

# CAHPS Hospital Survey Podcast Series—Transcript

## Updated Patient-Mix Adjustment: Self-Rated Mental Health

Note: The information covered in this podcast was current at the time of posting. CMS will occasionally update guidelines and calculations.

### *Slide 1-Updated Patient-Mix Adjustment: Self-Rated Mental Health*

Welcome to the CAHPS Hospital Survey Podcast Series. This podcast will review CMS' recent update to the HCAHPS patient-mix adjustment model to include self-rated mental health.

### *Slide 2-Reminder: HCAHPS Patient-Mix Adjustment*

First, a reminder that CMS utilizes patient-mix adjustment, or PMA, to improve the comparability of HCAHPS measure scores. PMA accounts for factors not within a hospital's control and which also affect HCAHPS scores.

CMS publishes national patient-level adjustments for each PMA variable, which are updated for each reporting period. Note that actual hospital PMA is calculated by multiplying the national patient-level adjustment by the difference of the hospital's mean and the national mean for each PMA variable.

### *Slide 3-PMA Undergoes Continuous Refinement and Improvement*

Across twelve years of HCAHPS public reporting, CMS has occasionally made updates or improvements to the patient-mix adjustment model. These changes have included the removal of the ER admission adjuster in 2010, updates to language spoken at home adjustment, and more recently, an update to the service line adjustment to include patient gender in 2017.

### *Slide 4-HCAHPS PMA Variables*

The variables CMS uses in patient-mix adjustment can be seen here. Beginning with Q3 2018 discharges, the variable self-rated mental health will be added to the adjustment model.

### *Slide 5-Self-Rated Mental Health is HCAHPS Question 28*

Next is a screen capture of question 28 on self-rated mental health. The response options for question 28 are the same as those for question 27 about self-rated overall health.

Please note that after the three Pain Communication items are removed from the survey in October 2019, self-rated mental health will become question 25, while self-rated overall health will become question 24.

*Slide 6-Two Factors Drive the Importance of a PMA Variable*

CMS considers two factors when determining the importance of a potential new PMA variable.

The first factor considers the strength of the variable's ability to predict HCAHPS measure scores when included in the regression model with other important PMA variables. Self-rated mental health has always been a strong predictor of HCAHPS measure outcomes.

The second factor is a consideration of how the potential adjuster varies across hospitals. CMS has observed an increase in the self-rated mental health variability across hospitals, thus, making it an important adjuster during HCAHPS measure score calculation.

*Slide 7-Addition of VA Hospitals Increased Importance of Adjusting for Mental Health*

CMS has observed increased variability in self-rated mental health after Veterans' Affairs hospitals were added to HCAHPS public reporting. VA hospitals typically have less-mentally healthy HCAHPS respondents. Adding self-rated mental health to the PMA model improves the comparability of VA hospitals to non-VA hospitals.

The mental health question has been on the HCAHPS survey since 2013, so additional data collection is not needed for this update. Furthermore, implementing self-rated mental health into HCAHPS measure score adjustments improves the overall adjustment accuracy for ALL hospitals.

*Slide 8-Mental Health Parameterization*

For PMA calculations, the parameterization of self-rated mental health will be linear and like the self-rated overall health linear scale. Responses of "Excellent" are coded as 1, "Very Good" responses are coded as 2, and so forth, with responses of "Poor" coded as 5.

*Slide 9-Current Distributions for Mental Health*

As previously mentioned, hospital distributions of self-rated mental health differ between VA and non-VA hospitals, with VA hospitals having poorer mental health ratings.

The first table summarizes these differences categorically. Approximately 22% of VA respondents report their mental health as "Fair" or "Poor," which is about twice the rate of those same categories in non-VA hospitals.

The table on the right shows mental health ratings for VA and non-VA hospitals on the linear scale. VA hospitals have a higher linear mean compared to non-VA hospitals, which is consistent with VA patients reporting poorer ratings for self-rated mental health.

### *Slide 10-General Adjustment Patterns for Mental Health*

In recent CMS analysis, the patient-level top-box adjustment for self-rated mental health varied across HCAHPS outcome measures. The median adjustment across the 10 HCAHPS measures was approximately minus 4%, with all measures experiencing a downward adjustment.

The Care Transition measure received the most negative adjustment at minus 7.78%, while Discharge Information experienced the least significant adjustment for self-rated mental health, at minus 1.31%.

### *Slide 11-Overall Health and Mental Health*

Not surprisingly, CMS analysis shows a significant correlation of 0.55 between self-rated mental health and self-rated overall health.

When both variables are included in the PMA regression model, a portion of the overall health adjustment is absorbed by mental health. Across the 10 HCAHPS measures, the self-rated overall health adjustment decreased by an average of 40% when mental health was present in the model.

### *Slide 12-Adding Mental Health to PMA Model Changes Adjustments for Overall Health*

The second column in this table displays the overall health adjustment for each measure when mental health is not in the model. The next column shows how the overall health adjustment changes with mental health inclusion.

Notice the overall health adjustment shrinks in size, becoming less negative, or closer to zero, across all HCAHPS measure outcomes. The overall health adjustment is absorbed by the inclusion of self-rated mental health, redistributing the previous overall health adjustment.

Finally, the patient-level top-box adjustments for mental health are shown in the last column. The last two columns approximate the actual patient-level adjustments that CMS will use for measure score calculations.

### *Slide 13-Direction of Adjustment when Adding Mental Health to PMA Model*

The new adjustment model with self-rated mental health will affect HCAHPS scores at the hospital level. Hospitals will experience upward adjustments if they have lower mental health ratings than other hospitals with similar overall health ratings.

Conversely, hospitals will see a downward adjustment if their mental health ratings are higher than other hospitals with similar overall health ratings.

### *Slide 14-Impact of Updated PMA Model is Slight for Most Hospitals*

From recent analysis, CMS estimates most hospitals will see top-box point changes of 1 point or less and will vary by HCAHPS measure.

The addition of self-rated mental health did not have more than a 1-point effect on any hospital scores for the Discharge Information measure. For 6 of 10 HCAHPS measures, adding mental health affected top-box scores by more than 1 point for only 10% of hospitals. Care Transition was most affected, where 28% of hospitals experienced a top-box score change of 1 point or more.

*Slide 15-Hospitals Affected Most by the Addition of Mental Health PMA*

CMS analysis did not find systematic score changes by hospital characteristics such as size, location, profit status, teaching status, or region resulting from the new model's implementation.

Hospitals with a small number of completed surveys experienced larger changes, but this is primarily due to their small sample size and has been observed previously when adjustment changes occur. Those changes were not systematic in direction, with both positive and negative differences observed.

*Slide 16-Timeline: Adjustment for Mental Health*

CMS began the updated patient-mix adjustment with third quarter 2018 discharges. The new model will be "rolled" in one quarter at a time. The new model's patient-level adjustments and national means will be posted on [hcahponline.org](http://hcahponline.org) for each reporting period.

*Slide 17-New Adjustments by Public Report*

This table illustrates CMS' timeline for implementation for the new PMA model. Following previous CMS protocol, previous quarters will not be re-calculated. The new model will only apply to discharge quarters going forward.

Starting with July 2019 public reporting, the newest quarter, Q318, is the first quarter adjusted with the new model. When April 2020 public reporting arrives, all four quarters will be adjusted under the new model.

*Slide 18-Reminder: Update PMA Equation for Estimating HCAHPS Scores*

When hospitals and survey vendors estimate HCAHPS scores, an updated PMA equation must be used beginning with Q318. Note the only change to the equation is the addition of the group of terms for self-rated mental health. These terms include the patient-level mental health adjustment, the mental health mean for a given hospital, and finally, the national mean for mental health.

*Slide 19-Summary*

In summary, the new PMA model that includes adjustment for self-rated mental health begins with Q318 discharges.

Overall, the new PMA model has a small effect on hospital scores. Bigger changes will be noticed for small hospitals and for hospitals with higher or lower mental health than other hospitals with similar levels of overall health ratings.

Self-rated mental health is now an important adjuster for HCAHPS scores and will improve the estimation of all hospital scores. Additionally, the new model will improve the comparability between the VA and non-VA HCAHPS scores.

*Slide 20-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.hcahpsonline.org](http://www.hcahpsonline.org).

Thank you for listening to the HCAHPS podcast Updated Patient-Mix Adjustment: Self-Rated Mental Health.

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