

# CAHPS Hospital Survey Podcast Series—Transcript

## HCAHPS Score Calculations Part III: Top-Box Composite Scores

### *Slide 1-HCAHPS Score Calculations Part III: Top-Box Composite Scores*

Welcome to the CAHPS Hospital Survey Podcast Series. This is the last of three episodes covering HCAHPS Score Calculations. The first episode addressed the creation of the HCAHPS sample frame, calculation of the “Eligible Discharges” field, and the definition of a completed survey; the second episode discussed patient-mix adjustment, or PMA; and this episode will cover top-box composite score calculations.

### *Slide 2- Overview*

During this episode we will address the different HCAHPS “boxes” and calculate a fully adjusted top-box score for the Communication with Nurses composite. In our example, we will begin with the “raw” (or unadjusted) composite score, then adjustments for PMA and survey mode will be added. Finally, we will discuss calculation of the four-quarter average score that CMS publicly reports for HCAHPS.

### *Slide 3-HCAHPS “Boxes”*

The HCAHPS “box” scores are publicly reported by CMS on Hospital Compare. The top-box represents the most positive response category, while bottom-box represents the least positive response category. Middle-box captures the “in-between” response category. In this podcast we will present an example of the calculation of top-box scores.

### *Slide 4-Unadjusted HCAHPS Composite Score*

Now we begin with an example of the top-box calculation for the Communication with Nurses composite. “Always” is the most positive response category for each of the three questions that form the Communication with Nurses composite measure. This measure includes three survey questions: survey question 1, which asks how often nurses treated the patient with courtesy and respect; survey question 2, which asks how often nurses listened carefully to the patient; and survey question 3, which asks how often nurses explained things in a way the patient could understand.

### *Slide 5- Unadjusted HCAHPS Composite Score cont’d*

Nurse courtesy and respect is the first HCAHPS survey question. Here, we see the four possible response options. Again, responses of “Always” are used to calculate top-box scores for all three items in this composite.

*Slide 6- Unadjusted HCAHPS Composite Score cont'd*

Next, we look at the answer values for each of the 7 completed surveys for the three Communication with Nurses questions for hypothetical Hospital A. We see that the "Always" responses for each of the three questions are bolded. Next to each question is an indicator variable for top-box. The indicator variable equals 1 if a patient answered "Always" and equals 0 if the patient answered "Never," "Sometimes," or "Usually." Although not shown in this example, if a patient did not give a response to a question, the corresponding top-box indicator variable should be coded as missing. It should not be coded as 0.

*Slide 7- Unadjusted HCAHPS Composite Score cont'd*

The next step is to calculate the mean for each of the top-box indicator variables across the 7 patients that responded to each question. Notice that the means for the top-box indicator variables simply represent the proportion of patients that answered "Always" for each question. Remember, in the event of a missing response to a question, it should not be included in the numerator or denominator.

*Slide 8- Unadjusted HCAHPS Composite Score cont'd*

The quarterly unadjusted top-box composite score for Communication with Nurses is a simple average of the 3 question means that we calculated on the previous slide. Here we obtain 0.762 for Hospital A's top-box Communication with Nurses unadjusted composite score. Therefore, 76.2% of patients reported that nurses "Always" communicated well with them.

*Slide 9-HCAHPS Score Adjustments*

Next, we will apply adjustments to Hospital A's quarterly top-box Communication with Nurses Composite. On this slide the survey mode adjustments are shown for three HCAHPS measures. The survey mode adjustments for all measures are available on the HCAHPS online website. For our example, we will locate the Communication with Nurses top-box row in the table and assume that Hospital A utilized the Telephone survey mode for this quarter. This will result in an adjustment of minus 4.2%.

*Slide 10-HCAHPS Score Adjustments cont'd*

The final adjusted quarterly score for an HCAHPS measure equals the unadjusted composite score, represented by "Y," plus patient-mix adjustment (PMA), plus the survey mode adjustment. Recall that the hospital PMA for Communication with Nurses was calculated for Hospital A in the previous HCAHPS PMA podcast. For Hospital A, Communication with Nurses top-box, we get an adjusted quarterly score equal to 76.5%. This quarterly adjusted score is represented by Y prime (Y').

*Slide 11-Publicly Reported HCAHPS Scores and Quarterly Weights*

The publicly reported HCAHPS scores published by CMS are rolling four-quarter hospital averages. These averages are weighted proportionately to the number of eligible patients seen by the hospital in each of the four quarters. A quarterly weight is calculated for each of the four quarters based on the number of eligible patients in the quarter out of the total eligible patients in the reporting period for each hospital.

*Slide 12-Publicly Reported HCAHPS Scores and Quarterly weights cont'd*

For Hospital A, assume the quarter from our example had 80 eligible discharges and the reporting period had 300 total eligible discharges. This would result in a quarterly weight equal to 0.27, or 27%. Note that if the 4 quarters had equal eligible discharges then the four quarterly weights would all equal 25%.

For this quarter, Hospital A's weighted quarterly score equals the adjusted score multiplied by the quarterly weight. Using this equation, the quarterly adjusted score of 0.765 is multiplied by the quarterly weight of 0.27 and yields a weighted quarterly score of 0.2066, or 20.66%.

*Slide 13-Publicly Reported HCAHPS Scores and Quarterly Weights cont'd*

Next, the same weight calculation is applied to all four quarters for Hospital A. Here we assume that Hospital A has the eligible patients and unweighted quarterly scores shown for quarters 1 through 3. Note that quarter 4 is the example quarter that we calculated in the previous slides, with a Communication with Nurses adjusted top-box score of 76.5%. Summing the four weighted quarterly scores in the last column of the table results in the weighted four-quarter average that CMS publicly reports. After standard rounding, these calculations result in a Communication with Nurses top-box Score for Hospital A equal to 77%.

*Slide 14- Questions and HCAHPS Technical Support*

Please contact HCAHPS technical assistance at [HCAHPS@hcqis.org](mailto:HCAHPS@hcqis.org) or 1-888-884-4007 for any questions. For more information about the HCAHPS survey, you can visit the HCAHPS website at: [www.hcahponline.org](http://www.hcahponline.org).

Thank you for listening to HCAHPS Score Calculations Part III: Top-Box Composite Scores.

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