

Technical Assistance Guide for Analyzing Data From the CAHPS[®] Home and Community-Based Services Survey

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1. INTRODUCTION

1.1 Overview of the Survey

The Centers for Medicare & Medicaid Services (CMS) is responsible for the oversight and financing of Medicaid home and community-based services (HCBS), which enable Medicaid beneficiaries who are disabled and/or chronically ill to receive care at home instead of being institutionalized. With the majority of Medicaid long-term services and supports (LTSS) provided in the community, mechanisms for ensuring the quality of care delivered in those settings is imperative. The CAHPS® Home and Community-Based Services Survey, hereafter referred to as the HCBS CAHPS Survey, was designed to provide standard performance metrics for HCBS programs.¹ Specifically, this survey is intended to gather direct feedback from Medicaid beneficiaries receiving HCBS about their experiences and the quality of the LTSS they receive. CMS funded the development and testing of the HCBS CAHPS Survey from 2010 through 2016 under two projects, the most recent being the Planning and Demonstration Grant for Testing Experience and Functional Assessment Tools in Community-Based Long-Term Services and Supports (TEFT).

The goal of the survey is to provide standard individual-experience metrics for HCBS programs that are applicable to all populations served by these programs, including frail elderly and people with one or more of the following disabilities: physical disabilities, cognitive disabilities, intellectual impairments, or disabilities due to mental illness. The assessment will enable HCBS programs to identify areas in which quality can be improved and to provide stakeholders with comparisons across HCBS programs. Survey sponsors include state Medicaid agencies that administer HCBS programs as well as operating entities that are responsible for managing and overseeing a specific HCBS program within a state (e.g., managed care organizations, non-Medicaid state agencies such as departments of aging, non-state governmental entities such as counties).

CMS used the [Consumer Assessment of Healthcare Providers and Systems® \(CAHPS\) principles](http://www.ahrq.gov/cahps/about-cahps/index.html) (www.ahrq.gov/cahps/about-cahps/index.html) to inform HCBS CAHPS Survey development. The HCBS CAHPS 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) in October 25, 2016.

1.2 Purpose of the Guide

This *Technical Assistance Guide for Analyzing Data From the HCBS CAHPS Survey* (Data Analysis Guide) is a key component of materials created to help survey sponsors implement 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*.²

¹ CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services.

² 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>

This 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
3. Issues specific to analyzing data from the HCBS CAHPS Survey. This guide is meant to be used in conjunction with the document titled *Instructions for Analyzing Data from CAHPS Surveys*.³ It is important to read both documents to conduct analyses for the HCBS CAHPS Survey.
4. Additional resources for using the HCBS CAHPS Survey to produce scores and related data analysis

2. USING THE SURVEY DATA

Sponsors can use the results from the HCBS CAHPS Survey to identify opportunities for improvement and track progress toward goals.

2.1 Uses of the HCBS CAHPS Survey

CMS developed the HCBS CAHPS Survey for voluntary use in Medicaid HCBS programs as a tool for quality assessment and improvement, as well as for public reporting by states that choose to do so. An HCBS quality strategy should include multiple sources of information to form a full assessment of program quality; one very important source of information about service quality is the beneficiaries.

2.1.1 Track Program Performance

First among the ways the survey can be used for program quality management is to help document program successes. In addition, by fielding the survey over a short time period (no more than a few months), users can obtain a point-in-time performance snapshot and identify areas needing 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 in order 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.

2.1.2 Compare Program Performance

Provided that there is a sufficient beneficiary sample for each program or subprogram group, the HCBS CAHPS Survey can make comparisons among programs serving individuals with different types of disabilities. The HCBS CAHPS Survey also may be used to evaluate subprogram accountable entities, such as managed care organizations (MCOs) serving HCBS beneficiaries in managed long-term services and supports (MLTSS) programs as well as providers (including case management agencies) serving large numbers of beneficiaries. See Section 3.1 for details about determining the appropriate unit of analysis.

2.1.3 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

³ 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>

adherence to the Medicaid program’s HCBS federal quality requirements. Because measures align with some of CMS’s quality requirements for the various HCBS Medicaid authorities, the survey can assist states in gauging compliance with regulatory requirements, such as with HCBS beneficiary health and welfare⁴ as well as with the 2014 HCBS rule requirements regarding permissible settings and person-centered approaches in service planning and delivery.⁵ Managed care organizations that are increasingly being used by state Medicaid plans to bear risk in delivering LTSS, including HCBS services, also have quality monitoring requirements associated with them.

2.2 National Quality Forum-Endorsed Measures

The HCBS CAHPS Survey includes 19 measures endorsed by the National Quality Forum. These measures include 7 scale measures and 12 measures derived from single survey items. Scale measures, also known as composite measures, include multiple questions that measure similar topics and are analyzed as a group. NQF-endorsed measures are considered the gold standard for health care measurement in the United States; endorsement provides assurance to the user that measures were tested rigorously. 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.

Exhibit 1. National Quality Forum-Endorsed Measures Derived From the HCBS CAHPS Survey

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 to 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 Needs 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

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

⁵ 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.

See Section 4 for details on how to produce the scores for each of these measures.

2.3 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, beneficiaries, providers and MCOs, state legislatures, and the general public. It is important to take the audience into account when deciding how to report results to each group.

HCBS program beneficiaries and family members of beneficiaries 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. Alternatively, they also can be transformed to reflect the percentage of survey respondents that experienced the most positive outcome for a measure (top-box scores). Section 3.1.2 has further discussion of options for presenting scores.

3. PREPARING THE SURVEY DATA FOR ANALYSIS

In general, it is advisable that data are prepared for analysis in the following order:

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

The sections below outline the specific actions needed to prepare data for analysis.

3.1 Determining Unit of Analysis and Desired Scoring Method

3.1.1 Unit of Analysis

The unit of analysis is the level for which a score is produced and, for the HCBS CAHPS Survey, is the accountable entity (e.g., HCBS program, MCO). An accountable entity is the operating entity responsible for managing and overseeing a specific HCBS program within a given state. Although Medicaid HCBS programs are administered by state Medicaid agencies under various legal authorities, they frequently are operated by other entities including non-Medicaid state agencies (e.g., department of aging), non-state governmental entities (e.g., county), or MCOs 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 before administering the survey.

3.1.2 Desired Scoring Method (Top-Box Scores or Mean Scores)

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

Sponsors may want to use top-box scores if they are reporting scores to the public, as they generally are easier to understand by individuals without a research background. They 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 beneficiary experiences of care and may provide a more precise measure. Compared to top-box scores for a set of providers, the average scores for the same providers

often are compressed into a small part of the 0-to-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 two most positive response categories). However, one program may have many more responses in the most positive category, whereas the other program may have more responses in the second most positive category. The second program would have a noticeably lower score than the first program when using the mean 0–100 scale score. Exhibit 2 shows examples of 0–100 mean and top-box scores for several measures derived from the HCBS CAHPS Survey.

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

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

Abbreviation: PCS, personal care assistant.

3.2 Applying Criteria for Inclusion

3.2.1 Determination of Complete Surveys

Beneficiaries eligible for the HCBS CAHPS Survey include Medicaid beneficiaries 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. Survey eligibility is further determined using three cognitive screening items that are administered at the beginning of the interview:

- 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 correct or appropriate 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.

For CAHPS Surveys, analysis should be limited to “complete” surveys. The CAHPS definition of a complete survey is one in which a respondent provided a substantive response⁶ to at least half of the items that all respondents are eligible to answer in the survey. The set of survey items that all

⁶ Substantive responses include all responses *other than* “don’t know,” “refused,” or “unclear.” Note that the response “no” is considered a substantive response.

respondents are eligible to answer, referred to as “key items,” does not include items in the *About You* section.

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.

Because of these user variations, each sponsor should make their own determination about which questions every respondent is eligible to answer.

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

Because the following item is only applicable 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

3.2.2 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
- Helps the respondent with the use of assistive technology

If a sponsor decides that a beneficiary should be the sole respondent for a question, then they should build a skip pattern into the survey for proxy respondents. Any responses from proxy respondents for such questions should be coded as missing. Section 4.5 contains information on how to include assistance completing the survey as a case-mix adjuster.

3.3 Cleaning Data

Once a survey sponsor receives data from survey administration, 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.

3.3.1 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 3, the global rating of the homemaker question is answered on a scale from 0 to 10, where a respondent’s answer of “11” is considered to be an out-of-range value.

If out-of-range values are found, they should be recoded as *missing*.

Exhibit 3. 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

3.3.2 Checking for Duplicate Responses

Duplicate responses refer to instances in which a beneficiary’s response to one or more questions is represented more than once in the dataset. A respondent should be represented only once in the dataset. Exhibit 4 shows that the respondent identification number 6 is 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.

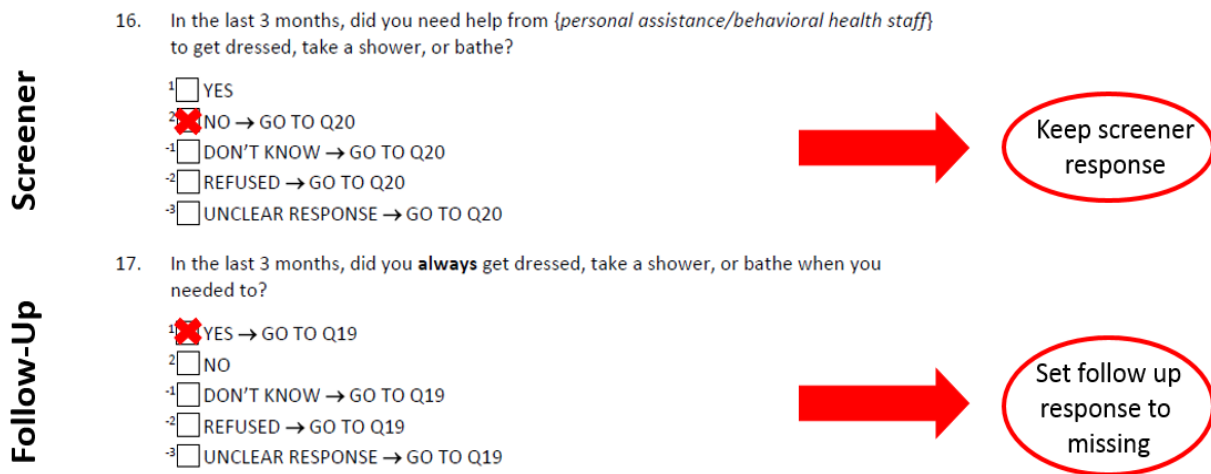
Exhibit 4. Example of Duplicate Response

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

3.3.3 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 they 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 5 shows an example of how to correct failed skips.

Exhibit 5. Example of Failed Skip Correction



3.3.4 Checking for Indeterminate Eligibility

Indeterminate eligibility occurs when there is no response to a screener item, but the respondent answered 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.

3.3.5 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 is applicable to all items in the survey.

3.4 Recoding Data

There are a few instances where recoding the data before analyses is necessary: for reverse coded items, recoding 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, it is recommended that the sponsor create a new variable for recoded items instead of overwriting the original response.

Data should be recoded in the following order:

1. Reverse coding items
2. Recoding other items for CAHPS Analysis Program
3. Recoding for mean scores on 0–100 scale or top box scores
4. Combining response option mode data

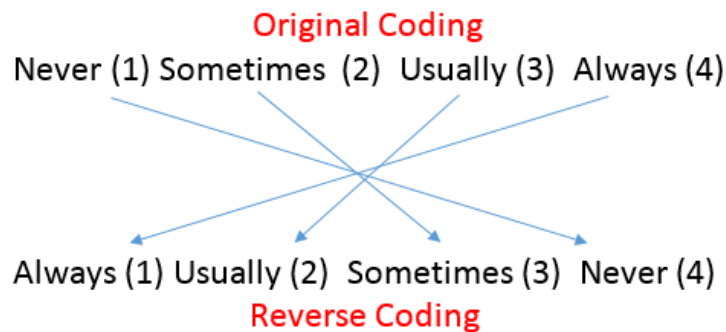
3.4.1 Reverse Coding Items

Reverse coding ensures that the highest value corresponds to the most positive response, given the specific topic and wording of the question. HCBS CAHPS Survey items that will need to be reverse coded are indicated by an asterisk at the end of the question text in Appendix B.

For example, Exhibit 6 shows that Question 71 has the standard response options of *Never*, *Sometimes*, *Usually*, or *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 they speak English. However, *Never* has a value of “1” in the original coding, rather than the highest value of “4.” Thus, the values will need to be reverse coded.

Q71. 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 6. Example of Reverse Coding



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.

3.4.2 Recoding Other Items for CAHPS Analysis Program (Binary Items, 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, each case-mix item in the survey must be recoded to create several binary (dummy) variables. This means that each 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:

- Question 84: 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+)

3.4.3 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 are 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
- v = respondent’s score on the old scale

Top-Box Scores. Top-box scores are 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).⁷ 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:

- *Always* for scale items (or *Mostly Yes* for alternate response option)
- *9* or *10* for Global Ratings (or *Excellent* for alternate response option)
- *Definitely Yes* for Recommendation Items

3.4.4 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 response option mode that is simplified. Sponsors that choose to report mean scores will need to combine responses from the two response options prior to producing scores.

An example of the differences between the response option modes is included below:

- Standard question and response: In the last 3 months, how often did personal assistance staff come to work on time? (*Never/Sometimes/Usually/Always*)
- 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. There are two main types of data transformations to combine data:

- Alternate two-point *Mostly Yes/Mostly No* responses are transformed to the standard four-point *Never/Sometimes/ Usually/Always* scales
- Standard 0–10 responses are transformed 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 all data are represented in one new variable.

⁷ 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>

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 this is complete, the sponsor may use a statistical package of choice to merge the separate variables for standard and alternate ratings, so that all data are represented in one new variable.

A new variable should be created 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.

4. ANALYZING THE SURVEY DATA

The following section outlines the steps for calculating the scores using the CAHPS Analysis Program, considerations for case-mix adjustment, an alternative method for creating unadjusted scores, and how to determine reliability. These analytic steps assume that all data preparation steps have been taken.

The NQF-endorsed HCBS CAHPS Survey measures produce top-box scores. This means that the **numerator** reflects the number of respondents who give the most positive response to the underlying survey item(s). Sections 4.1–4.4 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).

The **denominator** for all measures is the number of completed surveys from respondents eligible for the HCBS CAHPS Survey. Section 3.2 describes the criteria for inclusion.

4.1 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 a simplified version (Excellent, Very Good, Fair, and Poor) (see Exhibit 7).

Exhibit 7. The Global Rating Measures Derived From the HCBS CAHPS Survey

Survey Item ^a	Measure	Question Text	Original Response Values ^b
35	Global Rating of Personal Assistance and Behavioral Health Staff	Using any number from 0 to 10, where 0 is the worst help from {personal assistance/behavioral health staff} possible and 10 is the best help from {personal assistance/behavioral health staff} possible, what number would you use to rate the help you get from {personal assistance/behavioral health staff}?	0–10 (9–10) or Excellent Very Good Good Fair Poor
46	Global Rating of Homemaker	Using any number from 0 to 10, where 0 is the worst help from {homemakers} possible and 10 is the best help from {homemakers} possible, what number would you use to rate the help you get from {homemakers}?	0–10 (9–10) or Excellent Very Good Good Fair Poor
54	Global Rating of Case Manager	Using any number from 0 to 10, where 0 is the worst help from {case manager} possible and 10 is the best help from {case manager} possible, what number would you use to rate the help you get from {case manager}?	0–10 (9–10) or Excellent Very Good Good Fair Poor

^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 adjustment⁸) are shown below.

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

Step 2. Calculate the proportion “P” of survey responses with an overall original rating of “9 or 10” or “Excellent” (recoded to “1”). The proportion P is defined as follows: $P = X/Y$, where—

- The numerator X is the number of respondents for whom the overall original rating is “9 or 10” or “Excellent” (recoded to “1”)
- The denominator Y is the total number of respondents who answered the question

⁸ Case-mix adjustment is a way to control for the influence of consumer characteristics on scores (described in more detail in Section 4).

Example for *Global Rating of Case Manager*

If 411 respondents answered *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.

4.2 Calculating the Recommendation Measures Scores (Top Box)

The Recommendation measures derived from the HCBS CAHPS Survey indicate whether a beneficiary 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 all steps in Section 3 (*Preparing the Survey Data for Analysis*) are followed, the most positive responses will be coded as “1” and the rest as “0” (see Exhibit 8).

Exhibit 8. The Recommendation Measures Derived From the HCBS CAHPS Survey

Survey Item ^a	Measure	Question Text	Original 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 beneficiaries who received the service that is the focus of the measure (i.e., personal assistance and behavioral health, homemaker, or case manager).

Step 2. Calculate the proportion “P” of survey responses with an overall original rating of “Definitely Yes” (recoded to “1”). The proportion P is defined as follows: $P = X/Y$, where:

- The numerator X is the number of respondents for whom the overall original rating is “Definitely Yes” (recoded to “1”)

- The denominator Y is the total number of respondents who answered the question

Example for Recommendation of Homemaker

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 x 100 = 87.5.
The measure score is 87.5.

4.3 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 beneficiary. These are six distinct measures that are presented separately. If all steps in Section 3 (*Preparing the Survey Data for Analysis*) are followed, the most positive responses will be coded as “1” and the rest as “0” (see Exhibits 9 and 10).

Exhibit 9. The Unmet Need Measures Derived From the HCBS CAHPS Survey

Survey Item ^a	Measure ^b	Question Text	Original Response Values ^c
18 [screeners = 16 and 17]	Unmet need in dressing/bathing due to lack of help	[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] 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	[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] 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	[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] In the last 3 months, was this because there were no [personal assistance/behavioral health staff] to help you?	Yes = 1 No = 2

Survey Item ^a	Measure ^b	Question Text	Original Response Values ^c
27 [screener = 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 [screener = 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 do not have unmet need.

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

Exhibit 10. The Physical Safety Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Measure ^b	Question Text	Original 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. 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 27. The proportion P is defined as follows: $P = X/Y$, where:

- The numerator X is the number of respondents for whom the original response is “No” (recoded to “1”) or “Yes” for item 27 (numerator)

- The denominator Y is the total number of respondents who answered the question

Example for *Unmet Need Measure*

If 105 respondents answered the *Unmet Need with Household Tasks due to Lack of Help* (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 in 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.

4.4 Calculating Scale Measure Scores (Top Box)

Scale measures are composed of multiple questions that ask about related topics or domains of care. The individual items included in each scale measure derived from the HCBS CAHPS Survey are shown in Exhibits 11–17. If all steps in Section 3 (Preparing the Survey Data for Analysis) were followed, the most positive responses will be coded as “1” and the rest as “0.”

Only substantive responses (i.e., Never/Sometimes/Usually/Always, Mostly yes/Mostly no) should be included when calculating the denominator for a scale. Also, 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.

4.4.1 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 11.

Exhibit 11. The Staff Are Reliable and Helpful Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original Response Values ^b
13	In the last 3 months, how often did {personal assistance/behavioral health staff} come to work on time? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
14	In the last 3 months, how often did {personal assistance/behavioral health staff} work as long as they were supposed to? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 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

Survey Item ^a	Question Text	Original Response Values ^b
19	In the last 3 months, how often did {personal assistance/behavioral health staff} make sure you had enough personal privacy when you dressed, took a shower, or bathed? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
37	In the last 3 months, how often did {homemakers} come to work on time? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
38	In the last 3 months, how often did {homemakers} work as long as they were supposed to? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 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.

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.”

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.

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

- P1 = Proportion of respondents whose original response to Question 13 is “Always” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 14 is “Always” (recoded to “1”)
- P3 = Proportion of respondents whose original response to Question 15 is “Yes” (recoded to “1”)
- P4 = Proportion of respondents whose original response to Question 19 is “Always” (recoded to “1”)
- P5 = Proportion of respondents whose original response to Question 37 is “Always” (recoded to “1”)
- P6 = Proportion of respondents whose original response to Question 38 is “Always” (recoded to “1”)

The proportions P1 through P6 are defined as follows: $P = X/Y$, where 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 13, 14, 19, 37, and 38, and “Yes” to Question 15 [recoded to “1”]), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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 = $(P1 + P2 + P3 + P4 + P5 + P6) / 6 \times 100$.

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.

4.4.2 Calculating the Score for the *Staff Listen and Communicate Well Measure*

The score for this scale is produced by combining responses to the 11 questions in Exhibit 12.

Exhibit 12. The Staff Listen and Communicate Well Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original Response Values ^b
28	In the last 3 months, how often did {personal assistance/behavioral health staff} treat you with courtesy and respect? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 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 = 4 Sometimes = 3 Usually = 2 Always = 1
30	In the last 3 months, how often did {personal assistance/behavioral health staff} treat you the way you wanted them to? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
31	In the last 3 months, how often did {personal assistance/behavioral health staff} explain things in a way that was easy to understand? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
32	In the last 3 months, how often did {personal assistance/behavioral health staff} listen carefully to you? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 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

Survey Item ^a	Question Text	Original Response Values ^b
41	In the last 3 months, how often did {homemakers} treat you with courtesy and respect? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
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?	Never = 4 Sometimes = 3 Usually = 2 Always = 1
43	In the last 3 months, how often did {homemakers} treat you the way you wanted them to? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
44	In the last 3 months, how often did {homemakers} listen carefully to you? Would you say...	Never = 1 Sometimes = 2 Usually = 3 Always = 4
45	Do you feel [homemakers] 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.

Step 2. For each of the 11 questions in Exhibit 12, calculate the proportion ($P = X/Y$) of cases as follows:

- P1 = Proportion of respondents whose original response to Question 28 is “Always” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 29 is “Never” (recoded to “1”)
- P3 = Proportion of respondents whose original response to Question 30 is “Always” (recoded to “1”)
- P4 = Proportion of respondents whose original response to Question 31 is “Always” (recoded to “1”)
- P5 = Proportion of respondents whose original response to Question 32 is “Always” (recoded to “1”)
- P6 = Proportion of respondents whose original response to Question 33 is “Yes” (recoded to “1”)
- P7 = Proportion of respondents whose original response to Question 41 is “Always” (recoded to “1”)

- P8 = Proportion of respondents whose original response to Question 42 is “Never” (recoded to “1”)
- P9 = Proportion of respondents whose original response to Question 43 is “Always” (recoded to “1”)
- P10 = Proportion of respondents whose original response to Question 44 is “Always” (recoded to “1”)
- P11 = Proportion of respondents whose original response to Question 45 is “Yes” (recoded to “1”)

The proportions P1 through P11 are defined as follows: $P = X/Y$, where the numerator X for each question in the scale is the number of respondents 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”]), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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

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

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 $P10 = 301 / 399 = 0.754$
- For Question 45: If 260 of the total of 398 responses are “Yes,” then $P11 = 260 / 398 = 0.653$

Then, $(P1 + P2 + P3 + P4 + P5 + P6 + P7 + P8 + P9 + P10 + P11) / 11$
 $= (0.707 + 0.635 + 0.606 + 0.605 + 0.754 + 0.653 + 0.635 + 0.606 + 0.605 + 0.754 + 0.653) / 11$
 $= 3.96 / 11 = 0.832 \times 100 = 83.2$.

The measure score is 83.2.

4.4.3 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 13.

Exhibit 13. The Case Manager Is Helpful Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original 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.

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

- P1 = Proportion of respondents whose original response to Question 49 is “Yes” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 51 is “Yes” (recoded to “1”)
- P3 = Proportion of respondents whose original response to Question 53 is “Yes” (recoded to “1”)

The proportions P1 through P3 are defined as follows: $P = X/Y$, where the numerator X for each question in the scale is the number of respondents who gave the most positive response of “Yes” to each (recoded to “1”), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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.

4.4.4 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 14.

Exhibit 14. The Choosing the Services That Matter to You Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original Response Values ^b
56	In the last 3 months, did your [program-specific term for “service plan”] include...	None = 1 Some =2 Most = 3 All = 4
57	In the last 3 months, did you feel [personal assistance/behavioral health staff] knew what’s on your [program-specific term for “service plan”], 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.

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

- P1 = Proportion of respondents whose original response to Question 56 is “All” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 57 is “Yes” (recoded to “1”)

The proportions P1 and P2 are defined as follows: $P = X/Y$, where the numerator X for each question in the scale is the number of respondents who gave the most positive response to each (“All” or “Yes” recoded to “1”), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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 $P2 = 255 / 401 = 0.635$

Then, $(P1 + P2) / 2$
 $= (0.707 + 0.635) / 2$
 $= 1.34 / 2$
 $= 0.671 \times 100 = 67.1$
The measure score is 67.1

4.4.5 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 15.

Exhibit 15. The Transportation to Medical Appointments Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original 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 = 1 Sometimes = 2 Usually = 3 Always = 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 = 1 Sometimes = 2 Usually = 3 Always = 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.

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

- P1 = Proportion of respondents whose original response to Question 59 is “Always” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 61 is “Yes” (recoded to “1”)
- P3 = Proportion of respondents whose original response to Question 62 is “Always” (recoded to “1”)

The proportions P1 through P3 are defined as follows: $P = X/Y$, where the numerator X for each question in the scale is the number of respondents who gave the most positive response to each (“Always” or “Yes” recoded to “1”), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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.

4.4.6 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 16.

Exhibit 16. The Personal Safety and Respect Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original 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 {personal assistance/behavioral health staff, homemakers, or your case managers} take your money or your things without asking you first?	No = 4 Yes = 1
68	In the last 3 months, did any {staff} yell, swear, or curse at you?	No = 4 Yes = 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 “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.

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 64 is “Yes” (recoded to “1”)
- $P2$ = Proportion of respondents whose original response to Question 65 is “No” (recoded to “1”)
- $P3$ = Proportion of respondents whose original response to Question 68 is “No” (recoded to “1”)

The proportions $P1$ through $P3$ are defined as follows: $P = X/Y$, where the numerator X for each question in the scale is the number of respondents who gave the most positive response to each (“Yes” or “No” recoded to “1”), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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.

4.4.7 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 17.

Exhibit 17. Planning Your Time and Activities Measure Derived From the HCBS CAHPS Survey

Survey Item ^a	Question Text	Original 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 = 1 Sometimes = 2 Usually = 3 Always = 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 = 1 Sometimes = 2 Usually = 3 Always = 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 = 1 Sometimes = 2 Usually = 3 Always = 4
79	In the last 3 months, did you need more help than you get from {personal assistance/behavioral health staff} to do things in your community?	No = 4 Yes = 1
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.

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

- P1 = Proportion of respondents whose original response to Question 75 is “Always” (recoded to “1”)
- P2 = Proportion of respondents whose original response to Question 77 is “Always” (recoded to “1”)
- P3 = Proportion of respondents whose original response to Question 78 is “Always” (recoded to “1”)
- P4 = Proportion of respondents whose original response to Question 79 is “No” (recoded to “1”)
- P5 = Proportion of respondents whose original response to Question 80 is “Yes” (recoded to “1”)
- P6 = Proportion of respondents whose original response to Question 81 is “Yes” (recoded to “1”)

The proportions P1 through P6 are defined as follows: $P = X/Y$, where 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”]), and the denominator Y for each question in the scale is the total number of respondents who answered the question.

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

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

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.

4.5 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
- Effects that might be considered spurious (i.e., that reflect something other than the quality of service or care)

- Incentives for reporting units to avoid groups of individuals that are likely to provide low ratings⁹

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, residential independence (i.e., whether respondent lives alone), response option, and survey mode. Proxy status also is recommended if assistance completing the survey is permitted. 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
- Age
 - What is your age?
 - 18 to 24 years
 - 25 to 34 years
 - 35 to 44 years
 - 45 to 54 years

⁹ 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.

- 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 _____

See Section 3.4.2 for details about recoding these items for use in the CAHPS Analysis Program.

4.6 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. The tradeoffs for each method are presented below.

4.6.1 Calculating Unadjusted Scores

If a HCBS CAHPS Survey sponsor is creating 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 3.
2. For scale measures, compute the respondent mean across all nonmissing items that comprise a scale.

4.6.2 Calculating Adjusted Scores With the CAHPS Analysis Program

Sponsors are encouraged to produce adjusted scores using the [CAHPS Analysis Program](#), which is available at <http://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/survey4.0-docs/cg-cahps-12-month2015.zip>. To support consistent analyses across CAHPS surveys, all users have access to a set of 10 SAS files that comprise the CAHPS Analysis Program. The program allows survey sponsors to analyze and statistically adjust the survey data in order to make valid comparisons among different providers. Sponsors using the CAHPS Analysis Program have access to special functions for certain data features, including adjustments for unequal item weighting, stratifying estimates for low and high users of health care, and the nesting of reporting units within larger units.

Sponsors also have access to *Instructions for Analyzing Data from CAHPS Surveys*.¹⁰ 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.

¹⁰ 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>

4.6.3 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, MCO, 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, MCO, case management agency).
4. Then conduct a *t*-test to find out whether differences between the individual and overall means are statistically significant.

4.6.4 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.

5. 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/HCBS-CAHPS-Admin-TA-Guide)—serves as an orientation to the data collection process for survey sponsors, such as states. <https://www.medicare.gov/medicaid/quality-of-care/downloads/HCBS-CAHPS-Admin-TA-Guide>
- [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](http://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/survey4.0-docs/cg-cahps-12-month2015.zip)—generates output to calculate the performance of a unit of interest—such as HCBS programs, MCOs, 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. This information can be found in the CAHPS Clinician and Group Survey Package.
<http://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/survey4.0-docs/cg-cahps-12-month2015.zip>
- [Instructions for Analyzing Data From CAHPS Surveys](http://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/survey4.0-docs/cg-cahps-12-month2015.zip)—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. This document can be found in the CAHPS Clinician and Group Survey Package.
<http://www.ahrq.gov/sites/default/files/wysiwyg/cahps/surveys-guidance/survey4.0-docs/cg-cahps-12-month2015.zip>
- [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>

Appendix A. Crosswalk of Survey Item Numbers and National Quality Forum-Endorsed Measures Derived From the HCBS CAHPS Survey

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

Survey Item ^a	Measure
Global Ratings Measures	
35	Global Rating of Personal Assistance and Behavioral Health Staff
46	Global Rating of Homemaker
54	Global Rating of Case Manager
Recommendation Measures	
36	Recommendation of Personal Assistance and Behavioral Health Staff
47	Recommendation of Homemaker
55	Recommendation of Case Manager
Scale Measures	
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
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
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
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

Survey Item ^a	Measure
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
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
Planning your time and activities	
75	Can get together with nearby family
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
Unmet Need Measures	
18	Sufficient staff to help dress, shower, or bathe
22	Sufficient staff to help you with meals
25	Sufficient staff to help you with medications
27	Sufficient staff to help you with toileting
40	Sufficient homemakers to help you with household tasks
Physical Safety Measure	
71	Do any staff hit or hurt you

^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

This table 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	Screening 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 {program-specific term for personal assistance} at home? ^b	Screening Item	Yes = 1 No = 0	N/A
5	What do you call the person or people who gave you {program-specific term for personal assistance}? For example, do you call them {program-specific term for personal assistance}, staff, personal care attendants, PCAs, workers, or something else?	Individual Item	N/A	N/A
6	In the last 3 months, did you get {program-specific term for behavioral health specialist services} at home? ^b	Screening Item	Yes = 1 No = 0	N/A
7	What do you call the person or people who gave you {program-specific term for behavioral health specialist services}? For example, do you call them {program-specific term for behavioral health specialists}, counselors, peer supports, recovery assistants, or something else?	Individual Item	N/A	N/A
8	In the last 3 months, did you get {program-specific term for homemaker services} at home? ^b	Screening Item	Yes = 1 No = 0	N/A
9	What do you call the person or people who gave you {program-specific term for homemaker services}? For example, do you call them {program-specific term for homemaker}, aides, homemakers, chore workers, or something else?	Individual Item	N/A	N/A
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	Screening Item	Yes = 1 No = 0	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
11	In the last 3 months, did you get help from {program-specific term for case manager services} to help make sure that you had all the services you needed? ^b	Screener Item	Yes = 1 No = 0	N/A
12	What do you call the person who gave you {program-specific term for case manager services}? For example, do you call the person a {program-specific term for case manager}, case manager, care manager, service coordinator, supports coordinator, social worker, or something else?	Individual Item	N/A	N/A
13	In the last 3 months, how often did {personal assistance/behavioral health staff} come to work on time? Would you say... ^d	Staff Are Reliable and Helpful Composite	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
14	In the last 3 months, how often did {personal assistance/behavioral health staff} work as long as they were supposed to? Would you say... ^d	Staff Are Reliable and Helpful Composite	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 Composite	Yes = 4 No = 1	N/A
16	In the last 3 months, did you need help from {personal assistance/behavioral health staff} to get dressed, take a shower, or bathe? ^b	Screener 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 health staff</i>] to help you? ^{b,c}	Unmet Need Measure	No = 1 Yes = 0	N/A
19	In the last 3 months, how often did {personal assistance/behavioral health staff} make sure you had enough personal privacy when you dressed, took a shower, or bathed? Would you say... ^d	Staff Are Reliable and Helpful Composite	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
20	In the last 3 months, did you need help from {personal assistance/behavioral health staff} with your meals, such as help making or cooking meals or help eating? ^b	Screener Item	Yes = 1 No = 0	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
21	In the last 3 months, were you always able to get something to eat when you were hungry? ^b	Screening Item	Yes = 1 No = 0	N/A
22	<i>[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]</i> 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
23	In the last 3 months, did you need help from {personal assistance/behavioral health staff} to take your medicines? ^b	Screening 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	Screening Item	Yes = 1 No = 0	N/A
25	<i>[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]</i> 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 {personal assistance/behavioral health staff} with toileting? ^b	Screening Item	Yes = 1 No = 0	N/A
27	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? ^b	Unmet Need Measure	Yes = 1 No = 0	N/A
28	In the last 3 months, how often did {personal assistance/behavioral health staff} treat you with courtesy and respect? Would you say... ^d	Staff Listen and Communicate Well Composite	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 Composite	Never = 4 Sometimes = 3 Usually = 2 Always = 1	Mostly no = 4 Mostly yes = 1
30	In the last 3 months, how often did {personal assistance/behavioral health staff} treat you the way you wanted them to? Would you say... ^d	Staff Listen and Communicate Well Composite	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
31	In the last 3 months, how often did {personal assistance/behavioral health staff} explain things in a way that was easy to understand? Would you say... ^d	Staff Listen and Communicate Well Composite	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
32	In the last 3 months, how often did {personal assistance/behavioral health staff} listen carefully to you? Would you say... ^d	Staff Listen and Communicate Well Composite	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 Composite	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? ^b	Individual item	Yes = 1 No = 0	N/A
35	Using any number from 0 to 10, where 0 is the worst help from {personal assistance/behavioral health staff} possible and 10 is the best help from {personal assistance/behavioral health staff} possible, what number would you use to rate the help you get from {personal assistance/behavioral health staff}?	Global Rating Measure	0–10	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
36	Would you recommend the {personal assistance/behavioral health staff} 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 {homemakers} come to work on time? Would you say... ^d	Staff Are Reliable and Helpful Composite	Always = 4 Usually = 3 Sometimes = 2 Never = 1	Mostly yes = 4 Mostly no = 1
38	In the last 3 months, how often did {homemakers} work as long as they were supposed to? Would you say... ^d	Staff Are Reliable and Helpful Composite	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
40	[<i>If respondents indicate that they do not always receive help with household tasks, like cleaning and laundry, they are asked</i>] In the last 3 months, was this because there were no [<i>homemakers</i>] 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 Composite	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
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 Composite	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 Composite	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 Composite	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 Composite	Yes = 4 No = 1	N/A
46	Using any number from 0 to 10, where 0 is the worst help from {homemakers} possible 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 Composite	Yes = 4 No = 1	N/A
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 {case manager} for help with getting or fixing equipment? ^b	Screeener item	Yes = 1 No = 0	N/A
51	In the last 3 months, did this [case manager] work with you when you asked for help with getting or fixing equipment?	Case Manager is Helpful Composite	Yes = 4 No = 1	N/A
52	In the last 3 months, did you ask this {case manager} for help in getting any changes to your services, such as more help from {personal assistance/behavioral health staff and/or homemakers if applicable}, or for help with getting places or finding a job? ^b	Screeener item	Yes = 1 No = 0	N/A

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
53	In the last 3 months, did this [case manager] work with you when you asked for help with getting other changes to your services?	Case Manager is Helpful Composite	Yes = 4 No = 1	N/A
54	Using any number from 0 to 10, where 0 is the worst help from {case manager} possible and 10 is the best help from {case manager} possible, what number would you use to rate the help you get from {case manager}?	Global Rating Measure	0–10	Excellent = 5 Very Good = 4 Good = 3 Fair = 2 Poor = 1
55	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}...	Recommendation Measure	Definitely yes = 4 Probably yes = 3 Probably no = 2 Definitely no = 1	N/A
56	In the last 3 months, did your [program-specific term for “service plan”] include...	Choosing the Services That Matter to You Composite	All = 4 Most = 3 Some = 2 None = 1	N/A
57	In the last 3 months, did you feel [personal assistance/behavioral health staff] knew what’s on your [program-specific term for “service plan”], including the things that are important to you?	Choosing the Services That Matter to You Composite	Yes = 4 No = 1	N/A
58	In the last 3 months, who would you have talked to if you wanted to change your [program-specific term for “service plan”]? Anyone else? [INTERVIEWER MARKS ALL THAT APPLY]	Individual Item	N/A	N/A
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 Composite	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	Screeener 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 Composite	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 Composite	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

Survey Item ^a	Survey Items	Notes	Standard Response Values	Alternate Response Values
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 Composite	Yes = 4 No = 1	N/A
65	In the last 3 months, did any {personal assistance/behavioral health staff, homemakers, or your case managers} take your money or your things without asking you first? ^c	Personal Safety and Respect Composite	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 {staff} yell, swear, or curse at you? ^c	Personal Safety and Respect Composite	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
71	In the last 3 months, did any {staff} hit you or hurt you? ^{b,c}	Physical Safety Item	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 Composite	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 Composite	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
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 Composite	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 than you get from {personal assistance/behavioral health staff} to do things in your community? ^c	Planning Your Time and Activities Composite	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 Composite	Yes = 4 No = 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 Composite	Yes = 4 No = 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.

This table 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	Screenener Item	Yes = 1 No = 0	N/A
EM2	In the last 3 months, did you want to work for pay at a job? ^b	Screenener 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?	Screenener 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?	Screenener Item	N/A	N/A
EM5	In the last 3 months, did you ask for help in getting a job for pay? ^b	Screenener 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	Screenener 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	Screenener 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
EM13	Did you hire your {job coach} yourself? ^b	Screenener 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

Survey Item ^a	Employment Module Items	Notes	Standard Response Values	Alternate Response Values
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 3 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.