

## **How CMS Calculates the Patient Experience of Care (HCAHPS) Domain Score in the Hospital Value-Based Purchasing Program**

This document provides a brief summary, in step-by-step fashion, of the process by which the Centers for Medicare & Medicaid Services (CMS) and its HCAHPS Project Team calculate the Patient Experience of Care (HCAHPS) Domain score for the Hospital Value-Based Purchasing program. The purpose of this document is to provide a sequential overview of the score creation process. By following these steps, a hospital can approximate its Patient Experience of Care Domain score. However, please note that exact prediction or replication of the official Hospital VBP scores may not be possible due to data cleaning and rounding.

### **Step 1.**

A hospital or its HCAHPS survey vendor submits HCAHPS survey data to the HCAHPS data warehouse for the Hospital Inpatient Quality Reporting program. The Performance Period is a calendar year of discharges two years after the calendar year that comprises the Baseline Period. These periods, and more information about the Hospital VBP program, can found [here](#).

- HCAHPS data submitted for the Hospital Inpatient Quality Reporting program are used in the Hospital VBP program
  - o No additional data are submitted for the Hospital VBP program
- In order to participate in the Hospital Value-Based Purchasing program, hospitals must meet the following criteria:
  - o Participate in the Inpatient Prospective Payment System (IPPS) program
  - o Be open during the Hospital VBP Performance Period
  - o Be located in the 50 states or D.C.
  - o Pass the Annual Payment Update requirements for the Performance Period
  - o Have at least 100 completed surveys during the Performance Period; see Step 7
- The name of the Patient Experience of Care (HCAHPS) Domain has evolved
  - o In FY 2017 and 2018 it is called the Patient- and Caregiver- Centered Experience of Care/Care Coordination Domain
  - o In FY 2019 it is called the Person and Community Engagement Domain

**Step 2.**

CMS cleans the submitted HCAHPS data by removing incomplete surveys, surveys from ineligible patients, etc.

- “Completed survey” is defined in the current HCAHPS Quality Assurance Guidelines found [here](#)

**Step 3.**

CMS calculates the “top-box” raw score for the nine HCAHPS measures that are used in the Hospital VBP Patient Experience of Care Domain.

- The top-box raw score, which is the unrounded percentage of a hospital’s patients who chose the most positive, or “top-box,” response to HCAHPS Survey items, is used in the Patient Experience of Care Domain
  - o See the HCAHPS On-Line Web site’s “Summary Analyses” page for more information on the HCAHPS top-box [definition](#)
- Nine measures from HCAHPS are used in Hospital VBP: six composite measures (Communication with Nurses, Communication with Doctors, Staff Responsiveness, Communication about Medicines, Care Transition, and Discharge Information); two individual measures (Cleanliness of Hospital Environment, and Quietness of Hospital Environment); and one global measure (Hospital Rating, formerly known as Overall Rating of Hospital)
  - o CMS combines the Cleanliness and Quietness measures to form a new composite for Hospital VBP, Cleanliness and Quietness of Hospital Environment; see Step 6
  - o The HCAHPS global measure Recommend the Hospital is not used in the Patient Experience of Care Domain
  - o Note that in the Hospital VBP FY 2018, Pain Management was discontinued and Care Transition was added as a new dimension

#### **Step 4.**

CMS applies the patient-mix adjustment for each of the nine HCAHPS measures used in Hospital VBP to obtain unrounded patient-mix adjusted scores.

- Information on HCAHPS patient-mix adjustment can be found in the 'Mode and Patient-mix Adjustment' page on the HCAHPS On-Line Web site, <http://www.hcahpsonline.org/en/mode--patient-mix-adj/>
- A detailed description of the HCAHPS patient-mix adjustment process can be found in the PMA Web Document for the desired time period at <http://www.hcahpsonline.org/en/mode--patient-mix-adj/>
- The patient-mix adjustment coefficients applicable specifically to the Baseline and Performance periods are also found in the corresponding October reporting periods: <http://www.hcahpsonline.org/en/mode--patient-mix-adj/>

#### **Step 5.**

CMS applies the survey mode adjustment for each of the nine HCAHPS measures used in Hospital VBP to adjust for scores for the effect of mode of survey administration.

- Information on HCAHPS survey mode adjustment can be found in the 'Mode and Patient-mix Adjustment' page on the official HCAHPS On-Line Web site, [http://hcahpsonline.org/globalassets/hcahps/mode-patient-mix-adjustment/april\\_2017\\_mode\\_patient-mix\\_adjustment\\_hcahps\\_survey\\_mode\\_adjustment.pdf](http://hcahpsonline.org/globalassets/hcahps/mode-patient-mix-adjustment/april_2017_mode_patient-mix_adjustment_hcahps_survey_mode_adjustment.pdf)

#### **Step 6.**

As noted in Step 3, CMS combines two measures, Cleanliness of Hospital Environment and Quietness of Hospital Environment, to create one dimension, Cleanliness and Quietness of Hospital Environment, for Hospital VBP (after having applied the patient-mix and mode adjustments to the Cleanliness of Hospital Environment and Quietness of Hospital Environment measures).

- o CMS uses the simple arithmetic average of the Cleanliness and Quietness top-box scores to obtain the Cleanliness and Quietness of Hospital Environment dimension
- o After combining the Cleanliness and Quietness measures into one dimension, there are eight HCAHPS dimensions in Hospital VBP

### Step 7.

CMS performs Steps 1 to 6 separately on each of the four quarters in the Performance Period.

- Please note: If a hospital has fewer than 100 completed surveys in the Performance Period, it will not receive a Patient Experience of Care Domain score

### Step 8.

CMS calculates the **unrounded** four quarter average for each of the eight Patient Experience of Care Domain dimensions for each hospital.

- For each hospital, each quarter is weighted according to the number of eligible discharges
- For information on the weighting of quarters, see the appropriate PMA Web Document linked in Step 4

### Step 9.

CMS calculates Achievement Points and Improvement Points for each dimension for each hospital.

- Using a hospital's **unrounded** Performance Rate and the Achievement Threshold (50<sup>th</sup> percentile) and Benchmark (mean of the top decile) for the Baseline Period for the given HVBP fiscal year, CMS calculates Achievement Points for each dimension
  - o Please note that Percentage Payment Summary Reports contain **rounded** values for Baseline and Performance Rates
- HVBP Performance Standards (Floor, Achievement Threshold, and Benchmark) for a given fiscal year can be found from multiple sources:
  - o In the IPPS Final Rule published every year
  - o In official hospital and HVBP Percentage Payment Summary Reports
  - o At <http://hcahponline.org/en/hcahps-and-hospital-vbp/>, beginning with FY 2019
- Using a hospital's unrounded Baseline Rate and the Achievement Threshold (50<sup>th</sup> percentile) and Benchmark (mean of the top decile) for the Baseline Period, CMS calculates Improvement Points for each dimension
- The formula for Achievement Points and Improvement Points can be found in the [presentation](#) for the CMS Open Door Forum

### **Step 10.**

CMS calculates the HCAHPS Base Score for each hospital.

- For each dimension, the greater of Achievement Points or Improvement Points is designated the Dimension Score
  - o The HCAHPS Base Score is the sum of the eight Dimension Scores
    - The HCAHPS Base Score ranges from 0 to 80 points

### **Step 11.**

CMS calculates the Consistency Score for each hospital.

- Using a hospital's unrounded Performance Rate and the Floor and Achievement Threshold for each dimension in the Baseline Period, CMS determines the lowest dimension score
  - o The formula for determining the lowest dimension score can be found in the [presentation](#) for the CMS Open Door Forum
- Having determined the lowest dimension score, CMS calculates the Consistency Score using the formula found in slides 51-61 for the CMS Open Door Forum
  - o The Consistency Score ranges from 0 to 20

### **Step 12.**

CMS calculates the Unweighted Patient Experience of Care Domain Score for each hospital by summing the hospital's HCAHPS Base Score (0-80) and HCAHPS Consistency Score (0-20)

- o The Patient Experience of Care Domain Score ranges from 0 to 100 points
- CMS calculates the Weighted Patient Experience of Care Domain Score for each hospital by multiplying the Unweighted Patient Experience of Care Domain Score by 0.25
  - o The weight for each Domain in each program year can be found [here](#).
- The Percentage Payment Summary Report contains the Baseline Rate, Performance Rate, Achievement Points, Improvement Points and Dimension Score for each dimension
  - o The report also provides the HCAHPS Base Score, Consistency Score, lowest dimension, number of completed HCAHPS surveys in the Performance Period, and the Unweighted and Weighted Patient Experience of Care Domain Score
- A detailed example of how the Patient Experience of Care Domain Score is calculated can be found [here](#) in slides 35-61.

## Resources

- [Hospital Compare](#)
- [Data.Medicare.Gov](#)
- [Hospital VBP Overview](#)
- [How To Read Your Report, Domain Weighting, and Federal Notices](#)