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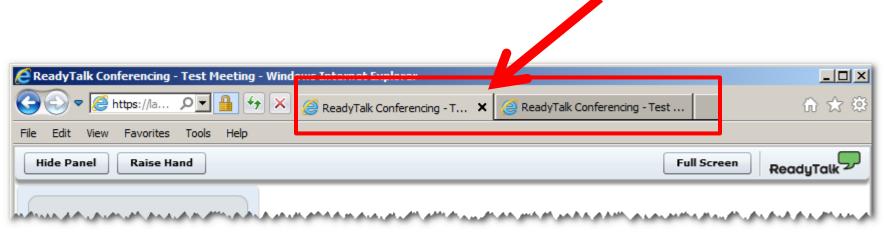
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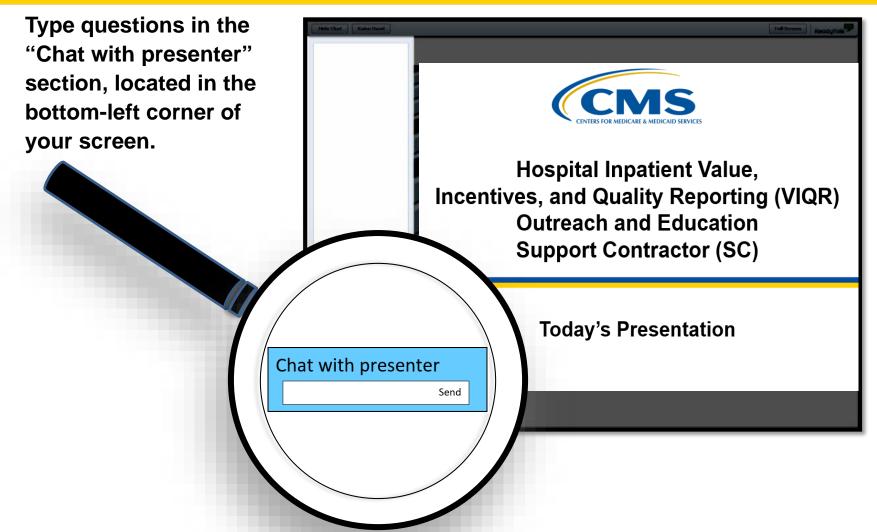
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#### Fiscal Year 2019 Medicare Spending per Beneficiary Measure Overview

Cynthia Khan, PhD Data Scientist Econometrica, Inc.

Moderated by: Bethany Wheeler-Bunch, MSHA

Hospital Value-Based Purchasing (VBP) Program Support Contract Lead Hospital Inpatient Value, Incentives, and Quality Reporting (VIQR) Outreach and Education Support Contractor (SC)

June 5, 2018

#### 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 the location of downloadable MSPB files (on Data.Medicare.gov/data/hospital*compare*), HSRs, and HSR supplemental files.

#### **Objectives**

By the end of the presentation, participants will be able to:

- Identify the goals of the MSPB measure.
- Explain the MSPB measure methodology.
- Locate the following MSPB documents:
  - Downloadable MSPB files posted on <u>https://data.medicare.gov/data/hospital-compare</u>
  - HSRs and their supplemental files

#### Introduction

#### The MSPB measure:

- Evaluates hospitals' efficiency 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 an efficiency measure in the Hospital Value-Based Purchasing (VBP) Program and was included starting in Fiscal Year (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 Inpatient Prospective Payment System (IPPS) Final Rule (76 FR 51618 through 51626)<sup>1</sup> and the FY 2013 IPPS Final Rule (77 FR 53583 through 53602)<sup>2</sup>.

<sup>&</sup>lt;sup>1</sup> <u>http://www.gpo.gov/fdsys/pkg/FR-2011-08-18/pdf/2011-19719.pdf</u>

<sup>&</sup>lt;sup>2</sup> <u>http://www.gpo.gov/fdsys/pkg/FR-2012-08-31/pdf/2012-19079.pdf</u>

## Agenda

- Goals of MSPB measure
- MSPB measure methodology
- Calculation steps
- Example calculation
- Overview of HSRs and supplemental files
- Overview of downloadable MSPB files posted on Data.Medicare.gov/data/hospital-compare

## Agenda

#### Goals of MSPB measure

- MSPB measure methodology
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#### **Goals of MSPB Measure**

In conjunction with other Hospital VBP Program quality measures, the MSPB measure aims to:

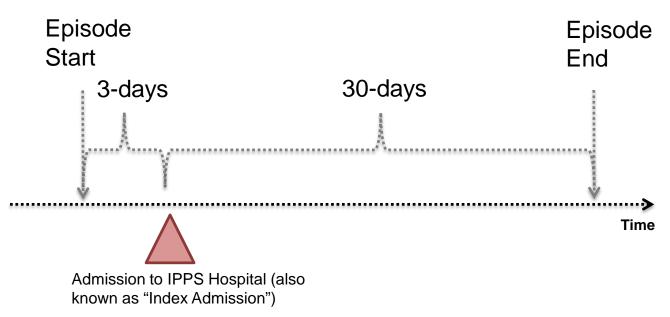
- Incentivize hospitals to coordinate care.
- Reduce system fragmentation.
- Improve efficiency.

## Agenda

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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 3 days prior to a hospital admission (index admission) through 30 days after the hospital discharge.



#### **MSPB Measure Definitions**

#### **MSPB** episode:

- Period 3 days prior to an IPPS hospital admission (also known as the "index admission") through 30 days posthospital 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**

MSPB Amount

MSPB Measure =

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 episodeweighted 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 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.
- o Admitted to subsection (d) hospitals.
- o Covered by the Railroad Retirement Board.

#### • Excluded beneficiaries:

- o Are enrolled in Medicare Advantage.
- Have Medicare as the secondary payer.
- $\circ$  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
  - o Outlier cases
- Full details are available at this QualityNet webpage: <u>http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=Q</u> <u>netPublic/Page/QnetTier4&cid=1228772057350</u>

## Step 2: Calculate Standardized Episode Spending

Sum all standardized Medicare Part A and Part B claim payments made during an MSPB episode (i.e., between 3 days prior to the hospital admission until 30 days after discharge), including:

- 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 ICD-9 codes 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:
  - 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*:

 $MSPB \ Amount = \frac{Avg. Standardized \ Spendingj}{Avg. Winsorized \ Expected \ Spendingj} \ x \ Avg. Standardized \ Spendingall_{hospitals}$ 

# 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.

MSPB Amount

*MSPB Measure* =

<sup>•</sup> 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 and fewer episodes will not have their MSPB measures data used for payment purposes.

## Agenda

- Goals of MSPB measure
- Measure methodology
- Calculation steps

#### Example calculation

- Overview of HSRs and supplemental files
- Overview of downloadable MSPB files posted on Data.Medicare.gov/data/hospital-compare

#### **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: <u>http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=Qne</u> <u>tPublic/Page/QnetTier4&cid=1228772057350</u>

#### **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.

 $MSPB \ Amount = \frac{Avg. Standardized \ Spendingj}{Avg. Winsorized \ Expected \ Spendingj} \ x \ Avg. Standardized \ Spendingall_{hospitals}$ 

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.

MSPB Amount

 $MSPB Measure = \frac{1}{National Episode-Weighted Median MSPB Amount}$ 

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.

## Agenda

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## Overview of Hospital-Specific Reports (HSRs)

- During the preview period, hospitals can review their MSPB Measure in their HSR.
- Reports include six tables and are 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.

#### **Overview of Table 1**

#### **MSPB Measure Performance Rate**

 Displays the individual hospital's MSPB Measure performance rate

## Your Hospital's MSPB Measure 0.95

#### **Overview of Table 2**

## 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	Your Hospital's MSPB Amount	State Average MSPB Amount	U.S. National Average MSPB Amount
21	19,546.53	18,900.02	20,168.13

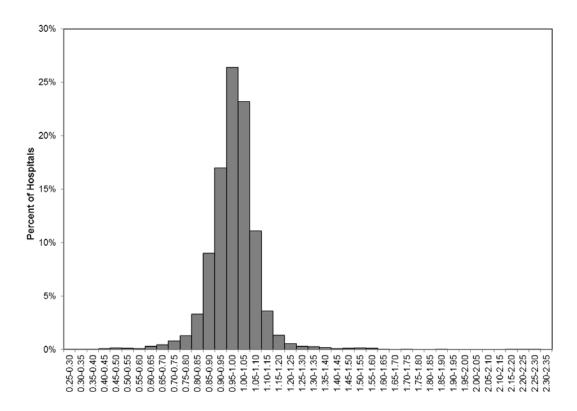
### **Table 3: Detailed MSPB Statistics**

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.	
Number of Eligible	21	64,000	5 420 622	
Admissions	21	04,000	5,420,633	
Average Spending	16,215.81	15,502.55	20,497.09	
per Episode	10,215.01	15,502.55	20,497.09	
MSPB Amount				
(Avg. Risk-Adjusted	19,546.53	18,900.02	20,168.13	
Spending)				
U.S. National Median	20,473.32	20,473.32	20,473.32	
MSPB Amount	20,473.32	20,473.32	20,473.32	
MSPB Measure	0.95	0.92	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	0.84
10	0.88
25	0.94
50	0.99
75	1.03
90	1.08
95	1.12

### **Overview of Table 5**

#### Spending Breakdown by Claim Type

- Provides a detailed breakdown of the individual hospital's spending for the following time periods:
  - $\circ$  3 days prior to index admission
  - During index admission
  - o 30 days after hospital discharge
- Spending levels are broken down by claim type within each of the time periods
- 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

When in the episode the claim occurred		The 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	The Individual Hospital Spending per Episode	The Individual Hospital Percent of Spending	State Percent of Spending	Nation Percent of Spending	
During-Index Admission	Total During-Inde	x 6,687	41.23%	70.2%	53.1%	
	Home Health Agency	47	0.29%	3.1%	0.0%	
	Hospice	75	0.46%	4.9%	0.0%	
	Inpatient	5,262	32.45%	47%	45.5%	
	Outpatient	0	0.00%	0.1%	0.0%	
	Skilled Nursing Facility	340	2.10%	10%	0.0%	
	Durable Medica Equipment	ul 76	0.47%	0.1%	0.1%	
	Carrier	887	5.47%	5.0%	7.5%	

# Table 5: Detailed MSPB SpendingBreakdown by Claim Type

**Percent of Total Average Spending in the Individual Hospital, State, and Nation** A lower 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 less than other hospitals in the state or the nation respectively.

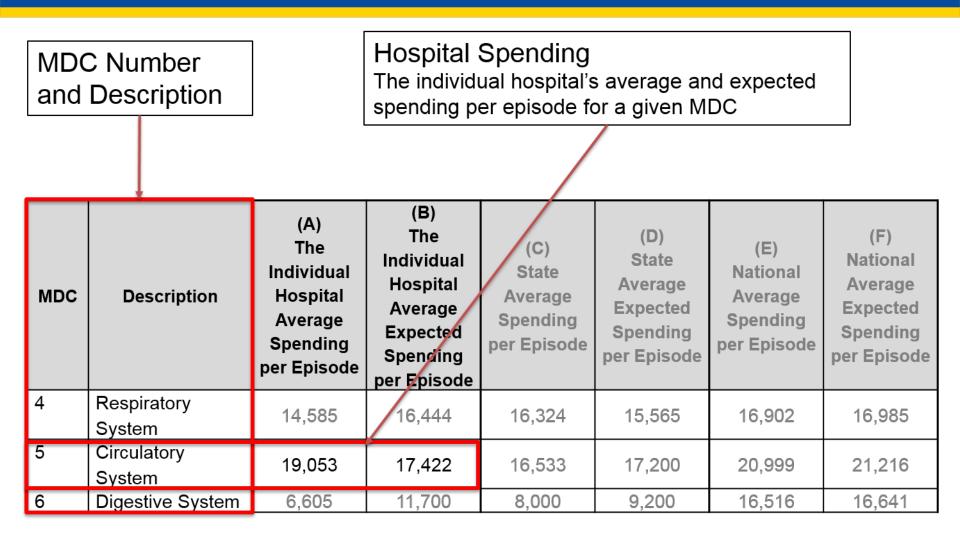
	Claim Type	The Individual Hospital Spending per Episode	The Individual Hospital Percent of Spending	State Percent of Spending	Nation Percent of Spending
	Total During-Index	6,687	41.23%	70.2%	53.1%
	Home Health Agency	47	0.29%	3.1%	0.0%
During Index	Hospice	75	0.46%	4.9%	0.0%
	Inpatient	5,262	32.45%	47%	45.5%
During-Index Admission	Outpatient	0	0.00%	0.1%	0.0%
Aumission	Skilled Nursing Facility	340	2.10%	10%	0.0%
	Durable Medical Equipment	76	0.47%	0.1%	0.1%
	Carrier	887	5.47%	5.0%	7.5%

### **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



## Table 6: Detailed MSPB SpendingBreakdown 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 B than in Column F, its patients have a lower expected spending level than the nation for that given MDC).

MDC	Description	(A) The Individual Hospital Average Spending per Episode	(B) The Individual Hospital Average Expected Spending per Episode	(C) State Average Spending per Episode	(D) State Average Expected Spending per Episode	(E) National Average Spending per Episode	(F) National Average Expected Spending per Episode
4	Respiratory System	14,585	16,444	16,324	15,565	16,902	16,985
5	Circulatory System	19,053	17,422	16,533	17,200	20,999	21,216
6	Digestive System	6,605	11,700	8,000	9,200	16,516	16,641

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

### Hospital VBP: 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 25, 2018 at 11:59 p.m. Pacific Time (PT).
  - MSPB results will be used to calculate the Efficiency and Cost Reduction domain. Hospitals will be notified of their FY 2019 Hospital VBP Program results by August 1, 2018 in the Percentage Payment Summary Reports.
- During the review and correction period, hospitals may submit questions or requests for correction to <a href="mailto:cmsmspbmeasure@econometricainc.com">cmsmspbmeasure@econometricainc.com</a>.
  - Please include your hospital's CMS Certification Number (CCN).
- As with other claims-based measures, hospitals may **NOT** submit:
  - o Additional corrections to underlying claims data
  - New claims to be added to the calculations

### **Hospital IQR: Preview Period**

- Hospitals may preview their MSPB Measure for 30 days after release.
  - Data are posted on *Hospital Compare* after the conclusion of the preview period.
- During the preview period, hospitals may submit questions or requests for correction to <u>cmsmspbmeasure@econometricainc.com</u>.

• Please include your hospital's CCN.

- As with other claims-based measures, hospitals may NOT submit:
  - o Additional corrections to underlying claims data
  - New claims to be added to the calculations

### Agenda

- Goals of MSPB measure
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### **Downloadable MSPB Files**

Downloadable MSPB files (Payment and Value of Care category) are posted on *Data.Medicare.gov/data/hospital-compare* and include:

#### • MSPB – Hospital, State, and National Level

 Presents the hospital, state average, and national average MSPB Measure

#### • MSPB – Spending Breakdown By Claim Type

- Provides a breakdown of each hospital's MSPB episode spending into the three time periods and claim type, similar to what is presented in Table 5 of the HSRs. See: <u>http://www.cms.gov/Medicare/Quality-Initiatives-Patient-</u> <u>Assessment-Instruments/hospital-value-based-</u> <u>purchasing/index.html</u>
- MSPB Additional Decimal Places
  - o Provides hospital MSPB Measure up to six decimal places

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#### Questions

**Continuing Education** 

### **Continuing Education Approval**

This program has been pre-approved for 1.0 continuing education (CE) unit for the following professional boards:

#### National

Board of Registered Nursing (Provider #16578)

#### • Florida

 Board of Clinical Social Work, Marriage & Family Therapy and Mental Health Counseling

Board of Nursing Home Administrators

Board of Dietetics and Nutrition Practice Council

Board of Pharmacy

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	Secure Login  User Name: Password: Log In		

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