Value Based Purchasing: Combining Cost and Quality

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Overview

- Value Based Purchasing
- Current CMS VBP implementation
- Outcome measures in use by CMS
- Review considerations in use of outcome measures in VBP
- CMS 30 day mortality measures
- CMS 30 day re-admission measures
- Moving forward
What VBP Means to CMS

• Transforming Medicare from a passive payer to an active purchaser of higher quality, more efficient health care

• Tools and initiatives for promoting better quality, while avoiding unnecessary costs
  – Tools: measurement, payment incentives, public reporting, conditions of participation, coverage policy, QIO program
  – Initiatives: pay for reporting, pay for performance, gainsharing, competitive bidding, coverage decisions, direct provider support

• Current program authority to pay differentially for better quality
  – ESRD VBP authorized in MIPAA
Support for VBP

- President’s Budget
  - FYs 2006-09
- Congressional Interest in P4P and Other Value-Based Purchasing Tools
  - BIPA, MMA, DRA, TRHCA, MMSEA
- MedPAC Reports to Congress
  - P4P recommendations related to quality, efficiency, health information technology, and payment reform
- IOM Reports
  - P4P recommendations in To Err Is Human and Crossing the Quality Chasm Report, Rewarding Provider Performance: Aligning Incentives in Medicare
- Private Sector
  - Private health plans
  - Employer coalitions
VBP Demos and Pilots

- Premier Hospital Quality Incentive Demonstration
- Physician Group Practice Demonstration
- Medicare Care Management Performance Demonstration
- Nursing Home Value-Based Purchasing Demonstration
- Home Health Pay-for-Performance Demonstration
- ESRD Bundled Payment Demonstration
- ESRD Disease Management Demonstration
- Medicare Health Support Pilots
- Care Management for High-Cost Beneficiaries Demonstration
- Medicare Healthcare Quality Demonstration
- Gainsharing Demonstrations
- Electronic Health Records (EHR) Demonstration
- Medical Home Demonstration
VBP Initiatives

• Hospital Pay for Reporting: Inpatient & Outpatient
  – RHQDAPU & HOP QDRP
• Hospital VBP Plan & Report to Congress
• Hospital-Acquired Conditions & Present on Admission Indicator
• Physician Quality Reporting Initiative
• Physician Resource Use Confidential Reports
• Home Health Care Pay for Reporting
• Ambulatory Surgical Centers Pay for Reporting
• ESRD Pay for Performance
Measuring Value

• Combination of cost and quality
  – Potential measures of quality
    • Outcome
    • Process
    • Experience of care
  – Potential costs to consider
    • All costs
    • Costs associated with particular professional or provider evaluation/treatment choices
Measuring Value

– Levels of attribution
  • Individual or group for professionals

– Accountability
  • Facilities
  • Professionals
  • Allocation among facilities and professionals

– Time Periods
  • Relationship to healthcare event eg., hospitalization
  • Defined by “episode” of care
Considerations in Measuring Value

• Integration of Quality and Cost
  – Not resource use alone
  – Quality dimension
  – Never events and appropriateness criteria (cost not justified)

• Valid Cost Measurement and Analysis
  – Same population (eg., case or episode)
  – Scope of costs considered (setting vs system)
  – Perspective (patient / professional / provider / payer)

• No or Minimal Incentive to Provide Poor-Quality Care
  – Impact on patient

• Proper Attribution of the Measure
  – Provider setting – Hospital, SNF, Home Health Agency, Dialysis
  – Physician or other professional

Measures for VBP

- Various measure types used
- Various pros and cons to each
  - Process
    - Most available but may become “topped out”
    - Focus on specific but limited set of processes that impact outcomes
  - Outcome
    - Less available but broader in scope, less subject to become “topped out”
  - Experience of Care
    - May relate to processes or outcomes
  - Structural
Outcomes Measures in Use by CMS

• **Measure Summary:** 74 total current CMS outcome measures in use (approximately)
  – 28 Inpatient (including QIO)
  – 8 Physician
  – 12 Home Health
  – 14 Nursing Home
  – 4 ESRD
  – 8 Medicare Advantage
Hospital Inpatient Outcome Measures:
Mortality, Complications, Readmissions (RHQDAPU & QIO)

Mortality (Medical Conditions)
- 30 day mortality AMI, HF, PNE, (CMS) *
- Selected Medical Conditions (AHRQ) *

Mortality (Surgical Conditions/Procedures)
- AAA, Hip Fractures (AHRQ) *
- Selected Surgical Conditions (AHRQ) *
- Death of surgical patients with treatable serious complications *
- Complication/patient safety for selected indicators *

Complications (Medical and Surgical)
- Post op wound dehiscence in abdominal-pelvic surgery *
- Accidental puncture or laceration *
- Iatrogenic pneumothorax *
- MRSA Infection Rate; Transmission Rate (CMS-QIO)
- Hospital Acquired Pressure Ulcers (CMS-QIO)

Readmission (Medical Conditions)
- AMI, HF, PNE (CMS) *
- All patient Readmission Rate (CMS-QIO)

Intermediate Outcome
- Cardiac Surgery Patient Controlled 6 AM Glucose

[* = RHQDAPU Hospital Pay for Reporting Program]
Premier Hospital Quality Incentive Demonstration (HQID)

• The Premier HQID recognizes and provides financial rewards to hospitals that demonstrate high quality performance in a number of areas of acute care.

• The demonstration rewards participating top performing hospitals by increasing their payment for Medicare patients.

• Clinical conditions and procedures
  – Heart attack
  – Heart failure
  – Pneumonia
  – Coronary artery bypass graft
  – Hip and knee replacements
Hospital Outcome Measures – Premier Demonstration

• Current
  – Inpatient Mortality Rate AMI, CABG, HF
  – Post-op Hemorrhage or Hematoma
    • Hip/Knee Replacement
  – Physiologic and Metabolic Derangement
    • Hip/Knee Replacement

• Expansion
  – test further outcome measures
    • AHRQ PSI’s
    • AHRQ Inpatient Mortality (IQI)
    • CMS 30 day readmission and mortality measures AMI, HF, PNE
Outcome Measures – Hospital VPP Plan

• Report to Congress
• Included process, experience of care
• Method for including 30 day mortality measures in scoring developed subsequently
Hospital Acquired Conditions: Background

- The Deficit Reduction Act (DRA) of 2005 requires the Secretary to identify conditions that are:
  - (a) high cost or high volume or both
  - (b) result in the assignment of a case to a DRG that has a higher payment when present as a secondary diagnosis, and
  - (c) could reasonably have been prevented through the application of evidence-based guidelines

- Beginning October 1, 2008, Medicare no longer paid hospitals at a higher rate for the increased costs of care that result when a patient is harmed by one of the listed conditions if it was hospital-acquired.

- Medicare continues to assign a discharge to a higher paying MS–DRG if the selected condition is present on admission (POA).

- The POA indicator reporting requirement and the HAC payment provision apply to IPPS hospitals only.
Hospital Acquired Conditions

• Foreign Object Retained After Surgery
• Air Embolism
• Blood Incompatibility
• Stage III and IV Pressure Ulcers
• Falls and Trauma
  – Fractures
  – Dislocations
  – Intracranial Injuries
  – Crushing Injuries
  – Burns
  – Electric Shock
Hospital Acquired Conditions

• Manifestations of Poor Glycemic Control
  – Diabetic Ketoacidosis
  – Nonketotic Hyperosmolar Coma
  – Hypoglycemic Coma
  – Secondary Diabetes with Ketoacidosis
  – Secondary Diabetes with Hyperosmolarity

• Catheter-Associated Urinary Tract Infection (UTI)

• Vascular Catheter-Associated Infection
Hospital Acquired Conditions

• Surgical Site Infection Following:
  – Coronary Artery Bypass Graft (CABG) - Mediastinitis
  – Bariatric Surgery
    • Laparoscopic Gastric Bypass
    • Gastroenterostomy
    • Laparoscopic Gastric Restrictive Surgery
  – Orthopedic Procedures
    • Spine
    • Neck
    • Shoulder
    • Elbow

• Deep Vein Thrombosis (DVT)/Pulmonary Embolism (PE)
  – Total Knee Replacement
  – Hip Replacement
Hospital Acquired Conditions: Projected Costs savings

- Savings estimates for the next 5 fiscal years are shown below:

<table>
<thead>
<tr>
<th>Year</th>
<th>Savings (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2009</td>
<td>$21</td>
</tr>
<tr>
<td>FY 2010</td>
<td>21</td>
</tr>
<tr>
<td>FY 2011</td>
<td>21</td>
</tr>
<tr>
<td>FY 2012</td>
<td>22</td>
</tr>
<tr>
<td>FY 2013</td>
<td>22</td>
</tr>
</tbody>
</table>
National Coverage Determination – Hospitals and Physicians

• No coverage for
  – Surgery on wrong body part
  – Surgery on wrong patient
  – Wrong surgery on a patient

• Not reasonable and necessary
Physician Outcome Measures (PQRI)

Intermediate Outcomes
- Diabetes: HbA1C, LDL, BP Control

Mortality
- None

• Complications
  - Medical Conditions
    • None
  - Surgical Conditions
    • CABG
      - Deep Sternal Wound Infection; Stroke/CVA; Post Op Renal Insufficiency; Prolonged Intubation; Surgical Re-exploration
Physician Outcome Measures
(Physician Group Practice Demonstration)

• Intermediate Outcome Measures
  – Diabetes HbA1c, Blood Pressure, and LDL control
Physician Outcome Measures
(Physician VBP Plan)

• Report to Congress required in MIPPA
• Due May, 2010
• Outcome measures under consideration
Home Health Outcome Measures

- Management of Care
  - Acute Care Hospitalization
  - Emergent Care (risk adjusted)
  - Discharge to Community
- Improvement in functional status
  - Ambulation /locomotion
  - Bathing
  - Bed transferring
  - Dyspnea
- Medication Management
  - Management of Oral Medication
- Pain
  - Improvement in pain interfering with activity
- Surgical Wounds
  - Improvement in status of surgical wounds
- Complications
  - Emergency Care for Wound Infections, Deteriorating Wound Status
- Incontinence
  - Improvement in Urinary Incontinence
Nursing Home Outcome Measures (Long Stay)

- Pressure Sores
  - High risk patients
  - Low risk patients
- Functional Status
  - Improvement in Daily Activities independence
  - Most of time in Bed or Chair
  - Ability to move about in and around Room worse
  - Weight loss
- Pain
  - Moderate to Severe Pain
- Incontinence
  - Catheter inserted and left in bladder
  - Loss of control of bowels or bladder
- Urinary Tract Infection
  - Percentage with UTI
- Mental Health
  - Percentage more anxious or depressed
Nursing Home (short stay)

• Percentage with Delirium
• Percentage with Moderate to Severe Pain
• Percentage with pressure sores
ESRD

• Patient Survival
• Hematocrit/Hemoglobin Control for ESA therapy
• Hematocrit below minimum level
Medicare Advantage

• Diabetes
  – Blood Pressure Control (2)
  – HbA1c Good Control; Poor Control
  – LDL Control

• Hypertension
  – Blood Pressure Control

• Improving Mental Health

• Improving Physical Health
Outcome Measure: Data Considerations

- **Claims**
  - Routinely collected secondary data source
  - CMS 30 day Mortality
  - CMS 30 Day Readmission
  - AHRQ measures

- **Lab Data**
  - Helpful for risk adjustment but not readily available for Medicare

- **Chart Abstraction**
  - Burdensome but benefit of primary source and complete data

- **Registries**
  - Data collection over time supports outcome measures
  - Can accommodate multiple data source types

- **Electronic Health Record**
  - Future financial incentives for both physicians and hospitals to use
  - Reporting clinical quality measures required element of “meaningful use”
  - Primary source data
  - Clinical data supports risk adjustment
CMS Hospital 30 day Mortality Measures

Claims-based
- Risk standardized 30-day all-cause mortality and readmission measures for AMI, HF and Pneumonia
- NQF endorsed and implemented for RHQDAPU program
CMS 30 day Mortality and Readmission

- Endorsed by National Quality Forum and adopted by Hospital Quality Alliance

- Complies with American Heart Association and American College of Cardiology standards for outcomes models
  - Well-defined patient cohort
  - Clinically coherent model risk-adjustment
  - Use of an appropriate outcome
  - Standardized period of follow-up : 30-day

- Currently publicly reported on Hospital Compare

- Developed by Yale/Harvard team of clinical and statistical experts
Standardized Period of follow-up

• All patients followed for 30 days from discharge

• 30-days Strikes a Balance
  ▪ Allow enough time for hospitals to have impact on outcome
  ▪ Take into account discharge practice variation
  ▪ Consistent for mortality and readmission measures
Risk Adjustment

- Risk adjustment takes into account patient case mix and hospital-specific effect
- Hospital rates are calculated based on 3 years of hospitalizations
- Risk factors based on index admission and the prior year from inpatient, outpatient, and physician claims
- Models estimated on administrative data, validated by models based on chart data
Interval Estimates

- Risk Standardized Rate – point estimate
- Interval estimates (IEEs) are used to determine if mortality or readmission is different from national rate with high-degree of certainty
- 95% IEs is used to specify lower and upper IEs
Distribution of Hospital Mortality

AMI

HF
Performance Categories

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital A</td>
<td>200 cases</td>
</tr>
<tr>
<td>Hospital B</td>
<td>100 cases</td>
</tr>
<tr>
<td>Hospital C</td>
<td>150 cases</td>
</tr>
<tr>
<td>Hospital D</td>
<td>20 cases</td>
</tr>
</tbody>
</table>

National Rate

Category:
- "Better"
- "No different"
- "Worse"
- "Number cases too small (fewer than 25)"
Distribution of AMI Mortality by HRR

Figure 5a. Acute Myocardial Infarction 30-Day Risk-Standardized Mortality Rate (RSMR)
Weighted Average By Hospital Referral Region (HRR)

- Not populated
- 1st Quintile (13.6 - 15.6)
- 2nd Quintile (15.7 - 16.1)
- 3rd Quintile (16.2 - 16.5)
- 4th Quintile (16.6 - 16.9)
- 5th Quintile (17.0 - 18.9)
Distribution of HF Mortality by HRR

Figure 6a. Heart Failure 30-Day Risk-Standardized Mortality Rate (RSMR)
Weighted Average By Hospital Referral Region (HRR)

- Not populated
- 1st Quintile (7.7 - 10.3)
- 2nd Quintile (10.4 - 10.8)
- 3rd Quintile (10.9 - 11.3)
- 4th Quintile (11.4 - 11.8)
- 5th Quintile (11.9 - 13.7)
Distribution of Hospital Readmission

AMI

HF
Distribution of AMI Readmission by HRR

Figure 5b. Acute Myocardial Infarction 30-Day Risk-Standardized Readmission Rate (RSRR) Weighted Average by Hospital Referral Region (HRR)

- Not populated
- 1st Quintile (16.7 - 19.3)
- 2nd Quintile (19.4 - 19.6)
- 3rd Quintile (19.7 - 19.9)
- 4th Quintile (20.0 - 20.2)
- 5th Quintile (20.3 - 22.1)
Distribution of HF Readmission by HRR

Figure 6b. Heart Failure 30-Day Risk-Standardized Readmission Rate (RSRR) Weighted Average by Hospital Referral Region (HRR)

- Not populated
- 1st Quintile (20.8 - 23.2)
- 2nd Quintile (23.3 - 23.8)
- 3rd Quintile (23.9 - 24.4)
- 4th Quintile (24.5 - 25.1)
- 5th Quintile (25.2 - 29.0)
Distribution of Pneumonia Readmission by HRR
2009 National Results
(7/05-6/08 discharges): Readmission

• Average 30-day hospital readmission rates are high (AMI 19.9, HF 24.5, PN 18.2)
• There is significant variation
• The goal is not zero; all hospitals have room to improve
CMS’ ultimate goal is to shift the curve
Additional Hospital Level Measures

• Other hospital outcome and readmission measures
  – PCI 30-day all-cause risk standardized mortality for STEMI/shock and non-STEMI/non-shock patients
  – Risk standardized 30-Day All-Cause Mortality and/or Complications for Lower Extremity Bypass
  – NQF endorsed
Moving to episodes

• Post acute care hospitalization
  – Hospitalization the starting point
    • Acute events
    • Procedures
  – Hospitalization the end point
    • Ambulatory Sensitive Conditions – ARHQ measures

• Care not associated with hospitalization
  – Challenge of defining episode of care start/end

• Beneficiaries not receiving care
  – Low cost but not necessarily good outcomes
Post acute care hospitalization

- Hospitalization the starting point
  - Acute events
  - Procedures
- SNF, Home Health, Repeat Hospitalization, Physician Care
- PAC Demonstration Deficit Reduction Act
  - Compare costs across setting based on standardized assessment
  - CARE Instrument standardized instrument
- Various potential time periods, eg. 30, 120, 180 days
- Attribution of costs alternatives
Care Transitions QIO Theme

- 9th SOW QIO theme focused on re-hospitalizations as outcome
  - Conditions AMI, HF, PNE
  - Geographic Region
- Attribution to professional or provider based on portion of transitions of beneficiaries geographic setting in which they participate
- Promotes improved quality care within setting; improved coordination processes at each transition; community involvement
Conclusion

• Active work to develop VBP framework that include outcome measures

• Outcome measures
  – Broader reach than process measures
  – Meaningful to consumers
  – Present issues such as risk adjustment, sufficient numbers, attribution, and how best to incorporate into VBP scoring
  – Level of attribution

• Greatest numbers of outcome measures in inpatient hospital and other provider settings

• Few physician level outcome measures
  – Challenge of small numbers
  – Consider group or other attribution level

• Costs present independent attribution issues