Hospital P4P: The CMS/Premier Hospital Quality Incentive Demonstration Project

March 10, 2009

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St. Helena Hospital
Nationwide knowledge to improve local healthcare

2,000 Hospitals gain the advantages of national scale by uniting through the Premier healthcare alliance
Value-based Purchasing timeline

**Institute of Medicine (IOM) Report**
*To Err is Human*

**Medicare Modernization Act**
ties hospital market basket updates to quality reporting

1990’s

**Grassley-Baucus (S.1356)**
value-based purchasing legislation introduced

**Deficit Reduction Act**
mandates a Report to Congress on the Plan to Implement a Medicare Hospital VBP Program

CMS
*Report to Congress on VBP*

**Premier**
Hospital Quality Incentive Demo launched

2002

CMS
*Roundtable on VBP*

**MedPAC**
Report supports use of VBP

2003

**IOM**
Report on Aligning Hospital incentives

2004

**Senate Finance Committee**
Roundtable on VBP

2005

**Hospital Compare**
lunched

2006

**2008**

**2009**

2007

2008

2006

2005

2004

2003

2002
• CMS and Premier partnership project
• First national Pay-for-Performance (P4P) demonstration
• Tests the hypothesis that financial incentives and public recognition can increase quality of care
• A three-year effort launched October, 2003
• Approximately 260 hospitals in 38 states
Rewarding delivery of widely accepted evidence-based clinical indicators

**Acute myocardial infarction (AMI)**
1. Aspirin at arrival
2. Aspirin prescribed at discharge
3. ACEI/ARB for LVSD
4. Smoking cessation advice/counseling
5. Beta blocker prescribed at discharge
6. Beta blocker at arrival
7. Thrombolytic received within 30 minutes of hospital arrival
8. PCI received within 90 minutes of hospital arrival
9. **Inpatient mortality rate**

**Coronary artery bypass graft (CABG)**
1. Aspirin prescribed at discharge
2. CABG using internal mammary artery (Test)
3. Prophylactic antibiotic received within one hour prior to surgical incision
4. Prophylactic antibiotic selection for surgical patients
5. Prophylactic antibiotics discontinued within 24/48 hours after surgery end time
6. **Inpatient mortality rate**
7. Post operative hemorrhage or hematoma
8. Post operative physiologic and metabolic derangement

**Heart failure (HF)**
1. Left Ventricular Systolic (LVS) assessment
2. Detailed discharge instructions
3. ACEI or ARB for LVSD
4. Smoking cessation advice/counseling

**Pneumonia (PN)**
1. Percentage of patients who received an oxygenation assessment within 24 hours prior to or after hospital arrival
2. Initial antibiotic selection for Community Acquired Pneumonia
3. Blood culture collected prior to first antibiotic administration
4. Influenza screening/vaccination
5. Pneumococcal screening/vaccination
6. Antibiotic timing, percentage of pneumonia patients who received first dose of antibiotics within four hours after hospital arrival
7. Smoking cessation advice/counseling

**Hip and knee replacement**
1. Prophylactic antibiotic received within one hour prior to surgical incision
2. Prophylactic antibiotic selection for surgical patients
3. Prophylactic antibiotics discontinued within 24 hours after surgery end time
4. **Post operative hemorrhage or hematoma**
5. **Post operative physiologic and metabolic derangement**
6. Readmission within 30 days to any acute care facility

**Surgical**

*Italics = outcomes measure*
Dramatic and Sustained Improvement

Avg. improvement across all 5 clinical areas for median CQS (19 quarters) 18.66%

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Improvement (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>8.9%</td>
</tr>
<tr>
<td>CABG</td>
<td>14.1%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>25.9%</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>31.4%</td>
</tr>
<tr>
<td>Hip &amp; Knee</td>
<td>13.0%</td>
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</tbody>
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CMS HQID Composite Quality Score

CMS/Premier HQID Project Participants Composite Quality Score: Trend of Quarterly Median (5th Decile) by Clinical Focus Area
October 1, 2003 - June 30, 2008 (Years 1, 2, & 3 Final Data; Years 4 and 5 Preliminary Data)
More Patients are Receiving *Every* quality measure

Avg. improvement from 4Q03 to 2Q08 in all clinical areas (19 quarters)  
55.05%

<table>
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<tr>
<th>Clinical Area</th>
<th>Improvement (percentage points)</th>
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<tbody>
<tr>
<td>AMI</td>
<td>23.7%</td>
</tr>
<tr>
<td>CABG</td>
<td>66.5%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>65.1%</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>54.9%</td>
</tr>
<tr>
<td>Hip &amp; Knee</td>
<td>65.1%</td>
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</table>

Evidence-based Care Improvements

CMS/Premier HQID Project Participants Appropriate Care Score:  
Trend of Quarterly Median (5th Decile) by Clinical Focus Area  
October 1, 2003 - June 30, 2008 (Year 1, 2, and 3 Final Data; Year 4 and 5 Preliminary)
Substantial Improvement by Lower Performers

Percentage of Hospital Clinical Focus Groups in "Penalty Box"
HQID Final Data Years 1-3

Year 1 Base Year 2 Q1 Year 2 Q2 Year 2 Q3 Year 2 Q4 Year 2 Q1 Year 2 Q2 Year 2 Q3 Year 3 Q1 Year 2 Q2 Year 2 Q3 Year 3 Q4

Quarter Percentage
0% 5% 10% 15% 20%

Year 3 Q1 Year 3 Q2 Year 3 Q3 Year 3 Q4

Quarter Percentage
20% 11% 8% 5% 5% 3% 2% 1% 1% 1%

Preliminary HQID Year 4 Results
Updated 2-4-09

Quarter Percentage
Q4-06 Q1-07 Q2-07 Q3-07 Yr4 Prelim
2.4% 1.6% 1.1% 1.4% 0.8%

Preliminary HQID Year 5 Results
Updated 2-4-09

Quarter Percentage
Q4-07 Q1-08 Q2-08 Q3-08
4.4% 3.3% 3.0%
In Broader Comparison, HQID Hospitals Excel

National Leaders in Quality Performance

- HQID participants avg. 6.8% higher than Non-Participants
  - Avg. improvement for HQID participants = 9.7%
  - Avg. improvement for Non-participants = 7.4%
- New England Journal of Medicine publication by Lindenauer et al. (February 2007) found that hospitals engaged in P4P achieved quality scores 2.6 to 4.1 percentage points above other hospitals due solely to the impact of P4P incentives.

A composite of 19 measures shared in common between HQID and Hospital Compare shows P4P hospitals performing above the nation as a whole.
St. Helena Hospital

• Established in 1878, St. Helena serves a five county region and 200,000 residents in largely rural northern CA

• 158 inpatient beds treating 75,000 inpatient & outpatient visits annually

• Medical staff of 125 with 920 total employees

• 63% revenue from Medicare and Medicaid
Continuous Improvement in Composite Quality Scores

Continuous improvement from Year 1 to Year 5 Year to Date (YTD) HQID data for the Composite Quality Score (CQS), a combination of clinical quality measures and outcome measures.

St Helena Hospital
Trend of Quarterly HQID Composite Quality Scores by Clinical Focus Area
October 1, 2003 - June 30, 2008 (Year 1-3 Final Data; Year 4 & 5 Preliminary Data)

▲ = HQID Top 20% Threshold Value; ● = HQID Median
Consistent Top Performer

- Top Performer in Heart Failure for Years 1 and 2
- Top Performer in AMI in Years 2 and 3
  - Tracking for Top Performer in Years 4 and 5
- Top Performer in Hip/Knee Replacement for Year 3
  - Tracking for Top Performer in Year 4
- Tracking Top Performer in CABG for Year 5
- Significant improvement in Pneumonia
  - 65% in Year 1 to 94% Year 4
  - Tracking for Top Improver Award in Years 4 and 5
- Tracking to receive Attainment Award for all clinical areas in Year 4 and all except Hip/Knee Replacement for Year 5
More Patients are Reliably Receiving Evidenced-based Care

The appropriate care score (ACS), also referred to as “perfect process or “all or nothing” to designate when a patient receives all possible care measures within a clinical area, showed improvement across time.
Performing Above the National Average

A composite of 19 process measures shared between HQID and Hospital Compare shows St. Helena Hospital performing above the nation as a whole.

St. Helena Hospital Compared to National Group Trend
Hospital Compare Data
19 Process Measures Aggregated to Overall Composite Process Score

<table>
<thead>
<tr>
<th></th>
<th>National Average</th>
<th>State Average</th>
<th>St Helena Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 05-June 06</td>
<td>85.9%</td>
<td>84.7%</td>
<td>91.7%</td>
</tr>
<tr>
<td>Oct 05-Sept 06</td>
<td>83.0%</td>
<td>85.1%</td>
<td>91.7%</td>
</tr>
<tr>
<td>Jan 06-Dec 06</td>
<td>86.4%</td>
<td>86.4%</td>
<td>92.5%</td>
</tr>
<tr>
<td>Apr 06-Mar 07</td>
<td>88.1%</td>
<td>88.1%</td>
<td>93.0%</td>
</tr>
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<td>94.7%</td>
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*Beginning with Oct 05-Sept 06 the influenza vaccination measure became unsuppressed and the number of process measures increased from 18 to 19
Improvement and Savings

Avg. cost improvement across all clinical areas

$1,063

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<tr>
<td>AMI</td>
<td>$1,599</td>
</tr>
<tr>
<td>CABG</td>
<td>$1,579</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>$811</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>$1,181</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>$744</td>
</tr>
<tr>
<td>Knee Replacement</td>
<td>$463</td>
</tr>
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Avg. improvement in mortality across four clinical areas

1.87%

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<td>2.27%</td>
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<tr>
<td>CABG</td>
<td>0.95%</td>
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<tr>
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<td>2.39%</td>
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<tr>
<td>Heart Failure</td>
<td>1.86%</td>
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</table>

If all hospitals in the nation were to achieve this improvement, the estimated cost savings would be greater than $4.5 billion annually with estimated 70,000 lives saved per year.
Findings: Mortality, Complications, Length of Stay and Costs all go down for Heart Attack (AMI)

Mortality Rate for AMI Surgical Patients (%)
- Low: 0% - 49%
- Medium: 50% - 99%
- High: 100%

Patient Process Measure:
- Low: 15.0%
- Medium: 14.6%
- High: 2.6%

AMI Surgical Patients with Complications (%)
- Low: 0% - 49%
- Medium: 50% - 99%
- High: 100%

Patient Process Measure:
- Low: 10.0%
- Medium: 9.0%
- High: 3.2%

Average Length of Stay (ALOS) for AMI Surgical Patients
- Low: 0% - 50%
- Medium: 51% - 99%
- High: 100%

Patient Process Measure:
- Low: 12.0
- Medium: 10.5
- High: 8.0

Median Cost per Case over 3 years (AMI)
Conclusions

1. Creates a performance improvement engine
   • Public reporting
   • Financial incentives

2. Aligns incentives within hospitals

3. Re-aligns payment incentives in Medicare
   • From rewarding more procedures to rewarding quality procedures

4. Improved quality is associated with saving lives and reducing costs
Policy Recommendations

1. Create a positive incentive to improve performance.
   - All unallocated funds must be used to reward top performers and improvers
   - There must be an annual actuarial assessment to identify savings, which should be used to fund a bonus pool
   - Phase in so that hospitals can realistically achieve the benchmarks

2. Align physician and hospital interests.
   - Assure alignment between physician and hospital measures
   - Hospitals should be able to share money from the bonus pool with their physicians

3. Set benchmarks based on real world evidence from the CMS/Premier HQID project.

4. VBP should be irrevocably tied to public reporting.
   - The Hospital Compare Web site must be more user friendly
   - Hospital Compare should include reporting of the hospital’s performance in delivering *all* recommended quality measures for each clinical condition
   - All new measures should be tested and publicly reported use in a VBP program

5. Government should direct attention and resources to lower performing hospitals
   - QIOs should be directed to focus attention on non-performing hospitals