Hospital-Acquired Condition Reduction Program Fiscal Year 2018 Fact Sheet

Overview

Section 3008 of the Patient Protection and Affordable Care Act (ACA) established the Hospital-Acquired Condition (HAC) Reduction Program to encourage eligible hospitals to reduce HACs.

Beginning in Fiscal Year (FY) 2015 (i.e., discharges beginning on October 1, 2014), the HAC Reduction Program requires the Secretary of the Department of Health and Human Services (HHS) to adjust payments to hospitals that rank in the worst-performing quartile of all subsection (d) non-Maryland hospitals with respect to risk-adjusted HAC quality measures. Hospitals with a Total HAC Score greater than the 75th percentile of all Total HAC Scores (i.e., the worst-performing quartile) will be subject to a 1 percent payment reduction.

FY 2018 Results

The cutoff for the 75th percentile of Total HAC Scores is 0.3687. The 75th percentile cutoff was 6.5700 in FY 2017. Hospitals cannot directly compare Total HAC Scores or the 75th percentile cutoff between FY 2018 and previous program years because these results are on different scales due to the Winsorized z-score method, which CMS adopted in FY 2018. Please refer to the Scoring Methodology section below for more information.

Public Reporting

CMS will report the following FY 2018 HAC Reduction Program information for each hospital on *Hospital Compare* in December 2017:

- Recalibrated PSI 90 Composite measure score
- Central Line-Associated Bloodstream Infection (CLABSI), Catheter-Associated Urinary Tract Infection (CAUTI), Surgical Site Infection (SSI), Methicillin-resistant Staphylococcus aureus (MRSA) bacteremia, and Clostridium difficile Infection (CDI) measure scores
- Domain 1 and Domain 2 scores
- Total HAC Score
- Payment Reduction Indicator

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[1] The recalibrated PSIs used in CMS hospital quality reporting programs focus on the Medicare Fee-for-Service (FFS) population. CMS refers to PSIs as "recalibrated" to differentiate from the all-payer population for AHRQ.

Measure Selection and Calculation

In the FY 2014 Inpatient Prospective Payment System (IPPS)/Long-Term Care Hospital Prospective Payment System (LTCH PPS) Final Rule, CMS adopted the PSI 90 Composite and CDC CLABSI, CAUTI, SSI (Abdominal Hysterectomy and Colon Procedures), MRSA bacteremia, and CDI measures. In the FY 2017 Inpatient Prospective Payment System (IPPS)/Long-Term Care Hospital Prospective Payment System (LTCH PPS) Final Rule, CMS adopted the modified Recalibrated PSI 90 Composite for the FY 2018 HAC Reduction Program.

Recalibrated PSI 90 Composite

The Recalibrated PSI 90 Composite includes the following ten PSIs:

- PSI 03 – Pressure Ulcer Rate
- PSI 06 – Iatrogenic Pneumothorax Rate
- PSI 08 – In-Hospital Fall with Hip Fracture Rate
- PSI 09 – Perioperative Hemorrhage or Hematoma Rate
- PSI 10 – Postoperative Acute Kidney Injury Requiring Dialysis Rate
- PSI 11 – Postoperative Respiratory Failure Rate
- PSI 12 – Perioperative Pulmonary Embolism or Deep Vein Thrombosis Rate
- PSI 13 – Postoperative Sepsis Rate
- PSI 14 – Postoperative Wound Dehiscence Rate
- PSI 15 – Unrecognized Abdominopelvic Accidental Puncture/Laceration Rate

The recalibrated version 6.0.2 of the software is modified so that software parameters (i.e., risk-adjustment coefficients, signal variance, and component weights in the Recalibrated PSI 90 Composite) derive from data from July 2013 through June 2015 Medicare Fee-for-Service (FFS) claims. Recalibration does not affect the individual PSI measure specifications, or which PSIs CMS includes in the composite. The Recalibrated PSI 90 Composite is a weighted average of the risk- and reliability-adjusted versions (i.e., smoothed versions) of the recalibrated PSIs.

Hospitals' absolute and relative performance on the modified Recalibrated PSI 90 Composite will likely differ from their performance on previous versions of the Recalibrated PSI 90 Composite. In FY 2018, CMS bases hospitals' Recalibrated PSI 90 Composite performance on 15 months of data rather than 24 months. More hospitals' will have PSI 90 Composite results close to the mean. The extent to which results are smoothed to the mean during reliability adjustment increases as case size decreases.

CDC NHSN Healthcare-Associated Infection Measures

The CDC calculates standardized infection ratios (SIRs) for the CLABSI, CAUTI, SSI, MRSA bacteremia, and CDI measures. SIRs compare observed-to-predicted numbers of healthcare-associated infections (HAIs).

The CLABSI, CAUTI, SSI, MRSA bacteremia, and CDI measures are risk-adjusted at the hospital level and patient care unit level. CDC used chart-abstracted and laboratory surveillance data from NHSN for infections occurring from January 1, 2015 through December 31, 2016.

Hospitals' Domain 2 measure results will differ between FY 2018 and previous program years due to rebaselining and the expansion of the CLABSI and CAUTI measures to include ward

data.

Scoring Methodology

CMS finalized the adoption of the Winsorized z-score methodology in the FY 2017 IPPS/LTCH PPS Final Rule. The Winsorized z-score methodology replaced the decile-based scoring methodology CMS used in FY 2015, 2016, and 2017. To calculate measure scores, the previous decile-based scoring method categorized each hospital into ten groups, assigning a score from 1 to 10 for each Domain 1 and Domain 2 measure. The Winsorized z-score methodology is a continuous scoring method that relies on the actual measure value. It ranks hospitals on a continuous spectrum from best performing to worst performing. The Winsorized z-score method improves precision and leads to fewer ties in Total HAC Scores across hospitals, better distinguishing hospital performance.

Hospitals cannot directly compare measure scores, domain scores, and Total HAC Scores between FY 2018 and previous program years. These results are on different scales. Under the decile-based scoring approach, a hospital's measure score represented the decile of a hospital's measure result. Measure scores, domain scores, and Total HAC Scores ranged between 1 and 10. Under the Winsorized z-score method, a hospital's measure score indicates the difference between the measure result and the mean score in standard deviations. Winsorized z-scores for measures tend to range between -3 and 3. The domain scores and Total HAC Score tend to fall within that range as well.

The Winsorized z-score method affects the calculation of the measures scores, but does not affect how CMS determines domain scores, Total HAC Scores, and the worst-performing quartile.

Winsorized z-Score Calculation

For each measure, CMS calculates Winsorized measure results for each hospital based on raw measure results and the 5th and 95th percentile result for all eligible hospitals. If a hospital's measure result falls between the minimum and 5th percentile, CMS sets the hospital's measure result equal to the 5th percentile. If a hospital's measure result falls between the 95th percentile and maximum, CMS sets the hospital's measure results equal to the 95th percentile. Winsorization does not affect hospitals with a measure result between the 5th percentile and 95th percentile. These hospitals' Winsorized measure results equal the hospital's raw measure result.

For each measure, CMS subtracts the mean Winsorized measure result for all eligible hospitals from a hospital's Winsorized measure result, and divides by the standard deviation of Winsorized measure results for all eligible hospitals.

Winsorized z-score formula for "Hospital i" is:

$$\frac{X_i - \bar{X}}{SD(x)}$$

- X_i is hospital i's Winsorized measure result.
- $\bar{X}$ (bar) is the mean Winsorized measure result calculated across all subsection (d) hospitals.
- SD (x) is the standard deviation of Winsorized measure results calculated across Maryland and subsection (d) hospitals.

CMS grants exceptions for new hospitals, hospitals that submit an approved HAI exception form (SSI, MRSA, and CDI), or outliers (CDI only).
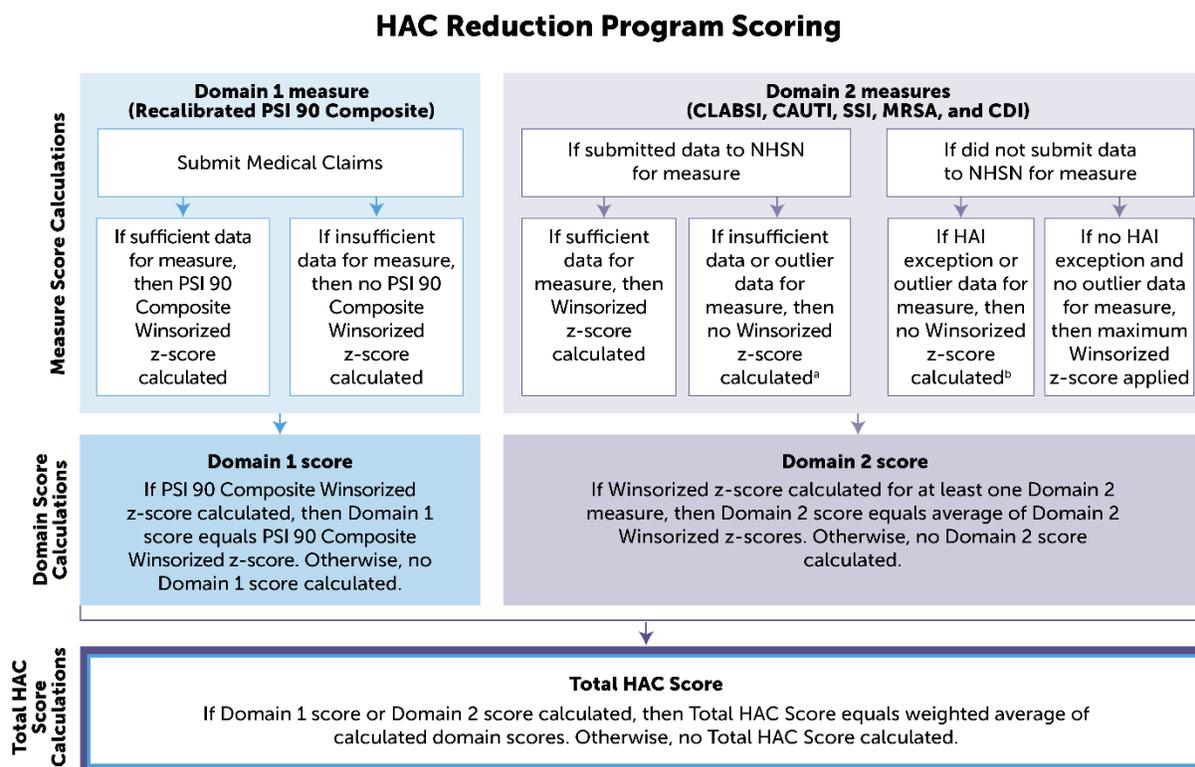
Negative domain scores indicate better performance, reflecting measure values above the national mean. Positive domain scores indicate worse performance, reflecting measure values below the national mean.

The domain weights for FY 2018 are the same as FY 2017. CMS applies a weight of 15 percent for Domain 1 and 85 percent for Domain 2 to determine the Total HAC Score for hospitals that receive a Domain 1 score and a Domain 2 score. If a hospital has only one domain score, then CMS applies a weight of 100 percent to the domain for which the hospital has a score. Hospitals with a Total HAC Score above the 75th percentile of the Total HAC Score distribution will receive a payment reduction.

Please see the FY 2018 HAC Reduction Program Hospital-Specific Report User Guide, located at https://qualitynet.org (Hospitals-Inpatient>HAC Reduction Program>Hospital-Specific-Reports). For more information on the scoring methodology CMS used for the FY 2018 HAC Reduction Program, reference the Winsorized z-scores infographic at: www.qualitynet.org: >Hospitals-Inpatient>Hospital-Acquired Condition (HAC) Reduction Program>Resources

Figure 1 presents a visual overview of the scoring methodology.

Figure 1 – Overview of Scoring Methodology

HAC Reduction Program Scoring

Measure Score Calculations

Domain 1 measure (Recalibrated PSI 90 Composite)

Submit Medical Claims

If sufficient data for measure, then PSI 90 Composite Winsorized z-score calculated

If insufficient data for measure, then no PSI 90 Composite Winsorized z-score calculated

Domain 2 measures (CLABSI, CAUTI, SSI, MRSA, and CDI)

If submitted data to NHSN for measure

If did not submit data to NHSN for measure

If sufficient data for measure, then Winsorized z-score calculated

If insufficient data or outlier data for measure, then no Winsorized z-score calculated[a]

If HAI exception or outlier data for measure, then no Winsorized z-score calculated[b]

If no HAI exception and no outlier data for measure, then maximum Winsorized z-score applied

Domain Score Calculations

Domain 1 score
If PSI 90 Composite Winsorized z-score calculated, then Domain 1 score equals PSI 90 Composite Winsorized z-score. Otherwise, no Domain 1 score calculated.

Domain 2 score
If Winsorized z-score calculated for at least one Domain 2 measure, then Domain 2 score equals average of Domain 2 Winsorized z-scores. Otherwise, no Domain 2 score calculated.

Total HAC Score Calculations

Total HAC Score
If Domain 1 score or Domain 2 score calculated, then Total HAC Score equals weighted average of calculated domain scores. Otherwise, no Total HAC Score calculated.

a: The CDC will not calculate an SIR for CDI if the community-onset prevalence rates are within outlier bounds (i.e., above 2.6).
b: CMS will not calculate a measure score if the hospital received an HAI exception. Hospitals may receive an exception for CLABSI, CAUTI, and SSI by submitting an HAI Exception Form.

Contacts and Additional Resources

For more information, please reference the following resources:

- Please send questions about CMS's calculations, issues accessing the HSR, and discharge-level data to: QualityNet Help Desk at qnetsupport@hcqis.org or (866) 288-8912.
- HAC Reduction Program Methodology and General Information
  o *QualityNet* HAC Reduction Program page: www.qualitynet.org/dcs/ ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=122 8774189166
  o Submit a question to the HAC Reduction Program Question and Answer Tool: https://cms-ip.custhelp.com/app/homehacrp/p/842
- Scores
  o Hospital Compare HAC Reduction Program page: www.medicare.gov/ hospitalcompare/HAC-reduction-program.html
  o CMS HAC Reduction Program page: http://cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/HAC-Reduction-Program.html

- PSI 90
  - *QualityNet* AHRQ Resources page: http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier4&cid=1228695355425
  - AHRQ Quality Indicator Support: www.qualityindicators.ahrq.gov/ or email QIsupport@ahrq.hhs.gov.
- CLABSI, CAUTI, SSI, MRSA bacteremia, and CDI
  - *QualityNet* Healthcare-Associated Infections page: www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1228760487021
  - CDC NHSN 2015 Rebaseline page: https://www.cdc.gov/nhsn/2015rebaseline/index.html
  - NHSN support: nhsn@cdc.gov