0.605$
- For Question 44: If 301 of the total of 399 responses are “Always,” then $P10 = 301 / 399 = 0.75$
- For Question 45: If 260 of the total of 398 responses are “Yes,” then $P11 = 260 / 398 = 0.653$

$$\begin{aligned} & \text{Then, } (P1 + P2 + P3 + P4 + P5 + P6 + P7 + P8 + P9 + P10 + P11) / 11 \\ & = (0.707 + 0.635 + 0.606 + 0.605 + 0.754 + 0.653 + 0.635 + 0.606 + 0.605 + 0.754 + 0.653) / \\ & \quad 11 \\ & = 3.96 / 11 = 0.832 \times 100 = 83.2 \end{aligned}$$

The measure score is 83.2

The score for the *Staff Listen and Communicate Well* scale = $(P1 + P2 + P3 + P4 + P5 + P6) / 6 \times 100$.

2. Calculating the Score for the Case Manager Is Helpful Measure

The score for this scale is produced by combining responses to the three questions in *Exhibit 14*.

Exhibit 14: The Case Manager Is Helpful Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
49	In the last 3 months, could you contact this { <i>case manager</i> } when you need to?	Yes = 4 No = 1
51	In the last 3 months, did this { <i>case manager</i> } work with you when you asked for help with getting or fixing equipment?	Yes = 4 No = 1
53	In the last 3 months, did this { <i>case manager</i> } work with you when you asked for help with getting other changes to your services?	Yes = 4 No = 1

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

The scoring on this scale will represent the proportion of respondents who responded “Always” to Questions 49, 51, and 53. The steps for calculating the score for the *Case Manager is Helpful* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Case Manager is Helpful* calculation. These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the three questions in *Exhibit 14*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 49 is “Yes” and “Yes” to 48
- P2 = Proportion of respondents whose original response to Question 51 is “Yes” and “Yes” to 50
- P3 = Proportion of respondents whose original response to Question 53 is “Yes” and “Yes” to 52

The proportions P1 through P3 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents (among the valid responses) who gave the most positive response of “Yes” to each (recoded to “1”).

Step 3: Calculate the average of these three proportions to derive the score for the *Case Manager is Helpful* scale.

The score for the *Case Manager Is Helpful* scale = $(P1 + P2 + P3) / 3 \times 100$.

Example for *Case Manager Is Helpful* Measure

- For Question 49: If 280 of the total of 396 responses are “Yes,” then $P1 = 280 / 396 = 0.707$
- For Question 51: If 255 of the total of 401 responses are “Yes,” then $P2 = 255 / 401 = 0.635$
- For Question 53: If 260 of the total of 398 responses are “Yes,” then $P3 = 260 / 398 = 0.653$

$$\begin{aligned} &\text{Then, } (P1 + P2 + P3) / 3 \\ &= (0.707 + 0.635 + 0.653) / 3 \\ &= 1.99 / 3 \\ &= 0.665 \times 100 = 66.5 \end{aligned}$$

The measure score is 66.5

3. Calculating the Score for the Choosing the Services That Matter to You Measure

The score for this scale is produced by combining responses to the two questions in *Exhibit 15*.

Exhibit 15: The Choosing the Services That Matter to You Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
56	In the last 3 months, did your { <i>program-specific term for “service plan”</i> } include...	None = 1 Some = 2 Most = 3 All = 4
57	In the last 3 months, did you feel { <i>personal assistance/behavioral health staff</i> } knew what’s on your { <i>program-specific term for “service plan”</i> }, including the things that are important to you?	Yes = 4 No = 1

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

The scoring on this scale will represent the proportion of respondents who responded “All” to Question 56 and “Yes” to Question 57. The steps for calculating the score for the *Choosing the Services That Matter to You* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Choosing the Services That Matter to You* calculation. These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the two questions in *Exhibit 15*, calculate the proportion ($P = X/Y$) of cases as follows:

- $P1$ = Proportion of respondents whose original response to Question 56 is “All”
- $P2$ = Proportion of respondents whose original response to Question 57 is “Yes” and had a valid response to 56

The proportions $P1$ and $P2$ are defined as follows: $P = X/Y$, where the denominator, Y , for each question in the scale is the number of respondents who had a valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X , for each question in the scale is the number of respondents (among valid responses) who gave the most positive response to each (“All” or “Yes” recoded to “1”).

Step 3: Calculate the average of these two proportions to derive the score for the *Choosing the Services That Matter to You* scale.

The score for the *Choosing the Services That Matter to You* scale = $(P1 + P2) / 2 \times 100$.

Example for *Choosing the Services That Matter to You* Measure

- For Question 56: If 280 of the total of 396 responses are “All,” then $P1 = 280 / 396 = 0.707$
- For Question 57: If 255 of the total of 401 responses are “Yes,” then $P2 = 255 / 401 = 0.635$

$$\begin{aligned} &\text{Then, } (P1 + P2) / 2 \\ &= (0.707 + 0.635) / 2 \\ &= 1.34 / 2 \\ &= 0.671 \times 100 = 67.1 \end{aligned}$$

The measure score is 67.1

4. Calculating the Score for the Transportation to Medical Appointments Measure

The score for this scale is produced by combining responses to the three questions in *Exhibit 16*.

Exhibit 16: The Transportation to Medical Appointments Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
59	Medical appointments include seeing a doctor, a dentist, a therapist, or someone else who takes care of your health. In the last 3 months, how often did you have a way to get to your medical appointments? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
61	In the last 3 months, were you able to get in and out of this ride easily?	Yes = 4 No = 1
62	In the last 3 months, how often did this ride arrive on time to pick you up? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

The scoring on this scale will represent the proportion of respondents who responded “Always” to Questions 59 and 62 and “Yes” to Question 61. The steps for calculating the score for the *Transportation to Medical Appointments* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Transportation to Medical Appointments* calculation. These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the three questions in *Exhibit 16*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 59 is “Always”
- P2 = Proportion of respondents whose original response to Question 61 is “Yes” and “Yes” to 60
- P3 = Proportion of respondents whose original response to Question 62 is “Always” and “Yes” to 60

The proportions P1 through P3 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had a valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents (among valid responses) who gave the most positive response to each (“Always” or “Yes” recoded to “1”).

Step 3: Calculate the average of these three proportions to derive the score for the *Transportation to Medical Appointments* scale.

The score for the *Transportation to Medical Appointments* scale = $(P1 + P2 + P3) / 3 \times 100$.

Example for *Transportation to Medical Appointments* Measure

- For Question 59: If 280 of the total of 396 responses are “Always,” then $P1 = 280 / 396 = 0.707$
- For Question 61: If 255 of the total of 401 responses are “Yes,” then $P2 = 255 / 401 = 0.635$
- For Question 62: If 260 of the total of 398 responses are “Always,” then $P3 = 260 / 398 = 0.653$

$$\begin{aligned} &\text{Then, } (P1 + P2 + P3) / 3 \\ &= (0.707 + 0.635 + 0.653) / 3 \\ &= 1.99 / 3 \\ &= 0.665 \times 100 = 66.5 \end{aligned}$$

The measure score is 66.5

5. Calculating the Score for the Personal Safety and Respect Measure

The score for this scale is produced by combining responses to the three questions in *Exhibit 17*.

Exhibit 17: The Personal Safety and Respect Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
64	In the last 3 months, was there a person you could talk to if someone hurt you or did something to you that you didn't like?	Yes = 4 No = 1
65	In the last 3 months, did any { <i>personal assistance/behavioral health staff, homemakers, or your case managers</i> } take your money or your things without asking you first?	Yes = 1 No = 4
68	In the last 3 months, did any { <i>staff</i> } yell, swear, or curse at you?	Yes = 1 No = 4

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

The scoring on this scale will represent the proportion of respondents who responded “Yes” to Question 64 and “No” to Questions 65 and 68. The steps for calculating the score for the *Personal Safety and Respect* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Personal Safety and Respect* calculation. These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the three questions in *Exhibit 17*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 64 is “Yes”
- P2 = Proportion of respondents whose original response to Question 65 is “No”
- P3 = Proportion of respondents whose original response to Question 68 is “No”

The proportions P1 through P3 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had a valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents (among valid responses) who gave the most positive response to each (“Yes” or “No” recoded to “1”).

Step 3: Calculate the average of these three proportions to derive the score for the *Personal Safety and Respect* scale.

The score for the *Personal Safety and Respect* scale = $(P1 + P2 + P3) / 3 \times 100$.

Example for *Personal Safety and Respect* Measure

- For Question 64: If 280 of the total of 396 responses are “Yes,” then $P1 = 280 / 396 = 0.707$
- For Question 65: If 255 of the total of 401 responses are “No,” then $P2 = 255 / 401 = 0.635$
- For Question 68: If 260 of the total of 398 responses are “No,” then $P3 = 260 / 398 = 0.653$

$$\begin{aligned} &\text{Then, } (P1 + P2 + P3) / 3 \\ &= (0.707 + 0.635 + 0.653) / 3 \\ &= 1.99 / 3 \\ &= 0.665 \times 100 = 66.5 \end{aligned}$$

The measure score is 66.5

6. Calculating the Score for the Planning Your Time and Activities Measure

The score for this scale is produced by combining responses to the six questions in *Exhibit 18*.

Exhibit 18: Planning Your Time and Activities Measure Derived from the HCBS CAHPS Survey

Survey Item ^a	Question Text	Response Values ^b
75	In the last 3 months, when you wanted to, how often could you get together with these family members who live nearby? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
77	In the last 3 months, when you wanted to, how often could you get together with these friends who live nearby? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
78	In the last 3 months, when you wanted to, how often could you do things in the community that you like? Would you say...	Never (Mostly no) = 1 Sometimes = 2 Usually = 3 Always (Mostly yes) = 4
79	In the last 3 months, did you need more help than you get from <i>{personal assistance/behavioral health staff}</i> to do things in your community?	Yes = 1 No = 4
80	Do you take part in deciding what you do with your time each day?	Yes = 4 No = 1
81	Do you take part in deciding when you do things each day—for example, deciding when you get up, eat, or go to bed?	Yes = 4 No = 1

a Item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

b Bold values identify completed surveys that count toward the numerator.

Note that the response categories for Questions 75, 77, and 78 are “Never,” “Sometimes,” “Usually,” and “Always,” and for Questions 79, 80, and 81 the response categories are “Yes” and “No.”

The scoring on this scale will represent the proportion of respondents who responded “Always” to Questions 75, 77, and 78; “No” to Question 79; and “Yes” to Questions 80 and 81. The steps for calculating the score for the *Planning Your Time and Activities* scale (without case-mix adjustment) are presented below.

Step 1: Identify the cases to be included in the *Planning Your Time and Activities* calculation.

These are participants who were supported by at least one provider type (i.e., personal care assistant, behavioral health interventionist, homemaker, or case manager), based on the individual’s response to Questions 4, 6, 8, and/or 11.

Step 2: For each of the six questions in *Exhibit 18*, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 75 is “Always” and “Yes” to 74

- P2 = Proportion of respondents whose original response to Question 77 is “Always” and “Yes” to 76
- P3 = Proportion of respondents whose original response to Question 78 is “Always”
- P4 = Proportion of respondents whose original response to Question 79 is “No”
- P5 = Proportion of respondents whose original response to Question 80 is “Yes”
- P6 = Proportion of respondents whose original response to Question 81 is “Yes”

The proportions P1 through P6 are defined as follows: $P = X/Y$, where the denominator, Y, for each question in the scale is the number of respondents who had a valid response (i.e., individuals who provided an answer for the question, excluding those who responded “DON’T KNOW,” “REFUSED,” or “UNCLEAR RESPONSE”); the numerator, X, for each question in the scale is the number of respondents who gave the most positive response to each (i.e., responded “Always” to Questions 75, 77, 78; “No” to Question 79; and “Yes” to Questions 80 and 81 [recoded to “1”]).

Step 3: Calculate the average of these six proportions to derive the score for the *Planning Your Time and Activities* scale.

Example for *Planning Your Time and Activities* Measure

- For Question 75: If 280 of the total of 396 responses are “Always,” then $P1 = 280 / 396 = 0.707$
- For Question 77: If 255 of the total of 401 responses are “Always,” then $P2 = 255 / 401 = 0.635$
- For Question 78: If 260 of the total of 398 responses are “Always,” then $P3 = 260 / 398 = 0.653$
- For Question 79: If 240 of the total of 396 responses are “No,” then $P4 = 240 / 396 = 0.606$
- For Question 80: If 243 of the total of 401 responses are “Yes,” then $P5 = 243 / 401 = 0.605$
- For Question 81: If 301 of the total of 399 responses are “Yes,” then $P6 = 301 / 399 = 0.754$

$$\begin{aligned} & \text{Then, } (P1 + P2 + P3 + P4 + P5 + P6) / 6 \\ & = (0.707 + 0.635 + 0.653 + 0.606 + 0.605 + 0.754) / 6 \\ & = 3.96 / 6 = 0.660 \times 100 = 66.0 \end{aligned}$$

The measure score is 66.0

The score for the *Planning Your Time and Activities* scale = $(P1 + P2 + P3 + P4 + P5 + P6) / 6 \times 100$.

7. Factors for Case-Mix Adjustment

One of the primary purposes of the HCBS CAHPS Survey is to be able to compare HCBS programs or other units of analysis to some benchmark—typically the mean of all units in a particular universe. In order to make fair comparisons, it is important to control the outcome variables (e.g., scale scores, item scores, and overall ratings) for the influence of characteristics

that are exogenous to experiences with the reporting units. Case-mix adjustment helps control for this by removing the following effects or incentives:

- Effects of respondent and survey characteristics that can affect scores and ratings; and
- Incentives for reporting units to avoid groups of individuals that are likely to provide low ratings.¹⁶

Case-mix adjustment is done via regression methodology or a covariance adjustment. The following respondent and survey characteristics are recommended as case-mix adjusters when producing scores for measures derived from the HCBS CAHPS Survey: general health rating, mental health rating, age, education, sex, and residential independence (i.e., whether respondent lives alone). If the sponsor permits assistance in completing the survey, then proxy status should be included as part of the case-mix adjustment. Each of these characteristics showed a statistically and substantively significant relationship with the Global Rating, recommendation, and scale measure scores when predicting them using regression analysis of the pilot and field-test data.

The following are specific survey items used to develop case-mix adjustment:

- General health rating
 - In general, how would you rate your overall health? Would you say...
 - Excellent
 - Very good
 - Good
 - Fair
 - Poor
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE
- Mental health rating
 - In general, how would you rate your overall mental or emotional health? Would you say...
 - Excellent
 - Very good
 - Good
 - Fair
 - Poor
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE

¹⁶ Zaslavsky AM. Issues in case-mix adjustment of measures of the quality of health plans. Proceedings of the Joint Statistical Meetings. Section on Government Statistics and Social Statistics. American Statistical Association; 1998:56-64.

- Age
 - What is your age?
 - 18 to 24 years
 - 25 to 34 years
 - 35 to 44 years
 - 45 to 54 years
 - 55 to 64 years
 - 65 to 74 years
 - 75 years or older
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE

- Sex
 - Are you male or female?
 - MALE
 - FEMALE
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE

- Education
 - What is the highest grade or level of school that you have completed?
 - 8th grade or less
 - Some high school, but did not graduate
 - High school graduate or GED
 - Some college or 2-year degree
 - 4-year college graduate
 - More than 4-year college degree
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE

- Residential independence
 - How many adults live at your home, including you?
 - 1 [JUST THE RESPONDENT]
 - 2 TO 3
 - 4 OR MORE
 - DON'T KNOW
 - REFUSED
 - UNCLEAR RESPONSE

- Proxy response and had help completing survey
 - DID SOMEONE HELP THE RESPONDENT COMPLETE THIS SURVEY?
 - YES
 - NO
 - HOW DID THAT PERSON HELP? [MARK ALL THAT APPLY.]
 - ANSWERED **ALL** THE QUESTIONS FOR RESPONDENT
 - ANSWERED **SOME** OF THE QUESTIONS FOR THE RESPONDENT
 - RESTATED THE QUESTIONS IN A DIFFERENT WAY OR REMINDED/PROMPTED THE RESPONDENT
 - TRANSLATED THE QUESTIONS OR ANSWERS INTO THE RESPONDENT’S LANGUAGE
 - HELPED WITH THE USE OF ASSISTIVE OR COMMUNICATION EQUIPMENT SO THAT THE RESPONDENT COULD ANSWER THE QUESTIONS
 - HELPED THE RESPONDENT IN ANOTHER WAY, SPECIFY _____

The number of respondents for each response category can be small. Additionally, for certain questions (such as proxy response), there can be valid missing responses; responses to items may also be interdependent. In instances where response to an item is dependent on the response to another item (e.g., proxy [listed above] or language spoken at home [*Do you speak a language other than English at home*, for which you would then answer *What is the language you speak at home*]), it is recommended to combine responses from multiple questions to create a single potential case-mix adjuster. Prior to using the characteristics for case-mix adjustment, the sample size, variable values and needed recoding prior to use and any imputation in CAHPS program should be reviewed. See [Section III.D.2 \(Reverse Coding Items\)](#) for details about recoding items for use in the CAHPS Analysis Program.

E. Methods for Calculating Scores

Sponsors have three options for calculating scores for HCBS CAHPS measures, including calculating (1) unadjusted scores, (2) adjusted scores using the CAHPS Analysis Program, and (3) adjusted scores without using the CAHPS Analysis Program. **Exhibit 19** lists the tradeoffs for each method.

Exhibit 19: Methods for Calculating Scores

Method for Calculating Scores	Benefits	Challenges
Calculating Unadjusted Scores	<ul style="list-style-type: none"> Does not require the time, expertise, or expense of adjusting scores 	<ul style="list-style-type: none"> Does not allow for fair comparison of scores across programs as this method does not adjust for characteristics beyond the program's control
Calculating Adjusted Scores with the CAHPS Analysis Program	<ul style="list-style-type: none"> AHRQ-recommended method Access to CAHPS Analysis Program SAS files that support valid comparison between providers by adjusting for characteristics beyond the program's control Access to special functions for certain data features (e.g., adjustments for unequal item weighing, stratifying estimates for low and high users of health care) 	<ul style="list-style-type: none"> Requires time, expertise, and expense to adjust scores
Calculating Adjusted Scores without the CAHPS Analysis Program	<ul style="list-style-type: none"> Ability to use software of choice 	<ul style="list-style-type: none"> Requires time, expertise, and expense to adjust scores Adjusted scores produced by different statistical packages may not be comparable Sponsor must maintain internal consistency with analysis program in order to produce comparable results over time

1. Calculating Unadjusted Scores

If a HCBS CAHPS Survey sponsor creates unadjusted scores (without applying case-mix adjusters), the analyst should use the following methodology, regardless of whether producing mean scores or top box scores.

1. For single-item measures (including Global Rating Measures, Recommendation Measures, Unmet Need Measures, and Physical Safety Measures), simply take the mean of the survey item after it has been prepared according to the recommendations in [Section III \(Preparing the Survey Data for Analysis\)](#).
2. For scale measures, compute the respondent mean across all nonmissing items that comprise a scale.

2. Calculating Adjusted Scores with the CAHPS Analysis Program

HCBS CAHPS encourages sponsors to produce adjusted scores using the [CAHPS Analysis Program](https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html), which is available at <https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html>. To support consistent analyses across CAHPS surveys, all users have access to a set of 7 SAS files that comprise the CAHPS Analysis Program: two test data sets, four test programs, and the Macro program, which should not be modified. The program allows survey sponsors to analyze and statistically adjust the survey data in order to make valid comparisons among different states and programs. Sponsors using the CAHPS Analysis Program have access to special functions for certain data features, including adjustments for unequal item weighting, unequal weight by entity (e.g., sampling weight), stratifying estimates for low and high users of health care, and the nesting of reporting units within larger units. Survey data can have missing responses. Depending on the proportion of responses for which values are missing and the intent of the analysis, sponsors may choose to impute for missing values prior to calculating adjusted scores. The CAHPS Analysis Program provides an option for imputation of missing values for the adjuster variables. As some variables can correctly have missing values (e.g., proxy status), sponsors should select the values for which imputation is appropriate, carefully imputing missing values for only those variables for which doing so is necessary.

Sponsors also have access to *Instructions for Analyzing Data from CAHPS Surveys*.¹⁷ This document contains instructions on using the CAHPS Analysis Program to analyze data from a variety of CAHPS Surveys for reporting purposes. It explains how the analytic programs work and, in general, how CAHPS Survey sponsors and vendors can use the programs to interpret the results of their survey.

3. Calculating Adjusted Scores without the CAHPS Analysis Program

If a survey sponsor prefers to produce case-mix adjusted scores—either mean scores or top box scores—without the CAHPS Analysis Program, the analyst can do so with multivariable analysis using software of choice. This can be done using general linear models, which include (and can be an extension of) ordinary least squares (OLS) regression. Adjusted scores are the “predicted” scores generated by such a model. To perform this analysis, a survey sponsor should follow the steps listed below:

1. Create unadjusted scores to use as the dependent variable (DV) in the analysis. As described above, calculate the unadjusted scores for all single-item and scale measures;
2. To produce the scores, the primary independent variable (IV) of interest is the unit of analysis (e.g., HCBS program, MCP, case management agency); case-mix adjusters are covariates or control variables; and the DV is the score of interest (e.g., Global Rating, scale score, item score);
3. To determine whether each program’s score is above or below the overall mean, create the least square means (marginal means) for each unit (e.g., HCBS program, MCP, case management agency); and

¹⁷ Agency for Healthcare Research and Quality (AHRQ). *Instructions for Analyzing Data from CAHPS® Surveys: Using the CAHPS Analysis Program Version 5.0*. Document No. 2015. Rockville, MD: AHRQ; 2020. <https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html>

4. Then conduct a *t*-test to find out whether differences between the individual and overall means (minus the entity of interest) are statistically significant.

4. Tradeoffs to Not Using the CAHPS Analysis Program to Produce Adjusted Scores

Case-mix adjusted scores that do not use the CAHPS Analysis Program may vary across different statistical packages because of differences in the way each package calculates values for each step of the analysis. Therefore, adjusted scores that are produced using one statistical package will not be fairly compared to adjusted scores produced using another statistical package. This may cause constraints in that survey sponsors only will be able to benchmark their scores with other sponsors (e.g., other states) that have used the same analysis program. Additionally, the survey sponsors will want to be internally consistent over time or across units of analysis with the analysis program they use. This will ensure that these results will be comparable.

F. CAHPS Database Submission and Reporting

After fielding the HCBS CAHPS Survey, survey sponsors have the opportunity to submit their data to the [HCBS CAHPS Survey Database](#). Upon doing so, survey sponsors gain access to valuable data that can be used for analysis and quality improvement. Some specific benefits of submitting to the Database include:

- A private feedback report comparing the individual survey sponsor's results to overall findings aggregated across all Database participants;
- Access to an Online Reporting System that allows users to view, download, and print custom reports of survey results;
- A summary Chartbook that provides selected highlights from the Database;
- Research datasets that provide de-identified data for approved research purposes; and
- Free technical assistance with the submission process and usage of reporting products.

States are then able to use this data to:

- Raise general awareness about participant experience with HCBS;
- Assess the current status of participant experience with HCBS programs;
- Identify strengths and opportunities for participant experience improvement;
- Examine trends in HCBS participant experience over time; and
- Evaluate the impact of participant experience improvement initiatives and interventions.

V. ADDITIONAL RESOURCES

The following resources provide more information about the HCBS CAHPS Survey and related data analysis:

- [Centers for Medicare & Medicaid Services \(CMS\) HCBS CAHPS Survey Website](https://www.medicare.gov/medicaid/quality-of-care/performance-measurement/cahps-hcbs-survey/index.html)—resource for materials specific to the HCBS CAHPS Survey, including survey instruments in English and Spanish and technical assistance documents. <https://www.medicare.gov/medicaid/quality-of-care/performance-measurement/cahps-hcbs-survey/index.html>
- [Technical Assistance Guide for Administration of the CAHPS Home and Community-Based Services Survey](https://www.medicare.gov/medicaid/quality-of-care/downloads/HCBSCAHPS-Admin-TA-Guide.pdf) serves as an orientation to the data collection process for survey sponsors, such as states. <https://www.medicare.gov/medicaid/quality-of-care/downloads/HCBSCAHPS-Admin-TA-Guide.pdf>
- [Agency for Healthcare Research and Quality CAHPS Website](http://www.ahrq.gov/cahps/index.html)—official website for the CAHPS program and family of surveys. <http://www.ahrq.gov/cahps/index.html>
- [CAHPS Analysis Program and Instructions for Analyzing Data From CAHPS Surveys](https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html)—On the AHRQ website, you will find the program that generates output to calculate the performance of a unit of interest— such as HCBS programs, MCPs, counties, states, regions, or any other appropriate units of measure—to show how an entity’s performance compares to the performance of all entities combined. The program generates both text output and SAS datasets, which provide information on the scores for Global Ratings, scale measures, and individual items. You will also find the instructions for data analysis, which explains how the CAHPS Analysis Program works and how sponsors and vendors can use the program to interpret the results of their CAHPS Survey. Although the program initially was designed for the CAHPS Health Plan Survey, it can be used to analyze data from any of the CAHPS Surveys. <https://www.ahrq.gov/cahps/surveys-guidance/helpful-resources/analysis/index.html>
- [National Quality Forum \(NQF\) Website for Endorsed Measures](http://www.qualityforum.org/QPS/2967)—contains information on NQF-endorsed measures derived from the HCBS CAHPS Survey. <http://www.qualityforum.org/QPS/2967>
- [HCBS CAHPS Survey Database](mailto:HCBSAHPSDatabase@Westat.com)—contains information for the submission of survey data to the HCBS CAHPS Survey Database. This page includes the data use agreement and data specifications required for data submission. For additional technical assistance related to the HCBS CAHPS Survey Database, contact 1-855-580-4657 or HCBSAHPSDatabase@Westat.com.

APPENDIX A. CROSSWALK OF SURVEY ITEM NUMBERS AND NATIONAL QUALITY FORUM-ENDORSED

Measures Derived from the HCBS CAHPS Survey

Exhibit A1 includes a cross-walk of the HCBS CAHPS Survey item number and associated National Quality Forum-Endorsed measures.

Exhibit A1: Crosswalk of Survey Item Numbers and National Quality Forum-Endorsed Measures

Scale Measures	Survey Item ^a	Measure
1. Staff are reliable and helpful	13	Staff come to work on time
	14	Staff work as long as they are supposed to
	15	Someone tells you if staff cannot come
	19	Staff make sure you have enough privacy for dressing, showering, bathing
	37	Homemakers come to work on time
	38	Homemakers work as long as they are supposed to
2. Staff listen and communicate well	28	Staff treat you with courtesy and respect
	29	Staff explanations are easy to understand
	30	Staff treat you the way you want them to
	31	Staff explain things in a way that is easy to understand
	32	Staff listen carefully to you
	33	Staff know what kind of help you need with everyday activities
	41	Homemakers treat you with courtesy and respect
	42	Homemaker explanations are easy to understand
	43	Homemakers treat you the way you want them to
	44	Homemakers listen carefully
45	Homemakers know what kind of help you need	
3. Case manager is helpful	49	Able to contact this case manager when needed
	51	Case manager helped when asked for help with getting or fixing equipment
	53	Case manager helped when asked for help with getting other changes to services
4. Choosing the services that matter to you	56	Person-centered service plan included all of the things that are important
	57	Staff knows what's on the service plan, including the things that are important
5. Transportation to medical appointments	59	Have a way to get to your medical appointments
	61	Able to get in and out of this ride easily
	62	Ride arrives on time to pick you up
6. Personal safety and respect	64	Have someone to talk to if someone hurts you or does something to you that you don't like
	65	None of the staff take money or things without asking
	68	None of the staff yell, swear, or curse
	75	Can get together with nearby family

Scale Measures	Survey Item ^a	Measure
7. Planning your time and activities	77	Can get together with nearby friends
	78	Can do things in community
	79	Needs more help to do things in community
	80	Takes part in deciding what to do with their time
	81	Takes part in deciding when they do things each day
Global Ratings Measures	35	8. Global rating of personal assistance and behavioral health staff
	46	9. Global rating of homemaker
	54	10. Global rating of case manager
Recommendation Measures	36	11. Would recommend personal assistance/behavioral health staff to family and friends
	47	12. Would recommend homemaker to family and friends
	55	13. Would recommend case manager to family and friends
Unmet Need Measures	18	14. Unmet need in dressing/bathing due to lack of help
	22	15. Unmet need in meal preparation/eating due to lack of help
	25	16. Unmet need in medication administration due to lack of help
	27	17. Unmet need in toileting due to lack of help
	40	18. Unmet need with household tasks due to lack of help
Physical Safety Measure	71	19. Hit or hurt by staff

^a Survey item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

APPENDIX B. LIST OF HCBS CAHPS SURVEY ITEMS AND RESPONSE VALUES AFTER REVERSE

Coding of Items

Exhibit B1 lists all survey items in the core HCBS CAHPS Survey, notes on the type of item, and their transformed values for both the standard and alternate response options. Footnotes indicate when an item should be transformed to a binary 0, 1 scale, when items should be reverse coded, and when the alternate response should be reverse coded.

Exhibit B1: Survey Items in the Core HCBS CAHPS Survey

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
1	Does someone come into your home to help you? ^b	Screenener Item	Yes = 1 No = 0	N/A
2	How do they help you?	Individual Item	N/A	N/A
3	What do you call them?	Individual Item	N/A	N/A
4	In the last 3 months, did you get { <i>program-specific term for personal assistance</i> } at home? ^b	Screenener Item	Yes = 1 No = 0	N/A
5	What do you call the person or people who gave you { <i>program-specific term for personal assistance</i> }? For example, do you call them { <i>program-specific term for personal assistance</i> }, staff, personal care attendants, PCAs, workers, or something else?	Individual Item	N/A	N/A
6	In the last 3 months, did you get { <i>program-specific term for behavioral health specialist services</i> } at home? ^b	Screenener Item	Yes = 1 No = 0	N/A
7	What do you call the person or people who gave you { <i>program-specific term for behavioral health specialist services</i> }? For example, do you call them { <i>program-specific term for behavioral health specialists</i> }, counselors, peer supports, recovery assistants, or something else?	Individual Item	N/A	N/A
8	In the last 3 months, did you get { <i>program-specific term for homemaker services</i> } at home? ^b	Screenener Item	Yes = 1 No = 0	N/A
9	What do you call the person or people who gave you { <i>program-specific term for homemaker services</i> }? For example, do you call them { <i>program-specific term for homemaker</i> }, aides, homemakers, chore workers, or something else?	Individual Item	N/A	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
10	[If (Q4 OR Q6) AND Q8 = YES, ASK] In the last 3 months, did the same people who help you with everyday activities also help you clean your home? ^b	Screeener Item	Yes = 1 No = 0	N/A
11	In the last 3 months, did you get help from <i>{program-specific term for case manager services}</i> to help make sure that you had all the services you needed? ^b	Screeener Item	Yes = 1 No = 0	N/A
12	What do you call the person who gave you <i>{program-specific term for case manager services}</i> ? For example, do you call the person a <i>{program-specific term for case manager}</i> , case manager, care manager, service coordinator, supports coordinator, social worker, or something else?	Screeener Item	Yes = 1 No = 0	N/A
13	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> come to work on time? Would you say... ^d	Staff are Reliable and Helpful Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
14	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> work as long as they were supposed to? Would you say ... ^d	Staff are Reliable and Helpful Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
15	In the last 3 months, when staff could not come to work on a day that they were scheduled, did someone let you know that <i>{personal assistance/behavioral health staff}</i> could not come that day?	Staff are Reliable and Helpful Scale	Yes = 4 No = 1	N/A
16	In the last 3 months, did you need help from <i>{personal assistance/behavioral health staff}</i> to get dressed, take a shower, or bathe? ^b	Screeener Item	Yes = 1 No = 0	N/A
17	In the last 3 months, did you always get dressed, take a shower, or bathe when you needed to? ^b	Individual Item	Yes = 1 No = 0	N/A
18	[If respondents indicate that they need but do not always receive help to get dressed, take a shower, or bathe, they are asked] in the last 3 months, was this because there were no <i>{personal assistance/behavioral staff}</i> to help you? ^b	Unmet Need Measure	No = 1 Yes = 0	N/A
19	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> make sure you had enough personal privacy when you dressed, took a shower, or bathed? Would you say ... ^d	Staff Are Reliable and Helpful Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
20	In the last 3 months, did you need help from <i>{personal assistance/behavioral health staff}</i> with your meals, such as help making or cooking meals or help eating? ^b	Screener Item	Yes = 1 No = 0	N/A
21	In the last 3 months, were you always able to get something to eat when you were hungry? ^b	Screener Item	Yes = 1 No = 0	N/A
22	[If respondents indicate that they need but do not always receive help with meals, such as help making or cooking meals or help eating, they are asked] In the last 3 months, was this because there were no <i>{personal assistance/behavioral health staff}</i> to help you? ^b	Unmet Need Measure	No = 1 Yes = 0	N/A
23	In the last 3 months, did you need help from <i>{personal assistance/behavioral staff}</i> to take your medicines? ^b	Screener Item	Yes = 1 No = 0	N/A
24	In the last 3 months, did you always take your medicine when you were supposed to? ^b	Screener Item	Yes = 1 No = 0	N/A
25	[If respondents indicate that they need but do not always receive help taking their medicines, such as reminders to take a medicine, help pouring them, or setting up their pills, they are asked] In the last 3 months, was this because there were no <i>{personal assistance/behavioral health staff}</i> to help you? ^{b,c}	Unmet Need Measure	No = 1 Yes = 0	N/A
26	In the last 3 months, did you need help from <i>{personal assistance/behavioral health staff}</i> with toileting? ^b	Screener Item	Yes = 1 No = 0	N/A
27	In the last 3 months, did you get all the help you needed with toileting from <i>{personal assistance/behavioral health staff}</i> when you needed it? ^b	Unmet Need Measure	No = 1 Yes = 0	N/A
28	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> treat you with courtesy and respect? Would you say ... ^d	Staff listen and Communicate Well	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
29	In the last 3 months, how often were the explanations <i>{personal assistance/behavioral health staff}</i> gave you hard to understand because of an accent or the way <i>{personal assistance/behavioral health staff}</i> spoke English? ^c	Staff listen and Communicate Well	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
30	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> treat you the way you wanted them to? Would you say ... ^d	Staff listen and Communicate Well	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
31	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> explain things in a way that was easy to understand? Would you say ... ^d	Staff listen and Communicate Well Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
32	In the last 3 months, how often did <i>{personal assistance/behavioral health staff}</i> listen carefully to you? Would you say ... ^d	Staff listen and Communicate Well Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
33	In the last 3 months, did you feel <i>{personal assistance/behavioral health staff}</i> knew what kind of help you needed with everyday activities, like getting ready in the morning, getting groceries, or going places in your community?	Staff listen and Communicate Well Scale	Yes = 4 No = 1	N/A
34	In the last 3 months, did <i>{personal assistance/behavioral health staff}</i> encourage you to do things for yourself if you could be? ^b	Individual Item	Yes = 1 No = 0	N/A
35	Using any number from 0 to 10, where 0 is the worst help from <i>{personal assistance/behavioral health staff}</i> possible and 10 is the best help from <i>{personal assistance/behavioral health staff}</i> possible, what number would you use to rate the help you get from <i>{personal assistance/behavioral health staff}</i> ?	Global Rating Measure	0-10	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
36	Would you recommend the <i>{personal assistance/behavioral health staff}</i> who help you to your family and friends if they needed help with everyday activities?	Recommendation Measure	Definitely yes = 4 Probably yes = 3 Probably no = 2 Definitely no = 1	N/A
37	In the last 3 months, how often did <i>{homemakers}</i> come to work on time? Would you say ... ^d	Staff Are Reliable and Helpful Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
38	In the last 3 months, how often did <i>{homemakers}</i> work as long as they were supposed to? Would you say ... ^d	Staff Are Reliable and Helpful Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
39	In the last 3 months, did your household tasks, like cleaning and laundry, always get done when you needed them to? ^b	Screening Item	Yes = 1 No = 0	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
40	[If respondents indicate that they do not always receive help with household tasks, like cleaning and laundry, they are asked] In the last 3 months, was this because there were no {homemakers} to help you? ^{b,c}	Unmet Need Measure	No = 1 Yes = 0	N/A
41	In the last 3 months, how often did {homemakers} treat you with courtesy and respect? Would you say ... ^d	Staff Listen and Communicate Well Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
42	In the last 3 months, how often were the explanations {homemakers} gave you hard to understand because of an accent or the way the {homemakers} spoke English? ^c	Staff Listen and Communicate Well Scale	Never = 4 Sometimes = 3 Usually = 2 Always = 1	Mostly no = 4 Mostly yes = 1
43	In the last 3 months, how often did {homemakers} treat you the way you wanted them to? Would you say ... ^d	Staff Listen and Communicate Well Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
44	In the last 3 months, how often did {homemakers} listen carefully to you? Would you say ... ^d	Staff Listen and Communicate Well Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
45	Do you feel {homemakers} know what kind of help you need?	Staff Listen and Communicate Well Scale	Yes = 4 No = 1	N/A
46	Using any number from 0 to 10, where 0 is the worst help from {homemakers} and 10 is the best help from {homemakers} possible, what number would you use to rate the help you get from {homemakers}?	Global Rating Measure	0-10	Excellent = 5 Very good = 4 Good = 3 Fair = 2 Poor = 1
47	Would you recommend the {homemakers} who help you to your family and friends if they needed {program-specific term for homemaker services}? Would you say you would recommend the {homemakers}...	Recommendation Measure	Definitely yes = 4 Probably yes = 3 Probably no = 2 Definitely no = 1	N/A
48	Do you know who your {case manager} is? ^b	Individual item	Yes = 1 No = 0	N/A
49	In the last 3 months, could you contact this {case manager} when you need to?	Case Manager is Helpful Scale	Yes = 4 No = 1	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
50	Some people need to get equipment to help them, like wheelchairs or walkers, and other people need their equipment replaced or fixed. In the last 3 months, did you ask this { <i>case manager</i> } for help with getting or fixing equipment? ^b	Screening Item	Yes = 1 No = 0	N/A
51	In the last 3 months, did this { <i>case manager</i> } work with you when you asked for help with getting or fixing equipment?	Case Manager is Helpful Scale	Yes = 4 No = 1	N/A
52	In the last 3 months, did you ask this { <i>case manager</i> } for help in getting any changes to your services, such as more help from { <i>personal assistance/behavioral health staff and/or homemakers if applicable</i> }, or for help with getting places or finding a job? ^b	Screening Item	Yes = 1 No = 0	N/A
53	In the last 3 months, did this { <i>case manager</i> } work with you when you asked for help with getting other changes to your services?	Case Manager is Helpful Scale	Yes = 4 No = 1	N/A
54	Using any number from 0 to 10, where 0 is the worst help from { <i>case manager</i> } possible and 10 is the best help from { <i>case manager</i> }, what number would you use to rate the help you get from { <i>case manager</i> }?	Global Rating Measure	0-10	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
55	Would you recommend the { <i>case manager</i> } who helps you to your family and friends if they needed { <i>program-specific term for case management services</i> }? Would you say you would recommend the { <i>case manager</i> } ...	Recommendation Measure	Definitely yes = 4 Probably yes = 3 Probably no = 2 Definitely no = 1	N/A
56	In the last 3 months, did your { <i>program-specific term for "service plan"</i> } include ...	Choosing the Services that Matter to You Scale	All = 4 Most = 3 Some = 2 None = 1	N/A
57	In the last 3 months, did you feel { <i>personal assistance/behavioral health staff</i> } knew what's on your { <i>program-specific term for "service plan"</i> }, including the things that are important to you?	Choosing the Services that Matter to You Scale	Yes = 4 No = 1	N/A
58	In the last 3 months, who would you have talked to if you wanted to change your { <i>program-specific term for "service plan"</i> }? Anyone else? [INTERVIEWER MARKS ALL THAT APPLY]	Individual Item	N/A	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
59	Medical appointments include seeing a doctor, a dentist, a therapist, or someone else who takes care of your health. In the last 3 months, how often did you have a way to get to your medical appointments? Would you say ... ^d	Transportation to Medical Appointments Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
60	In the last 3 months, did you use a van or some other transportation service? Do not include a van you own. ^b	Screening Item	Yes = 1 No = 0	N/A
61	In the last 3 months, were you able to get in and out of this ride easily?	Transportation to Medical Appointments Scale	Yes = 4 No = 1	N/A
62	In the last 3 months, how often did this ride arrive on time to pick you up? Would you say ... ^d	Transportation to Medical Appointments Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
63	Who would you contact in case of an emergency? [INTERVIEWER MARKS ALL THAT APPLY]	Individual Item	N/A	N/A
64	In the last 3 months, was there a person you could talk to if someone hurt you or did something to you that you didn't like?	Personal Safety and Respect Scale	Yes = 4 No = 1	N/A
65	In the last 3 months, did any { <i>personal assistance/behavioral health staff, homemakers, or your case managers</i> } take your money or your things without asking you first? ^c	Personal Safety and Respect Scale	No = 4 Yes = 1	N/A
66	[If respondent indicated that staff take money or things without asking] In the last 3 months, did someone work with you to fix this problem? ^b	Individual Item	Yes = 1 No = 0	N/A
67	In the last 3 months, who has been working with you to fix this problem? Anyone else? [INTERVIEWER MARKS ALL THAT APPLY]	Individual Item	N/A	N/A
68	In the last 3 months, did any { <i>staff</i> } yell, swear, or curse at you? ^c	Personal Safety and Respect Scale	No = 4 Yes = 1	N/A
69	[If respondent indicated that staff yell, swear, or cursed at them] In the last 3 months, did someone work with you to fix this problem? ^b	Individual Item	Yes = 1 No = 0	N/A
70	In the last 3 months, who has been working with you to fix this problem? Anyone else? [INTERVIEWER MARKS ALL THAT APPLY]	Individual Item	N/A	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
71	In the last 3 months, did any { <i>staff</i> } hit you or hurt you? ^{b, c}	Physical Safety	No = 1 Yes = 0	N/A
72	[If respondent indicated that staff hit or hurt them] In the last 3 months, did someone work with you to fix this problem? ^b	Individual Item	Yes = 1 No = 0	N/A
73	In the last 3 months, who has been working with you to fix this problem? Anyone else?	Individual Item	N/A	N/A
74	Do you have any family members who live nearby? Do not include family members you live with. ^b	Screening Item	Yes = 1 No = 0	N/A
75	In the last 3 months, when you wanted to, how often could you get together with these family members who live nearby? Would you say ... ^d	Planning Your Time and Activities Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
76	Do you have any friends who live nearby? ^b	Screening Item	Yes = 1 No = 0	N/A
77	In the last 3 months, when you wanted to, how often could you get together with these friends who live nearby? Would you say ... ^d	Planning Your Time and Activities Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
78	In the last 3 months, when you wanted to, how often could you do things in the community that you like? Would you say ... ^d	Planning Your Time and Activities Scale	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
79	In the last 3 months, did you need more help that you get from { <i>personal assistance/behavioral health staff</i> } to do things in your community? ^c	Planning Your Time and Activities Scale	No = 4 Yes = 1	N/A
80	Do you take part in deciding what you do with your time each day?	Planning Your Time and Activities Scale	No = 4 Yes = 1	N/A
81	Do you take part in deciding when you do things each day—for example, deciding when you get up, eat, or go to bed?	Planning Your Time and Activities Scale	No = 4 Yes = 1	N/A

Abbreviations: N/A, not applicable.

^a Survey item numbers correspond to Version 1.0 of the HCBS CAHPS Survey updated January 19, 2017.

^b If scoring a measure with a “Yes, No” response scale that is not part of a scale measure, it will be necessary to ensure that 0 is the least positive outcome and 1 is the most positive outcome to produce adjusted scores with the CAHPS Analysis Program.

^c Item is reverse coded.

^d Alternate response is reverse coded.

Exhibit B2 lists all survey items in the Supplemental Employment Module, notes on the type of item, and their transformed values for both the standard and alternate response options. Footnotes indicate when an item should be transformed to a binary 0, 1 scale.

Exhibit B2: Survey Items in the Supplemental Employment Module

Survey Item ^a	Employment Module Items	Notes	Standard Response Values	Alternate Response Values
EM1	In the last 3 months, did you work for pay at a job? ^b	Screening Item	Yes = 1 No = 0	N/A
EM2	In the last 3 months, did you want to work for pay at a job? ^b	Screening Item	Yes = 1 No = 0	N/A
EM3	Sometimes people feel that something is holding them back from working when they want to. In the last 3 months, was this true for you? If so, what has been holding you back from working?	Screening Item	N/A	N/A
EM4	Sometimes people would like to work for pay but feel that something is holding them back. In the last 3 months, was this true for you? If so, what has been holding you back from wanting to work?	Screening Item	N/A	N/A
EM5	In the last 3 months, did you ask for help in getting a job for pay? ^b	Screening Item	Yes = 1 No = 0	N/A
EM6	In the last 3 months, did you know you could get help to find a job for pay? ^b	Individual Item	Yes = 1 No = 0	N/A
EM7	Help getting a job can include help finding a place to work or help getting the skills that you need to work. In the last 3 months, was someone paid to help you get a job? ^b	Screening Item	Yes = 1 No = 0	N/A
EM8	In the last 3 months, did you get all the help you need to find a job? ^b	Individual Item	Yes = 1 No = 0	N/A
EM9	Who helped you find the job that you have now? [MARK ALL THAT APPLY]	Individual Item	N/A	N/A
EM10	Did you help choose the job you have now? ^b	Individual Item	Yes = 1 No = 0	N/A
EM11	Sometimes people need help from other people to work at their jobs. For example, they may need help getting to or getting around at work, help getting their work done, or help getting along with other workers. In the last 3 months, was someone paid to help you with the job you have now? ^b	Screening Item	Yes = 1 No = 0	N/A
EM12	What do you call this person? A job coach, peer support provider, personal assistant, or something else?	Individual Item	N/A	N/A

Survey Item ^a	Employment Module Items	Notes	Standard Response Values	Alternate Response Values
EM13	Did you hire your {job coach} yourself? ^b	Screening Item	Yes = 1 No = 0	N/A
EM14	In the last 3 months, has your {job coach} been with you all the time that you were working? ^b	Individual Item	Yes = 1 No = 0	N/A
EM15	In the last 3 months, how often did your {job coach} give you all the help you needed? Would you say ...	Individual Item	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
EM16	In the last 3 months, how often did your {job coach} treat you with courtesy and respect? Would you say ...	Individual Item	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
EM17	In the last 3 months, how often did your {job coach} explain things in a way that was easy to understand? Would you say ...	Individual Item	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
EM18	In the last 3 months, how often did your {job coach} listen carefully to you? Would you say ...	Individual Item	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
EM19	In the last 6 months, did your {job coach} encourage you to do things for yourself if you could? ^b	Individual Item	Yes = 1 No = 0	N/A
EM20	Using any number from 0 to 10, where 0 is the worst help from {job coach} possible and 10 is the best help from {job coach} possible, what number would you use to rate the help you get from your {job coach}?	Global Rating Measure	0-10	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
EM21	Would you recommend the {job coach} who helps you to your family and friends if they needed {program-specific term for employment services}? Would you say you recommend the {job coach} ...	Recommendation Measure	Definitely yes = 4 Probably yes = 3 Probably no = 2 Definitely no = 1	N/A

^a Survey item numbers correspond to Version 1.0 of the HCBS CAHPS Survey Employment Module updated August 10, 2016.

^b If scoring a measure with a “Yes, No” response scale that is not part of a scale measure, it will be necessary to ensure that 0 is the least positive outcome and 1 is the most positive outcome to produce adjusted scores with the CAHPS Analysis Program.

^c Alternate response is reverse coded.