Premier’s Vision for High Performing Healthcare Organizations:

Linking Supply Chain, Patient Safety and Clinical Outcomes

Joe M. Pleasant
Sr. VP and CIO
Premier Inc.

Global GS1 Conference
Hong Kong
October 7, 2009
Premier: Uniting A Fragmented Healthcare System

- Over 2,200 hospitals, 63,000 non-acute sites
- $35 billion in annual group purchasing volume
- Safety, Diversity and Environmentally Preferred Purchasing programs
- Collect, analyze and share knowledge nationwide to improve the health of communities
- Nation’s largest clinical/operational/supply chain comparative databases
- Organization of national hospital collaboratives to improve quality and safely reduce costs

Purchasing Partners
Supply Chain Improvement

Informatics
Quality Measurement & Benchmarking

Insurance
Liability, Benefits & Risk Management

Premier Consulting Solutions
Comprehensive, accelerated approach to improving financial, operational and clinical performance.
Premier: Recognition of Excellence

2006 Malcolm Baldrige National Quality Award recipient
Premier’s Vision:
High Quality Care at Low Costs is Achievable

Sustainable, efficient processes are critical for increasing quality and optimizing labor and supply costs. Premier’s solutions help hospitals excel at optimizing each of these factors.

Core Purpose:
To improve the health of communities.

Envisioned Future:
Premier hospitals and health systems will operate at costs in the lowest quartile among all similar organizations and at quality levels in the highest quartile.
Topics

1. Quality and the bottom line
2. Quality as a driver of cost improvement
3. Lessons from the Premier Hospital Quality Incentive Demonstration (HQID) Project
4. Linking Patient Safety, Cost of Care, Supply Chain and Clinical Outcomes
5. Supply Chain – An Important component of Cost of Care.
6. Where do we go from here?
Making the Business Case for Quality

• Quality and financial performance are inseparable

• As healthcare leaders, we are equally responsible for both

- Improved Financial Margin
- Reduced cost per case
- Increased market share
- Improved access to capital
- Reduced liability
- Improved outcomes for patients
Premier lead the first national pay-for-performance demonstration project for hospitals to measure the effects of financial incentives on hospital performance.

- Over 260 of our hospitals volunteered to participate in the 3-year program.
- Premier used national quality measures across 5 clinical conditions to track hospital performance.
- Hospitals achieving quality scores in the top 20% of the participants were given financial “bonuses”
- Year One - Almost $9 million dollars were awarded to top performers
Overview of Premier Hospital Quality Incentive Demonstration (HQID) Project

**Five Clinical Areas**

Top performers identified in:

1. Acute Myocardial Infarction (AMI)
2. Congestive Heart Failure
3. Coronary Artery Bypass Graft (CABG)
4. Hip and Knee Replacement
5. Community Acquired Pneumonia
In Broader Comparisons, HQID Hospitals Excel
National Leaders in Quality Performance

**SUMMARY**

- HQID hospitals have higher quality than other hospitals.
- HQID average 6.8% higher quality performance.
- Ave. HQID improvement = 11.3% compared to others at 10.2%.
- New England Journal of Medicine found P4P hospitals achieved quality scores 4.1% above others.
HQID - More patients are reliably receiving evidenced-based care

Avg. improvement from 4Q03 to 3Q08 in all clinical areas (20 quarters) 55.32%

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Improvement (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>24.7%</td>
</tr>
<tr>
<td>CABG</td>
<td>66.1%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>65.7%</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>54.8%</td>
</tr>
<tr>
<td>Hip &amp; Knee</td>
<td>65.3%</td>
</tr>
</tbody>
</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, 3, and 4 Final Data; Year 5 Preliminary)
**HQID - Dramatic and sustained improvement**

Avg. improvement across all 5 clinical areas for median CQS (20 quarters)

<table>
<thead>
<tr>
<th>Clinical Area</th>
<th>Improvement (percentage points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMI</td>
<td>9.1%</td>
</tr>
<tr>
<td>CABG</td>
<td>14.0%</td>
</tr>
<tr>
<td>Pneumonia</td>
<td>25.8%</td>
</tr>
<tr>
<td>Heart Failure</td>
<td>31.4%</td>
</tr>
<tr>
<td>Hip &amp; Knee</td>
<td>13.1%</td>
</tr>
</tbody>
</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 an estimated **70,000 lives saved per year**!
HQID Example: Heart Bypass
Reliable Care Improves Readmissions, Mortality, Cost and Length of Stay Outcomes

Data show lower mortality rates for heart bypass surgery patients receiving better care

Mortality rate of heart bypass surgery patients (%)

- Low - 0% - 49%
- Medium - 50% - 74%
- High - 75% - 100%

Mortality Rate

Data indicate fewer complications are associated with better care

Heart bypass surgery patients with complications (%)

- Low - 0% - 49%
- Medium - 50% - 74%
- High - 75% - 100%

Data indicate fewer readmissions are associated with better care

Readmissions heart bypass surgery patients (%)

- Low - 0% - 49%
- Medium - 50% - 74%
- High - 75% - 100%

Data show fewer hospital days associated with patients receiving better care

Average LOS for heart bypass surgery patients

- Low - 0% - 49%
- Medium - 50% - 74%
- High - 75% - 100%
UK North West “Advancing Quality” Program
  - England’s largest health authority using Premier/Medicare P4P project as a model for improving patient care

Groups from Hong Kong, Korea learning from initiative
Lessons Learned from HQID

1. There is a link between cost and quality.
2. Setting goals, measuring performance and transparently reporting results is an effective driver.
3. Improvements can be achieved rapidly.
4. Increasing interest from government and payers to incentivize quality using P4P model.
Linking Patient Safety, Cost of Care, Supply Chain and Clinical Outcomes

**QUEST:** A Focus on Quality, Efficiency, Safety, with Transparency
Our Mortality Measure and Potential Components

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>Potential PRIMARY COMPONENTS</th>
<th>Potential SECONDARY COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital – Level Risk Adjusted Mortality (O/E Ratio)</td>
<td>Sepsis</td>
<td>Early appropriate level of care (ICU)</td>
</tr>
<tr>
<td></td>
<td>Respiratory Conditions</td>
<td>Early recognition and intervention</td>
</tr>
<tr>
<td></td>
<td>Cardiac Related and Shock</td>
<td>Timely transfer to ICU</td>
</tr>
<tr>
<td></td>
<td>End of Life Care</td>
<td>Elderly and other high risk groups</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early recognition of resp compromise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Avoidance of VAP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Post operative resp care protocols</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rapid response team</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Adherence to ACC Protocols</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early transfer to ICU if needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improved use of cardiac monitors</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Early identification of patients</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proper use of V667 palliative code</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appropriate setting: hospice v acute</td>
</tr>
</tbody>
</table>

* Data mining to examine top components of mortality is currently in progress
Our Evidence Based Care Performance Measure: “All or Nothing Score”

- Evidence Based Care Performance %
  - Primary Components: Acute Myocardial Infarction, Heart Failure, Pneumonia, Surgical Complication

  - Secondary Components:
    - Aspirin on arrival
    - Beta blocker on arrival
    - Timely reperfusion
    - Aspirin at discharge
    - Beta blocker on discharge
    - ACEI/ARB for LVSD
    - Smoking cessation counseling
    - Discharge instructions
    - Blood culture in ED before antibiotic
    - Initial antibiotic selection
    - Pneumococcal vaccine
    - Influenza vaccine
    - Appropriate antibiotic selection
    - Antibiotic 0-60 min before incision
    - Antibiotic d/c 24 hrs post-op (48 cardiac)
    - VTE prophylaxis pre & post-op
Our Efficiency Measure (Cost of Care) and Components

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>PRIMARY COMPONENTS</th>
<th>SECONDARY COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Cost Per Adjusted Discharge</td>
<td>Clinical Quality/Safety</td>
<td>Evidence Based Care</td>
</tr>
<tr>
<td></td>
<td>Staffing</td>
<td>Harm Avoidance</td>
</tr>
<tr>
<td></td>
<td>Supply Chain</td>
<td>Mortality</td>
</tr>
<tr>
<td></td>
<td>Clinical Efficiency and Effectiveness</td>
<td>Skill Mix</td>
</tr>
</tbody>
</table>

- Contracting/Purchasing
- Pharmaceuticals
- Implants

- Hospital Throughput
- Resource Consumption
- Unnecessary Proc/Hospitalizations
Our Harm Measure and Potential Components

**MEASURE**

- Composite Harm Index

**PRIMARY COMPONENTS**

- Hospital Acquired Infection
- Adverse Drug Events
- Surgery Related Harm
- Labor / Deliver Related Harm
- Hospital Wide Harm

**SECONDARY COMPONENTS**

- Hosp Associated UTI
- Hosp Associated Central line infections
- Ventilator Assoc Pneumonia
- MRSA Infections
- Surgery Related Infections
- Medication Error – Dose related
- C Difficile Infections
- Drug – Drug Interactions
- Post Op Respiratory Failure
- Retained Object
- Wrong Sided Surgery
- Post op PE / VTE
- Return to OR / LD
- Birth Trauma
- Falls
- Pressure Ulcers
Our Patient Experience Measure and Potential Components

**MEASURE**

Global Composite Perception Score

**PRIMARY COMPONENTS**

- Nurse Communication
- Responsiveness of Staff
- Pain Control
- Discharge Information
- Clean & Quiet
- Doctor Communication
- Medications Communication
QUEST participants show improvement through fourth quarter 2008

Trends for Mortality O/E Ratio Among QUEST Participants

- Updated 7-17-09
- Baseline (N-160): 0.99
- 1q08-4q08 (N-157): 0.85
- 0.14 reduction in the avg. Observed to Expected Mortality Ratio from baseline

Trends for Evidence Based Care Among QUEST Participants

- Updated 7-17-09
- Baseline (N-153): 78%
- 1q08-4q08 (N-157): 86%
- 8.74 percentage point increase in avg. EBC rate from baseline

Trends for Cost of Care per Patient Among QUEST Participants

- Updated 7-17-09
- Baseline (N-158): $5,930
- 1q08-4q08 (N-145): $5,587
- $343 decrease in the avg. Cost of Care from baseline
QUEST Cost of Care Trend vs. Rest of Premier

Deflated Cost Trend Comparison
(4-quarter moving averages)

Cost per Adjusted Case

$7,000
$6,800
$6,600
$6,400
$6,200
$6,000
$5,800

3rd 4th 1st 2nd 3rd 4th 1st 2nd 3rd

2006 2007 2008

143 QUEST Hospitals
257 Non-QUEST Hospitals
QUEST IMPACT: Extrapolation data

Quest facilities show greater improvements than those facilities not in the project.

If all hospitals not participating in QUEST could achieve these results, this would mean an additional 52,760 lives, $1.16 billion saved, and 27,771 additional patients receiving all evidence-based care.
Supply Chain – An Important Component of Cost of Care

<table>
<thead>
<tr>
<th>MEASURE</th>
<th>PRIMARY COMPONENTS</th>
<th>SECONDARY COMPONENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient Cost Per Adjusted Discharge</td>
<td>Clinical Quality/Safety</td>
<td>Evidence Based Care</td>
</tr>
<tr>
<td></td>
<td>Staffing</td>
<td>Harm Avoidance</td>
</tr>
<tr>
<td></td>
<td>Supply Chain</td>
<td>Mortality</td>
</tr>
<tr>
<td></td>
<td>Clinical Efficiency and Effectiveness</td>
<td>Skill Mix</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Premium Pay</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Productivity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contracting/Purchasing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pharmaceuticals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Implants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hospital Throughput</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resource Consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Unnecessary Proc/Hospitalizations</td>
</tr>
</tbody>
</table>
ASCEND: Accelerated Supply Chain Endeavor

ASCEND is a Premier member-designed program created to enable and achieve rapid improvements in all aspects of the supply chain.

ASCEND is a continuation of Premier’s mission; creating value for hospitals and transforming healthcare together.

ASCEND, like QUEST, takes a full-service solutions approach to identifying and implementing supply chain performance opportunities within a philosophically aligned cohort.

ASCEND marries clinical and cost data to help hospitals select the best products, for the best overall value.
ASCEND Approach: Total Supply Chain Management

- **Best Practices**
  - CLINICAL OUTCOMES
    - High
    - Low
  - FORMULARY MANAGEMENT
  - WASTE ELIMINATION
  - VALUE ANALYSIS
  - STANDARDIZATION
  - STRATEGIC ALIGNMENTS
  - BUSINESS PRACTICES
  - STRATEGIC ALIGNMENTS
  - INTERNAL MATERIALS OPERATIONS
  - LOGISTICS
  - INTENSITY OF CARE
  - INCIDENCE OF CO-MORBIDITY
  - MANAGED LIFE COSTS
  - LENGTH OF STAY REDUCTIONS
  - PRODUCT/PROTOCOL FITTING

- **Cost Management**
  - High
  - Medium
  - Low

- **Utilization**
  - Standardization
  - Value Analysis
  - Waste Elimination
  - Formulary Management

- **Price**
  - Bids
  - Negotiation
  - Group Purchasing

- **Value & Quality Influences**
  - High
  - Low

- **Transforming Healthcare Together**
ASCEND Approach: Total Supply Chain Management

**Advanced: Demand Matching**
- Broad based, non-salary cost management
- Outcomes-based, product utilization management
- Clinical participation in product selection and use

**Intermediate: Efficiency and Improvement**
- Supplier/Product Standardization
- Cost and Impact Reporting (DRG)
- Supply Chain Business Process Improvement

**Basic: Contracting**
- Contract Participation and Optimization
- Quality Monitoring and Control
- Inventory Control and Information Systems

- 15% Cost Reduction
- 9% Cost Reduction
- 2-6.5% Cost Reduction
PURPOSE: To leverage the vast knowledge, research and development of the healthcare supplier community to proactively bring forward change concepts to the QUEST/ASCEND cohort of hospitals.

The program is focused on those suppliers who passionately believe their processes will dramatically impact the QUEST/ASCEND goal to make substantial improvements in the value of health care.
Where do we go from here?
Where do we go from here?

*Endorsement and adoption of standards allow interoperability of key supply chain processes between all portions of the Healthcare Supply Chain.*
Where do we go from here?
Conclusion

Team Work

Don’t EVER give up!

Compliments of Leasing News

Transforming Healthcare Together
Thank you

Questions? Comments?

www.premierinc.com

Joe_Pleasant@premierinc.com