Measuring and Reporting Educational Outcomes: Moving to Competence and Performance

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Disclosure

• No affiliation with commercial interests
• NIQIE
  – 501(c)3 non-profit organization
  – Mission: integration of quality improvement and medical education
    ➢ Education
    ➢ Collaboration
    ➢ Research
Objectives

• Identify metrics for measurement of performance-based CME outcomes
• Implement performance measure in CME content development
• Utilize practice performance data in CME outcomes evaluation
• Practice designing an educational evaluation plan
OUTCOMES OVERVIEW
CME Planning Cycle

- Needs Assessment
- Learning Objectives
- Content Delivery
- Outcomes Evaluation
Moore’s Levels of Outcomes-based CME Evaluation <2009

<table>
<thead>
<tr>
<th>Level</th>
<th>Outcome</th>
<th>Definition</th>
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<tbody>
<tr>
<td>1</td>
<td>Participation</td>
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<td>2</td>
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</tr>
<tr>
<td>3</td>
<td>Learning</td>
<td>Changes in KSA</td>
</tr>
<tr>
<td>4</td>
<td>Performance</td>
<td>Change in practice performance</td>
</tr>
<tr>
<td>5</td>
<td>Patient Health</td>
<td>Change in patient health status</td>
</tr>
<tr>
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## Moore’s New Levels of Outcomes-Based CME Evaluation--2009

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<tr>
<td>3A</td>
<td>Learning: Declarative</td>
<td>Knows</td>
</tr>
<tr>
<td>3B</td>
<td>Learning: Procedural</td>
<td>Knows how</td>
</tr>
<tr>
<td>4</td>
<td>Competence</td>
<td>Shows how; observed in ed. setting</td>
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<td>7</td>
<td>Community</td>
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Level 1: Participation

• What is target audience?
• What % of target participated?
• What type of participants attended?
• If they didn’t attend, why not?
• Did we meet participation goals?
Level 2: Satisfaction aka The Happiness Index

• Were participants’ expectations met?
  – Location
  – Time
  – Meeting room comfort
  – Food
  – Speaker style
Level 3 Learning

Knowledge * Skills * Attitudes

Where are the KSA gaps?
What are the learning expectations?
How will we assess?
Level 3a Learning: Declarative

Knows
– New material

Requires testing
Level 3b Knowledge: Procedural

Knows How

- Can translate knowledge to procedural skill
- Tell me what you would do
- How would you do it?
Level 4: Competence

Shows how
Observed demonstration in educational setting
Level 5: Performance

Behavior in work setting
Change in practice performance
Level 6: Patient Health

Change in patient health status
Requires patient data

Your HgbAIC is in control!
Level 7: Community

Change in population health status
Requires population health data

CDC Flu Activity & Surveillance—Dec 2009
LET’S START AT LEVEL 4
Competence

The degree to which participants show in an educational setting how to do what the CME activity intended them to be able to do

- **Objective**: Observation in educational setting
- **Subjective**: Self-report of competence or intention to change
# Measuring Competence

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<th>Practice Gap</th>
<th>Educational Methodology</th>
<th>Evaluation Methodology</th>
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<tr>
<td>Unacceptable incidence of ruptures during colonoscopy</td>
<td>Simulation</td>
<td>Proctored demonstration in simulation</td>
</tr>
<tr>
<td>Low incidence of recommended chemotherapy protocol</td>
<td>Case-based lecture</td>
<td>Post-test Case vignettes</td>
</tr>
<tr>
<td>Inaccuracies in spirometry readings</td>
<td>Proctored skill-building workshop</td>
<td>Assessment of standardized readings</td>
</tr>
<tr>
<td>Lack of smoking cessation counseling</td>
<td>Demonstration of smoking cessation counseling strategies</td>
<td>Standardized patient with history of smoking</td>
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GETTING TO LEVEL 5: PERFORMANCE
PERFORMANCE MEASURES
Types of Performance Measures

Process measures—clinician’s control
Ordering Hgb A1C to manage diabetic patients
Assume process will have eventual effect on outcomes

Outcomes measures—actual patient outcomes that depend on action outside the clinician’s control
Maintaining Hgb A1C values <7
Where do Performance Measures come from?

- CMS--PQRI
- Specialty societies
- Health plans
- AMA Physician Consortium for Performance Improvement
- NCQA

National Quality Measures Clearinghouse

www.qualitymeasures.ahrq.gov
AMA PCPI: 265 measures in 43 clinical areas

Acute otitis externa / otitis media with effusion
Adult diabetes
Anesthesiology and critical care
Asthma
Atrial fibrillation and atrial flutter
Chronic kidney disease
Chronic obstructive pulmonary disease
Chronic stable coronary artery disease
Community-acquired bacterial pneumonia
Emergency medicine
End state renal disease
Eye care
Gastroesophageal reflux disease
Geriatrics
Heart failure
Hematology
Hepatitis C
Hypertension
Major depressive disorder
Melanoma
Nuclear medicine
Oncology
Osteoarthritis
Osteoporosis
Outpatient parenteral antimicrobial therapy
Pathology
Pediatric acute gastroenteritis
Perioperative care
Prenatal testing
Preventive care and screening
Prostate cancer
Radiology
Stroke and stroke rehabilitation
Substance use disorders
Measure Language

High Blood Pressure Control in Type 1 or 2 Diabetes Mellitus

Percentage of patients aged 18-75 years with DM who had most recent BP in control (less than 140/80)
Compliance Calculation

Performance Calculation

% of DM pts >40 y/o Rx ASA

No. of patients meeting measure criteria
(no. of pts prescribed ASA)

Numerator

No. of patients meeting study criteria
minus no. patients with valid exclusions
(no. of patients ≥ 40 y/o with diabetes minus those who have adverse reactions to ASA)

Denominator
PERFORMANCE DATA
We need data to....

....Assess practice at baseline

....Assess practice post-intervention
Chart Review

• Patient level data
• Process/outcomes data
• Resource-intensive
• GIGO
Electronic Health Records

- Often don’t collect needed data
- Lack of standardization
- Problem with translating measures to computer language
- Lack of standardized taxonomy
Health Plan Data

- Useful for process measures
- Small percentage of practice
- Docs don’t trust data
- Attribution challenges
Registries

- Collection of patient data
- Organized
- Searchable
- Meets specific objectives
- Supports analysis of deviation from established goals

*May have more promise than EHR in short run*
Patient Surveys

The Consumer Assessment of Healthcare Providers and Systems (CAHPS)

• AHRQ initiative

• Standardized patient questionnaires that can be used to compare results across providers and over time

• Tools and resources to produce comparative information for both consumers and healthcare providers
MOVING TO LEVEL 6
PATIENT HEALTH
Focus on Outcomes Data

• Actual patient data
• Improvement in patient outcomes
  – % of patients whose HgbAIC is <7
  – % of patients whose LDL is < 130
  – % of patients who have had screening mammography

Avg HgbAIC in practice has gone from 10 to 8
John Smith’s HgbAIC has gone from 9 to 7

NOT this
GETTING TO LEVEL 7
COMMUNITY
Much More Difficult

• How do you define community?
  – Region
  – State
  – National
  – Global
  – Disease state
    • Improving survivability of MI
    • Extending life-expectancy of a cancer
Need Public Health Data

- Many sources
- Funding opportunities
- Collaborate with
  - Public Health Department
  - Population Medicine experts
  - Disease-based organizations
DEVELOPING PERFORMANCE-BASED EDUCATION
Start With The End In Mind

- What are the performance/practice outcomes you want to accomplish?
- What are the current evidence-based measures?
- What data will you need and how will you collect it?
- Who will need to be involved?
- What improvement tools are available?
Performance Improvement Process

- Performance Measures
- Performance Data
- Interventions
  - Education  CME is one element
  - Systems-based process improvements
- Outcomes (performance data again)
Performance Data as Needs Assessment

- Self Assessment
  - knowledge/skills/current practice
- Practice profile
  - Registries
- Quality improvement data
  - Health system
  - Health plan
- Public Health data

May be individual or group
Performance Measures as Learning Objectives

“Following this activity, participants should be able to manage dyslipidemia”

or

“Following this activity, participants should prescribe diet or drug therapy within three months for patients who have an untreated LDL cholesterol level >130 mg/dl.”
Performance Data as CME Outcomes Measures

• Measurement pre- and post- activity

• Provide actual data rather than perceived or self-reported

• Difficult to acquire
Integrating Performance-Based and ‘Traditional’ CME

Pre-work

– Review guidelines/measures

– Practice profile (denominator)

– Current performance (numerator)

– Self assessment—knowledge and practice
Integrating Performance-Based and Traditional CME

CME Activity

– Share/analyze data

– Educational (knowledge) component

– Process-based, systems improvement interventions
Integrating Performance-Based and Traditional CME

Post-activity
- Re-measurement data collection
- On-line discussions
- Evaluation of entire activity/process
- Mechanism for continuing on
EXERCISE: DEVELOPING A PLAN
Contact

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