
5th Cardiopulmonary Rehabilitation Workshop 2011- Webinar
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Outline

- What are Performance Measures?
- Why in Healthcare?
- Why in Cardiac/Pulmonary Rehabilitation?
- When will we have CR and PR measures?
- How to implement?
What are Performance Measures?
Methods to measure components and/or outcomes of care
Performance Measures

- **Structure:** Emergency response equipment in place?
- **Process:** Number of patients screened for diabetes?
- **Outcome:** Re-hospitalization rate following MI?
Why Performance Measures?
Where performance is measured, performance improves. Where performance is measured and reported, the rate of improvement accelerates.

-Thomas S. Monson
Quality Then and Now

• 13th Century Guilds
• Industrial Revolution
• Wartime productivity demands
• Total Quality Management
• LEAN, Six Sigma
Lessons from History: Railroads

- 1853: Accidents, deaths
- 1868: Coupler invented (Janney)
- 1869: Air brakes invented (Westinghouse)
- 1908: Federal Employer’s Liability Act (T. Roosevelt)
Why Performance Measurement in Healthcare?

• Gaps between ideal care and actual care
Crossing the Quality Chasm (2001)
Methods to Improve Delivery of Preventive Services

Characteristics of Successful Centers

- Common goals
- Administrative support
- Clinician support
- Systematic design
- Use of data
- Adaptive to circumstances

JAMA 2001;285:2604-2611
Why Now?

- Evidence of Gaps in Care
- Growing Expectations
- Increasing Complexities of Care
- Effective Quality Improvement Methods
Performance Measures Development

- **Construct Measurement Sets**
  - Define population, domains of care, sampling time
  - Review literature
  - Identify measures

- **Determine Measure Feasibility**

- **Measure Performance**
Performance Measures

- **Historical timeline**
  - 2003: “Mini-sets” (ACC/AHA/AMA)
    - Heart failure, hypertension, stable angina
  - 2005: Methodology paper published
  - 2005: Heart failure (ACC/AHA)
  - 2006: STEMI/NSTEMI (ACC/AHA)
  - 2007: Card Rehab/2º prev (AACVPR/ACC/AHA)
  - 2007: Atrial fib (ACC/AHA/PC)
  - 2008: STEMI/NSTEMI (ACC/AHA)
  - 2009: 1º prevention CAD (ACC/AHA)
  - 2010: Updated Cardiac Rehab Referral Measures
Do Performance Measures Improve Outcomes?
Table 4. Unadjusted and Risk-Adjusted Process-Outcome Links for ACC/AHA Hospital Performance Measures for Heart Failure

<table>
<thead>
<tr>
<th>Performance Measures</th>
<th>Predictive of Mortality at 60- to 90-d Follow-up</th>
<th>Predictive of Mortality or Rehospitalization at 60- to 90-d Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hazard Ratio (95% CI)</td>
<td>P Value</td>
</tr>
<tr>
<td>Unadjusted</td>
<td></td>
<td></td>
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<tr>
<td>Discharge instructions</td>
<td>0.86 (0.66-1.13)</td>
<td>.29</td>
</tr>
<tr>
<td>Evaluation of LV systolic function</td>
<td>0.75 (0.55-1.03)</td>
<td>.08</td>
</tr>
<tr>
<td>ACE inhibitor/ARB for LV systolic dysfunction</td>
<td>0.48 (0.31-0.73)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Smoking cessation counseling</td>
<td>0.54 (0.30-0.96)</td>
<td>.04</td>
</tr>
<tr>
<td>Warfarin for atrial fibrillation</td>
<td>0.81 (0.58-1.13)</td>
<td>.22</td>
</tr>
<tr>
<td>β-Blocker at discharge</td>
<td>0.42 (0.27-0.63)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Risk-adjusted</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge instructions</td>
<td>0.90 (0.66-1.23)</td>
<td>.51</td>
</tr>
<tr>
<td>Evaluation of LV systolic function</td>
<td>0.91 (0.65-1.28)</td>
<td>.59</td>
</tr>
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<td>0.61 (0.35-1.06)</td>
<td>.08</td>
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<td>0.75 (0.41-1.37)</td>
<td>.35</td>
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<td>0.74 (0.50-1.09)</td>
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<td>0.48 (0.30-0.79)</td>
<td>.004</td>
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</tbody>
</table>

Abbreviations: ACC/AHA, American College of Cardiology/American Heart Association; ACE, angiotensin-converting enzyme; ARB, angiotensin receptor blocker; CI, confidence interval; LV, left ventricular.

### Table 5. Percent Variance in 30-Day Risk-Standardized Mortality Rates Explained by Each Process Measure and Composite Measure*

<table>
<thead>
<tr>
<th>Process Measure</th>
<th>% Variance Explained</th>
</tr>
</thead>
<tbody>
<tr>
<td>β-Blocker at admission</td>
<td>0.1</td>
</tr>
<tr>
<td>β-Blocker at discharge</td>
<td>2.6</td>
</tr>
<tr>
<td>Aspirin at admission</td>
<td>0.3</td>
</tr>
<tr>
<td>Aspirin at discharge</td>
<td>3.3</td>
</tr>
<tr>
<td>ACE inhibitor at discharge</td>
<td>0.9</td>
</tr>
<tr>
<td>Smoking cessation counseling</td>
<td>0.1</td>
</tr>
<tr>
<td>Timely reperfusion therapy†</td>
<td>3.3</td>
</tr>
<tr>
<td>Composite score, timely reperfusion measure and smoking measure‡</td>
<td>6.0</td>
</tr>
</tbody>
</table>

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*Abbreviation: ACE, angiotensin-converting enzyme.*  
*Hospitals were included if they had at least 10 patients eligible for the given process measures.*  
†Percentage of all patients with ST-segment elevation myocardial infarction receiving reperfusion therapy within recommended time (30 minutes for fibrinolytic therapy and 120 minutes for percutaneous coronary intervention).  
‡Composite score for each patient based on 1 to 5 indicators (β-blocker at admission and discharge, aspirin at admission and discharge, and ACE inhibitor at discharge) for which that patient is eligible.

Do Performance Measures Improve Outcomes?

Yes, if closely linked to desired outcomes

Mehta et al., Am J Med 2007;120:398-402
Why Performance Measurement in Cardiac and Pulmonary Rehabilitation?
Why in CR and PR?

- Parallels train safety history
- Effective methods
- Underutilized
- 3rd party intervenes
- Mandatory application
- Win-win-win
When?

Now!
Cardiac Rehabilitation
AACVPR/ACC/AHA 2007 Performance Measures on Cardiac Rehabilitation for Referral to and Delivery of Cardiac Rehabilitation/Secondary Prevention Services

Updated September 2010

Endorsed by the American College of Cardiology, American College of Sports Medicine, American Physical Therapy Association, Association of Cardiovascular and Pulmonary Rehabilitation, European Association for Cardiovascular Prevention and Rehabilitation, Inter-American Heart Foundation, National Association of Cardiovascular Nurses Association, and the Society of Thoracic Surgeons

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CR/SP Performance Measures

Set A
- Inpatient
  - Post-MI
  - Post-CABG
  - Post-PCI
  - Stable Angina
  - Post-Transplant
  - Post-Valve Surgery
- Outpatient

Set B
- Eligible Patients
- Cardiac Rehabilitation/Secondary Prevention Program
- Outcomes

Cardiac Rehabilitation Performance Measures

Set A: Referral to CR

- A-1: In-patients referred to out-patient CR
- A-2: Out-patients referred to out-patient CR
Cardiac Rehabilitation Performance Measures

Set B: Delivery of CR

- B-1: Medical and emergency standards
- B-2: Assessments of risk for CV events
- B-3: Risk factor assessment/treatment plan
  - Coordination with other healthcare providers
- B-4: Monitor response to therapy
Cardiac Rehabilitation Performance Measures

- **Endorsement**
  - National Quality Forum (May 2010)
    - Set A only
  - Centers for Medicaid and Medicare Services
    - Included as part of PINNACLE data registry and Physician Quality Reporting Initiative (PQRI)
    - Core Quality of Care Measure?
Pulmonary Rehabilitation
What About Pulmonary Rehabilitation?

- Effective therapy
- Utilization gap?
- Feasible to narrow the gap?
- Performance measures?
- Outcome measures?
- National Quality Forum shortcut?
What About Pulmonary Rehabilitation?

- Outcome Measures
  - Quality of Life
    - Chronic Respiratory Disease Questionnaire
  - Functional Capacity
    - 6 minute walk

- Endorsed by NQF September 2010
Now What?
Cardiac Rehabilitation Performance Measures

Implementation of Set A (Referral)

- AACVPR Certification, Toolkit
- National Quality Measures Clearinghouse
- Data Registries
  - ACC
  - AACVPR
- Other Measures Sets
  - ACC/AHA STEMI/NSTEMI Performance Measures
  - AMA-PCPI CAD Performance Measures
- Local implementation by hospitals, clinics, practices
AMA Physician Consortium for Practice Improvement (PCPI):
CAD Performance Measures

Proposed Process Measures:
- Smoking Cessation
- Adjunctive Therapy
- Cardiac Rehabilitation (Patient referred from an Outpatient Setting)
- Symptom & Activity Assessment
- Beta-Blocker Therapy
- ACE/ARB Therapy
- Overuse of Statin Therapy

Management of Risk Factors:
- Optimal management of patient's risk factors

Processes... that link to...

Setting: Ambulatory Care

Outcomes

Patient with CHRONIC STABLE CORONARY ARTERY DISEASE

Existing Outcome Measures:
- Reduce morbidity & mortality
- Reduce hospitalizations
- Reduction in patient harm
- Reduction in redundant tests and procedures
- Achievement of patient goals and preferences
- Eliminate ischemic symptoms
- Improved patient understanding of treatment plan

Existing Risk Factor Measures:
- Optimally managed modifiable cardiovascular risk factors (5 health partners)
- Lipid profile at target (less than 100) (ICSI)
- LDL-C screening performed and documented LDL-C less than 100 (NCQA)
- Improved use in the last year and LDL-C less than 100 (VHA)

Existing Hospital Admission Rate Measures:
- Angina without procedure hospital admission rate (AHRO)

Proposed Outcome Measures:
- Blood Pressure Control
- Lipid Control
- Symptom Management

Measures to be considered and selected for applicability to defined episodes of care.
AMA Physician Consortium for Practice Improvement (PCPI): CAD Performance Measures

The measures listed below may be used for quality improvement and accountability. Measures that are new to the 2009 chronic stable coronary artery disease measure set are identified with an asterisk:

<table>
<thead>
<tr>
<th>Measures addressing patient-centered outcomes</th>
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<tbody>
<tr>
<td>Measure #4: Symptom Management*</td>
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<table>
<thead>
<tr>
<th>Measures addressing intermediate outcomes (management of risk factors/co-morbidities)</th>
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<tbody>
<tr>
<td>Measure #1: Blood Pressure Control</td>
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<tr>
<td>Measure #2: Lipid Control</td>
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<table>
<thead>
<tr>
<th>Measures addressing underuse of effective services (treatment strategies)</th>
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</thead>
<tbody>
<tr>
<td>Measure #5: Tobacco Cessation and Intervention</td>
</tr>
<tr>
<td>Measure #6: Antiplatelet Therapy</td>
</tr>
<tr>
<td>Measure #7: Beta-Blocker Therapy—Prior Myocardial Infarction (MI) or Left Ventricular Systolic Dysfunction (LVEF &lt;40%)</td>
</tr>
<tr>
<td>Measure #8: ACE Inhibitor or ARB Therapy—Diabetes or Left Ventricular Systolic Dysfunction (LVEF &lt;40%)</td>
</tr>
<tr>
<td>Measure #9: Cardiac Rehabilitation Patient Referral from an Outpatient Setting*</td>
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<table>
<thead>
<tr>
<th>Measures addressing underuse of patient-centered care strategies</th>
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</thead>
<tbody>
<tr>
<td>Measure #3: Symptom &amp; Activity Assessment</td>
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<table>
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<tr>
<th>Measures addressing overuse</th>
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<tbody>
<tr>
<td>Measure #10: Overuse of Stress Testing*</td>
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</table>
Cardiac Rehabilitation Performance Measures

Implementation of Set B (CR Programs)

- Revision process
- Implementation
  - AACVPR standards and certification
  - Link to reimbursement?
  - AACVPR National Registry link
Registry Connections

- GWTG ACTION In-patient
- PINNACLE Out-patient
- ACC-AHA AACVPR
Cardiac Rehabilitation Performance Measures

Keys to Local Implementation

- Consensus
- Systematic Plan
  - Assess Current Performance
  - Identify challenges (eligible patients, etc.)
  - Implement Quality Improvement Steps
  - Re-assess Performance
- (Report Performance)
3 D’s of Change

• Desire
• Do Something About It!
• Don’t Give Up!
Testing and Ongoing Maintenance
Cardiac Rehabilitation Performance Measures

Testing: Key Factors

- Validity: Do measures really measure what they are designed to measure?
- Reliability: Is the measurement reproducible?
- Usability: Is the measure easy to use?
Cardiac Rehabilitation Performance Measures

Maintenance

- Are measures decreasing the care gap, suggesting need to maintain over time?
Summary

What?
- Measures to improve outcomes

Why?
- Reduce gaps in care

When?
- CR PM’s emerging, PR PM’s starting

How?
- Begin with basic steps of agreement and planning, then progress to bigger steps!