



Calendar Year 2019 Medicare Spending per Beneficiary Measure Hospital-Specific Report Overview

Hosted by:

**Inpatient Value, Incentives, and Quality Reporting (VIQR)
Outreach and Education Support Contract**

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Purpose

This presentation will provide an overview of the Medicare Spending per Beneficiary (MSPB) Measure and hospital-specific reports (HSRs), including the goals of the MSPB Measure, the measure methodology, and the steps to perform MSPB Measure calculations. Additionally, participants will learn how to download the MSPB HSRs from the *QualityNet Secure Portal*.

Objectives

Participants will be able to:

- Identify the goals of the MSPB Measure.
- Recall the MSPB Measure methodology.
- Download the MSPB HSRs.

Webinar Chat Questions

Please email any questions that are pertinent to the webinar topic to WebinarQuestions@hsag.com with the following information:

- Subject Line: Calendar Year 2019 Medicare Spending per Beneficiary Measure Hospital-Specific Report Overview
- Email Body: If your question pertains to a specific slide, please include the slide number

If you have a question unrelated to the current webinar topic, we recommend that you first search for it in the [QualityNet](#) Inpatient Questions and Answers tool, at

https://cmsqualitysupport.servicenowservices.com/qnet_qa.

If you do not find an answer, then submit your question to us via the same tool.

Bethany Bunch, MSHA, Hospital VBP Program Lead
Inpatient VIQR Outreach and Education Support Contractor

Downloading the HSR and Review and Correction Instructions

MSPB HSR Notes

- There is only **one combined** HSR for both the Hospital VBP Program and Public Reporting.
- The HSR contains MSPB measure results for the fiscal year (FY) 2021 Hospital VBP Program performance period and for January 2021 Public Reporting.
- MSPB HSRs were delivered **May 21-22, 2020**.
- The Hospital VBP Program MSPB performance period is calendar year (CY) 2019 (January 1 – December, 31, 2019).
- Only performance period data will be included in the HSR for the Hospital VBP Program.
 - Hospital VBP Program baseline period data (CY 2017) are displayed on your hospital's Baseline Measures Report available to run in the *Hospital Quality Reporting (HQR) system*.
 - The FY 2021 Baseline Measures Report was first made available in March 2019.

Hospital VBP Program: Review and Correction Period

- Hospitals may review and request corrections to their MSPB Measure results for 30 days after release.
 - The Hospital VBP Program review and correction period **ends on June 26, 2020, at 11:59 p.m. Pacific Time.**
 - MSPB results will be used to calculate the Efficiency and Cost Reduction domain in the Hospital VBP Program. Hospitals will be notified of their FY 2021 Hospital VBP Program results by August 1, 2020, in the Percentage Payment Summary Reports.
- During the review and correction period, hospitals may submit questions or requests for correction through the QualityNet Inpatient Q&A tool:
https://cmsqualitysupport.servicenowservices.com/qnet_qa?id=ask_a_question
 - **Program:** Inpatient Claims-Based Measures
 - **Topic:** Medicare Spending Per Beneficiary (MSPB) > **Review & correction request**
 - Please include your hospital's CMS Certification Number (CCN).
- As with other claims-based measures, hospitals may **not** submit the following:
 - Additional corrections to underlying claims data
 - New claims to be added to the calculations

How to Receive Your HSR

- Who has access to the report?
 - Hospital users with the following roles will have access to the HSRs and HSR User Guide:
 - Hospital Reporting Feedback-Inpatient
 - File Exchange and Search
- How do I access the report?
 - For those with the appropriate access, the HSRs and User Guide will be delivered to their *QualityNet* Secure File Transfer inbox.

How to Receive Your HSR

How do I know the report is available?

- A Listserve communication was sent via email to those who are registered for the **Hospital IQR and Improvement** and the **Hospital Inpatient VBP and Improvement Program** Notification ListServe groups on *QualityNet*.
- An Auto Route File Delivery Notification was sent to your e-mail when your hospital's HSR has been delivered to your account. Only hospital users with the appropriate roles will receive a report and the notification.



Secure File Transfer

https://cportal.qualitynet.org/QNet/pgm_select.htm



Select Your QualityNet Destination

Secure File Transfer

CMS Data Element Library

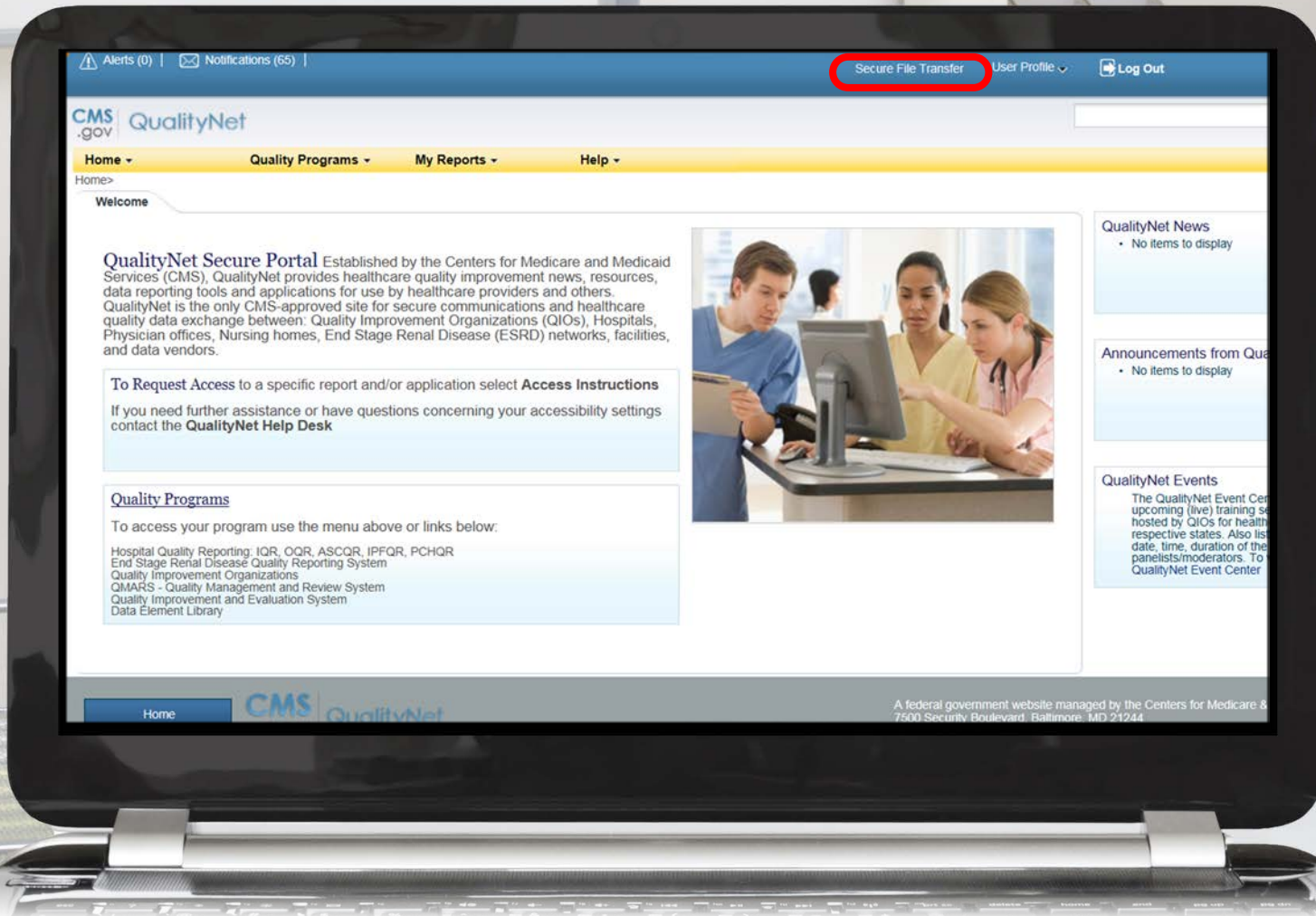
End-Stage Renal Disease Quality Reporting System

Quality Improvement Organizations

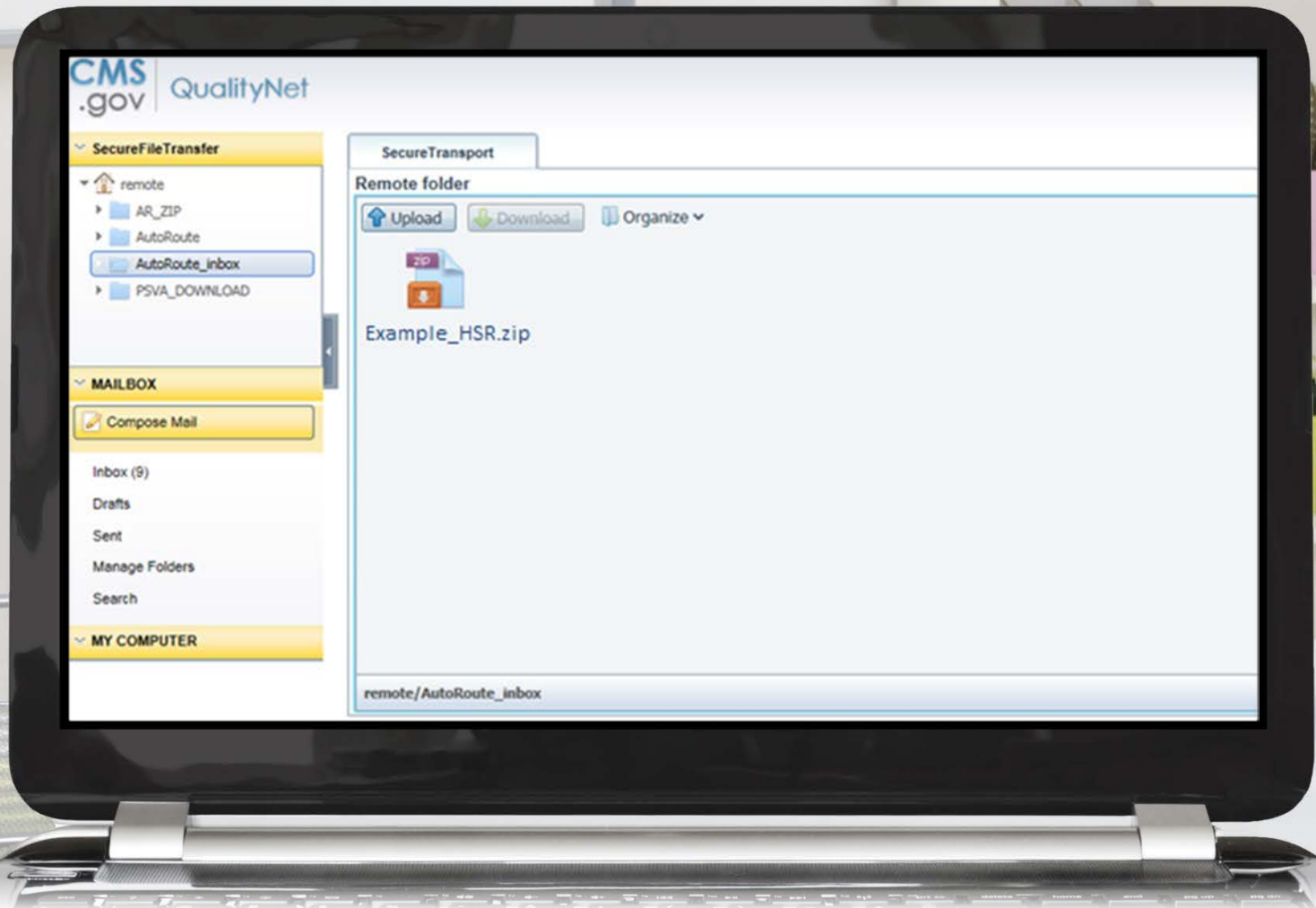
QIES Business Intelligence Center

Hospital Quality Reporting

Secure File Transfer



Auto Route Inbox



Sam Bounds, Senior Policy Lead, Acumen LLC

MSPB Methodology and Calculation

Introduction

The MSPB Measure:

- Evaluates the efficiency of hospitals relative to the efficiency of the national median hospital.
- Assesses the cost to Medicare for services performed by hospitals and other healthcare providers during an MSPB episode.
 - An episode is comprised of the periods immediately prior to, during, and following a patient's hospital stay.

MSPB and Hospital VBP Program

The MSPB Measure:

- Is the sole measure within the Efficiency and Cost Reduction domain of the Hospital VBP Program and was included starting in FY 2015.
- Was required for inclusion in the Hospital VBP Program by §1886(o)(2)(B)(ii) of the Social Security Act.

Final details of MSPB episode construction and adjustment are in the FY 2012 IPPS final rule (76 FR 51618 through 51626)¹ and the FY 2013 IPPS final rule (77 FR 53583 through 53602)².

¹ <http://www.gpo.gov/fdsys/pkg/FR-2011-08-18/pdf/2011-19719.pdf>

² <http://www.gpo.gov/fdsys/pkg/FR-2012-08-31/pdf/2012-19079.pdf>

Agenda

- Goals of MSPB Measure
- MSPB Measure methodology
- Calculation steps
- Example calculation
- Overview of HSRs and supplemental files

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- **Goals of MSPB Measure**
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Goals of the MSPB Measure

In conjunction with other Hospital VBP Program quality measures, the MSPB Measure aims for the following:

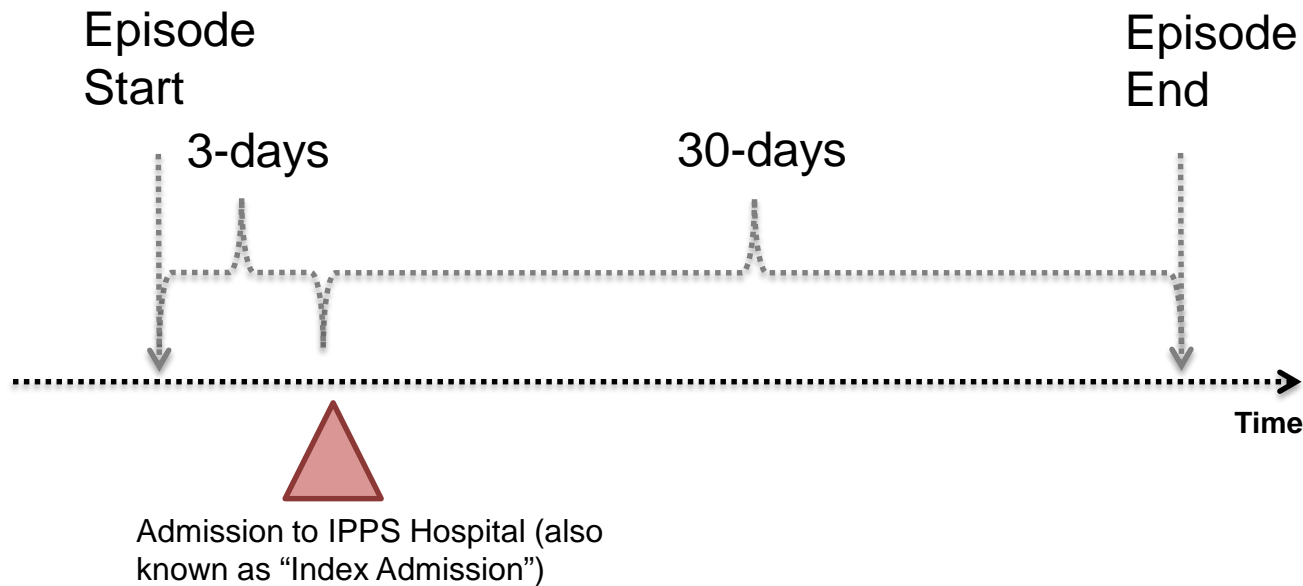
- Incentivize hospitals to coordinate care
- Reduce system fragmentation
- Improve efficiency

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MSPB Measure Methodology

The MSPB Measure is a claims-based measure that includes price-standardized payments for all Part A and Part B services provided from three days prior to a hospital admission (index admission) through 30 days after the hospital discharge.



MSPB Measure Definitions

MSPB episode:

- Period three days prior to an inpatient prospective payment system (IPPS) hospital admission (also known as the “index admission”) through 30 days post-hospital discharge
- Hospital admissions that are **not** considered as index admissions:
 - Admissions which occur within 30 days of discharge from another index admission
 - Acute-to-acute transfers
 - Episodes where the index admission claim has \$0 payment
 - Admissions having discharge dates fewer than 30 days prior to the end of the performance period

MSPB Measure Definitions

$$\text{MSPB Measure} = \frac{\text{MSPB Amount}}{\text{National Episode-Weighted Median MSPB Amount}}$$

MSPB Amount:

Sum of a hospital's standardized, risk-adjusted spending across all of the hospital's eligible episodes divided by the number of episodes

MSPB Measure:

A hospital's MSPB Amount divided by the episode-weighted median MSPB Amount across all hospitals

- Normalized MSPB Amount so that median MSPB Measure equals 1.0

MSPB Measure Interpretation

- An MSPB Measure that is less than 1.0 indicates that a given hospital spends less than the national median MSPB Amount across all hospitals during a given performance period.
- Improvement on the MSPB Measure for a hospital would be observed as a lower MSPB Measure value across performance periods.

Measure Specifications: Included and Excluded Populations

- **Included beneficiaries are:**
 - Enrolled in Medicare Parts A and B from 90 days prior to the episode through the end of the episode.
 - Admitted to subsection (d) hospitals.
- **Excluded beneficiaries:**
 - Are enrolled in Medicare Advantage.
 - Have Medicare as the secondary payer.
 - Died during the episode.

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Overview of Calculation Steps

1. Standardize claims payments
2. Calculate standardized episode spending
3. Calculate expected episode spending
4. Winsorize expected values
5. Calculate residuals
6. Exclude outliers
7. Calculate MSPB Amount for each hospital
8. Calculate MSPB Measure
9. Report and use MSPB Measure for the Hospital VBP Program

Step 1: Standardize Claims Payments

- Standardize spending to adjust for geographic differences and payments from special Medicare programs that are not related to resource use (e.g., graduate medical education).
- Maintain differences that result from healthcare delivery choices such as:
 - Setting where the service is provided
 - Specialty of healthcare provider who delivers the service
 - Number of services provided in the same encounter
 - Outlier cases
- Full details are available at this *QualityNet* webpage:
<https://www.qualitynet.org/inpatient/measures/payment-standardization>

Step 2: Calculate Standardized Episode Spending

Sum all standardized Medicare Part A and Part B claim allowed amounts made during an MSPB episode (i.e., between three days prior to the hospital admission until 30 days after discharge), including the following:

- Patient deductibles and coinsurance
- Claims identified based on the “from date” variable
 - The first day on the billing statement covering services rendered to the beneficiary (or admission date for inpatient claims)

Step 3: Calculate Expected Episode Spending

- Account for variation in patient case mix across hospitals by using a linear regression to estimate the relationship between risk adjustment variables and standardized episode cost (Step 2).
 - Risk adjustment variables include factors such as age, severity of illness, and comorbidity interactions.
 - Severity of illness is measured using a number of indicators, including Hierarchical Condition Categories (HCC) indicators. HCC indicators are specified in the HCC Version 22 (2016) model, which accounts for the inclusion of ICD-10 codes by mapping to condition categories and ICD-10 codes to condition categories.
- Use a separate regression model for each major diagnostic category (MDC).

Step 4: Winsorize Expected Values

- Winsorize (i.e., bottom code) expected spending for extremely low-spending episodes/expected values for each MDC.
 1. Identify episodes that fall below the 0.5 percentile of the MDC expected spending distribution.
 2. Reset the expected spending for these episodes to the expected spending of the episode at the 0.5 percentile.
- Renormalize expected spending so the average expected spending within any MDC remains unchanged.
 - Multiply Winsorized expected spending by the ratio of the average standardized spending level within each MDC and average Winsorized predicted spending level within each MDC.

Step 5 and 6: Calculate Residuals and Exclude Outliers

- Calculate residuals for each episode to identify outliers:
 - Residual = Standardized Episode Spending (Step 2) – Winsorized Expected Episode Spending (Step 4)
- Exclude statistical outlier episodes to mitigate effect of high-cost and low-cost outliers on each hospital's MSPB Measure. Statistical outlier episodes are defined as the following:
 - High-Cost Outlier – Residual falls above 99th percentile of the residual cost distribution
 - Low-Cost Outlier – Residual falls below 1st percentile of the residual cost distribution
- Renormalize expected cost to ensure that average expected cost is the same as the average standardized cost after outlier exclusions.

Step 7: Calculate the MSPB Amount for Each Hospital

- Calculate the risk-adjusted MSPB Amount for each hospital as the ratio of the average standardized episode spending over the average Winsorized expected episode spending multiplied by the average episode spending level across all hospitals.
- For hospital j :

$$MSPB\ Amount_j = \frac{Avg.\ Standardized\ Spending_j}{Avg.\ Winsorized\ Expected\ Spending_j} \times Avg.\ Standardized\ Spending_{all\ hospitals}$$

Step 8: Calculate the MSPB Measure

MSPB Measure for each hospital is reported as the ratio of the MSPB Amount for the hospital (Step 7) divided by the episode-weighted median MSPB Amount across all hospitals.

$$\text{MSPB Measure} = \frac{\text{MSPB Amount}}{\text{National Episode-Weighted Median MSPB Amount}}$$

Step 9: Report and Use of MSPB Measure for the Hospital VBP Program

- Hospitals with at least 25 episodes will have their MSPB Measure data reported and used for payment purposes under the Hospital VBP Program.
- Hospitals with 24 or fewer episodes will not have their MSPB Measure data used for payment purposes nor will their data be publicly reported.
- CMS anticipates data refreshing on *Hospital Compare* or successor website during the January 2021 refresh.

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Example Calculation

- Hospital A has 30 MSPB episodes, ranging from \$1,000 to \$33,000. After applying Steps 1–4, one episode had a residual higher than the 99th percentile residual over all MSPB episodes and was excluded in Step 6.
 - Calculate Residuals (Step 5) = Standardized Episode Spending (Step 2) – Winsorized Expected Episode Spending (Step 4)
 - Example Episode Residual = \$33,000 - \$5,500 = \$27,500
- Full details of example calculation are available on *QualityNet* at: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic/Page/QnetTier4&cid=1228772057350>

Example Calculation: Step 7

Calculate the MSPB Amount for each hospital as the ratio of the average standardized episode spending over the average Winsorized expected episode spending multiplied by the average episode spending level across all hospitals.

$$MSPB\ Amount_j = \frac{Avg.\ Standardized\ Spending_j}{Avg.\ Winsorized\ Expected\ Spending_j} \times Avg.\ Standardized\ Spending_{all\ hospitals}$$

$$Example\ Hospital\ MSPB\ Amount = \frac{\$9,368}{\$9,964} \times \$9,000 = \$8,462$$

Example Calculation: Steps 8 and 9

- 8. Calculate the MSPB Measure** as the hospital's MSPB amount divided by the episode-weighted median MSPB amount across all hospitals.

$$\text{MSPB Measure} = \frac{\text{MSPB Amount}}{\text{National Episode-Weighted Median MSPB Amount}}$$

$$\text{Example Hospital MSPB Measure} = \frac{\$8,462}{\$9,100} = 0.93$$

- 9. Report the MSPB Measure**

Since this hospital has 29 episodes, its MSPB Measure will be used for payment purposes.

Ellen Jarosinski, Hospital VBP Project Lead
Healthcare Quality Analytics and Reports Contractor

Overview of HSRs and Supplemental Files

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- Goals of MSPB Measure
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- **Overview of HSRs and supplemental files**

Overview of HSRs

- During the preview period, hospitals can review their MSPB Measure results in their HSR.
- The MSPB HSR includes six tables and is accompanied by three supplemental hospital-specific data files.
 - Tables include the MSPB Measure results of the individual hospital and of other hospitals in the state and nation.
 - Supplemental hospital-specific data files contain information on the admissions that were considered for the individual hospital's MSPB Measure and data on the Medicare payments (to individual hospitals and other providers) that were included in the measure.
- A separate PDF Hospital User Guide (HUG) will accompany the HSR including additional information about the data in the HSRs and supplemental files.

Table 1: Your Hospital's MSPB Measure

MSPB Measure Performance Rate

- Displays the individual hospital's MSPB Measure performance rate

Your Hospital's MSPB Measure [a]
1.02

Table 2: A Summary of Your Hospital's MSPB Performance

Additional Information About the Individual Hospital's MSPB Performance

- Provides the number of eligible admissions and MSPB amount for the individual hospital, the state, and the nation

Number of Eligible Admissions at Your Hospital [a]	Your Hospital's MSPB Amount [b]	State Average MSPB Amount [c]	U.S. National Average MSPB Amount [d]
222	\$22,563.89	\$21,960.35	\$21,911.34

Table 3: A Comparison of Your Hospital's MSPB Performance

Displays the major components (e.g., number of eligible admissions, MSPB Amount, and National Median MSPB Amount) used to calculate the individual hospital's MSPB Measure performance rate

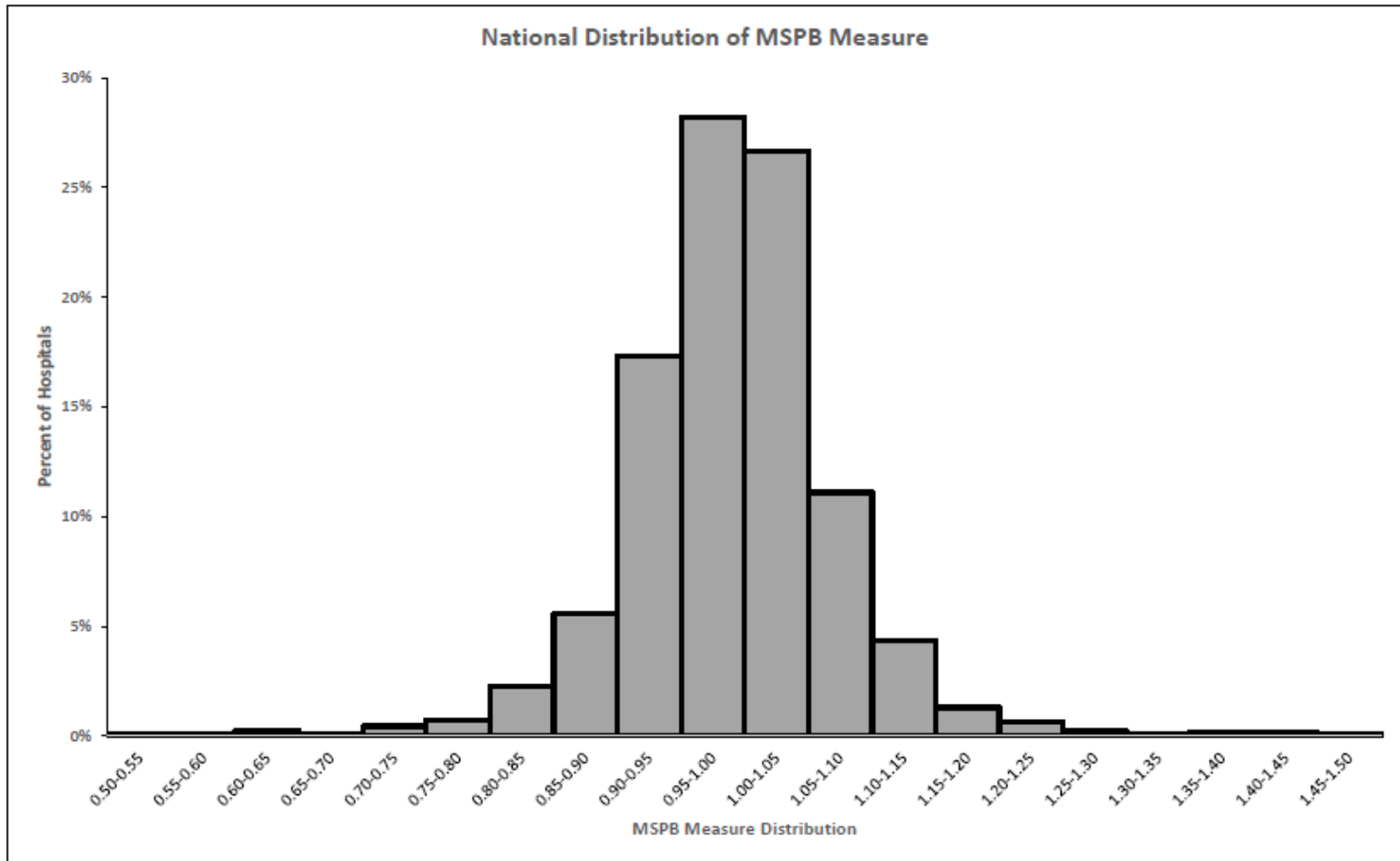
--	Your Hospital	State	U.S. National
Number of Eligible Admissions [a]	222	94,882	5,092,741
Average Spending per Episode [b]	\$15,547.15	\$21,192.34	\$22,211.89
MSPB Amount [c] (Avg. Risk-Adjusted Spending)	\$22,563.89	\$21,960.35	\$21,911.34
U.S. National Median MSPB Amount [d]	\$22,212.62	\$22,212.62	\$22,212.62
MSPB Measure* [e]	1.02	0.99	0.99

Table 4: National Distribution of the MSPB Measure

Displays the national distribution of the MSPB Measure across all hospitals in the nation

Percentile	MSPB Value
5	0.86
10	0.90
25	0.94
50	0.99
75	1.03
90	1.08
95	1.11

Table 4: Graphical Display of National Distribution of the MSPB Measure



Overview of Table 5

Spending Breakdown by Claim Type

- Provides a detailed breakdown of the individual hospital's spending for the following time periods:
 - Three days prior to index admission
 - During index admission
 - 30 days after hospital discharge
- Spending levels are broken down by claim type within each of the time periods.
- This compares the percent of total average episode spending by claim type and time period at the individual hospital to the total average spending at hospitals in the state and the nation.

Table 5: Detailed MSPB Spending Breakdown by Claim Type

Time Period

Where in the episode the claim occurred

Individual Hospital Spending

Shows the amount and percent of total average episode spending for the individual hospital's episodes in a given category and claim type

Claim Type	Hospital Spending Per Episode [d]	Hospital Percent of Spending [e]	State Percent of Spending [f]	U.S. National Percent of Spending [g]
Total During Index Admission [a] [b]	\$6,649	42.8%	54.5%	54.3%
Home Health Agency	\$0	0.0%	0.0%	0.0%
Hospice	\$0	0.0%	0.0%	0.0%
Inpatient	\$6,336	40.8%	47.4%	47.2%
Outpatient	\$0	0.0%	0.0%	0.0%
Skilled Nursing Facility	\$0	0.0%	0.0%	0.0%
Durable Medical Equipment	\$10	0.1%	0.1%	0.1%
Carrier	\$303	1.9%	7.1%	7.1%

Table 5: Detailed MSPB Spending Breakdown by Claim Type

Percent of Total Average Spending in the Individual Hospital, State, and Nation

A higher percent of spending in the individual hospital than the percent of spending in the state or nation means that for the given category and claim type, the individual hospital spends more than other hospitals in the state or the nation respectively.

Claim Type	Hospital Spending Per Episode [d]	Hospital Percent of Spending [e]	State Percent of Spending [f]	U.S. National Percent of Spending [g]
Total During Index Admission [a] [b]	\$6,649	42.8%	54.5%	54.3%
Home Health Agency	\$0	0.0%	0.0%	0.0%
Hospice	\$0	0.0%	0.0%	0.0%
Inpatient	\$6,336	40.8%	47.4%	47.2%
Outpatient	\$0	0.0%	0.0%	0.0%
Skilled Nursing Facility	\$0	0.0%	0.0%	0.0%
Durable Medical Equipment	\$10	0.1%	0.1%	0.1%
Carrier	\$303	1.9%	7.1%	7.1%

Overview of Table 6

Spending Breakdown by Major Diagnostic Category (MDC)

- Provides a breakdown of the individual hospital's average actual and expected spending for an MSPB episode by MDC
- Compares the individual hospital's average actual and expected spending to state and national average actual and expected spending

Table 6: Detailed MSPB Spending Breakdown by MDC

MDC Number and Description

Hospital Spending
The individual hospitals' average and expected spending per episode for a given MDC

	A	B	C	D	E	F	G	H
	MDC	Description	Hospital Average Spending per Episode	Hospital Average Expected Spending per Episode	State Average Spending per Episode	State Average Expected Spending per Episode	U.S. National Average Spending per Episode	U.S. National Average Expected Spending per Episode
5								
6	0	Pre-MDC‡	--	--	\$132,936	\$122,199	\$131,472	\$123,322
7	1	Nervous System	\$15,013	\$17,828	\$22,475	\$22,325	\$24,205	\$23,911
8	2	Eye	--	--	\$13,573	\$13,506	\$14,583	\$14,654
9	3	Ear, Nose, Mouth, and Throat	\$18,155	\$10,305	\$14,001	\$14,393	\$14,769	\$14,902
10	4	Respiratory System	\$12,755	\$12,635	\$17,019	\$16,798	\$17,939	\$18,014
11	5	Circulatory System	\$12,104	\$15,167	\$22,168	\$22,559	\$23,124	\$23,314

Table 6: Detailed MSPB Spending Breakdown by MDC

Spending in the Individual Hospital's State and Nation
 Average spending values for the state and for the nation (e.g., if the individual hospital has a lower value in Column D than in Column H, its patients have a lower expected spending level than the nation for that given MDC).

	A	B	C	D	E	F	G	H
	MDC	Description	Hospital Average Spending per Episode	Hospital Average Expected Spending per Episode	State Average Spending per Episode	State Average Expected Spending per Episode	U.S. National Average Spending per Episode	U.S. National Average Expected Spending per Episode
5								
6	0	Pre-MDC‡	--	--	\$132,936	\$122,199	\$131,472	\$123,322
7	1	Nervous System	\$15,013	\$17,828	\$22,475	\$22,325	\$24,205	\$23,911
8	2	Eye	--	--	\$13,573	\$13,506	\$14,583	\$14,654
9	3	Ear, Nose, Mouth, and Throat	\$18,155	\$10,305	\$14,001	\$14,393	\$14,769	\$14,902
10	4	Respiratory System	\$12,755	\$12,635	\$17,019	\$16,798	\$17,939	\$18,014
11	5	Circulatory System	\$12,104	\$15,167	\$22,168	\$22,559	\$23,124	\$23,314

Overview of Supplemental Hospital-Specific Data Files

Each HSR is accompanied by three supplemental hospital-specific data files:

1. Index Admission File

- Presents all inpatient admissions for the individual hospital in which a beneficiary was discharged during the period of performance

2. Beneficiary Risk Score File

- Identifies beneficiaries and their health status based on the beneficiary's claims history in the 90 days prior to the start of an episode

3. Episode File

- Shows the type of care, spending amount, and top five billing providers in each care setting for each MSPB episode

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Questions

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