Quality Improvement in Case Review

Susan Purcell, RN
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TMF Health Quality Institute
April 22, 2007
Objectives

- Explain Medicare Quality Improvement Organization (QIO) role in quality improvement
- Review types of QIO case review
- Identify types of quality improvement activities that may result from case review
- Review actual case examples where quality improvement resulted from case review
QIO Overview

• Contracted by the Centers for Medicare & Medicaid Services
• One for each state/U.S. territory
• Ensure care delivered to Medicare beneficiaries is:
  – Medically necessary/reasonable
  – Provided in most appropriate setting
  – Of a quality that meets professionally recognized standards of health care
QIO Overview

- Divided into two major divisions
  - Setting-specific quality improvement (prospective)
  - Case review/compliance (retrospective)
Medicare Case Review

- Types of Medicare case review the QIO will review:
  - Mandatory
    - Example: review of hospital submitted higher-weighted diagnosis-related groups (DRGs)
  - Beneficiary-initiated
    - Example: beneficiary complaint regarding the quality of care received
Medicare Case Review

• Types of case review that is performed:
  – DRG validation
  – Utilization
  – Quality
Quality Improvement in Case Review

• What types of quality improvement activities can occur as the result of case review findings?
Quality Improvement in Case Review

• Sanction activity
  – Social Security Act
  – Code of Federal Regulations
    • Required by law and regulation in egregious cases
    • Occurs very infrequently

• May result in a corrective action plan that results in improvement in quality of care
Quality Improvement in Case Review

• Most quality of care issues are not egregious
• Frequently the quality issues are the result of poor processes
Quality Improvement in Case Review

• Types of quality improvement activities that may result from case review:
  – Physician education
    • CME
    • Focused re-education in a specific or broad area
  – Development of a quality improvement plan
    • When systems or processes of care delivery can be improved
Quality Improvement in Case Review

• Types of quality improvement activities that may result from case review (continued):
  – Physician review may recommend:
    • Consideration of an alternative approach to future care
      – When a different method of care delivered could be expected to improve the care
    • Offer advice to the provider/practitioner
      – When a more current method of care could have been considered although the quality of the care was adequate
Quality Improvement in Case Review

• Less frequent types of quality improvement activities
  – Meeting with the physician/provider to discuss the care that was provided
  – Intensified review of additional medical records
Quality Improvement in Case Review

• Case examples
Case Example #1

- Review findings
- Case summary
- Quality improvement activities
Case Example #2

• Review findings
• Case summary
• Quality improvement activities
Case Example #3

• Review findings
• Case summary
• Quality improvement activities
Questions?
Contact Information

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This material was prepared by TMF Health Quality Institute, the Medicare BPP Quality Improvement Organization Support Center, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 8SOW-TX-BPPQ-07-01
Data Analysis:
Identifying Opportunities for Quality Improvement

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TMF Health Quality Institute
April 22, 2007
Objectives

• Learn how the Hospital Payment Monitoring Program (HPMP) helps hospitals prevent payment errors
• Identify payment error trends, risk areas
• Learn how Program for Evaluating Payment Patterns Electronic Report (PEPPER) data supports compliance activities
• Explore the connection between data analysis, auditing and improved quality
HPMP

• Nationwide collaborative effort implemented by the Centers for Medicare & Medicaid Services (CMS) and Quality Improvement Organizations (QIOs) to reduce Medicare payment errors
• Protects Medicare Trust Fund
• Analyze, identify patterns of payment errors
• Reduce/prevent payment errors through system improvement with tools, education, comparative data (PEPPER)
Payment Error Data

- Each year 38,448 short-term, acute-care hospital records randomly selected
  - Records initially screened by Clinical Data Abstraction Center
  - Records failing screening forwarded to the QIO for review
- Each year 1,392 long-term, acute-care hospital records randomly selected
  - Records are requested by QIOs and reviewed
Payment Error Data

- Review results allow estimation of Medicare dollars in error, as reported annually by CMS in the Improper Medicare Fee for Service Payments Report (www.cms.hhs.gov/cert)
- Guides QIO HPMP projects and interventions
- Data are available for fiscal years (FYs) 1998, 2000-2005
- See handout for detailed information for FY 2005
PEPPER

• QIO case review results determine target areas
• Hospital-specific and statewide comparative claims data for CMS focus areas
• Target areas indicate potential errors due to diagnosis-related group (DRG) coding, medical necessity
• Assists hospitals with prioritizing auditing/monitoring activities
PEPPER Data

- Report on past payments
- Claims data 4-6 months old
- Based on discharge dates
- Organized by federal fiscal year quarters

<table>
<thead>
<tr>
<th>Fiscal Quarter</th>
<th>Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\text{st}</td>
<td>October-November-December</td>
</tr>
<tr>
<td>2\text{nd}</td>
<td>January-February-March</td>
</tr>
<tr>
<td>3\text{rd}</td>
<td>April-May-June</td>
</tr>
<tr>
<td>4\text{th}</td>
<td>July-August-September</td>
</tr>
</tbody>
</table>
### CMS HPMP Target Areas

**Short-Term, Acute Care Hospitals**  
**Focus: Coding**

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRGs 014 and 559</td>
<td>Intracranial hemorrhage or cerebral infarction; Acute ischemic stroke with thrombolytic agent</td>
</tr>
<tr>
<td>DRG 079</td>
<td>Respiratory infections and inflammations, age &gt; 17, w/CC</td>
</tr>
<tr>
<td>DRG 089</td>
<td>Simple pneumonia and pleurisy, age &gt; 17, w/CC</td>
</tr>
<tr>
<td>DRG 416</td>
<td>Septicemia, age &gt; 17</td>
</tr>
<tr>
<td>DRGs w/ CC Pairs</td>
<td>Multiple DRGs</td>
</tr>
</tbody>
</table>
### CMS HPMP Target Areas

**Short-Term, Acute-Care Hospitals**  
**Focus: Medical Necessity**

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRG 127 (1-day stays)</td>
<td>Heart failure and shock</td>
</tr>
<tr>
<td>DRG 143 (1-day stays)</td>
<td>Chest pain</td>
</tr>
<tr>
<td>DRGs 182/183 (1-day stays)</td>
<td>Esophagitis, gastroent., miscellaneous digestive disorders, age &gt; 17; w/wo/CC</td>
</tr>
<tr>
<td>DRGs 296/297 (1-day stays)</td>
<td>Nutritional &amp; miscell. metabolic disorders, age &gt; 17, w/wo/CC</td>
</tr>
<tr>
<td>DRG 243</td>
<td>Medical back problems</td>
</tr>
<tr>
<td>Seven day re-admit</td>
<td>Re-admits w/in 7 days to same or another ST hospital (excl. patient status 02)</td>
</tr>
<tr>
<td>1-day stays (excl transfers)</td>
<td>LOS ≤ 1 day (excl. patient status 20, 07, 02)</td>
</tr>
<tr>
<td>3-day SNF qualifying admits</td>
<td>Discharged to a SNF after a 3-day LOS</td>
</tr>
</tbody>
</table>
# CMS HPMP Target Areas

## Long-Term, Acute-Care Hospitals

**Focus: Coding**

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRG 087</td>
<td>Pulmonary edema and respiratory failure</td>
</tr>
</tbody>
</table>

## Long-Term, Acute-Care Hospitals

**Focus: Medical Necessity**

<table>
<thead>
<tr>
<th>Target Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRG 012</td>
<td>Degenerative nervous system disorders</td>
</tr>
<tr>
<td>DRG 088</td>
<td>Chronic obstructive pulmonary disease</td>
</tr>
<tr>
<td>DRG 249</td>
<td>Aftercare, musculoskeletal system and connective tissue</td>
</tr>
</tbody>
</table>
PEPPER Distribution

• QIOs distribute PEPPER
  – QualityNet exchange (secure electronic method), CD or hard copy
  – Cannot be sent via e-mail

• Electronic format: Microsoft Excel file
PEPPER Terminology

• Numerator—number of target area discharges
• Denominator—number of all discharges
• Example: target area DRG 243 Medical Back Problems (admission necessity focus)

\[
\frac{\text{Numerator}}{\text{Denominator}} = \frac{\# \text{ of DRG 243 discharges}}{\# \text{ of all discharges}}
\]
PEPPER Terminology

• Percent—percentage of target area discharges (numerator) related to the target area denominator
  – Compare and Target Area (data table) worksheets
    • Red bold print—at or above upper control limit percentile for the target area
    • Green italic print—at or below the lower control limit percentile for the target area

• Percentile—percentage of all hospitals below which a given hospital’s percent value ranks
PEPPER Terminology

- Take a step-by-step approach
  - Consider that each rung of the ladder is a hospital
  - Hospital percentages are ordered from low to high for each target area
  - The percentage that falls in the middle is the “Median”
PEPPER Terminology

- For example, one hospital’s percent for target area DRGs 014 & 559 is 73%, which falls in the middle of other hospitals’ percents
- The median is 73%
- Half of the hospitals had a percent less than 73%
- The median is also the “50th percentile”
PEPPER Terminology

• **Outlier**—findings of “unusualness” for a given target area
  – Not related to other “outliers,” such as DRG cost outlier

• **Outlier value**—value assigned to a finding indicating “unusualness”
  – Negative values at or below 10th percentile (possible under-coding DRGs)
  – Positive values represent at or above 75th percentile (possible over-coding DRGs or over-utilization)
• If hospital percent is at the “75th percentile rung,” or higher, may be considered an outlier
  – 75% of the hospitals had a lower percentage
• If hospital percent is at the “10th percentile rung,” or lower, may be considered an outlier
  – 10% of the hospitals had a lower percentage
PEPPER Terminology

- Top two hospitals’ percentages at or above 75th percentile
- Bottom two hospitals’ percentages at or below 10th percentile
PEPPER Worksheets

• “Purpose”
  – General statement about PEPPER
  – Time period, provider number, provider name
• “How”
  – Describes how to prioritize and sort target area report findings
• “Compare”
  – Summarizes hospital findings for outlier target areas
### Purpose of Short-Term, Acute-Care PEPPER Program for Evaluating Payment Patterns Electronic Report

Data Report Through FY2006

#### 000007 Hospital A6

The Program for Evaluating Payment Patterns Electronic Report (PEPPER) is an electronic report containing hospital-specific data for target areas (specific Diagnosis Related Groups (DRGs) and discharges) that have been identified as at high risk for payment errors.

PEPPER was developed by TMF Health Quality Institute, under contract with the Centers for Medicare & Medicaid Services (CMS), an agency under the Department of Health and Human Services (DHHS), as the Hospital Payment Monitoring Program (HPMP) QIO Support Center (QIOSC). For help in using PEPPER, please refer to the Short-Term, Acute-Care PEPPER User's Guide at www.hmpresources.org or contact your state's QIO.

Data are shown for FY 2003, 2004, 2005 and Q4 FY2006 (ending September 30, 2006).

This is ST PEPPER version 17.0
### How To Prioritize

A key to analyzing the PEPPER target area report is the ability to prioritize findings based on the statistical data provided in the report. The targeted areas determined to be ‘outlier’ are noted on the worksheet titled, ‘Compare,’ which is the Compare Targets Report for your hospital. Each target area in the Compare Targets Report has a value for the following measures:

- **Outlier Value:** PEPPER-defined index value (number) assigned to a hospital’s proportion in each target area that indicates the unusualness of the hospital’s proportion relative to all short-term, acute-care PPS hospitals in the state. (Note: the PEPPER-defined outlier is not related to the DRG length of stay or cost outlier)

- **Number of Target Discharges:** the number of discharges for a particular target area for a given time period (numerator for the target area)

- **Outlier Value Times Number of Discharges:** number representing the outlier value number multiplied by the number of target area discharges. This is the recommended sort order, which takes into account both the unusualness and prevalence of a possible problem.

- **Percent:** represents the percentage of target area number of discharges (numerator) related to the target area denominator. For example, for Hospital A, the hospital had 45 discharges (numerator) for target area DRG 143 (Cholelithiasis) one-day stays and 100 discharges for all DRG 143 stays (denominator) resulting in a proportion of 45%. The hospital percent is displayed in red bold print if it is at or above the upper control limit percentile for the target area, or it is displayed in green italics if it is at or below the lower control limit percentile for the target area. Please note that the PEPPER default upper control limit is the 75th percentile, and the default lower control limit is the 10th percentile.

- **Percentile:** a number that corresponds to one of 100 equal divisions of values in a group. In PEPPER, the percentile represents the percentage of all hospitals above which a given hospital’s percent value ranks. For example, if Hospital A has a percent value of 23% and a percentile value of 75 for a target area, this would indicate that Hospital A’s percent value is greater than the percent values of 75% of the hospitals in the state.

The Compare Targets Report can be sorted by any of these measures, although the recommended sort order is the Outlier Value Times Number of Discharges.

#### Meaning of the PEPPER Outlier Value

The following table shows the relationship between statewide percentile values and PEPPER-defined outlier values. For example, the statewide 1st percentile (only 1 percent of all hospitals in the state are at or below this value) shows a PEPPER outlier value of -10, the 10th percentile shows a value of -3.2, the 75th percentile shows a value of 2, the 90th percentile shows a value of 3.2, and the 99th percentile has an outlier value of 10.

<table>
<thead>
<tr>
<th>Percentile</th>
<th>PEPPER Outlier</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-10</td>
</tr>
<tr>
<td>10</td>
<td>-7.1</td>
</tr>
<tr>
<td>50</td>
<td>-4.5</td>
</tr>
<tr>
<td>75</td>
<td>-3.2</td>
</tr>
<tr>
<td>85</td>
<td>-2.2</td>
</tr>
<tr>
<td>90</td>
<td>-2.1</td>
</tr>
<tr>
<td>95</td>
<td>-2.0</td>
</tr>
<tr>
<td>96</td>
<td>-2.0</td>
</tr>
<tr>
<td>98</td>
<td>-1.7</td>
</tr>
<tr>
<td>99</td>
<td>-1.7</td>
</tr>
</tbody>
</table>

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**Short-Term, Acute-Care PEPPER**

**Compare Targets Report of FY2006 Data**

000007 - Hospital A6

<table>
<thead>
<tr>
<th>Target</th>
<th>Description</th>
<th>Outlier Value (larger ≠ more unusual)</th>
<th>Number of Target Dischs</th>
<th>Outlier Value Times Number of Dischs</th>
<th>Percent</th>
<th>Percentile</th>
<th>Status (Hospital Use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRGs Part of a CC Pair</td>
<td>Proportion of discharges of DRGs with complications or comorbidity, excluding DRGs 079 and 859, to discharges of DRGs with or without complications or comorbidity, excluding DRGs 079, 080, 089 and 090.</td>
<td>3.7</td>
<td>1.122</td>
<td>4,155.1</td>
<td>87.38%</td>
<td>92.71</td>
<td></td>
</tr>
<tr>
<td>DRGs 014, 059</td>
<td>Proportion of discharges with DRG equal to 014 (intracranial hemorrhage or cerebral infarction) or 059 (acute ischemic stroke with use of thrombolytic agent), to discharges with DRG equal to 014, 015 (nonspecific CVA and precardial occlusion without infarct), 024 (transient ischemia) or 059.</td>
<td>2.1</td>
<td>157</td>
<td>328.6</td>
<td>77.34%</td>
<td>77.17</td>
<td></td>
</tr>
</tbody>
</table>
Other PEPPER Worksheets

• Target Area Data Table
  – Displays target area comparative data

• Target Area Graph
  – Graphical display of target area report findings

• Top 20 DRGs for one-day stays (STCHs only)

• Top 50 DRGs (LTCHs only)
  – Displays hospital’s top 50 DRGs billed, by volume, during time period
  – Displays nationwide top 50 DRGs billed, by volume, during time period
## DRGs 014 & 559 Worksheet (1 fiscal year)

**Short-Term, Acute-Care PEPPER**

### DRGs 014 & 559, % of DRGs 014, 015, 524 & 559 Discharges

<table>
<thead>
<tr>
<th>Time Periods</th>
<th>Target Area Discharge Count</th>
<th>Denominator Count (All DRG 014, 015, 524, 559)</th>
<th>Percent (Target Area Count / Denominator)</th>
<th>Target Area Average Length of Stay (ALOS)</th>
<th>Denominator Average Length of Stay (ALOS)</th>
<th>Target Average Medicare Payment</th>
<th>Target Sum Medicare Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2006</td>
<td>197</td>
<td>203</td>
<td>77.3%</td>
<td>5.8</td>
<td>5.1</td>
<td>$6,006</td>
<td>$942,922</td>
</tr>
</tbody>
</table>

1) Target discharges = total DRG 014 discharges (Note that DRGs 014 and 015 were redefined starting Oct 1, 2002)

### Statewide Comparative Data for Target Proportion:

<table>
<thead>
<tr>
<th>Time Periods</th>
<th>90th Percentile</th>
<th>75th Percentile</th>
<th>Median</th>
<th>10th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2006</td>
<td>82.8%</td>
<td>75.0%</td>
<td>66.3%</td>
<td>47.1%</td>
</tr>
</tbody>
</table>

Statewide comparative data were calculated using percentages from PPS hospitals.

**Medicare fiscal year (FY) = October 1 through September 30**

### Summary

<table>
<thead>
<tr>
<th>From FY2006</th>
<th>To FY2006</th>
<th>Percentage</th>
<th>Point Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Proportion</td>
<td>77.3%</td>
<td>77.3%</td>
<td>0.0</td>
</tr>
<tr>
<td>State Median</td>
<td>66.9%</td>
<td>66.9%</td>
<td>0.0</td>
</tr>
</tbody>
</table>
**“DRGs 014 & 559” Worksheet (4 full fiscal years)**

Seeing red? Take care of your head (ache). It doesn’t mean there’s an error.

<table>
<thead>
<tr>
<th>Time Periods</th>
<th>Target Area Count (All DRGs 014, 015, 524, 559 Discharges)</th>
<th>Percent (Target Area Count / Denominator)</th>
<th>Target Area Average Length of Stay (ALOS)</th>
<th>Denominator Average Length of Stay (ALOS)</th>
<th>Target Average Medicare Payment</th>
<th>Target Sum Medicare Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2003</td>
<td>130</td>
<td>73.4%</td>
<td>5.2</td>
<td>4.3</td>
<td>$6,645</td>
<td>$864,050</td>
</tr>
<tr>
<td>FY2004</td>
<td>130</td>
<td>79.3%</td>
<td>6.2</td>
<td>5.5</td>
<td>$7,760</td>
<td>$1,336,760</td>
</tr>
<tr>
<td>FY2005</td>
<td>157</td>
<td>83.4%</td>
<td>5.7</td>
<td>5.3</td>
<td>$7,445</td>
<td>$1,158,808</td>
</tr>
<tr>
<td>FY2006</td>
<td>157</td>
<td>73.3%</td>
<td>5.8</td>
<td>5.1</td>
<td>$6,005</td>
<td>$942,922</td>
</tr>
</tbody>
</table>

1) Target discharges = total DRG 014 discharges (Note that DRGs 014 and 015 were redefined starting Oct 1, 2002)

Medicare fiscal year (FY) = October 1 through September 30

**Summary**

<table>
<thead>
<tr>
<th>From</th>
<th>To</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hosp Proportion</td>
<td>73.4%</td>
<td>73.3%</td>
</tr>
<tr>
<td>State Median</td>
<td>50.3%</td>
<td>60.9%</td>
</tr>
</tbody>
</table>
PEPPER Data

• Is comparative
• **Red** or **green** may indicate “outlier”
• Could indicate payment errors exist
• May indicate area to focus auditing or monitoring activity
PEPPER and Compliance

• 1998: The Office of Inspector General’s Compliance Program Guidance for Hospitals
• Prioritize areas for auditing and monitoring
• Ensure that charges for Medicare services are medically necessary and correctly documented and billed
• See the HPMP Compliance Workbook (www.hpmpresources.org, Tools)
Be Proactive

• Don’t have to limit auditing/monitoring to the red or green

• Can expand efforts to other areas
  – Which DRGs comprise a large proportion of your discharges and/or reimbursement?
Data and Quality Improvement

• Incorporate PEPPER into compliance plan
• Analyze PEPPER data
• Conduct compliance audits
• Identify opportunities for process improvement
  – Medical record documentation
  – Coding roundtables
  – Admission screening procedures
Working with your QIO

- QIOs work collaboratively with hospitals
- QIOs develop tools, provide education to assist hospitals
- Contact the HPMP department in your state’s QIO as a resource (to find your QIO go to www.medqic.org and click on “QIO Listings”)

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Questions?
Contact Information

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