

# Medicare Spending per Beneficiary Measure National Provider Call

February 9, 2012



**CMS**

CENTERS for MEDICARE & MEDICAID SERVICES

# Purpose of the National Provider Call

- To provide transparency into the methodologies the Centers for Medicare & Medicaid Services (CMS) uses to calculate the Medicare Spending per Beneficiary (MSPB) Measure
- To allow public comment on the detailed measure specifications and methodologies used to calculate hospital measure rates



# Agenda

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- Opening comments and background
- Presentation: Medicare Spending Per Beneficiary Measure calculation and Risk Adjustment
- Presentation: Payment Standardization of Medicare Claims Data
- Comments and questions from participants
- Closing and next steps



Kim Spalding Bush  
Performance-Based Payment Policy Group  
Center for Medicare



## Medicare Spending Per Beneficiary (MSPB) Measure Background

- Medicare is transforming from a system that rewards volume of service to one that rewards efficient, effective care and reduces delivery system fragmentation
- MSPB measure is required for inclusion in Hospital Value-Based Purchasing (VBP) by §1886(o)(2)(B)(ii) of the Social Security Act
- Finalized for Hospital Inpatient Quality Reporting (IQR) and Hospital VBP in the FY 2012 IPPS Final Rule (CMS-1815-F)
- Effective date for Hospital VBP suspended in the CY 2012 OPSS Final Rule with Comment (CMS 1525-FC), in order to allow data to be posted for 1 year prior to the start of a performance period
- CMS will propose the MSPB measure for inclusion in future years of the Hospital VBP program through notice and comment rulemaking



## MSPB Measure Preview and Posting

- The measure preview period runs from February 1, 2012 through March 1, 2012
- Data will be posted on Hospital Compare in April 2012
- During the preview period, hospitals may submit questions or requests for correction to CMS' calculation of their MSPB measure rate



# Medicare Spending Per Beneficiary Measure Calculation and Risk Adjustment

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Jason Shafrin, PhD  
Research Associate, Acumen, LLC

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# MSPB Calculation Steps

1. Construct MSPB Episode
2. Calculate Standardized Episode Spending
3. Calculate Expected Episode Spending
4. Exclude Outliers
5. Calculate MSPB Amount for Each Hospital
6. Calculate MSPB Measure
7. Report MSPB Measure



## Step 1: Construct MSPB Episode

- An MSPB Episode includes all Part A and Part B claims between 3 days prior to index admission to 30 days after the hospital discharge
  - Claim inclusion in episode based on from date (or admission date for inpatient claims)
- Admissions NOT considered to be 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



# Included/Excluded Populations

## Beneficiaries Included:

- 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

## Beneficiaries Excluded:

- Enrolled in Medicare Advantage
- Have Medicare as the secondary payer
- Died during episode
- Covered by the Railroad Retirement Board



## Step 2: Calculate Standardized Episode Spending

- Standardize spending for each claim to adjust for geographic payment rate differences, hospital-specific rates, and IME and DSH add-on payments
- Standardized Episode Spending is calculated as the sum of all standardized Medicare Part A and Part B payments made during an MSPB episode
  - Includes patient deductibles and coinsurance



## Step 3: Calculate Expected Episode Spending

### MSPB Risk-Adjustment Methodology Overview

- Accounts for variation in patient case mix across hospitals
- Case mix measured by factors such as age and severity of illness
- Linear regression (OLS) estimates the relationship between risk adjustment variables and Standardized Episode Spending (Step 2)
- Separate Regression Model for each major diagnostic category (MDC)
- Risk-Adjustment Variables:
  - Age
  - HCCs
  - Disability and ESRD Enrollment Status
  - Long-Term Care
  - Interactions between HCCs and/or enrollment status variables
  - MS-DRG of Index Admission
- Reset (Winsorize) expected cost for extremely low-cost episodes



## Step 3: Calculate Expected Episode Spending

- Steps for Resetting (Winsorizing) extreme low-cost expected values:
  - *Step i:* For each MS-DRG, identify episodes that fall below the 0.5 percentile of the MS-DRG expected cost distribution
  - *Step ii:* Reset the expected cost for these episodes to the expected cost of the episode at this threshold (0.5 percentile)
  - *Step iii:* Renormalize expected cost so that the average expected spending within any MS-DRG remains unchanged
- The resulting “reset” values represent each hospital’s Expected Episode Spending



## Step 4: Exclude Outliers

- Statistical outlier episodes excluded from the MSPB calculation to mitigate effect of high-cost and low-cost outliers on each hospital's MSPB Measure
- Using Residuals to Define an Outlier
  - $\text{Residual} = \text{Standardized Episode Spending} - \text{Expected Episode Spending}$
  - $\text{Residual} = \text{Step 2} - \text{Step 3}$
- Statistical Outlier Definition
  - High-Cost Outlier: Residual falls above 99th percentile of the residual cost distribution within any MS-DRG-admission category
  - Low-Cost Outlier: Residual falls below 1st percentile of the residual cost distribution within any MS-DRG-admission category



# Step 5: Calculate the MSPB Amount for Each Hospital

- The MSPB Amount for each hospital is calculated as the ratio of the Average Standardized Episode Spending (Step 2) over the Average Expected Episode Spending (Step 3), multiplied by the average episode spending level across all hospitals

$$\begin{aligned} \text{MSPB Amount} &= \frac{\text{Avg. Hospital Standardized Spending}}{\text{Avg. Hospital Expected Spending}} \times \left( \text{Avg. Overall Standardized Spending} \right) \\ &= \frac{\text{Step 2}}{\text{Step 3}} \times (\text{Average Step 2 across all hospitals}) \end{aligned}$$



## Step 6: Calculate the MSPB Measure

- MSPB Measure for each hospital is calculated as the ratio of the MSPB Amount for the hospital (Step 5) divided by the median MSPB Amount across all hospitals:

$$\text{MSPB Measure} = \frac{\text{MSPB Amount}}{\text{Median MSPB Amount}}$$



## Step 7: Reporting the MSPB Measure

The MSPB Measure is only reported for

- Hospitals open as of November 9, 2011
- Hospitals with 10 or more MSPB Episodes
  - Reduces likelihood that a hospital's MSPB Measure skewed by a few high- or low-cost episodes



## MSPB Calculation Example

The following the simple example walks through the MSPB Calculation steps:

1. Construct MSPB Episode
2. Calculate Standardized Episode Spending
3. Calculate Expected Episode Spending
4. Exclude Outliers
5. Calculate MSPB Amount for Each Hospital
6. Calculate MSPB Measure
7. Report MSPB Measure



# Step 1: Construct MSPB Episode

Episode # (Step 1)	MDC	MS-DRG
1	1	1
2		2
3		
4		
5	2	3
6		4
7		
8		
9	3	5
10		6
11		
12		

## Step 2: Calculate Standardized Episode Spending

Episode # (Step 1)	MDC	MS-DRG	Standardized Episode Spending (Step 2)
1	1	1	\$1,050
2			\$1,100
3		2	\$2,350
4			\$2,100
5	2	3	\$29,000
6			\$32,000
7		4	\$3,850
8			\$4,100
9	3	5	\$7,000
10			\$33,000
11		6	\$10,000
12			\$10,500

### Step 3: Calculate Expected Episode Spending

Episode # (Step 1)	MDC	MS-DRG	Standardized Episode Spending (Step 2)	Expected Episode Spending (Step 3)	Expected Episode Spending, Reset (Step 3)
1	1	1	\$1,050	\$50	\$1,000
2			\$1,100	\$1,000	\$1,000
3		2	\$2,350	\$2,100	\$2,100
4			\$2,100	\$2,000	\$2,000
5	2	3	\$29,000	\$30,000	\$30,000
6			\$32,000	\$31,000	\$31,000
7		4	\$3,850	\$4,000	\$4,000
8			\$4,100	\$4,000	\$4,000
9	3	5	\$7,000	\$5,000	\$5,000
10			\$33,000	\$5,500	\$5,500
11		6	\$10,000	\$14,500	\$14,500
12			\$10,500	\$15,000	\$15,000

# Step 4: Exclude Outliers

Episode # (Step 1)	MDC	MS-DRG	Standardized Episode Spending (Step 2)	Expected Episode Spending, Reset (Step 3)	Residuals (Step 4)
1	1	1	\$1,050	\$1,000	\$50
2			\$1,100	\$1,000	\$100
3		2	\$2,350	\$2,100	\$250
4			\$2,100	\$2,000	\$100
5	2	3	\$29,000	\$30,000	-\$1,000
6			\$32,000	\$31,000	\$1,000
7		4	\$3,850	\$4,000	-\$150
8			\$4,100	\$4,000	\$100
9	3	5	\$7,000	\$5,000	\$2,000
10			\$33,000	\$5,500	\$27,500
11		6	\$10,000	\$14,500	-\$4,500
12			\$10,500	\$15,000	-\$4,500

# Step 4: Exclude Outliers

Episode # (Step 1)	MDC	MS-DRG	Residuals (Step 4)	1 <sup>st</sup> Percentile Residual Distribution (MS-DRG)	99 <sup>th</sup> Percentile Residual Distribution (MS-DRG)
1	1	1	\$50	-\$3,000	\$3,000
2			\$100	-\$3,000	\$3,000
3		2	\$250	-\$4,000	\$4,000
4			\$100	-\$4,000	\$4,000
5	2	3	-\$1,000	-\$7,500	\$9,000
6			\$1,000	-\$7,500	\$9,000
7		4	-\$150	-\$6,000	\$8,000
8			\$100	-\$6,000	\$8,000
9	3	5	\$2,000	-\$13,000	\$23,000
10			\$27,500	-\$13,000	\$23,000
11		6	-\$4,500	-\$12,000	\$22,000
12			-\$4,500	-\$12,000	\$22,000

# Step 5: Calculate the MSPB Amount for Each Hospital

Episode # (Step 1)	MDC	MS-DRG	Standardized Episode Spending (Step 2)	Expected Episode Spending, Reset (Step 3)
1	1	1	\$1,050	\$1,000
2			\$1,100	\$1,000
3		2	\$2,350	\$2,100
4			\$2,100	\$2,000
5	2	3	\$29,000	\$30,000
6			\$32,000	\$31,000
7		4	\$3,850	\$4,000
8			\$4,100	\$4,000
9	3	5	\$7,000	\$5,000
10			\$33,000	\$5,500
11		6	\$10,000	\$14,500
12			\$10,500	\$15,000

# Step 5: Calculate the MSPB Amount for Each Hospital

Episode # (Step 1)	MDC	MS-DRG	Standardized Episode Spending (Step 2)	Expected Episode Spending, Reset (Step 3)
1	1	1	\$1,050	\$1,000
2			\$1,100	\$1,000
3		2	\$2,350	\$2,100
4			\$2,100	\$2,000
5	2	3	\$29,000	\$30,000
6			\$32,000	\$31,000
7		4	\$3,850	\$4,000
8			\$4,100	\$4,000
9	3	5	\$7,000	\$5,000
10			\$33,000	\$5,500
11		6	\$10,000	\$14,500
12			\$10,500	\$15,000

# Step 5: Calculate the MSPB Amount for Each Hospital

Average Standardized Spending	Average Expected Spending	Avg. Standardized Episode Cost Nationally	MSPB Amount (Step 5)
\$9,368.18	\$9,963.64	\$9,000	\$8,462.14

$$MSPB\ Amount = \frac{\$9,368.18}{\$9,963.64} \times \$9,000 = \$8,462.14$$

# Step 6: Calculate the MSPB Measure

MSPB Amount (Step 5)	Median MSPB Amount	MSPB Measure (Step 6)
\$8,462.14	\$9,000	0.940237226

$$MSPB\ Measure = \frac{\$8,462.14}{\$9,000} = 0.940$$

## Step 7: Reporting the MSPB Measure

- Hospital will have its MSPB measure reported
  - At least 10 episodes
  - Currently open



# Payment Standardization of Medicare Claims Data

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Peter Hickman  
Senior Analyst  
Policy and Data Analysis Group,  
Center for Strategic Planning, CMS

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## Why Standardize Medicare Payments?

Comparing utilization levels of a single uncomplicated service across or within geographic areas is straightforward

But what if you want to compare aggregate utilization across many services?

Similar services can be provided by:

- Different types of providers or practitioners
- The same type of practitioner:
  - In different settings, or
  - in one or multiple encounters



## Why Standardize Medicare Payments? (Cont'd)

To address the limitation of utilization measures and to capture a broader picture of service use, health care spending is often used

However, the use of health care spending raises another set of questions:

- How do you address differences in wages / practice expense?
- Should you include the portion of payment that serves a broader social purpose?
- Should you adjust for differences in how payment is made for similar services under different payment systems, or differences based on who provides a service, or differences based on where or how a service is performed?
- How do you deal with differences in underlying health status?



# What is Payment Standardization?

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The process of adjusting Medicare-allowed charges in order to make comparisons of service use within or across geographic areas

It is separate from risk adjustment, which deals with differences in allowed charges due to variation in beneficiary health status



# What Does Standardization do to Hospital Payments?

Excludes adjustments made to reflect differences in regional labor costs as measured by the hospital wage index

Excludes payments that support larger Medicare program goals, such as:

- Indirect Medical Education (IME) payments
- Disproportionate Share Payments(DSH)
- Graduate Medical Education (GME)
- Additional payments to sole community hospitals and Medicare dependent hospitals

Adjusts outlier payments



# What Does Standardization do to Physician Payments?

Excludes adjustments made to reflect differences in regional labor and other costs as measured by the geographic practice cost indices

Excludes payments that support larger Medicare program goals, such as:

- Add-on to physicians in Health Professional Shortage Areas (HPSAs)
- Participating physician differential



## What Does Standardization do to Physician Payments? (Cont'd)

Maintains differences that exist in actual payments resulting from:

- The choice of setting in which a service is provided
  - Ex: Physician Office vs. Outpatient Hospital
- The choice about the type of provider who provides the service
  - Ex: Physician vs. Physician Assistant
- The choice as to whether to provide multiple services in the same encounter when it affects actual payment



## What Does Standardization do to Other Payments?

- Excludes other adjustments to reflect differences in regional labor and other costs as measured by:
  - the various wage indices
  - cost of living adjustments
- Removes Rural add-ons to Inpatient Rehabilitation Facilities (IRFs) and Inpatient Psychiatric Facilities (IPFs)
- Substitutes a national amount in the case of services paid on the basis of state fee schedules
- Adjusts outlier payments



## Simplified Hospital Example

- Medicare Allowed Amount =
  - (Base Rate x Wage Index x DRG Weight ) + IME and DSH (if applicable) + Outlier payment (if applicable)
- Standardized Allowed Amount =
  - (Base Rate x DRG Weight) + Adjusted Outlier payment (if applicable)



# Simplified Hospital Example

	Allowed Amount for DRG 194 - Simple Pneumonia				
	Operating	Capital	IME	DSH	Total
Hospital A Philadelphia, PA	\$5,514.57	\$448.14	\$2,408.75	\$828.29	\$9,199.75
Hospital B Austin, TX	\$5,073.58	\$411.08	\$0.00	\$247.59	\$5,732.25
Hospital C Chicago, IL	\$5,424.75	\$441.02	\$0.00	\$458.93	\$6,324.70
<b>Standardized Payment</b>	<b>\$5,242.60</b>	<b>\$426.39</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$5,669.00</b>

## Simplified Physician Example

- Medicare Allowed Amount =
  - Conversion Factor x RVUs x GPCI x Payment Modifiers (if applicable)
- Standardized Allowed Amount =
  - Conversion Factor x RVUs x Payment Modifiers (if applicable)



# Simplified Physician Example #1

	99214 - Office/Outpatient Visit, Established Patient
Philadelphia, PA - Office	\$109.16
Austin, TX - Office	\$101.55
Chicago, IL - Facility	\$81.94
Standardized Payment - Office	\$102.27
Standardized Payment - Facility	\$75.77

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# Simplified Physician Example #2

	17000 - Destruction Premalignant Lesion
Philadelphia, PA – Single	\$86.11
Austin, TX - Single	\$78.85
Chicago, IL- Second Procedure	\$43.13
Standardized Payment - Single Procedure	\$79.50
Standardized Payment - Second Procedure	\$39.75

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- Detailed measure specifications, payment standardization methodology, an MSPB calculation example, and other resources are available at: <http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier3&cid=1228772053996>
- Questions regarding the MSPB measure and hospital preview data correction requests may be sent to: [cmsmspbmeasure@acumenllc.com](mailto:cmsmspbmeasure@acumenllc.com), on or before March 1, 2012, the end of the preview period



Questions or Comments??



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