



## Measure Information

This document contains the information submitted by measure developers/stewards, but is organized according to NQF's measure evaluation criteria and process. The item numbers refer to those in the submission form but may be in a slightly different order here. In general, the item numbers also reference the related criteria (e.g., item 1b.1 relates to sub criterion 1b).

### Brief Measure Information

**NQF #: 0166**

**Corresponding Measures:**

**De.2. Measure Title:** HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey

**Co.1.1. Measure Steward:** Centers for Medicare & Medicaid Services

**De.3. Brief Description of Measure:** HCAHPS (NQF #0166) is a 29-item survey instrument that produces 10 publicly reported measures:

6 multi-item measures (communication with doctors, communication with nurses, responsiveness of hospital staff, communication about medicines, discharge information and care transition); and

4 single-item measures (cleanliness of the hospital environment, quietness of the hospital environment, overall rating of the hospital, and recommendation of hospital).

Note: The HCAHPS Survey originally included three items about pain which formed a composite measure, Pain Management. CMS discontinued publicly reporting this measure in July 2018. In January 2018, CMS replaced the original HCAHPS pain items with three items that asked about communication about pain. In compliance with the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (Pub. L. 115-271) of 2018 (Section 6104), CMS will remove the new communication about pain items from the HCAHPS Survey beginning with October 2019 discharges.

**1b.1. Developer Rationale:** The HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey is the first national, standardized, publicly reported survey of patients' perspectives of hospital care. HCAHPS (pronounced "H-caps"), also known as the CAHPS® Hospital Survey\*, is a 29-item survey instrument and data collection methodology for measuring patients' perceptions of their hospital experience. While many hospitals have collected information on patient satisfaction for their own internal use, until HCAHPS there were no common metrics and no national standards for collecting and publicly reporting information about patient experience of care. Since 2008, HCAHPS has allowed valid comparisons to be made across hospitals locally, regionally and nationally.

Three broad goals have shaped HCAHPS. First, the standardized survey and implementation protocol produce data that allow objective and meaningful comparisons of hospitals on topics that are important to consumers. Second, public reporting of HCAHPS results creates new incentives for hospitals to improve quality of care. Third, public reporting enhances accountability in health care by increasing transparency of the quality of hospital care provided in return for the public investment. With these goals in mind, the Centers for Medicare & Medicaid Services (CMS) and the HCAHPS Project Team have taken substantial steps to assure that the survey is credible, practical and actionable.

**S.4. Numerator Statement:** The HCAHPS Survey asks recently discharged patients about aspects of their hospital experience that they are uniquely suited to address. The core of the survey contains 19 items that ask "how often" or whether patients experienced a critical aspect of hospital care, rather than whether they were "satisfied" with their care. Also included in the survey are three screener items that direct patients to relevant questions, five items to adjust for the mix of patients across hospitals, and two items (race and ethnicity) that support Congressionally-mandated reports. Hospitals may include additional questions after the core HCAHPS items.

For full details, see the current HCAHPS Quality Assurance Guidelines, V.14.0, pp. 57-65,

under the “Quality Assurance” button on the official HCAHPS On-Line Web site at:

[https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019\\_qag\\_v14.0.pdf](https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf)

**S.6. Denominator Statement:** The target population for HCAHPS measures include eligible adult inpatients of all payer types who completed a survey. HCAHPS patient eligibility and exclusions are defined in detail in the sections that follow. A survey is defined as completed if the patient responded to at least 50% of questions applicable to all patients.

**S.8. Denominator Exclusions:** There are a few categories of otherwise eligible patients who are excluded from the HCAHPS sample frame. As detailed below in sec S.9, these exclusions include patients excluded due to state regulations, no-publicity patients, and specific groups of patients with an admission source or discharge status that results in difficulty collecting patient experience data through a survey instrument.

**De.1. Measure Type:** Outcome

**S.17. Data Source:** Instrument-Based Data

**S.20. Level of Analysis:** Facility

**IF Endorsement Maintenance – Original Endorsement Date:** May 05, 2010 **Most Recent Endorsement Date:** Jan 07, 2015

**IF this measure is included in a composite, NQF Composite#/title:**

**IF this measure is paired/grouped, NQF#/title:**

**De.4. IF PAIRED/GROUPED, what is the reason this measure must be reported with other measures to appropriately interpret results?**

## 1. Evidence, Performance Gap, Priority – Importance to Measure and Report

Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance. ***Measures must be judged to meet all sub criteria to pass this criterion and be evaluated against the remaining criteria.***

### 1a. Evidence to Support the Measure Focus – See attached Evidence Submission Form

[HCAHPS\\_NQF\\_-0166-\\_4-24-19\\_-\\_NQF\\_evidence\\_attachment\\_Sep2017\\_-4-.docx](#)

#### 1a.1 For Maintenance of Endorsement: Is there new evidence about the measure since the last update/submission?

Do not remove any existing information. If there have been any changes to evidence, the Committee will consider the new evidence. Please use the most current version of the evidence attachment (v7.1). Please use red font to indicate updated evidence.

Yes

### 1b. Performance Gap

Demonstration of quality problems and opportunity for improvement, i.e., data demonstrating:

- considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
- Disparities in care across population groups.

**1b.1. Briefly explain the rationale for this measure** (e.g., how the measure will improve the quality of care, the benefits or improvements in quality envisioned by use of this measure)

*If a COMPOSITE (e.g., combination of component measure scores, all-or-none, any-or-none), SKIP this question and answer the composite questions.*

The HCAHPS (Hospital Consumer Assessment of Healthcare Providers and Systems) Survey is the first national, standardized, publicly reported survey of patients’ perspectives of hospital care. HCAHPS (pronounced “H-caps”), also known as the CAHPS® Hospital Survey\*, is a 29-item survey instrument and data collection methodology for measuring patients’ perceptions of their hospital experience. While many hospitals have collected information on patient satisfaction for their own internal use, until HCAHPS there were no common metrics and no national standards for collecting and publicly reporting information about patient experience of care. Since 2008, HCAHPS has allowed valid comparisons to be made across hospitals locally, regionally and nationally.

Three broad goals have shaped HCAHPS. First, the standardized survey and implementation protocol produce data that allow objective and meaningful comparisons of hospitals on topics that are important to consumers. Second, public reporting of HCAHPS

results creates new incentives for hospitals to improve quality of care. Third, public reporting enhances accountability in health care by increasing transparency of the quality of hospital care provided in return for the public investment. With these goals in mind, the Centers for Medicare & Medicaid Services (CMS) and the HCAHPS Project Team have taken substantial steps to assure that the survey is credible, practical and actionable.

**1b.2. Provide performance scores on the measure as specified (current and over time) at the specified level of analysis.** (*This is required for maintenance of endorsement. Include mean, std dev, min, max, interquartile range, scores by decile. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities include.*) This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

NOTE: For the complete response, please see, "ADDITIONAL, A.1" (HCAHPS Survey, NQF 0166 Appendix A.1: Supplemental Materials.)

#### Distribution of HCAHPS Top-Box Scores

(Data: 1Q16-4Q16 discharges, ~4,300 hospitals, ~3.1 million completed surveys)

	Mean	Std Dev	Percentile		Inter-Q Range								
			100%	99%	95%	90%	75%	50%	25%	10%	5%	1%	0%
Communication with Nurses 65	16	7	80.34	5.90	100	96	90	88	84	80	77	74	71
Communication with Doctors 69	29	7	82.05	5.80	100	98	92	90	85	82	78	76	74
Responsiveness of Hospital Staff 49	20	13	68.82	9.71	100	95	87	82	75	68	62	58	55
Communication about Medicines 48	1	8	65.32	7.80	100	90	79	75	69	64	61	58	55
Cleanliness 11	74.50	8.46	100	96	89	85	80	74	69	65	62	56	7
Quietness 13	62.79	10.72	100	90	82	77	69	62	56	50	46	41	3
Discharge Information 6	5		87.25	4.74	100	97	93	92	90	88	85	82	72
Overall Rating 11	72.77	9.01	100	93	87	84	78	73	67	62	58	49	24
Recommend Hospital 9	13		72.14	9.95	100	94	88	84	79	73	66	60	48
Care Transition 8	52.36	7.79	100	74	65	62	56	52	48	44	40	34	0

For historical HCAHPS scores, please see: <http://www.hcahpsonline.org/SummaryAnalyses.aspx>

**1b.3. If no or limited performance data on the measure as specified is reported in 1b2, then provide a summary of data from the literature that indicates opportunity for improvement or overall less than optimal performance on the specific focus of measurement.**

N/A

**1b.4. Provide disparities data from the measure as specified (current and over time) by population group, e.g., by race/ethnicity, gender, age, insurance status, socioeconomic status, and/or disability.** (*This is required for maintenance of endorsement. Describe the data source including number of measured entities; number of patients; dates of data; if a sample, characteristics of the entities included.*) For measures that show high levels of performance, i.e., "topped out", disparities data may demonstrate an opportunity for improvement/gap in care for certain sub-populations. This information also will be used to address the sub-criterion on improvement (4b1) under Usability and Use.

NOTE: For the complete response, please see, "ADDITIONAL, A.1" (HCAHPS Survey, NQF 0166 Appendix A.1: Supplemental

Materials.)

CMS purposely calculates disparities information at the HCAHPS Survey item level, which role up into the HCAHPS measures. Disparities are calculated on a regular basis to populate the congressionally-mandated disparities reports produced by the Agency for Healthcare Research and Quality (AHRQ). The disparities results can be found as an attachment in the Evidence section, under Evidence, 1.A.

We used 2014-2015 HCAHPS data to investigate differences in inpatient experiences by preferred language within racial/ethnic groups. HCAHPS is a survey of recently-discharged patients' experiences of hospital care in the United States and includes information on self-reported language preference and race/ethnicity that permits this analysis.<sup>32</sup> Specifically, the HCAHPS survey asks which of seven languages the patient primarily speaks at home. Sample sizes used were sufficient to examine all preferred-language groups for which HCAHPS provides translations. As such, this dataset allows one to examine preferred language within racial/ethnic groups among even smaller groups, such as Portuguese-preferring Hispanics and Vietnamese-preferring Asian/Pacific Islanders (API).

HCAHPS measures experiences of inpatients of all payer types (Medicaid, Medicare, and all others) who are 18 years or older at admission, stay overnight in the hospital with a principal diagnosis for medical, surgical or maternity care, and are discharged alive.<sup>34</sup> Our analysis included the 5,480,308 completed surveys from all 4,517 hospitals in the 50 states and DC that submitted HCAHPS data to the Centers for Medicare & Medicaid Services (CMS) during the eight quarters of calendar years 2014-2015.

We examined six HCAHPS composite measures: Communication with Doctors, Communication with Nurses, Responsiveness of Hospital Staff, Communication about Medication, Discharge Information, and Care Coordination. Three measures were excluded because they do not rely on conversing in a shared language (Quietness, Cleanliness) or are no longer used for incentive payments (Pain Management). Two global measures (Ratings of Hospital and Recommendation of Hospital) were excluded because prior research suggests that such items may elicit different evaluations of the same care from different racial/ethnic and language groups. The survey items comprising five of the six retained composite measures (all but Discharge Information items, which employ yes/no responses) use a standard set of response options: never, sometimes, e, and always. A description of the composite measures is included in the Appendix in Table A.1.

HCAHPS respondents are asked to self-report whether they are of Spanish, Hispanic or Latino origin or descent. They are then asked to select at least one race, with response options of White, Black or African American, American Indian or Alaska Native (AI/AN), Asian, Native Hawaiian or other Pacific Islander, and some other race. Six mutually-exclusive racial/ethnic categories were created using these two items: (1) Hispanic; and non-Hispanic (2) White, (3) Black, (4) API, (5) AI/AN, and (6) multiracial. Following the Office of Management and Budget approach, we classified any patient as Hispanic who endorsed Hispanic ethnicity. Non-Hispanic patients who endorsed exactly one race were classified as that race; those who endorsed Asian plus Native Hawaiian or other Pacific Islander were classified as API; the remaining non-Hispanic patients who endorsed two or more races were classified as multiracial. Our analysis excluded data from multiracial patients (3%), a heterogeneous and difficult-to-interpret group, and patients who did not answer the race item (7%).

Because several languages measured by the survey are associated almost exclusively with a single racial/ethnic group, language was considered within racial/ethnic categories. The HCAHPS survey asks, "What language do you mainly speak at home?" with response options of English, Spanish, Chinese, Russian, Vietnamese, Portuguese, and "some other language." We included all combinations of preferred language (that is, language spoken at home) and race/ethnicity among our seven languages and five racial/ethnic groups for which at least 400 completed surveys were available nationally: Hispanics (languages included Spanish, English, Portuguese, Other), API (English, Chinese, Vietnamese, Other), Blacks (English, Spanish, Other), AI/AN (English, Other), and Whites (English, Russian, Spanish, Portuguese, Other).

To analyze the types of hospitals utilized by language-within-race/ethnicity groups, we examined key hospital characteristics of bed size (200 or more beds), rural location, profit status (for profit, not-for profit, governmental status), and service line composition (percent medical, surgical, maternity). We also calculated by preferred language within racial/ethnic groups: the average hospital-level proportion of non-English language-preferring patients, the average hospital-level proportion of the matching racial/ethnic group, and the average hospital-level proportion of their same racial/ethnic and language group. Linear regression compared

overall, within-hospital and between-hospital patient experiences by preferred language within racial/ethnic groups using standard patient-mix adjusters. Following the CMS approach, we used patient-mix adjusted top-box-scored measures for all composite measures, scoring the most positive response option as 100 and all other responses as 0 prior to averaging non-missing items to create composite scores. The top-box response is “always” for four HCAHPS composites (Communication with Nurses, Communication with Doctors, Responsiveness of Hospital Staff, and Communication about Medication), “yes” for the Discharge Information composite, and “strongly agree” for the Care Coordination composite. To illustrate, the score for a respondent who answered “always,” “always,” “never,” and “sometimes” to four items within a composite would be  $(100+100+0+0=200)/4 = 50$ . “Patient mix” refers to patient characteristics not under the control of the hospital that may affect scores of patient experience measures. Patient-mix adjustment accounts for between-hospital differences in the patient population to estimate the scores each hospital would have received if all had treated the same patients. Standard HCAHPS patient-mix adjusters are patient age; service line (maternity, surgical, and medical [reference category]); self-reported education; self-reported overall patient health; response percentile (a rank-based measure of the latency between discharge date and survey completion that addresses the tendency of later responders to indicate worse care experiences); interactions of maternity and surgical service line with linearly-scored patient age; and preferred language spoken at home. Here, preferred language spoken at home was treated as the primary independent variable, rather than as a patient-mix adjuster.

In Table 3, differences in patient experiences for six HCAHPS measures are shown by language within racial/ethnic group. Generally, non-English-preferring Black, Hispanic, API and AI/AN patients reported worse experiences than their English-preferring counterparts, except for Russian-preferring White patients. Differences between English and non-English preferring patients within the same racial/ethnic group were largest and most consistent (i.e., the findings were both statistically significant and had the same sign) for Care Coordination and smallest and least consistent for Discharge Information and Communication about Medication.

The experiences of White patients were not consistent across measures and language preference. Spanish-preferring and other-language-preferring Whites reported less positive experiences than English-preferring Whites, except for Doctor Communication where experiences were similar for English-preferring and other other-language-preferring Whites. Russian-preferring Whites reported the best experiences among Whites, except for Care Coordination.

Non-English-preferring Black patients reported consistently worse experiences than their English-preferring counterparts, with all differences at least moderate in magnitude (3+ points).

Among Hispanics, Spanish-preferring and other-language-preferring patients reported worse experiences than English-preferring Hispanics except for similar experiences for Communication about Medication for English-preferring and other-language-preferring patients. Portuguese-preferring Hispanics reported worse experiences for only Doctor Communication and Care Coordination. Generally, differences between English-preferring and non-English preferring Hispanics were small (<3 points), except for Care Coordination.

Among API patients, each non-English-preferring group (Chinese-, Vietnamese-, and other-language-preferring) reported worse experiences than English-preferring API, except for Discharge Information. Within API, negative differences compared to English-preferring API tended to be largest for Chinese-preferring API.

Within AI/AN, other-language-preferring AI/AN reported worse care experiences than English-preferring AI/AN; differences were moderate or larger, except for Communication About Medicines.

-- NOTE: The above referenced table could not be copied into section 1b.4. However, this table is included in the Measure Testing Form, 2b3.4a, labelled "Table 3".

From: “Inpatient Care Experiences Differ by Preferred Language within Racial/Ethnic Groups.” D.D. Quigley, M.N. Elliott, K. Hambarsoomian, S.M. Wilson-Frederick, W.G. Lehrman, D. Agniel, J.H. Ng, E.H. Goldstein, L.A. Giordano and S.C. Martino. Health Services Research, 1-12. 2019. Published online, 1-6-19: <https://doi.org/10.1111/1475-6773.13105>

**1b.5. If no or limited data on disparities from the measure as specified is reported in 1b.4, then provide a summary of data from the literature that addresses disparities in care on the specific focus of measurement. Include citations. Not necessary if performance data provided in 1b.4**

N/A

## 2. Reliability and Validity—Scientific Acceptability of Measure Properties

Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented. **Measures must be judged to meet the sub criteria for both reliability and validity to pass this criterion and be evaluated against the remaining criteria.**

**2a.1. Specifications** The measure is well defined and precisely specified so it can be implemented consistently within and across organizations and allows for comparability. eMeasures should be specified in the Health Quality Measures Format (HQMF) and the Quality Data Model (QDM).

**De.5. Subject/Topic Area** (check all the areas that apply):

Behavioral Health

**De.6. Non-Condition Specific**(check all the areas that apply):

Health and Functional Status : Change, Person-and Family-Centered Care

**De.7. Target Population Category** (Check all the populations for which the measure is specified and tested if any):

**S.1. Measure-specific Web Page** (Provide a URL link to a web page specific for this measure that contains current detailed specifications including code lists, risk model details, and supplemental materials. Do not enter a URL linking to a home page or to general information.)

<http://www.hcahponline.org/>

**S.2a. If this is an eMeasure**, HQMF specifications must be attached. Attach the zipped output from the eMeasure authoring tool (MAT) - if the MAT was not used, contact staff. (Use the specification fields in this online form for the plain-language description of the specifications)

This is not an eMeasure Attachment:

**S.2b. Data Dictionary, Code Table, or Value Sets** (and risk model codes and coefficients when applicable) must be attached. (Excel or csv file in the suggested format preferred - if not, contact staff)

Attachment Attachment: [HCAHPS-\\_NQF\\_0166-\\_Data\\_Dictionary-\\_4-9-19.docx](#)

**S.2c.** Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Attachment Attachment: [HCAHPS\\_29-item\\_11-21-18\\_--\\_Mail\\_Survey\\_Materials\\_-English-.pdf](#)

**S.2d.** Is this an instrument-based measure (i.e., data collected via instruments, surveys, tools, questionnaires, scales, etc.)? Attach copy of instrument if available.

Patient

**S.3.1. For maintenance of endorsement:** Are there changes to the specifications since the last updates/submission. If yes, update the specifications for S1-2 and S4-22 and explain reasons for the changes in S3.2.

Yes

**S.3.2. For maintenance of endorsement**, please briefly describe any important changes to the measure specifications since last measure update and explain the reasons.

The HCAHPS Survey originally included three items about pain (a screener and two substantive questions), which formed a composite measure, Pain Management. CMS discontinued publicly reporting this measure in July 2018. In January 2018, CMS replaced the original HCAHPS pain items with three items that asked about communication about pain. In compliance with the Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (Pub. L. 115-271) of 2018 (Section 6104), CMS will remove the new communication about pain items from the HCAHPS Survey beginning with October 2019 discharges, which will result in a 29-item survey.

The HCAHPS Patient-Mix Adjustment (PMA) model has been updated to incorporate more detailed information about patients' Service Line and Gender. Prior to Quarter 1 2017, the patient-mix adjustment for service line distinguished among the three service line categories: Medical, Surgical, and Maternity. Beginning with Quarter 1 2017 discharges, the patient-mix adjustment will cross patient gender with service line to distinguish among 5 categories: Female Medical, Male Medical, Female Surgical, Male Surgical, and Maternity, which is only female. Female Medical will serve as the reference category for this adjustment. HCAHPS survey results will be adjusted using the new PMA model beginning with January 1, 2017 discharges.

**S.4. Numerator Statement** (Brief, narrative description of the measure focus or what is being measured about the target population, i.e., cases from the target population with the target process, condition, event, or outcome) DO NOT include the rationale for the measure.

*IF an OUTCOME MEASURE, state the outcome being measured. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).*

The HCAHPS Survey asks recently discharged patients about aspects of their hospital experience that they are uniquely suited to address. The core of the survey contains 19 items that ask "how often" or whether patients experienced a critical aspect of hospital care, rather than whether they were "satisfied" with their care. Also included in the survey are three screener items that direct patients to relevant questions, five items to adjust for the mix of patients across hospitals, and two items (race and ethnicity) that support Congressionally-mandated reports. Hospitals may include additional questions after the core HCAHPS items.

For full details, see the current HCAHPS Quality Assurance Guidelines, V.14.0, pp. 57-65, under the "Quality Assurance" button on the official HCAHPS On-Line Web site at:

[https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019\\_qag\\_v14.0.pdf](https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf)

**S.5. Numerator Details** (All information required to identify and calculate the cases from the target population with the target process, condition, event, or outcome such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b)

*IF an OUTCOME MEASURE, describe how the observed outcome is identified/counted. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).*

For each question in a multi-item measure, the proportion of responses in the "top" (most positive response) and "bottom" (least positive response) boxes are calculated for a given hospital (completed surveys only). For clarification on which answer values go in each box for each measure go to [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov). To obtain a hospital's raw score for the top or bottom box category, the mean proportion for all the questions in a given measure is calculated. Note that the middle box is the proportion remaining after the top and bottom boxes have been calculated; see below for details.

The following raw score calculations are performed for each eligible hospital and within each quarter.

• Multi-item Measure Calculation – Communication with Nurses (3 questions):

Pi1 = Proportion of (item) respondents who said "Never" to question i

Pi2 = Proportion of respondents who said "Sometimes" to question i

Pi3 = Proportion of respondents who said "Usually" to question i

Pi4 = Proportion of respondents who said "Always" to question i

The index i represents the number of questions in the multi-item measure, here i = 1, 2, 3.

The bottom box consists of the answer value categories of "Never" and "Sometimes". Bottom Box multi-item measure Score =  $(P11+P12+P21+P22+P31+P32)/3$

The top box consists only of the answer category "Always".

Top Box multi-item measure Score =  $(P14+P24+P34)/3$

• Individual Item Example – Cleanliness of Hospital Environment (1 question):

P1 = Proportion of respondents who said "Never" to the question



P2 = Proportion of respondents who said “Sometimes” to the question  
P3 = Proportion of respondents who said “Usually” to the question  
P4 = Proportion of respondents who said “Always” to the question

The bottom box consists of the answer value categories of “Never” and “Sometimes”.  
Bottom Box Individual Item Score = P1 + P2

The top box consists only of the answer category “Always”.  
Top Box Individual Item Score = P4

- Global Item Example – Overall Hospital Rating (1 question):  
P0 = Proportion of respondents who rated the hospital as 0 (worst hospital possible)  
P1 = Proportion of respondents who rated the hospital as 1  
P2 = Proportion of respondents who rated the hospital as 2  
P3 = Proportion of respondents who rated the hospital as 3  
P4 = Proportion of respondents who rated the hospital as 4  
P5 = Proportion of respondents who rated the hospital as 5  
P6 = Proportion of respondents who rated the hospital as 6  
P7 = Proportion of respondents who rated the hospital as 7  
P8 = Proportion of respondents who rated the hospital as 8  
P9 = Proportion of respondents who rated the hospital as 9  
P10 = Proportion of respondents who rated the hospital as 10 (best hospital possible)

The bottom box consists of hospital rating response values from 0 to 6.  
Bottom Box Global Item Score = P0 + P1 + P2 + P3 + P4 + P5 + P6

The top box consists of hospital rating response values of 9 and 10.  
Top Box Global Item Score = P9 + P10

**S.6. Denominator Statement** *(Brief, narrative description of the target population being measured)*

The target population for HCAHPS measures include eligible adult inpatients of all payer types who completed a survey. HCAHPS patient eligibility and exclusions are defined in detail in the sections that follow. A survey is defined as completed if the patient responded to at least 50% of questions applicable to all patients.

**S.7. Denominator Details** *(All information required to identify and calculate the target population/denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

*IF an OUTCOME MEASURE, describe how the target population is identified. Calculation of the risk-adjusted outcome should be described in the calculation algorithm (S.14).*

Eligibility for the HCAHPS Survey.

The HCAHPS Survey is broadly intended for patients of all payer types who meet the following criteria:

Eighteen (18) years or older at the time of admission

Admission includes at least one overnight stay in the hospital

- An overnight stay is defined as an inpatient admission in which the patient’s admission date is different from the patient’s discharge date. The admission need not be 24 hours in length. For example, a patient had an overnight stay if he or she was admitted at 11:00 PM on Day 1, and discharged at 10:00 AM on Day 2. Patients who did not have an overnight stay should not be included in the sample frame (e.g., patients who were admitted for a short period of time solely for observation; patients admitted for same day diagnostic tests as part of outpatient care).

Non-psychiatric MS-DRG/principal diagnosis at discharge



Note: Patients whose principal diagnosis falls within the Maternity Care, Medical, or Surgical service lines and who also have a secondary psychiatric diagnosis are still eligible for the survey.

Alive at the time of discharge

Note: Pediatric patients (under 18 years old at admission) and patients with a primary psychiatric diagnosis are ineligible because the current HCAHPS instrument is not designed to address the unique situation of pediatric patients and their families, or the behavioral health issues pertinent to psychiatric patients.

A completed HCAHPS survey is one with responses for at least 50% of the questions that are applicable to all patients (questions 1-10, 12, 15, and 18-22).

**S.8. Denominator Exclusions** *(Brief narrative description of exclusions from the target population)*

There are a few categories of otherwise eligible patients who are excluded from the HCAHPS sample frame. As detailed below in sec S.9, these exclusions include patients excluded due to state regulations, no-publicity patients, and specific groups of patients with an admission source or discharge status that results in difficulty collecting patient experience data through a survey instrument.

**S.9. Denominator Exclusion Details** *(All information required to identify and calculate exclusions from the denominator such as definitions, time period for data collection, specific data collection items/responses, code/value sets – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format at S.2b.)*

There is a two-stage process for determining whether a discharged patient can be included in the HCAHPS Sample Frame. The first stage is to determine whether the discharged patient meets the HCAHPS eligibility criteria, listed above. If the patient meets the eligibility criteria, then a second set of criteria is applied: Exclusions from the HCAHPS Survey.

Patients who meet the eligible population criteria previously outlined are to be included in the HCAHPS Sample Frame. However, there are a few categories of otherwise eligible patients who are excluded from the sample frame. These are:

“No-Publicity” patients – Patients who request that they not be contacted (see below)

Court/Law enforcement patients (i.e., prisoners); this does not include patients residing in halfway houses

Patients with a foreign home address (the U.S. territories – Virgin Islands, Puerto Rico, Guam, American Samoa, and Northern Mariana Islands are not considered foreign addresses and therefore, are not excluded)

Patients discharged to hospice care (Hospice-home or Hospice-medical facility)

Patients who are excluded because of state regulations

Patients discharged to nursing homes and skilled nursing facilities

“No-Publicity” patients are defined as those who voluntarily sign a “no-publicity” request while hospitalized or who directly request a survey vendor or hospital not to contact them (“Do Not Call List”). These patients should be excluded from the HCAHPS Survey. However, documentation of patients’ “no-publicity” status must be retained for a minimum of three years.

Court/Law enforcement patients (i.e., prisoners) are excluded from HCAHPS because of both the logistical difficulties in administering the survey to them in a timely manner, and regulations governing surveys of this population. These individuals can be identified by the admission source (UB-04 field location 15) “8 – Court/Law enforcement,” patient discharge status code (UB-04 field location 17) “21 – Discharged/transferred to court/law enforcement,” or patient discharge status code “87 – Discharged/transferred to court/law enforcement with a planned acute care hospital inpatient readmission.” This does not include patients residing in halfway houses.

Patients with a foreign home address are excluded from HCAHPS because of the logistical difficulty and added expense of calling or mailing outside of the United States (the U.S. territories - Virgin Islands, Puerto Rico, Guam, American Samoa, and Northern Mariana Islands are not considered foreign addresses and therefore, are not excluded).

Patients discharged to hospice care are excluded from HCAHPS because of the heightened likelihood that they will expire before the survey process can be completed. Patients with a “Discharge Status” of “50 – Hospice – home” or “51 – Hospice – medical facility” would not be included in the sample frame. “Discharge Status” is the same as the UB-04 field location 17.

Some state regulations place further restrictions on patients who may be contacted after discharge. It is the responsibility of the

hospital/survey vendor to identify any applicable regulations and to exclude those patients as required by law or regulation in the state in which the hospital operates.

Patients discharged to nursing homes and skilled nursing facilities are excluded from HCAHPS. This applies to patients with a "Discharge Status" (UB-04 field location 17) of:

"03 – Skilled nursing facility"

"61 – SNF Swing bed within hospital"

"64 – Certified Medicaid nursing facility"

"83 – Skilled nursing facility with a planned acute care hospital inpatient readmission"

"92 – Certified Medicaid nursing facility with a planned acute care hospital inpatient readmission"

Hospitals/Survey vendors must retain documentation that verifies all exclusions and ineligible patients. This documentation is subject to review.

Note: Patients must be included in the HCAHPS Survey sample frame unless the hospital/ survey vendor has positive evidence that a patient is ineligible or fits within an excluded category. If information is missing on any variable that affects survey eligibility when the sample frame is constructed, the patient must be included in the sample frame.

For more details, please see the HCAHPS Quality Assurance Guidelines, V14.0, pp. 57-80, located at the "Quality Assurance" button on the official HCAHPS On-Line Web site, at [https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019\\_qag\\_v14.0.pdf](https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf)

**S.10. Stratification Information** *(Provide all information required to stratify the measure results, if necessary, including the stratification variables, definitions, specific data collection items/responses, code/value sets, and the risk-model covariates and coefficients for the clinically-adjusted version of the measure when appropriate – Note: lists of individual codes with descriptors that exceed 1 page should be provided in an Excel or csv file in required format with at S.2b.)*

NOTE: For the complete response, please see, "ADDITIONAL, A.1" (HCAHPS Survey, NQF 0166 Appendix A.1: Supplemental Materials.)

HCAHPS utilizes risk adjustment, not stratification, in reporting outcomes.

Please see below for details regarding S.11.

The information below is taken from a document on our public Web site, HCAHPS On-Line Web site. For more details, and appendices, about the statistical risk model and variables, including the tables that are referenced in the material below, please see the "Mode & Patient-Mix Adjustment Abstract (revised 5/2/08)" paper located via the "Mode and Patient-Mix Adj" button on the official HCAHPS On-Line Web site, at <http://www.hcahpsonline.org/en/mode--patient-mix-adj/>

A document containing the patient-mix adjustment coefficients for the April 2018 public reporting of HCAHPS results, based on discharges from July 1, 2016 to June 30, 2017, is located via the "Mode and Patient-Mix Adj" button on the official HCAHPS On-Line Web site, at

[http://www.hcahpsonline.org/globalassets/hcahps/mode-patient-mix-adjustment/2018-4\\_mode\\_patient\\_mix-adj.pdf](http://www.hcahpsonline.org/globalassets/hcahps/mode-patient-mix-adjustment/2018-4_mode_patient_mix-adj.pdf) on the official HCAHPS On-Line Web site, [www.HCAHPSonline.org](http://www.HCAHPSonline.org)

(Please note: in the document "Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS) of April 30, 2008," we refer to multi-item scores as "composites," but these are in fact "multi-item measures").

A randomized Mode Experiment of 27,229 discharges from 45 hospitals was used to develop adjustments for the effects of survey mode (Mail Only, Telephone Only, Mixed, or Active Interactive Voice Response) on responses to the CAHPS® Hospital Survey (also known as Hospital CAHPS or HCAHPS). In general, patients randomized to the Telephone Only and Active Interactive Voice Response modes provided more positive evaluations than patients randomized to Mail Only and Mixed (Mail with Telephone follow-up) modes. These mode effects varied little by hospital and were strongest for the Responsiveness, Pain Management, and Discharge Information multi-item measures, the Cleanliness and Quiet items, and the global Rating and Recommendation. The Mode

Experiment was also used to develop a model for patient-mix adjustment in order to account for the effect on HCAHPS responses of patient characteristics not under the control of hospitals. Adjustments for the effects of survey mode and patient-mix are necessary for valid comparison of scores across hospitals. After making these adjustments, no adjustments for nonresponse are necessary.

#### Introduction

The intent of the CAHPS®1 Hospital Survey, also known as Hospital CAHPS or HCAHPS, is to provide a standardized survey instrument and data collection methodology for measuring patients' perspectives of hospital care. In order to achieve the goal of fair comparisons across all hospitals that participate in HCAHPS, it is necessary to adjust for factors that are not directly related to hospital performance but do affect how patients answer HCAHPS survey items. These factors include the mode of survey administration, the characteristics of patients in participating hospitals, and differences between participating and non-participating patients. Collectively, we propose adjustments that are intended to eliminate any advantage or disadvantage in scores that might result from the mode of survey administration or patient characteristics beyond a hospital's control.

In order to ensure that publicly reported HCAHPS scores allow fair and accurate comparisons of hospitals, in 2006 the Centers for Medicare & Medicaid Services (CMS) undertook a Mode Experiment to examine whether mode of survey administration, the mix of patients in participating hospitals, or survey non-response systematically affect HCAHPS survey results and then developed necessary statistical adjustments. This paper summarizes the derivation of these adjustments from that large-scale, randomized mode experiment.

#### Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS)

The Mode Experiment addressed three important sources of potential bias in hospital-level HCAHPS results. First, hospitals participating in the HCAHPS survey have the option of choosing among four different modes of data collection: Mail, Telephone, Mail combined with Telephone follow-up (also known as Mixed mode), and Active Interactive Voice Response (IVR). If patient responses differ systematically by mode of survey administration, it is necessary to adjust for survey mode.

Second, certain patient characteristics that are not under the control of the hospital, such as age and education, may be related to the patient's survey responses. For example, several studies have found that younger and more educated patients provide less positive evaluations of healthcare. If such differences occur in HCAHPS data, it is necessary to adjust for such respondent characteristics before comparing hospitals' HCAHPS results.

Third, if the patients who respond to the HCAHPS survey differ from those who are sampled but do not complete the survey, there is a possibility that patterns of nonresponse may create a bias in reported scores. Nonresponse bias is a concern if three conditions hold: (1) nonrespondents differ from respondents, (2) nonrespondents and respondents differ in ways that are related to how patients evaluate hospitals using HCAHPS, and (3) these differences persist even after adjusting for survey mode and patient-mix. Only if all three of these conditions hold is it necessary to adjust for survey nonresponse.

#### The HCAHPS Mode Experiment

To assess the effect of mode of data collection, CMS conducted a large-scale experiment to compare the four allowed modes of HCAHPS data collection: Mail questionnaire only; Telephone interview only; Mixed mode (Mail questionnaire with Telephone follow up if needed); and Active IVR. In the Active IVR mode, live telephone interviewers contact the patients and invite them to participate in an automated IVR interview using their telephone keypads.

A random sample of 45 hospitals from across the United States participated in the HCAHPS Mode Experiment in early 2006. Each hospital provided a sample of discharged patients who met HCAHPS eligibility criteria.<sup>2</sup> These samples were randomly allocated to each of the four modes in equal numbers within each hospital and patients were then surveyed accordingly. To assure uniformity in administration, sample selection and surveying for the Mode Experiment were conducted by a single agent, the National Opinion Research Center (NORC) of the University of Chicago. Analysis of Mode Experiment data and construction of the adjustment algorithms were performed by the RAND Corporation for CMS.

Table 1 (below) displays response rates from the HCAHPS Mode Experiment. As can be seen, the response rate was highest for Mixed mode (41.2%) and lowest for IVR (20.7%). Although there was some variation in response rate by hospital (the hospital-level standard deviation in response rates was 5.6%), the response rate patterns by mode were consistent across hospitals. (For information about eligibility, please see the HCAHPS Quality Assurance Guidelines, at [www.hcahpsonline.org](http://www.hcahpsonline.org). Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS))

Table 1: Comparison of Patient Response Rates by Survey Mode in the HCAHPS Mode Experiment

MAIL ONLY	TELEPHONE ONLY	MIXED	ACTIVE IVR	OVERALL	
Discharges Randomized to Mode	6806	6808	6808	6807	27,229
Cases Determined to be Ineligible in the Field	23				
(0.3%)	928				
(13.6%)	761				
(11.2%)	900				
(13.2%)	2612				
(9.6%)					
Completed Surveys	2239	1607	2489	1220	7555
Response Rate of Eligible Patients (Completes/Eligible <sup>1</sup> )					
33.0					
%					
27.3					
%					
41.2					
%					
20.7					
%					
30.7					
%					
Yield (Completes/ Randomized)	32.9 %	23.6 %	36.6 %	17.9 %	27.7 %

<sup>1</sup> “Eligible” is defined as randomized cases minus those determined to be ineligible in the field.

#### Analysis of the HCAHPS Mode Experiment

CMS estimated mode effects in linear models that include both hospital fixed effects and patient-mix adjustment (PMA)<sup>3</sup> for demographic and other patient factors associated with response tendency. For each HCAHPS rating or report item, a linear regression model consisting of mode fixed effects, hospital fixed effects, and patient-mix adjusters was estimated. These linear models generate adjustments for both mode and patient-mix. Because patient-mix adjustment will be employed, we calculate mode adjustments that correspond to the mode effects that remain after patient-mix adjustments.<sup>4</sup>

#### Developing the Patient-Mix Adjustment (PMA) Model

Patient-mix refers to patient characteristics that are not under the control of the hospital that may affect patient reports of hospital experiences. The goal of adjusting for patient-mix is to estimate how different hospitals would be rated if they all provided care to comparable groups of patients. In developing the HCAHPS patient-mix adjustment (PMA) model, we sought important and statistically significant predictors of patients’ HCAHPS ratings that also vary meaningfully across hospitals. Adjustors with both of these characteristics will substantially adjust hospital-level scores.

We considered eight candidate PMA variables: service line (medical, surgical, or maternity care), age, education, self-reported health status, language other than English spoken at home, age by service line interactions, emergency room (ER) admission, and percentile response order, also known as “relative lag time,” which is based on the time between discharge and survey completion.<sup>5</sup> For the ordinal candidates (age, education, and self-rated health status), we tested whether treating the PMA variable categorically as a series of dummy variables was more predictive of HCAHPS outcomes than a linear form; we used the categorical form only when there was evidence of it being more predictive. We tested the statistical significance of candidate PMA variables in multivariate linear regressions, one for each outcome, using patient-mix adjusters, mode dummies, and hospital dummies as predictors. We calculated the explanatory power of each candidate patient-mix adjustor for hospital-level adjustments (O’Malley et al., 2005).

<sup>3</sup> Also known as case-mix adjustment (CMA) in other parts of the CAHPS literature. CMS uses the term patient-mix adjustment here to distinguish this adjustment from severity adjustments for clinical outcomes or payment.

4 These mode adjustments are very similar to the mode adjustments that would be employed in the absence of patient-mix adjustment.

5 Computed as a percentile of all fielded cases within a given hospital and mode, so that the 10th response of 100 fielded cases for the Mail Only mode of Hospital A would be 0.10 and the 40th and last response from that same hospital in that same mode, assuming a 40% response rate, would be 0.40.

### Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS) 3

#### Developing the Mode Adjustments

In making mode adjustments, it is necessary to choose one mode as a reference point. One can then interpret all adjusted data from all modes as if they had been surveyed in the reference mode. Because it is the most commonly used mode in patient surveys, CMS selected the Mail Only mode as the reference mode of survey administration. The choice of mail mode as the reference mode does not indicate that mail mode is preferable to other approved modes in any way.

Surveys conducted in the Mail Only mode are not adjusted further for mode after PMA. Surveys conducted in the other three modes (Telephone Only, Mixed, Active IVR) are adjusted according to the difference in mode effects between that mode and the Mail Only mode, as estimated through linear regression in the HCAHPS Mode Experiment. In particular, the mode effects for each outcome are the coefficients for the mode dummy variables in regression models with three mode dummies, hospital dummies, and the final patient-mix adjusters. These coefficients estimate the remaining difference between Mail Only mode and each of the other modes after patient-mix adjustment.

#### Nonresponse Analysis

Logistic regression was used to model response propensity among eligible discharges from hospital indicators, survey mode, and available individual-level administrative variables: age, gender, service line, emergency room admission, and discharge status (sick, left against medical advice, or standard). Nonresponse weights were derived from these models and tested with respect to the extent to which they were associated with patient-mix adjusted scores.

#### HCAHPS Multi-item measure Scoring

Each of the six HCAHPS composites (Communication with Nurses, Communication with Doctors, Responsiveness of Hospital Staff, Pain Management, Communication about Medicines, and Discharge Information) is calculated as the average of its two or three constituent items. In following previous CAHPS practice, items within a multi-item measure are first individually patient-mix adjusted and then are weighted so as to give each item equal influence within the multi-item measure. Mode adjustments for multi-item measure scores are derived as the unweighted averages of mode adjustments for individual constituent items, so that each item has equal influence on the multi-item measure adjustment.

#### Mode Adjustment Results

Patients generally provided more best category (“top-box”) responses in the Telephone Only and Active IVR modes than in the Mail Only and Mixed modes. Differences between Telephone Only and Active IVR responses were generally small, and only two items differed between Mail Only and Mixed Mode. In particular, Telephone Only responses were more positive than Mail Only for the Communication with Nurses multi-item measure, the Pain Management multi-item measure, the Communication about Medicine

Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS) 4  
multi-item measure, the Staff Responsiveness multi-item measure, the Cleanliness item, the Quiet item, and the Recommendation item. Active IVR was more positive than Mail Only for the Communication with Nurses multi-item measure, the Discharge Information multi-item measure, and the Quiet item. Mixed Mode was significantly more positive than Mail Only for the Cleanliness item and the Quiet item.

Table 2 (below) presents mode adjustments derived from the HCAHPS Mode Experiment for the best category (“top-box”) proportion in models that include patient-mix adjustment. As an example, a patient-mix adjusted score of 84.2% “always” for the Communication with Nurses multi-item measure for a survey conducted by Telephone Only mode would be further adjusted to  $(84.2\% - 4.0\% = ) 80.2\%$  in order to account for the fact that 80.2% is the corresponding expected score for that multi-item measure had the survey been conducted in Mail Only mode. Here, 4.0% represents the increase in the proportion of patients responding “always” that would be expected from the same patients had they been surveyed by Telephone Only mode (when compared to the reference mode of Mail Only). Similarly, Table 3 (below) presents mode adjustments for the lowest category (“bottom-box”) proportions. As an example, a patient-mix adjusted score of 7.2% “never” or “sometimes” for the Communication with Nurses multi-item measure for a survey conducted by Telephone Only mode would be further adjusted to  $(7.2\% - 0.8\% = ) 6.4\%$  in order to account for the fact that 6.4% is the corresponding expected score for that multi-item measure had the survey been conducted in Mail Only mode. Here, 0.8% represents the increase in the proportion of patients responding “never” or “sometimes” that would be

expected from the same patients had they been surveyed by Telephone Only mode (when compared to the reference mode of Mail Only). In this same example, 100.0%- 80.2% (adjusted top-box)-6.4% (adjusted bottom-box)=13.4% would be the fully adjusted score for the “middle-box” category, here corresponding to “usually” for Communication with Nurses.

Table 2: Mode Adjustments of Top Category (“Top-Box”) Percentages (after PMA) to Adjust Other Modes to a Reference of Mail PHONE ONLY MIXED ACTIVE

	IVR		
Composites			
Communication with Nurses (Always)			
-4.0%			
-0.3%			
-1.8%			
Communication with Doctors (Always)			
-1.3%			
1.0%			
-0.3%			
Responsiveness of Hospital Staff (Always)			
-4.7%			
0.1%			
-1.9%			
Pain Management (Always)	-4.7%	-2.3%	-3.4%
Communication about Medicines (Always)			
-3.9%			
-0.9%			
-1.6%			
Discharge information (Yes)	-1.3%	0.2%	-3.2%
Individual Report Items			
CLEANLINESS (Always)			
-5.5%			
-2.1%			
-1.9%			
QUIET (Always)	-6.3%	-3.1%	-10.2%
Global Items			
RECOMMEND HOSPITAL (Definitely Yes)			
-4.4%			
-1.4%			
-2.2%			
HOSPITAL RATING (9 or 10)	-2.8%	-1.8%	-1.6%

Table 3: Mode Adjustments of Bottom Category (“Bottom-Box”) Percentages (after PMA) to Adjust Other Modes to a Reference of Mail PHONE ONLY MIXED ACTIVE

	IVR		
Composites			
Communication with Nurses (Always)			

-0.8%			
-0.5%			
-0.6%			
Communication with Doctors			
(Always)			
-2.2%			
-1.4%			
-1.2%			
Responsiveness of Hospital Staff (Always)			
-0.2%			
-1.9%			
-1.4%			
Pain Management (Always)	-0.6%	-0.9%	-1.3%
Communication about Medicines			
(Always)			
0.5%			
-1.4%			
-1.5%			
Discharge information (Yes)	1.3%	-0.2%	3.2%
Individual Report Items			
CLEANLINESS			
(Always)			
1.0%			
0.4%			
0.6%			
QUIET			
(Always)	-1.4%	0.9%	1.4%
Global Items			
RECOMMEND HOSPITAL			
(Definitely Yes)			
0.4%			
-0.4%			
0.1%			
HOSPITAL RATING (9 or 10)	0.9%	-1.1%	0.8%

#### Patient-mix Adjustment Results and Model

All candidate patient-mix adjustors were statistically significant predictors of at least one reported HCAHPS outcome and each had at least as much average explanatory power as PMA variables that have been previously recommended for use in HCAHPS PMA (O'Malley et al., 2005). Age had a significantly nonlinear relationship with 8 of 10 reported outcomes, but education and self-rated health status were well characterized by linear scoring of the ordinal categories. Evaluations of care increased with self-rated health and age (at least through age 74), and decreased with educational attainment. Maternity service had generally more positive evaluations than medical and surgical services. Evaluations were generally lower for those admitted through the ER. Percentile response order (relative lag time) findings showed that late responders tended to provide less positive evaluations than earlier responders.

The final PMA model includes all eight candidate PMA variables as follows: linear self-reported health status, linear education, service line, categorical age, ER admission source, response percentile, service by linear age interactions, and primary language other than English.

#### Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS) 5

##### Nonresponse Findings

Although there was evidence of selective nonresponse, the PMA model employed was found to effectively account for any nonresponse bias that could have been addressed through nonresponse weighting. Therefore, no further weighting or adjustment for nonresponse is needed.



## Mode and Patient-mix Adjustment of the CAHPS® Hospital Survey (HCAHPS) 6

### Integrated Patient-mix and Mode Adjustment

Patient-mix and survey mode adjustments are applied sequentially to the raw HCAHPS scores. Survey responses first undergo patient-mix adjustment using the model specified above, adjusting to the unweighted mean of all responding patients in the given public reporting period, which is typically four calendar quarters. It bears mentioning that the exact values of PMA coefficients used for adjustment are not based on the values observed in the HCAHPS Mode Experiment but are re-estimated each reporting period based on the empirical relationship observed between PMA variables and HCAHPS outcomes in that period. Also, please note that although

### S.11. Risk Adjustment Type (Select type. Provide specifications for risk stratification in measure testing attachment)

Statistical risk model

If other:

### S.12. Type of score:

Rate/proportion

If other:

### S.13. Interpretation of Score (Classifies interpretation of score according to whether better quality is associated with a higher score, a lower score, a score falling within a defined interval, or a passing score)

Better quality = Higher score

### S.14. Calculation Algorithm/Measure Logic (Diagram or describe the calculation of the measure score as an ordered sequence of steps including identifying the target population; exclusions; cases meeting the target process, condition, event, or outcome; time period for data; aggregating data; risk adjustment; etc.)

NOTE: For the complete response, please see, "ADDITIONAL, A.1" (HCAHPS Survey, NQF 0166 Appendix A.1: Supplemental Materials.)

## SCORING AND PATIENT-MIX ADJUSTMENTS

### Data timeframe

- 12 months of data on a "rolling" basis

### Sampling rates

- Monthly samples must be weighted to control for varying sampling rates throughout the year in order to make the combined monthly samples representative of the full population of discharges

### Global rating

- Measured by the overall rating of the hospital and the extent to which patients are willing to recommend the hospital (Q18 & Q19)

### Domains of care

- Communication with doctors (Q5, Q6, & Q7)
- Communication with nurses (Q1, Q2, & Q3)
- Responsiveness of the hospital staff (Q4, Q10, & Q11)
- Communication about medicines (Q12, Q13, & Q14)
- Cleanliness and quiet of physical environment (Q8 & Q9)
- Discharge information (Q15, Q16, & Q17)

### Production of scores—Global ratings

- Overall rating of the hospital

For this item, respondents are asked, "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital?" The scoring on this item will represent the proportion of respondents who gave a rating of 0-7, 8-9, or 10 to the hospital.

The steps to calculate a hospital's score for "overall rating" follow:

Step 1 – Assign appropriate sampling weight to each case

CMS expects that most hospitals will sample a fixed number of discharges each month to reach the target of 300 completes annually. However, the monthly population of discharges from which these fixed-sized samples are drawn will vary throughout the year. There are more total discharges in some months than others in most hospitals. Thus sampling rates will vary from month to month. To make the combined monthly samples representative of the full population of discharges for the year, it is necessary to adjust for the different monthly sampling rates. Appropriate sampling weights can be assigned to each case to make the combined monthly samples representative of the total population of annual discharges. This will be done as follows:

Calculate the expansion weight for each month ( $E_m$ ).

$$E_m = (\text{Population size for the month}) / (\text{Sample size for the month})$$

Calculate the mean expansion weight for the number of months covered in the score (e.g., 12 months).

$$E = (\text{Sum of } E_m) / (\text{number of months})$$

Calculate the relative weight for each month as the expansion weight for the month divided by the mean expansion weight.

$$W_m = E_m / E$$

Assign a sampling weight to each case ( $W_i$ ) based on the month in which the person was discharged and corresponding value of  $W_m$ .

Step 2 – Identify relevant cases

Include only cases where survey status is a completed survey.

Include only cases with non-missing values on the overall rating question.

Step 3 – Calculate the proportion of cases in each response category

Proportion of respondents who gave the hospital an overall rating of 0-7:

The numerator is the number of respondents for whom the overall rating ( $X_i$ ) is 0-7. Each case is weighted by the appropriate sampling weight for the month the person was discharged.

The denominator is the total number of respondents (each weighted by the appropriate sampling weight for the month the person was discharged).

The proportion can be defined as follows:

Let  $X_{1i} = 1$  when  $X_i$  is 0-7

= 0 otherwise

$$P_1 = (\text{Sum of } W_i X_{1i}) / \text{sum of } W_i$$

Proportion of respondents who gave the hospital an overall rating of 8 or 9:

The numerator is the number of respondents for whom the overall rating ( $X_i$ ) is 8 or 9. Each case is weighted by the appropriate sampling weight for the month the person was discharged.

The denominator is the total number of respondents (each weighted by the appropriate sampling weight for the month the Person was discharged).

The proportion can be defined as follows:

Let  $X_{2i} = 1$  when  $X_i$  is 8 or 9

= 0 otherwise

$$P_2 = (\text{Sum of } W_i X_{2i}) / \text{Sum of } W_i$$

Proportion of respondents who gave the hospital an overall rating of 10:

The numerator is the number of respondents for whom the overall rating (Xi) is 10. Each case is weighted by the appropriate sampling weight for the month the person was discharged.

The denominator is the total number of respondents (each weighted by the appropriate sampling weight for the month the person was discharged).

The proportion can be defined as follows:

Let  $X_{3i} = 1$  when  $X_i$  is 10

= 0 otherwise

$P_3 = (\text{Sum of } W_i X_{3i}) / \text{Sum of } W_i$

- Willingness to recommend the hospital

For this item, respondents are asked, "Would you recommend this hospital to your friends and family?" to which they can respond "definitely no," "probably no," "probably yes," or "definitely yes." A hospital's score is the proportion of cases in each response category. The approach to the production of a hospital's score on this item follows the same steps noted for "overall rating of the hospital."

#### Production of scores—Domain ratings

There are six domain-level multi-item measures included in the HCAHPS measure: communication with doctors, communication with nurses, responsiveness of hospital staff, communication about medicines, cleanliness and quiet of the hospital environment, and discharge information. The steps to calculate multi-item measure scores follow:

- Communication with doctors

This multi-item measure is produced by combining responses to three questions that ask:

- o "During this hospital stay, how often did doctors listen carefully to you?"

- o "During this hospital stay, how often did doctors explain things in a way you could understand?"

- o "During this hospital stay, how often did doctors treat you with courtesy and respect?"

Respondents can answer "never," "sometimes," "usually," or "always" to each. A hospital's score on the "doctor communication" multi-item measure is the proportion of cases in each response category.

The steps to calculate a hospital's multi-item measure score follow:

Step 1 – Calculate the proportion of cases in each response category for each question

Follow the same steps for calculating the proportion of cases in a response category discussed above for "overall rating of the hospital" to obtain proportions for the first question:

P11 = Proportion of respondents who said "never" to the first question

P12 = Proportion of respondents who said "sometimes" to the first question

P13 = Proportion of respondents who said "usually" to the first question

P14 = Proportion of respondents who said "always" to the first question

Follow the same steps for calculating the proportion of cases in a response category discussed above for "overall rating of the hospital" to obtain proportions for the second question:

P21 = Proportion of respondents who said "never" to the second question

P22 = Proportion of respondents who said "sometimes" to the second question

P23 = Proportion of respondents who said "usually" to the second question

P24 = Proportion of respondents who said "always" to the second question

Follow the same steps for calculating the proportion of cases in a response category discussed above for "overall rating of the hospital" to obtain proportions for the third question:

P31 = Proportion of respondents who said "never" to the third question

P32 = Proportion of respondents who said "sometimes" to the third question

P33 = Proportion of respondents who said "usually" to the third question

P34 = Proportion of respondents who said "always" to the third question

Step 2 – Combine responses from the questions to form the multi-item measure.

Calculate the average proportion responding to each category across the three questions in the multi-item measure:

PC1 = Multi-item measure proportion who said “never” =  $(P11 + P21 + P31) / 3$   
PC2 = Multi-item measure proportion who said “sometimes” =  $(P12 + P22 + P32) / 3$   
PC3 = Multi-item measure proportion who said “usually” =  $(P13 + P23 + P33) / 3$   
PC4 = Multi-item measure proportion who said “always” =  $(P14 + P24 + P34) / 3$

- Communication with nurses

This multi-item measure is produced by combining responses to three questions that ask:

- o “During this hospital stay, how often did nurses listen carefully to you?”
- o “During this hospital stay, how often did nurses explain things in a way you could understand?”
- o “During this hospital stay, how often did nurses treat you with courtesy and respect?”

Respondents can answer “never,” “sometimes,” “usually,” or “always” to each. The steps to calculate a hospital’s multi-item measure score for this domain are the same as for “doctor communication.”

- Responsiveness of hospital staff

This multi-item measure is produced by combining responses to two questions that ask:

[A screener question identifies patients who needed help getting to the bathroom or using a bedpan]

- o “During this hospital stay, after you pressed the call button, how often did you get help as soon as you wanted?”
- o “How often did you get help in getting to the bathroom or in using a bedpan as soon as you wanted?”

Respondents can answer “never,” “sometimes,” “usually,” or “always” to each of the two non-screener questions. The steps to calculate a hospital’s multi-item measure score are the same as for “doctor communication,” except that only respondents who answered “yes” to the screener question (i.e., they needed help getting to the bathroom or using a bedpan) are included in calculating the proportions for the second question. [The two questions are equally weighted in calculating the multi-item measure, because CMS views them as equally important, even though there will be fewer respondents to the second question.]

- Communication about medicines

This multi-item measure is produced by combining responses to two questions that ask:

[A screener question identifies patients who were given medicine they had not taken before during their hospital stay]

- o “Before giving you any new medicine, how often did hospital staff tell you what the medicine was for?”
- o “Before giving you any new medicine, how often did hospital staff describe possible side effects in a way you could understand?”

Respondents can answer “never,” “sometimes,” “usually,” or “always” to each of the two (non-screener) questions. The steps to calculate a hospital’s multi-item measure score are the same as for “doctor communication,” except that only respondents who answered “yes” to the screener question (i.e., they were given medicine they had not taken before) are included in calculating the proportions.

- Cleanliness and quiet of the hospital environment

This multi-item measure is produced by combining responses to two questions that ask:

- o “During this hospital stay, how often were your room and bathroom kept clean?” (note addition of quote)
- o “During this hospital stay, how often was the area around your room quiet at night?”

Respondents can answer “never,” “sometimes,” “usually,” or “always” to each. The steps to calculate a hospital’s multi-item measure score are the same as for “doctor communication.”

- Discharge information

This multi-item measure is produced by combining responses to two questions that ask:

[A screener question identifies patients discharged to home]

- o “During your hospital stay, did hospital staff talk with you about whether you would have the help you needed when you left the hospital?”
- o “During your hospital stay, did you get information in writing about what symptoms or health problems to look out for after you left the hospital?”

Respondents can answer “yes” or “no” to each. The steps to calculate a hospital’s multi-item measure score are the same as for “doctor communication,” except that only respondents who answered “yes” to the screener question (i.e., they were discharged to home) are included in calculating the proportions.

Patient-Mix Adjustment

Specifications 4.5 and 4.6 provide for the steps to producing raw hospital scores. Final scores shall include a patient-mix adjustment

and adjustment for mode effects to better ensure the comparability of scores across hospitals—that is, the purpose of adjusting for patient mix is to estimate how different hospitals would be rated if they all provided care to comparable groups of patients.

- The following variables shall be used in the patient-mix adjustment model for HCAHPS:
  - o Service Line and Gender (Female Medical, Male Medical, Female Surgical, Male Surgical, and Maternity)
  - o Age (specified as a categorical variable)
  - o Education (specified as a linear variable)
  - o Self-reported general health status (specified as a linear variable)
  - o Language other than English spoken at home
  - o Interaction of age by service

The patient-mix adjustment shall be a regression methodology also referred to as covariance adjustment. As an example:

Let  $y_{ij}$  represent the response to item  $i$  of respondent  $j$  from hospital  $p$  (after recoding, if any, has been performed). The model for adjustment of a single item  $i$  is of the form:

where  $\beta_i$  is a regression coefficient vector,  $x_{ij}$  is a covariate vector consisting of six or more adjuster covariates (as described above),  $\alpha_p$  is an intercept parameter for hospital  $p$ , and  $\epsilon_{ij}$  is the error term. The estimates are given by the following equation:

where  $\alpha$  is the vector of intercepts,  $y$  is the vector of responses, and the covariate matrix is:

where the columns of  $X$  are the vectors of values of each of the adjuster covariates, and  $I$  is a vector of indicators for being discharged from hospital  $p$ ,  $p = 1, 2, \dots, P$ , with entries equal to 1 for respondents in hospital  $p$  and 0 for others.

The estimated intercepts are shifted by a constant amount to force their mean to equal the mean of the unadjusted hospital means (to make it easier to compare adjusted and unadjusted means), giving adjusted hospital means:

For single-item responses, these adjusted means are reported. For composites, the several adjusted hospital means are combined using the weighted mean:

**S.15. Sampling** (If measure is based on a sample, provide instructions for obtaining the sample and guidance on minimum sample size.)

IF an instrument-based performance measure (e.g., PRO-PM), identify whether (and how) proxy responses are allowed. Sampling Protocol (from HCAHPS Quality Assurance Guidelines, V14.0)

For more details, flowchart, etc. please see the HCAHPS Quality Assurance Guidelines, V14.0, pp. 57-80, located via the “Quality Assurance” button on the official HCAHPS On-Line Web site, at

[https://www.hcahponline.org/globalassets/hcahps/quality-assurance/2019\\_qag\\_v14.0.pdf](https://www.hcahponline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf)

#### Overview

We describe the process and requirements for selecting a random sample of patients to respond to the CAHPS Hospital Survey (HCAHPS). The HCAHPS sampling protocol is designed to ensure that the patients who participate in the survey are representative of all of the eligible patients who received care within general acute care hospitals. Several HCAHPS sampling protocol illustrations have been included in this chapter.

**Note:** The HCAHPS Survey is intended to reflect the care received by patients of all payer types, not just Medicare. Therefore, patients of all payer types are eligible for sampling.

The HCAHPS Survey sampling protocol promotes the following:

- Standardized administration of the HCAHPS Survey by hospitals/survey vendors
- Comparability of resulting data across all participating hospitals

The basic sampling procedure for HCAHPS requires the drawing of a random sample of eligible monthly discharges. Data will be collected from patients in each monthly sample over the 12-month reporting period, and will be aggregated on a quarterly basis to

create a rolling 4-quarter data file for each hospital. The most current four quarters of data are used for public reporting. Hospitals may not switch the type of sampling, mode of survey administration, or survey vendor used, within a calendar quarter. These types of changes can only be made at the beginning of a calendar quarter.

The HCAHPS sampling protocol employs the patient's principal diagnosis at discharge to determine whether he or she falls into one of the three service line categories eligible for HCAHPS: Maternity Care, Medical or Surgical. While V.31 Medicare Severity Diagnosis Related Group (MS-DRG) codes are the preferred method for determining the patient's service line, CMS also allows the following methodologies to be used: V.30 MS-DRG codes; V.29 MS-DRG codes; V.28 MS-DRG codes; V.27 MS-DRG codes; V.26 MS-DRG codes; V.25 MS-DRG codes; V.24 CMS-DRG codes; a mix of V.31, V.30, V.29, V.28, V.27, V.26, V.25, V.24 codes based on payer source; ICD-9 codes (ICD-10 codes anticipated to be implemented October 1, 2014); hospital unit; and New York State DRGs. The method for determining service line must be identified in the XML file, or the HCAHPS Online Data Entry Tool. (For more information see the Data Specifications and Coding chapter.)

In order to use a service line methodology other than those identified above, a hospital/survey vendor must first submit an Exceptions Request Form for approval. (For more information, see the Exceptions Request/Discrepancy Report Processes chapter.)

Proxy responses are not allowed.

**S.16. Survey/Patient-reported data** *(If measure is based on a survey or instrument, provide instructions for data collection and guidance on minimum response rate.)*

Specify calculation of response rates to be reported with performance measure results.

**NOTE:** For the complete response, please see, "ADDITIONAL, A.1" (HCAHPS Survey, NQF 0166 Appendix A.1: Supplemental Materials.)

A minimum response rate is not imposed for HCAHPS scores. Annual training and information is provided to data collectors on how to improve response rates. Recently, a podcast was produced and posted on the official HCAHPS On-Line Web site that describes methods known to improve HCAHPS response rates: "Improving Response Rates of HCAHPS Hospital." See: <https://www.hcahpsonline.org/en/podcasts/>

Specify calculation of response rates to be reported with performance measure results.

HCAHPS can be implemented in four survey modes: mail, telephone, mail with telephone follow-up, or active interactive voice recognition (IVR), each of which requires multiple attempts to contact patients. Hospitals must survey patients throughout each month of the year. IPPS hospitals must achieve at least 300 completed surveys over four calendar quarters. HCAHPS is available in official English, Spanish, Chinese, Russian, Portuguese and Vietnamese versions.

The HCAHPS Survey and its protocols for sampling, data collection, coding and submission can be found in the HCAHPS Quality Assurance Guidelines, V14.0, located at the "Quality Assurance" button on the official HCAHPS On-Line Web site, at

[https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019\\_qag\\_v14.0.pdf](https://www.hcahpsonline.org/globalassets/hcahps/quality-assurance/2019_qag_v14.0.pdf)

#### Mail Only Survey Administration

##### Overview

This chapter describes guidelines for the Mail Only mode of the CAHPS Hospital Survey (HCAHPS) administration.

Data collection for sampled discharged patients must be initiated between 48 hours and six weeks (42 calendar days) after discharge. Hospitals/Survey vendors must wait 48 hours to make the first attempt to contact discharged patients. This will allow enough time to pass for the patient to return home and feel settled after his or her hospital stay. Patients must not be given the survey while they are still in the hospital.

Hospitals/Survey vendors will send sampled patients a first questionnaire with a cover letter. A second questionnaire with a follow-up cover letter must be sent to all sampled patients who did not respond to the first questionnaire, approximately 21 calendar days after the first questionnaire mailing.

**Note:** If after the first mailing the hospital/survey vendor learns that a sampled patient is ineligible for HCAHPS, the hospital/survey

vendor must not send the patient the second questionnaire. After the sample has been drawn, any patients who are found to be ineligible must not be removed or replaced in the sample. Instead, these patients are assigned a “Final Survey Status” code of ineligible (2, 3, 4, or 5; as applicable). An Administrative Data Record must be submitted for these patients.

Data collection must be closed out for a sampled patient by six weeks (42 calendar days) following the mailing of the first questionnaire. Patients who receive the HCAHPS Survey must not be offered incentives of any kind. Patients who do not respond to the survey are assigned a “Final Survey Status” code of non-response.

Hospitals/Survey vendors must record and submit lag time for all HCAHPS “Final Survey Status” codes. Additionally, hospitals/survey vendors must include the “Number Survey Attempts – Mail” field in the Patient Administrative Data Record. This field is required when “Survey Mode” in the Header Record is “1 – Mail Only.” This field captures the mail wave attempt in which the final disposition of the survey is determined. More information regarding the calculation of lag time and coding of the survey attempts field is presented in the Data Specifications and Coding chapter.

Hospitals/Survey vendors must make every reasonable effort to achieve optimal survey response rates and to pursue contacts with potential respondents until the data collection protocol is completed.

No proxy respondents are permitted in the administration of the HCAHPS Survey, not even for patients who are critically ill, elderly, physically, or mentally impaired. As stated above, a proxy respondent must not answer the survey questions for the patient; however, an individual may assist the patient with reading the survey, writing responses or translation of the survey, but only the patient may provide answers to the survey.

The basic tasks and timing for conducting the HCAHPS Survey using the Mail Only mode of survey administration are summarized below.

#### Mail Only Survey Administration

Send first questionnaire with initial cover letter to sampled patient(s) between 48 hours and six weeks (42 calendar days) after discharge.

Send second questionnaire with follow-up cover letter to non-respondent(s) approximately 21 calendar days after the first questionnaire mailing.

Complete data collection within six weeks (42 calendar days) of the first questionnaire mailing.

To reiterate, the initial mail-out of the survey must occur between 48 hours and six weeks (42 calendar days) after discharge. Data collection must then be completed no later than six weeks (42 calendar days) after the initial mail-out. To illustrate the timing of survey mail-out, three examples are provided of patients who were discharged from a hospital on July 1.

#### Example Patient 1:

The first survey is mailed out on July 4 (three days after discharge)

If the patient has not returned the survey by July 25 (21 days after the initial mailing on July 4), a second survey is mailed out. Data collection must be closed out on August 15 for this patient, which is six weeks (42 days) from the July 4 initial mail-out date:

- If the survey is returned on August 15, which is the last day of the survey administration time period for this patient, then the survey is included in the final survey data file and assigned a “Final Survey Status” code of either “1 – Completed survey” or “6 – Non-response: Break off” based on the calculation of percent complete as described in the Data Specifications and Coding chapter
- o Lag Time (See the Data Specifications and Coding chapter) for this patient is calculated as 45 days
- If the survey is returned after August 15 (August 16, for example), which is beyond the six weeks (42 days) survey administration time period for this patient, then the survey data are not included in the final survey data file (however, an administrative data record is submitted for this patient) and a “Final Survey Status” code of “8 ? Non-response: Non-response after maximum attempts” is assigned
- o Lag Time for this patient is calculated and entered as the number of days between the patient’s discharge from the hospital and the date that data collection activities ended for this patient. Lag time for this patient is calculated as 46 days.

#### Example Patient 2:

The first survey is mailed out on August 12 (42 days after discharge)

If the patient has not returned the survey by September 2 (21 days after the initial mailing on August 12), a second survey is mailed out

Data collection must be closed out on September 23 for this patient, which is six weeks (42 days) from the August 12 initial mail-out date:

- If the survey is received on September 23, which is the last day of the survey administration time period for this patient, then the



survey data are included in the final survey data file and assigned a “Final Survey Status” code of either “1 – Completed survey” or “6 – Non-response: Break off” based on the calculation of percent complete as described in the Data Specifications and Coding chapter

- o Lag Time for this patient is calculated as 84 days

- If the survey is received after September 23, (September 24, for example) which is beyond the six week (42 days) survey administration time period for this patient, then the survey data are not included in the final survey data file (however, an administrative data record is submitted for this patient) and a “Final Survey Status” code of “8 ? Non-response: Non-response after maximum attempts” is assigned

- o Lag Time for this patient is calculated and entered as the number of days between the patient’s discharge from the hospital and the date that data collection activities ended for this patient. Lag time for this patient is calculated as 85 days.

#### Example Patient 3:

The first survey is mailed out on August 12 (42 days after discharge)

If the patient has not returned the survey by September 2 (21 days after the initial mailing on August 12), a second survey is mailed out

If the patient has not returned a survey by September 23, then data collection must be closed out on September 23 for this patient, which is six weeks (42 days) from the August 12 initial mail-out date:

- If the survey is received on September 23, which is the last day of the survey administration time period for this patient, and there is evidence received on September 23 that the patient is deceased (e.g., the words “deceased” written on the survey, etc.) then the survey data are not included in the final survey data file (however, an administrative data record is submitted for this patient) and the “Final Survey Status” code of “2 – Ineligible: Deceased” is assigned

- o Lag Time for this patient is calculated and entered as 84 days

Note: The timing of the survey administration protocol begins with the first mailing and does not restart if another “first mailing” is sent to the patient due to an address correction/update. Therefore, data collection must still be closed out by six weeks (42 calendar days) following the original first mailing.

#### Production of Questionnaire and Related Materials

The Mail Only mode of survey administration may be conducted in English, Spanish, Chinese, Russian, Vietnamese, or Portuguese. Hospitals/Survey vendors are provided with the HCAHPS questionnaires in English, Spanish, Chinese, Russian, Vietnamese, and Portuguese (HCAHPS Quality Assurance Guidelines, V14.0, Appendices A through F), and sample initial and follow-up cover letters in English, Spanish, Chinese, Russian, Vietnamese, and Portuguese (Appendices A through F). Hospitals/Survey vendors are not permitted to make or use any other translations of the HCAHPS cover letters or questionnaires. We strongly encourage hospitals with a significant patient population that speaks Spanish, Chinese, Russian, Vietnamese, and Portuguese to offer the HCAHPS Survey in these languages. We encourage hospitals that serve patient populations that speak languages other than those noted to request CMS to create an official translation of the HCAHPS Survey in those languages.

For HCAHPS Survey administration, the OMB Paperwork Reduction Act language must appear in the mailing, either on the cover letter or on the front or back of the questionnaire. (See Appendices A through F for the exact language in English, Spanish, Chinese, Russian, Vietnamese, and Portuguese.) In addition, the OMB control number (OMB #0938-0981) must appear on the front page of the questionnaire.

To reinforce the requirement that no one other than the sampled patient completes the survey, language must be included in the questionnaire, and optionally in the cover letter(s), clearly stating that only the sampled patient may fill out the survey.

Each hospital/survey vendor will submit a sample of their HCAHPS mailing materials (questionnaires, cover letters and outgoing envelopes) with all applicable HCAHPS Quality Assurance Guidelines V13.0 updates for review by the HCAHPS Project Team.

#### Required for the Mail Questionnaire

The Core HCAHPS questions must be placed at the beginning of the survey. The “About You” HCAHPS questions and any hospital-specific supplemental questions must follow the Core HCAHPS questions (Questions 1-25). The order of the “About You” questions must not be altered and all the “About You” questions must remain together, even if they are placed before or after any hospital-specific supplemental questions. The “About You” questions cannot be eliminated from the questionnaire.

Hospitals/Survey vendors must adhere to the following specifications for questionnaire formatting and the production of mail materials:

#### Questions and Answer Categories

Question and answer category wording must not be changed

No changes are permitted in the order of the Core HCAHPS questions

No changes are permitted in the order of the “About You” HCAHPS questions, even if they are placed before or after any supplemental questions

No changes are permitted in the order of the response categories for either the Core or “About You” HCAHPS questions

The Core HCAHPS questions must remain together

The “About You” HCAHPS questions must remain together

Question and answer categories must remain together in the same column and on the same page

Response choices must be listed individually for each question, not presented in a matrix format. For example, when a series of questions is asked that have the same answer categories (Never, Sometimes, Usually, or Always), the answer categories must be repeated with every question. A matrix format which simply lists the answer categories across the top of the page and the questions down the side of the page is not allowed, because it has been shown that this format tends to produce inaccurate and incomplete responses.

Response options must be listed vertically (see examples in Appendix A). Response options that are listed horizontally or in a combined vertical and horizontal format are not allowed.

#### Formatting

Wording that is underlined in the questionnaire provided in the HCAHPS Quality Assurance Guidelines must be emphasized in the same manner in the hospital’s/survey vendor’s questionnaire

Arrow (i.e., ?) placement in the questionnaire instructions and answer categories that specifies skip patterns must not be changed

Section headings (e.g., YOUR CARE FROM NURSES, etc.) must be included on the questionnaire and must be capitalized

Survey materials must be in a readable font (i.e., Arial or Times New Roman) with a font size of 10-point at a minimum

#### Other Requirements

All survey instructions written at the top of the questionnaire must be printed verbatim

The text indicating the purpose of the unique identifier (“You may notice a number on the survey. This number is used to let us know if you returned your survey so we do not have to send you reminders.”) must be printed either immediately after the survey instructions on the questionnaire or on the cover letter, and may appear on both

Randomly generated, unique identifiers must be placed on the first or last page of the questionnaire, at a minimum. Hospitals/Survey vendors may add other identifiers on the questionnaire for tracking purposes (e.g., unit identifiers, etc.). The patient’s name must not be printed on the questionnaire.

The OMB control number (OMB #0938-0981) must appear on the front page of the questionnaire

The OMB language must appear on either the front or back page of the questionnaire or on the cover letter, and may appear on both, in a readable font size at a minimum of 10-point (See Appendices A through F for the exact text in English, Spanish, Chinese, Russian, Vietnamese, and Portuguese); however, the OMB language cannot be printed on a separate piece of paper

The hospital’s/survey vendor’s return address must be printed on the questionnaire to make sure that the questionnaire is returned to the correct address in the event that the enclosed return envelope is misplaced by the patient

- If the hospital’s/survey vendor’s name is included in the return address, then the hospital’s/survey vendor’s business name must be used, not an alias or tag line

Note: Hospitals/Survey vendors must include the following copyright statement, preferably on the last page of the survey. The text “the About You questions” may be substituted for “23-29”:

“Questions 1-19 and 23-29 are part of the HCAHPS Survey and are works of the U.S. Government. These HCAHPS questions are in the public domain and therefore are NOT subject to U.S. copyright laws. The three Care Transitions Measure® questions (Questions 20-22) are copyright of Eric A. Coleman, MD, MPH, all rights reserved.”

#### Optional for the Mail Questionnaire

Hospitals/Survey vendors have some flexibility in formatting the HCAHPS questionnaire by following the guidelines described below. Small coding numbers, preferably in superscript, may be included next to the response choices on the questionnaire

It is acceptable to have a place on the survey for patients to voluntarily fill in their name/ telephone number as long as the name/telephone number items are placed after the Core HCAHPS questions. A transition statement must be placed before this item.

Hospital logos may be included on the questionnaire; however, other images and tag lines are not permitted

It is optional to place the title “HCAHPS Survey” on the questionnaire

The phrase “Use only blue or black ink” may be printed on the questionnaire

The name of the hospital may be printed on the questionnaire before Question 1 and in the introduction to Question 21

- “Please answer the questions in this survey about your stay at [HOSPITAL NAME]. Do not include any other hospital stays in your answers.”

Page numbers may be included on the questionnaire

- This is encouraged as a guide to assist patients in responding to all pages of the questionnaire

Color may be incorporated in the questionnaire

The phrase “There are only a few remaining items left” before the “About You” questions may be eliminated

Language such as one of the following may be added in the footer of the survey:

- Continue on next page
- Continue on reverse side
- Turn over to continue
- to continue
- Continue on back
- Turn over

Hospitals/Survey vendors should consider incorporating the following recommendations in formatting the HCAHPS questionnaire to increase the likelihood of receiving a returned survey:

Two-column format that is used in Appendices A through F

Wide margins (at least 3/4 inch) so that the survey has sufficient white space to enhance its readability

Hospitals that choose to use their existing hospital survey in addition to the HCAHPS Survey have two options for mailing: 1) add the hospital’s existing survey to the end of the HCAHPS Survey; or 2) send two separate mailings, one containing the HCAHPS Survey and another containing the hospital-specific survey.

#### Use of Supplemental Questions

Hospitals/Survey vendors may add a reasonable number of hospital-specific supplemental questions to the HCAHPS Survey, following the guidelines described below:

? Hospital-specific supplemental questions may be added to the HCAHPS Survey but only after all of the HCAHPS Survey questions (Questions 1-29). This approach ensures that the survey is conducted consistently across participating hospitals.

Note: Hospital-specific supplemental questions must follow the HCAHPS “About You” questions.

- ? Supplemental questions must be integrated into the HCAHPS Survey and not be a separate insert
- ? If a hospital adds supplemental questions to the HCAHPS Survey, the following statement must be placed in the survey immediately before the supplemental questions to indicate a transition from the HCAHPS questions to the hospital-specific supplemental question or questions:
- “[This next question is]/[These next questions are] from [NAME OF HOSPITAL] and [is/are] not part of the official survey.”
- ? Hospitals may include additional transition statements following the required transition statement. Examples of allowable additional transition statements are as follows:
- “Now [NAME OF HOSPITAL] would like to gather some additional detail on topics previously examined. These items use a somewhat different way of asking for your response since they are getting at a slightly different way of thinking about the topics.”
  - “The following questions focus on additional care you may have received from [NAME OF HOSPITAL].”
  - “This next set of questions is to provide [NAME OF HOSPITAL] additional .....

**S.17. Data Source** (Check ONLY the sources for which the measure is SPECIFIED AND TESTED).

If other, please describe in S.18.

Instrument-Based Data

**S.18. Data Source or Collection Instrument** (Identify the specific data source/data collection instrument (e.g. name of database, clinical registry, collection instrument, etc., and describe how data are collected.)

If instrument-based, identify the specific instrument(s) and standard methods, modes, and languages of administration.

HCAHPS is available in official English, Spanish, Chinese, Russian, Vietnamese and Portuguese versions. (German will become available in Mail Only mode in Oct. 2019). The HCAHPS Survey and its official translations can be found in the HCAHPS Quality Assurance Guidelines, V14.0, located at the

“Quality Assurance” button on the official HCAHPS On-Line Web site, at

<https://www.hcahpsonline.org/en/quality-assurance/>

See Appendices A - N.

**S.19. Data Source or Collection Instrument** (available at measure-specific Web page URL identified in S.1 OR in attached appendix at A.1)

Available at measure-specific web page URL identified in S.1

**S.20. Level of Analysis** (Check ONLY the levels of analysis for which the measure is SPECIFIED AND TESTED)

Facility

**S.21. Care Setting** (Check ONLY the settings for which the measure is SPECIFIED AND TESTED)

Inpatient/Hospital

If other:

**S.22. COMPOSITE Performance Measure** - Additional Specifications (Use this section as needed for aggregation and weighting rules, or calculation of individual performance measures if not individually endorsed.)

N/A.

**2. Validity – See attached Measure Testing Submission Form**

[HCAHPS\\_NQF\\_0166\\_Measure\\_Testing\\_form-\\_508\\_compliant\\_tables-\\_4-25-19.docx](#)

**2.1 For maintenance of endorsement**

Reliability testing: If testing of reliability of the measure score was not presented in prior submission(s), has reliability testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.

Yes

**2.2 For maintenance of endorsement**

*Has additional empirical validity testing of the measure score been conducted? If yes, please provide results in the Testing attachment. Please use the most current version of the testing attachment (v7.1). Include information on all testing conducted (prior testing as well as any new testing); use red font to indicate updated testing.*

Yes

### **2.3 For maintenance of endorsement**

*Risk adjustment: For outcome, resource use, cost, and some process measures, risk-adjustment that includes social risk factors is not prohibited at present. Please update sections 1.8, 2a2, 2b1,2b4.3 and 2b5 in the Testing attachment and S.140 and S.11 in the online submission form. NOTE: These sections must be updated even if social risk factors are not included in the risk-adjustment strategy. You MUST use the most current version of the Testing Attachment (v7.1) -- older versions of the form will not have all required questions.*

Yes - Updated information is included

## **3. Feasibility**

Extent to which the specifications including measure logic, require data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

### **3a. Byproduct of Care Processes**

For clinical measures, the required data elements are routinely generated and used during care delivery (e.g., blood pressure, lab test, diagnosis, medication order).

#### **3a.1. Data Elements Generated as Byproduct of Care Processes.**

Other

If other: Patient survey.

### **3b. Electronic Sources**

The required data elements are available in electronic health records or other electronic sources. If the required data are not in electronic health records or existing electronic sources, a credible, near-term path to electronic collection is specified.

**3b.1. To what extent are the specified data elements available electronically in defined fields (i.e., data elements that are needed to compute the performance measure score are in defined, computer-readable fields)** Update this field for **maintenance of endorsement**.

ALL data elements are in defined fields in a combination of electronic sources

**3b.2. If ALL the data elements needed to compute the performance measure score are not from electronic sources, specify a credible, near-term path to electronic capture, OR provide a rationale for using other than electronic sources.** For **maintenance of endorsement**, if this measure is not an eMeasure (eCQM), please describe any efforts to develop an eMeasure (eCQM).

The HCAHPS Survey is administered in four modes: mail, telephone, mixed (mail with telephone follow-up), or Interactive Voice Response. It is not feasible to convert the HCAHPS Survey into an eMeasure. HCAHPS survey and administration procedures are provided in detail in the HCAHPS Quality Assurance Guidelines, V14.0. See: <https://www.hcahponline.org/en/quality-assurance/>

**3b.3. If this is an eMeasure, provide a summary of the feasibility assessment in an attached file or make available at a measure-specific URL. Please also complete and attach the NQF Feasibility Score Card.**

Attachment:

### **3c. Data Collection Strategy**

Demonstration that the data collection strategy (e.g., source, timing, frequency, sampling, patient confidentiality, costs associated with fees/licensing of proprietary measures) can be implemented (e.g., already in operational use, or testing demonstrates that it is ready to put into operational use). For eMeasures, a feasibility assessment addresses the data elements and measure logic and demonstrates the eMeasure can be implemented or feasibility concerns can be adequately addressed.

**3c.1. Required for maintenance of endorsement.** Describe difficulties (as a result of testing and/or operational use of the measure) regarding data collection, availability of data, missing data, timing and frequency of data collection, sampling, patient confidentiality, time and cost of data collection, other feasibility/implementation issues.

**IF instrument-based, consider implications for both individuals providing data (patients, service recipients, respondents) and those whose performance is being measured.**

In terms of survey implementation, data submission and oversight, the HCAHPS Survey is improved on an annual basis. In the annual HCAHPS Update Training and in the annual HCAHPS Quality Assurance Guidelines, as well as in the frequently updated "What's New" section of the HCAHPS On-Line Web site, <https://www.hcahpsonline.org/en/whats-new/>, we provide a running summary of changes to the survey and its administration procedures. For example, see HCAHPS Quality Assurance Guidelines, V14.0, pp. 5-22.

Hospitals that participate in HCAHPS receive, from the CMS Hospital Inpatient Quality Reporting program, an individual Preview Report of their publicly reported scores about two months before these scores are publicly reported on the Hospital Compare Web site.

**3c.2. Describe any fees, licensing, or other requirements to use any aspect of the measure as specified (e.g., value/code set, risk model, programming code, algorithm).**

There are no fees or charges associated with participation in the HCAHPS Survey, HCAHPS training or oversight, or access to publicly reported HCAHPS scores.

## 4. Usability and Use

Extent to which potential audiences (e.g., consumers, purchasers, providers, policy makers) are using or could use performance results for both accountability and performance improvement to achieve the goal of high-quality, efficient healthcare for individuals or populations.

### 4a. Accountability and Transparency

Performance results are used in at least one accountability application within three years after initial endorsement and are publicly reported within six years after initial endorsement (or the data on performance results are available). If not in use at the time of initial endorsement, then a credible plan for implementation within the specified timeframes is provided.

#### 4.1. Current and Planned Use

NQF-endorsed measures are expected to be used in at least one accountability application within 3 years and publicly reported within 6 years of initial endorsement in addition to performance improvement.

Specific Plan for Use	Current Use (for current use provide URL)
	<p>Public Reporting Hospital Compare <a href="http://www.medicare.gov/hospitalcompare/search.html">http://www.medicare.gov/hospitalcompare/search.html</a> Hospital Compare <a href="http://www.medicare.gov/hospitalcompare/search.html">http://www.medicare.gov/hospitalcompare/search.html</a></p> <p>Payment Program Hospital Value-Based Purchasing <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/</a> Hospital Value-Based Purchasing <a href="http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/">http://www.cms.gov/Medicare/Quality-Initiatives-Patient-Assessment-Instruments/hospital-value-based-purchasing/index.html?redirect=/Hospital-Value-Based-Purchasing/</a></p>

**4a1.1 For each CURRENT use, checked above (update for maintenance of endorsement), provide:**

- Name of program and sponsor
- Purpose
- Geographic area and number and percentage of accountable entities and patients included

- Level of measurement and setting

Hospital Inpatient Quality Reporting program; Hospital Compare program.  
Centers for Medicare & Medicaid Services (CMS)

The Hospital Compare web site contains information about the quality of care at over 4,500 Medicare-certified hospitals. You can use Hospital Compare to find hospitals and compare the quality of their care.

The information on Hospital Compare:

Can help you make decisions about where you get your health care  
Encourages hospitals to improve the quality of care they provide

Hospital Value-Base Purchasing Program.

Centers for Medicare & Medicaid Services (CMS)

This website will be CMS' official source of information about the Hospital Value-based Purchasing (HVBP) Program for hospitals, clinicians, and other stakeholders who share CMS' commitment to transforming the quality of hospital care by realigning hospitals' financial incentives to do so.

Over 3,000 IPPS hospitals across the USA participate in the HVBP program.

**4a1.2. If not currently publicly reported OR used in at least one other accountability application (e.g., payment program, certification, licensing) what are the reasons?** (e.g., Do policies or actions of the developer/steward or accountable entities restrict access to performance results or impede implementation?)

N/A

**4a1.3. If not currently publicly reported OR used in at least one other accountability application, provide a credible plan for implementation within the expected timeframes -- any accountability application within 3 years and publicly reported within 6 years of initial endorsement.** (Credible plan includes the specific program, purpose, intended audience, and timeline for implementing the measure within the specified timeframes. A plan for accountability applications addresses mechanisms for data aggregation and reporting.)

N/A

**4a2.1.1. Describe how performance results, data, and assistance with interpretation have been provided to those being measured or other users during development or implementation.**

**How many and which types of measured entities and/or others were included? If only a sample of measured entities were included, describe the full population and how the sample was selected.**

HCAHPS Survey data are publicly reported on Hospital Compare on the Medicare.gov website, as well as in a downloadable database. All of the measures derived from the HCAHPS survey are updated four times per year. The Hospital Compare web site includes additional information about the data and its interpretation. Inpatient Prospective Payment System (IPPS) hospitals are required to contract with an approved HCAHPS Survey vendor and have that vendor administer the HCAHPS Survey and submit data on a quarterly basis to CMS. All hospitals that participate in public reporting on Hospital Compare (~4,500) receive a Preview Report prior to each quarterly public reporting that contains all of their HCAHPS scores and HCAHPS information for them to view prior to the data being publicly reported.

All IPPS hospitals that participate in Hospital Value-Based Purchasing (~3,000) receive additional reports on an annual basis from CMS that contain their scores on the HCAHPS domain used in the Hospital VBP for pay-for-performance program.

**4a2.1.2. Describe the process(es) involved, including when/how often results were provided, what data were provided, what educational/explanatory efforts were made, etc.**

HCAHPS scores for all participating, publicly reported hospitals, which include the top-box, middle-box and bottom-box score and star ratings for each HCAHPS measure; state and national averages; number of completed surveys; and survey response rate, as well explanations of the survey items and measures and any footnotes, are available on the Hospital Compare website at



<https://www.medicare.gov/hospitalcompare/search.html>. HCAHPS scores are updated on a quarterly basis, currently in January, April, July and October. Specific details about the data are provided at <https://www.medicare.gov/hospitalcompare/Data/Overview.html>.

In addition, Preview Reports are provided to all hospitals prior to their data being publicly reported on Hospital Compare. Preview Reports contain all of the information that will be publicly reported, as well as extensive information on how to interpret CMS quality measures, including HCAHPS measures. Even hospitals whose HCAHPS scores will not be publicly reported, for instance because the number of completed surveys is fewer than 25, will be able to see their HCAHPS scores in the Preview Report.

**4a2.2.1. Summarize the feedback on measure performance and implementation from the measured entities and others described in 4d.1.**

**Describe how feedback was obtained.**

Feedback on the HCAHPS Survey is regularly collected from HCAHPS survey vendors and self-administering hospitals via conference calls and site visits. In addition, CMS meets with provider groups, such as hospital associations and patient advocacy groups, to hear their concerns. Feedback is also solicited from anyone through the formal comment and response mechanism of the federal rulemaking process, primarily through the annual Inpatient Prospective Payment System (IPPS) rule, the Outpatient Prospective Payment System (OPPS) rule, and through special rules associated with legislation, such as the Patient Protection and Affordable Care Act of 2010 (PPACA) and the SUPPORT Act of 2018.

In addition, feedback on the HCAHPS survey content and protocols is gathered on an ongoing basis from approved HCAHPS survey vendors and self-administering hospitals during annual or biennial on-site visits or conference calls with the HCAHPS Project Team. Feedback is also received during the annual HCAHPS introductory and update training webinars, and continuously through inquiries to the HCAHPS technical assistance Help Desk.

**4a2.2.2. Summarize the feedback obtained from those being measured.**

Feedback received reflects the importance of this survey for driving hospital improvement. Recent suggestions for improvement include using a web-based mode to collect survey data and removing the pain items from the HCAHPS Survey. Consequently, the pain items have been removed from the survey and CMS has sought approval from the Office of Management and Budget to test web-based modes for patient surveys.

**4a2.2.3. Summarize the feedback obtained from other users**

CMS receives feedback on the HCAHPS Survey from many different parties: patients, caregivers, hospitals, hospital associations, physicians, patient advocacy groups, survey vendors, the Office of Management and Budget, researchers and academics. In general, this feedback is supportive of the goals and methods of HCAHPS and attests that HCAHPS both provides important information about hospital quality for consumer choice and motivates hospitals to improve the quality of care they provide to all patients. However, feedback sometimes reflects the contrary goals of different stakeholders, such as shortening the survey (hospitals), or adding items to the survey (patient advocacy groups). CMS monitors and assesses feedback. When the feedback is in accord with the policy objectives of the HCAHPS Survey and practicable, CMS makes changes to the survey or its administration protocols. An example of this responsiveness is the creation of official translations of the survey in other languages, such as Vietnamese, Portuguese and, most recently, German.

**4a2.3. Describe how the feedback described in 4a2.2.1 has been considered when developing or revising the measure specifications or implementation, including whether the measure was modified and why or why not.**

CMS is looking into the possibility of electronic administration of several CAHPS surveys, including Hospital CAHPS. A generic OMB Paperwork Reduction Act package is now going through the approval process to give us the ability to test the web mode for HCAHPS. We modified the survey by removing the pain items that made up the pain measure beginning with patients discharged October 1, 2019.

**Improvement**

Progress toward achieving the goal of high-quality, efficient healthcare for individuals or populations is demonstrated. If not in use for performance improvement at the time of initial endorsement, then a credible rationale describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

**4b1. Refer to data provided in 1b but do not repeat here. Discuss any progress on improvement (trends in performance results,**

number and percentage of people receiving high-quality healthcare; Geographic area and number and percentage of accountable entities and patients included.)

If no improvement was demonstrated, what are the reasons? If not in use for performance improvement at the time of initial endorsement, provide a credible rationale that describes how the performance results could be used to further the goal of high-quality, efficient healthcare for individuals or populations.

Objective. Measure HCAHPS improvement in hospitals participating in the second and fifth years of HCAHPS public reporting; determine whether change is greater for some hospital types.

Data. Surveys from 4,822,960 adult inpatients discharged July 2007–June 2008 or July 2010–June 2011 from 3,541 U.S. hospitals.

Study Design. Linear mixed-effect regression models with fixed effects for time, patient mix, and hospital characteristics (bedsize, ownership, Census division, teaching status, Critical Access status); random effects for hospitals and hospital-time interactions; fixed-effect interactions of hospital characteristics and patient characteristics (gender, health, education) with time predicted HCAHPS measures correcting for regression-to-the-mean biases.

Data Collection Methods. National probability sample of adult inpatients in any of four approved survey modes.

Principal Findings. HCAHPS scores increased by 2.8 percentage points from 2008 to 2011 in the most positive response category. Among the middle 95 percent of hospitals, changes ranged from a 5.1 percent decrease to a 10.2 percent gain overall. The greatest improvement was in for-profit and larger (200 or more beds) hospitals.

Conclusions. Five years after HCAHPS public reporting began, meaningful improvement of patients' hospital care experiences continues, especially among initially low-scoring hospitals, reducing some gaps among hospitals.

For more details, please see:

"Accelerating Improvement and Narrowing Gaps: Trends in Patients' Experiences with Hospital Care Reflected in HCAHPS Public Reporting." M.N. Elliott, C.W. Cohea, W.G. Lehrman, E.H. Goldstein, P.D. Cleary, L.A. Giordano, M.K. Beckett and A.M. Zaslavsky. Health Services Research, 50: 1850-1867. 2015. <http://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12305/full>

For information and findings about the use of HCAHPS scores in the Hospital Value-Based Purchasing program, please see: "Understanding the Role Played by Medicare's Patient Experience Points System in Hospital Reimbursement." M.N. Elliott, M.K. Beckett, W.G. Lehrman, P.D. Cleary, C.W. Cohea, L.A. Giordano, E.H. Goldstein and C.L. Damberg. Health Affairs, 35 (9): 1673-1680. 2016. Published online, 9-7-16: <http://content.healthaffairs.org/content/35/9/1673>

#### **4b2. Unintended Consequences**

The benefits of the performance measure in facilitating progress toward achieving high-quality, efficient healthcare for individuals or populations outweigh evidence of unintended negative consequences to individuals or populations (if such evidence exists).

##### **4b2.1. Please explain any unexpected findings (positive or negative) during implementation of this measure including unintended impacts on patients.**

The most significant unintended consequence for the HCAHPS Survey was the allegation that the three pain management questions originally in the HCAHPS Survey created pressure on hospital physicians to over-prescribe pain relief medications, including opioids, in hopes of obtaining more positive responses to these questions.

CMS and the HCAHPS Project Team never found credible, empirical evidence to substantiate this allegation

- (see, "Measurement of the Patient Experience: Clarifying Facts, Myths, and Approaches." L. Tefera, W.G. Lehrman and P. Conway. Journal of the American Medical Association. 2016. 315: 2167-2168. Published online, 3-10-16. <http://jama.jamanetwork.com/article.aspx?articleid=2503222>).

However, from an abundance of caution in the midst of a nationwide opioid over-use crisis, CMS undertook a series of steps in response, which included:

- Removing the Pain Management dimension from the HCAHPS domain in the Hospital VBP program in FY 2017;

- Replacing the original pain management questions with three new questions that focused on hospital staff's communication with patients about pain in January 2018 (see, "A Special Contribution from the Centers for Medicare and Medicaid Services: Valuing Patient Experience While Addressing the Prescription Opioid Epidemic." L. Tefera, W.G. Lehrman, E.G. Goldstein and S. Agrawal. *Annals of Emergency Medicine*. 2016. Published online, 7-19-16. [http://www.annemergmed.com/article/S0196-0644\(16\)30367-5/fulltext](http://www.annemergmed.com/article/S0196-0644(16)30367-5/fulltext));
- Removing the Pain Management measure from Hospital Compare public reporting in July 2018;
- Finally, in compliance with the national Substance Use-Disorder Prevention that Promotes Opioid Recovery and Treatment (SUPPORT) for Patients and Communities Act (Pub. L. 115-271) of 2018 (Section 6104), CMS will remove the three Communication About Pain items from the HCAHPS Survey beginning with patients discharged in October 2019. In addition, CMS will not publicly report the Communication About Pain measure.

**4b2.2. Please explain any unexpected benefits from implementation of this measure.**

There have been a number of benefits associated with the creation and implementation of the HCAHPS Survey, but perhaps the greatest has been the increased attention paid to patient experience as a unique, independent, worthy and actionable element of hospital quality. Evidence of this can be found in an increased interest in ways to improve patient experience of care.

- (see, "CAHPS Surveys: Valid and Valuable Measures of Patient Experience." W.G. Lehrman and M.W. Friedberg. *Hastings Center Report*. 45 (6): 3-4. 2015. <http://onlinelibrary.wiley.com/doi/10.1002/hast.507/full>),

In the years since HCAHPS was implemented and publicly reported there has been growth in the number of patient experience (PX) departments and officials in hospitals, PX journals and conferences, published research on patient experience of care, use of HCAHPS-like surveys in other nations, as well as a general improvement in HCAHPS scores. While we do not claim these developments are due to HCAHPS, they do underscore the increased attention to and legitimization of this aspect of hospital quality over the past 15 years.

- (see, "Hospital Survey Shows Improvements in Patient Experience." M.N. Elliott, W.G. Lehrman, E.H. Goldstein, L.A. Giordano, M.K. Beckett, C.W. Cohea and P.D. Cleary. *Health Affairs*, 29 (11): 2061-2067. 2010. <http://content.healthaffairs.org/content/29/11/2061.abstract>, and
- "Accelerating Improvement and Narrowing Gaps: Trends in Patients' Experiences with Hospital Care Reflected in HCAHPS Public Reporting." M.N. Elliott, C.W. Cohea, W.G. Lehrman, E.H. Goldstein, P.D. Cleary, L.A. Giordano, M.K. Beckett and A.M. Zaslavsky. *Health Services Research*, 50: 1850-1867. 2015. <http://onlinelibrary.wiley.com/doi/10.1111/1475-6773.12305/full>).

## 5. Comparison to Related or Competing Measures

If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

### 5. Relation to Other NQF-endorsed Measures

Are there related measures (conceptually, either same measure focus or target population) or competing measures (conceptually both the same measure focus and same target population)? If yes, list the NQF # and title of all related and/or competing measures.

Yes

#### 5.1a. List of related or competing measures (selected from NQF-endorsed measures)

2548 : Child Hospital Consumer Assessment of Healthcare Providers and Systems (Child HCAHPS) Survey

#### 5.1b. If related or competing measures are not NQF endorsed please indicate measure title and steward.

Child HCAHPS is NQF endorsed: NQF #2548.

### 5a. Harmonization of Related Measures

The measure specifications are harmonized with related measures;

**OR**

The differences in specifications are justified

#### 5a.1. If this measure conceptually addresses EITHER the same measure focus OR the same target population as NQF-endorsed measure(s):

Are the measure specifications harmonized to the extent possible?

No

**5a.2. If the measure specifications are not completely harmonized, identify the differences, rationale, and impact on interpretability and data collection burden.**

We are not aware of other measures that have the same measure focus or target the same population as HCAHPS, NQF 0166.

**5b. Competing Measures**

The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);

**OR**

Multiple measures are justified.

**5b.1. If this measure conceptually addresses both the same measure focus and the same target population as NQF-endorsed measure(s):**

**Describe why this measure is superior to competing measures (e.g., a more valid or efficient way to measure quality); OR provide a rationale for the additive value of endorsing an additional measure. (Provide analyses when possible.)**

N/A

## Appendix

**A.1 Supplemental materials may be provided in an appendix.** All supplemental materials (such as data collection instrument or methodology reports) should be organized in one file with a table of contents or bookmarks. If material pertains to a specific submission form number, that should be indicated. Requested information should be provided in the submission form and required attachments. There is no guarantee that supplemental materials will be reviewed.

**Attachment** Attachment: [HCAHPS-\\_NQF\\_0166-\\_A1\\_Supplemental\\_materials-\\_4-9-19-636904227582638456.docx](#)

## Contact Information

**Co.1 Measure Steward (Intellectual Property Owner):** Centers for Medicare & Medicaid Services

**Co.2 Point of Contact:** William, Lehrman, [William.Lehrman@cms.hhs.gov](mailto:William.Lehrman@cms.hhs.gov), 410-786-1037-

**Co.3 Measure Developer if different from Measure Steward:** AHRQ

**Co.4 Point of Contact:** Caren, Ginsberg, [caren.ginsberg@ahrq.hhs.gov](mailto:caren.ginsberg@ahrq.hhs.gov), 301-427-1894-

## Additional Information

**Ad.1 Workgroup/Expert Panel involved in measure development**

**Provide a list of sponsoring organizations and workgroup/panel members' names and organizations. Describe the members' role in measure development.**

The CAHPS® II Investigators and the Agency for Healthcare Research and Quality (AHRQ)

540 Gaither Road

Rockville, Maryland 20850

The Division of Consumer Assessment & Plan Performance of the Centers for Medicare & Medicaid Services (CMS) participated in the development and testing of the HCAHPS Survey, as well as having primary responsibility for its ongoing national implementation, public reporting, oversight, analysis and use in CMS programs.

Members involved in the initial development of the HCAHPS Survey (2002-2005) are listed below.

Chuck Darby, AHRQ

Christine Crofton, AHRQ

Marybeth Farquhar, AHRQ

Liz Goldstein, CMS

William Lehrman, CMS

Steven Garfinkel, AIR

Julie Brown, RAND

Shoshanna Sofaer, AIR  
 Elizabeth Hoy, Polaris Consulting  
 Jenny Crabb, Westat  
 Rebecca Matthew, AIR  
 Kimberly Hepner, RAND  
 Paul Cleary, Yale  
 Carol Edwards, RAND  
 Katrin Hambarsoomians, RAND  
 Lawrence Zaborski, Harvard

The following members provided statistical/methodological consultations.

Marc Elliott, RAND  
 Jack Fowler – University of Massachusetts, Boston  
 Steven Garfinkel – AIR  
 Ron Hays – Rand  
 San Keller – AIR  
 Roger Levine – AIR  
 James O’Malley, Harvard  
 Alan Zaslavsky, Harvard

Currently, the following staff are involved in ongoing HCAHPS updates, testing and statistical analyses.

Marc Elliott, RAND  
 Laura Giordano, HSAG  
 Chris Cohea, HSAG  
 William Lehrman, CMS  
 Liz Goldstein, CMS  
 Christine Payne, CMS

**Measure Developer/Steward Updates and Ongoing Maintenance**

**Ad.2 Year the measure was first released:** 2006

**Ad.3 Month and Year of most recent revision:** 01, 2018

**Ad.4 What is your frequency for review/update of this measure?** The HCAHPS is reviewed continually and is updated as needed.

**Ad.5 When is the next scheduled review/update for this measure?** 10, 2019

**Ad.6 Copyright statement:** CAHPS® is a registered trademark of the Agency for Healthcare Research and Quality, a U.S. Government agency.

**Ad.7 Disclaimers:**

**Ad.8 Additional Information/Comments:** In terms of survey implementation, data submission and oversight, the HCAHPS Survey is improved on an annual basis through annual training and annual updates and revisions to the HCAHPS Quality Assurance Guidelines. All information about the HCAHPS Survey is posted on our official HCAHPS On-Line Web site, [www.HCAHPSonline.org](http://www.HCAHPSonline.org). In the near future, CMS will post on HCAHPS On-Line Web site a matrix of all changes from the previous iteration of the HCAHPS Quality Assurance Guidelines, V13.0, to the current version, HCAHPS Quality Assurance Guidelines, V14.0.