Quality Measurement 101
A Framework for CVEs
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AHRQ Quality Indicators team
Objectives

• How quality of care has been defined and conceptualized
• Framework for selecting quality measures
• Types of quality measures; strengths and limitations
• Roles of quality measure developers and the National Quality Forum
• Evaluating and prioritizing measures, considering potential unintended consequences
Framing the Problem in 1998:
President’s Advisory Commission on Consumer Protection and Quality in the Health Care Industry

• “Exhaustive research documents the fact that today, in America, there is no guarantee that any individual will receive high-quality care for any particular health problem.

• The health care industry is plagued with…
  – Overutilization of services (that don’t work)
  – Underutilization of services (that do work)
  – Errors in health care practice.”
Challenging the Nation (2001):
IOM Committee on Quality of Health Care in America

• “The American health care delivery system is in need of fundamental change…

• Health care today harms too frequently and routinely fails to deliver its potential benefits…

• Quality problems are everywhere, affecting many patients.

• Between the health care we have and the care we could have lies not a gap, but a chasm.”
Definitions of Quality

- **Roemer & Montoya-Aguilar, WHO (1988):**
  “The proper performance (according to standards) of interventions that are known to be safe, that are affordable…, and have the ability to produce an impact on mortality, disability, malnutrition…”

- **Institute of Medicine (1990):**
  “the degree to which health services… increase the likelihood of desired health outcomes and are consistent with current professional knowledge.”

- **Brook and McGlynn (1991):**
  “High quality care…produces positive changes, or slows the decline, in health…”

- **Pauly (2004):**
  “…anything and everything about some good or service relevant to consumers’ (actual and perceived) well-being that is not measured by quantity” (or price).
National Quality Strategy 2011

• **Better Care:** Improve overall quality by making health care more patient-centered, reliable, accessible, and safe.

• **Healthy People/Healthy Communities:** Improve the health of the U.S. population by supporting proven interventions to address behavioral, social, and environmental determinants of health...

• **Affordable Care:** Reduce the cost of quality health care for individuals, families, employers, and government.
IOM Domains of Quality

Effectiveness
• Providing services based on scientific knowledge (avoiding overuse of inappropriate care, underuse of appropriate care)

Patient Centeredness
• Care that is respectful of and responsive to patient preferences, needs, and values

Timeliness
• Reducing wait times and sometimes harmful delays

Safety
• Avoiding injuries to patients from care that is intended to help

Efficiency
• Avoiding waste of equipment, supplies, ideas, and energy

Equity
• Care does not vary in quality because of personal characteristics
In search of a balanced set of quality measures:
Institute of Medicine, 2010

<table>
<thead>
<tr>
<th>Crosscutting Dimensions</th>
<th>Components of Quality Care</th>
<th>Type of Care</th>
<th>Care Coordination</th>
<th>Health Systems Infrastructure Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>Preventive Care</td>
<td>Acute Treatment</td>
<td>Chronic condition management</td>
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<td>Patient/family-centeredness</td>
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<td>Access</td>
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<tr>
<td></td>
<td>Efficiency</td>
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</tbody>
</table>

Care Coordination

Health Systems Infrastructure Capabilities
Types of Quality Measures
Donabedian 2003

• **Structure**: Conditions under which care is provided
  • Material resources (facilities, equipment)
  • Human resources (ratios, qualifications, experience)
  • Organizational characteristics (size, volume, IT systems)

• **Process**: Activities that constitute health care
  • Screening, diagnosis, treatment, rehabilitation, education, prevention (adherence to guidelines)

• **Outcome**: Changes attributable to health care
  • Mortality, morbidity (complications, readmissions)
  • Functional status, quality of life
  • Knowledge, attitudes, and behaviors
  • Experiences/satisfaction with care
## Framework for selecting measures

<table>
<thead>
<tr>
<th>IOM Domains</th>
<th>Structure</th>
<th>Process</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Effective</strong></td>
<td>Cardiac nurse staffing, nursing skill mix (RN/total)</td>
<td>Use of ACE inhibitor or ARB for patients with systolic HF</td>
<td>30-day readmissions (or mortality) for heart failure</td>
</tr>
<tr>
<td><strong>Patient Centered</strong></td>
<td>Use of survey data to track patient-centered care</td>
<td>How often did you get an appointment as soon as you thought you needed?</td>
<td>Overall rating of experience with care</td>
</tr>
<tr>
<td><strong>Timely</strong></td>
<td>Physician organization policy on scheduling urgent appointments</td>
<td>Received beta blocker at discharge and for 6 months after AMI</td>
<td>Potentially avoidable hospitalizations for angina (without proc)</td>
</tr>
<tr>
<td><strong>Safe</strong></td>
<td>Computerized physician order entry with medication error detection</td>
<td>Use of prophylaxis for venous thromboembolism in appropriate patients</td>
<td>Postoperative deep vein thrombosis or pulmonary embolism</td>
</tr>
<tr>
<td><strong>Efficient</strong></td>
<td>Availability of rapid antigen testing for sore throat</td>
<td>Inappropriate use of antibiotics for sore throat</td>
<td>Dollars per episode of sore throat</td>
</tr>
<tr>
<td><strong>Equitable</strong></td>
<td>Availability of adequate interpreting services</td>
<td>Use of interpreting services when appropriate</td>
<td>Disparity in any other outcome according to primary language</td>
</tr>
</tbody>
</table>
Healthcare Information Division
Coronary Artery Bypass Graft (CABG) Surgery in California

CABG surgery is the most common surgical procedure for treating coronary artery disease. In this surgery, a vein or artery from another part of the body is used as a new path for blood to flow to the heart, bypassing the blocked artery. Coronary artery disease is the leading cause of all adult non-maternal admissions, representing nearly 9% of all admissions. It is a chronic condition in which cholesterol and fat solidify to form plaque along the linings of the coronary arteries. When the plaque continues to build up, blood vessels can be restricted or blocked leading to chest pain or a heart attack.


Go to CABG Trends for: 2003-2008

Go to Other CABG Reports: impact of Public Reporting | The State of Cardiac Revascularization Outcomes Reporting
OSHPD’s CABG Report

Figure 3: O/E Ratios Over Time for 67 CCMRP Participating Hospitals that Have at Least Two Years of Continuous O/E Ratios Available Between 2000 and 2002 (Continued)

- Providence Holy Cross Medical Center
- Providence St. Joseph Medical Center
- Redding Medical Center
- Saddleback Memorial Medical Center
Redding Medical Center, Tenet, and “medicine gone awry”
Structural Measures: Background and Concerns

• Enabling factors of high-quality care
• Explain little process and outcome variability
• May be hard to modify
• Causal relationships are often unclear (e.g., current volume as proxy for cumulative experience)
• Should be viewed as markers or facilitators of quality, not true measures
• Used when process or outcome measures are unavailable or have inadequate power
• Focus on modifiable measures that are closely related to outcomes (e.g., nursing skill mix)
Chart 6–8

Preventing Medication Mistakes

Over 80 percent of medication mistakes (other than missed doses) were prevented by a computerized physician order entry system once it was fully developed at a teaching hospital. Medication mistakes that caused patient injury or had the potential to cause injury (and were not intercepted before reaching the patient) were reduced by 86 percent.

Rate per 1,000 patient-days

<table>
<thead>
<tr>
<th>Period</th>
<th>Rate per 1,000 patient-days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>142.0</td>
</tr>
<tr>
<td>Period 1</td>
<td>7.6</td>
</tr>
<tr>
<td>Period 2</td>
<td>7.3</td>
</tr>
<tr>
<td>Period 3</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Overall medication mistakes (except missed dose)

Serious medication mistakes (nonintercepted)

Source: Adapted with permission from Bates et al. 1999.
How CPOE Systems Facilitate Prescribing Errors

- Entering order for wrong patient due to interruption or display problems
- Delays in orders when patients not yet entered into system, CPOE crashes
- Incorrect default dosing or protocol
- Overloading users with alerts and reminders
- Medications discontinued without clinicians being aware (after surgery, antibiotics)

Mortality Among Patients Transferred From Other Hospitals

Han, Y. Y. et al. *Pediatrics* 2005;116:1506-1512
What Went Wrong?

• “Order entry was not allowed until patient had physically arrived to the hospital and been fully registered…”

• “Entering stabilization orders often required an average of 10 ‘clicks’ on the computer mouse…”

• “Communication bandwidth was often exceeded…”

• “Second physician often needed solely to enter orders during the first 15 mins to 1 hour…”

• “Pharmacy could not process medication orders until they had been activated, [so] ICU nurses spent significant amounts of time… away from the bedside…”

• “Opportunities for face-to-face physician–nurse communication were diminished.”
Process Measures: Strengths

- Directly actionable by health care providers ("opportunities for intervention")
- Highly responsive to change
- Often validated in randomized controlled trials ("do what works")
- Illustrate pathways by which interventions may lead to better patient outcomes
Process Measures: Concerns

• Often costly or difficult to collect
  • Pharmacy/lab utilization (incomplete capture; e.g., CPT-II codes)
  • Provider or patient surveys (biased recall)
  • Chart review (inadequate documentation, cost)
  • Participant observation (Hawthorne effect, cost)
  • Simulated patients (cost)

• Validity may be questionable
  • Are they really evidence-based (vs. “expert opinion”)?
  • Some processes that seem important probably are not…
  • Many important processes have not yet been recognized…
  • Measures may not generalize across settings of care because the “standard of care” may vary
Story of a Hospital Core Measure: Time to First Antibiotic Dose (TFAD) for Pneumonia

- Two seminal studies of Medicare patients showed that TFAD is associated with risk of death:
  - Meehan et al. (1997): In 14,069 community-acquired pneumonia (CAP) patients aged ≥65, 15% lower 30-day mortality if TFAD ≤8 hrs
  - Houck et al. (2004): In 18,209 CAP patients aged ≥65, 15% lower 30-day mortality if TFAD ≤8 hrs (no ↓ with prior antibiotic treatment, 16%↓ if TFAD ≤6 hrs)
- Smaller studies found no association with mortality, but significant associations with adjusted LOS
Concerns About TFAD

• 22% of patients may have “appropriate” delays due to atypical presentations and diagnostic uncertainty

• Adherence may be related to factors beyond hospital control (e.g., number of ED registrants)

• In one 608-bed teaching hospital from 2003 to 2005:
  • Patients receiving antibiotics within 4 hours of triage increased from 54% to 66% BUT
  • “CAP” with normal CXR increased from 21% to 29%
  • CAP with “clear infiltrate” dropped from 55% to 41%
  • Final dx of CAP among patients with admit dx of CAP decreased from 76% to 59%
Outcome Measures: Strengths

• Outcomes are what really matter to patients, families, and communities

• Intrinsically meaningful and easy to understand

• Outcomes reflect not just what was done but how well it was done (which is very difficult to measure directly)

• Often ascertainable at low cost using administrative data
Outcome Measures: Concerns

• Inconsistent reporting of morbidity measures (poor MD documentation and/or coding)
• Mortality measures may be confounded by variation in use of observation units, inter-hospital transfers, LOS
• Severity of illness varies widely across providers; most existing data systems capture little of this variation
• Many adverse outcomes are rare or delayed (e.g., little short-term responsiveness, lots of random noise)
• Are outcomes sufficiently under providers’ control?
Questions?
Complaints?
Design of public reporting programs starts with a candid self-assessment

Resources
• Financial resources
• Analytic capabilities/human resources

Environment
• Available data
• Potential partners
• Engaged stakeholders

Common Goals
• P4P
• Public reporting
• Performance improvement
Sources of Pre-Packaged Hospital Quality Performance Measures

- Centers for Medicare and Medicaid Services (CMS) (www.hospitalcompare.hhs.gov)
  - 30-day readmission and mortality rates (heart attack, pneumonia, heart failure)
  - Clinical process measures
    - Heart failure, pneumonia, heart attack, pregnancy, children’s asthma care, surgical infection prevention, venous thromboembolism
  - Patient experience
  - Hospital-associated conditions (for payment penalty)
  - Selected AHRQ QIs and composites
  - Central line associated bloodstream infection (NHSN)

- The Joint Commission (www.qualitycheck.org)
  - Accreditation and program certification
  - National Patient Safety Goals
  - Core measures (mimics CMS reported measures)
Sources of Pre-Packaged Hospital Quality Performance Measures

• States
  – Example: New York State (http://hospitals.nyhealth.gov/)
    • Reports on risk-adjusted mortality for isolated CABGs, valve, percutaneous coronary intervention (PCI), and pediatric congenital heart surgery
    • Citations and deficiencies
    • Structural elements: volume of procedures
  – Reports for various procedures (e.g., CA, PA, MA, NJ) and types of complications (e.g., HAIs in PA, SREs in several states)

• Collaboratives
  – Example: California CHART project (www.calhospitalcompare.org)
    • Uses data from array of sources (CMS, state, AHRQ Quality Indicators applied to statewide hospital discharge data, “homegrown” measures of ICU mortality and obstetric care, Potentially Preventable Readmissions)
Sources of Pre-Packaged Hospital Quality Performance Measures

- Leapfrog patient safety (www.leapfroggroup.org/cp)
  - Voluntary reporting by larger, mostly non-rural hospitals
  - Report on adherence to 4 quality and patient safety practices
    - CPOE – hospital requires its staff to use computers to order medications, tests and procedures
    - ICU Staffing – Intensive care unit (ICU) is staffed by doctors and other caregivers who have special training in critical care (i.e., ‘intensivists’)
    - High Risk Treatments – hospital has lots of experience and the best results for specific procedures, surgeries or conditions (i.e., Evidence Based Hospital Referral)
    - Leapfrog Safe Practices Score – hospital uses 17 key procedures/policies to reduce preventable medical mistakes (see NQF Safe Practices)
Sources of Pre-Packaged Hospital Quality Performance Measures

• Private vendors
  – Example: HealthGrades® (www.healthgrades.com)
    • Applies proprietary analytic models to Medicare claims or all-payer hospital discharge data to generate risk adjusted measures of mortality and complications (~29 procedures)
    • Computes a composite of selected AHRQ Patient Safety Indicators
  – Others include:
    • Thomsson Reuters (www.100tophospitals.com)
Report 100621-022(Untitled) [Rename]

This report has not been saved. Save Now.
Click any measure below for more details.

- Show selected measures only

<table>
<thead>
<tr>
<th>Measure</th>
<th>Average of Top 10%</th>
<th>National Average</th>
<th>Mercy General Hospital</th>
<th>Sutter General Hospital</th>
<th>Univ of California Davis Med Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Recommended Care</td>
<td>98.40%</td>
<td>90.00%</td>
<td>96.79%</td>
<td>97.67%</td>
<td>92.42%</td>
</tr>
<tr>
<td>Overall Heart Attack Care</td>
<td>99.87%</td>
<td>92.72%</td>
<td>98.78%</td>
<td>99.26%</td>
<td>96.69%</td>
</tr>
<tr>
<td>Overall Pneumonia Care</td>
<td>98.44%</td>
<td>89.48%</td>
<td>95.22%</td>
<td>97.84%</td>
<td>82.35%</td>
</tr>
<tr>
<td>Overall Heart Failure Care</td>
<td>99.44%</td>
<td>85.94%</td>
<td>96.11%</td>
<td>99.86%</td>
<td>83.75%</td>
</tr>
<tr>
<td>Overall Surgical Care</td>
<td>98.78%</td>
<td>92.04%</td>
<td>95.89%</td>
<td>96.53%</td>
<td>95.72%</td>
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<tr>
<td>Patient Experience (HCAHPS) - Rating 9 or 10</td>
<td></td>
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<tr>
<td>Percent of Patients Highly Satisfied</td>
<td>82.79%</td>
<td>65.12%</td>
<td>69.00%</td>
<td>64.00%</td>
<td>63.00%</td>
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<tr>
<td>Patient Experience (HCAHPS) - Rating 7 or 8</td>
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<tr>
<td>Overall Rating of 7 or 8</td>
<td>N/A</td>
<td>25.04%</td>
<td>24.00%</td>
<td>28.00%</td>
<td>30.00%</td>
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<td>Patient Experience (HCAHPS) - Rating 6 or lower</td>
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<tr>
<td>Overall Rating of 6 or lower</td>
<td>N/A</td>
<td>9.82%</td>
<td>7.00%</td>
<td>8.00%</td>
<td>7.00%</td>
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<td>Readmission</td>
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<td>Mortality</td>
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<tr>
<td>Reimbursement</td>
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</table>
Sources of Pre-Packaged Physician or Group Quality Performance Measures

• States and/or Community collaboratives
  – Example: California Office of the Patient Advocate (http://www.opa.ca.gov/)
    • Reports on group-level CGCAHPS patient experience and HEDIS performance measures (Integrated Healthcare Association)

• State medical boards
  – Information on licensure and disciplinary actions, including basic information submitted as part of the licensure process (e.g., medical school and year of graduation, residency training and board certification).
  – Data used to populate
    • American Medical Association’s DoctorFinder site (http://webapps.ama-assn.org/doctorfinder)
    • Administrators in Medicine (Association of State Medical Board Executive Directors) Doc Finder site (http://www.docboard.org/docfinder.html)
Sources of Pre-Packaged Physician or Group Quality Performance Measures

• National Committee for Quality Assurance’s Recognition Programs (www.ncqa.org)
  – Voluntary participation (provider self-selection)
    • Patient Centered Medical Home, Back Pain, Diabetes, Heart/stroke
  – Metrics include structural, process, patient experience and outcome measures

• Centers for Medicare & Medicaid Services (http://www.medicare.gov/find-a-doctor/provider-search.aspx)

• Private sources—Examples include…
  – Consumers’ Checkbook (www.checkbook.org/doctors/pageone.cfm)
    • Asks “roughly 260,000 physicians to identify which specialists they would want to care for a loved one”
  – Vitals.com (http://www.vitals.com)
    • Present a 360 view of physicians (background), consumer reviews, peer reviews and awards, and office information
Quality of Care Ratings for North Coast Hospitals

How is the quality of pneumonia care measured?

Pneumonia is a serious lung infection that causes breathing trouble, fever, cough and tiredness. It is a leading cause of death among the elderly and people who have ongoing illnesses. Medical experts have looked at the research about pneumonia and agreed on seven things that should be happening for all patients with pneumonia.

The single score below summarizes the six things that should happen for all patients with pneumonia. To view quality scores for each of these six things, click on 'show details' which will expand the measures in greater detail. Read more...

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Pneumonia Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providence Seaside Hospital</td>
<td>95%</td>
</tr>
<tr>
<td>Seaside 97138</td>
<td></td>
</tr>
<tr>
<td>Tillamook County General Hospital</td>
<td>95%</td>
</tr>
<tr>
<td>Tillamook 97141</td>
<td></td>
</tr>
<tr>
<td>Samaritan Pacific Community Hospital</td>
<td>88%</td>
</tr>
<tr>
<td>Newport 97365</td>
<td></td>
</tr>
</tbody>
</table>
Example: Maine CVE Uses Medicare Compare, Leapfrog, NCQA, etc. (www.mhmc.info)

Disclaimer: Measures of HealthCare Quality

This disclaimer has important information you should know about the Pathways to Excellence results.

Information DISCLAIMER:

The information on hospitals, major surgeries, and physician practices is obtained from multiple sources:

Hospitals and Major Surgery Ratings:

✔ Patient Experience and Select Clinical Quality data is abstracted from the US Department of Health and Human Services website at www.hospitalcompare.hhs.gov.

✔ A Medication Safety Survey that is mailed to all hospitals in Maine. Each hospital is asked to complete a survey which was developed by a committee of pharmacists and nurses based on their knowledge and experience; learnings from previous years’ surveys and on discussions of the relevant and current literature.

✔ A summary of hospital results from the National Leapfrog Survey found at www.leapfroggroup.org.

Hospital CEOs affirm the accuracy of the self-reported Leapfrog National and Medication Safety Surveys when they submit their data. If you have any questions about their data, you should contact the hospital directly.
### Maine Doctor Ratings

#### Primary Care Physicians

<table>
<thead>
<tr>
<th>Practice Name</th>
<th>Address</th>
<th>City</th>
<th>Zip Code</th>
<th>view map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bridgton Internal Medicine</td>
<td>25 Hospital Drive, Suite #2, Bridgton Hospital Physician Group, Bridgton 04009</td>
<td>Bridgton</td>
<td>04009</td>
<td><a href="#">view map</a></td>
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<tr>
<td>Central Maine Family Practice</td>
<td>12 High Street, Suite 302, Lewiston 04240</td>
<td>Lewiston</td>
<td>04240</td>
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</tr>
<tr>
<td>Eastern Maine Medical Center - Husson Family Practice</td>
<td>302 Husson Ave, Suite 2, Bangor 04401</td>
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<td>04401</td>
<td><a href="#">view map</a></td>
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<tr>
<td>Eastern Maine Medical Center Husson Internal Medicine</td>
<td>302 Husson Ave, Suite One, Bangor 04401</td>
<td>Bangor</td>
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<td>Evergreen Woods Primary Care</td>
<td>700 Mt Hope Avenue, Suite 650, Bangor 04401</td>
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<td>04401</td>
<td><a href="#">view map</a></td>
</tr>
</tbody>
</table>

[MLE: Maine CVE—Provider Ratings used NCQA Provider Recognition and Bridges to Excellence](#)
Critical Access Hospitals: Implications for CVEs

- Low volume leads to inadequate statistical power (i.e., poor precision)
- Some indicators do not apply due to lack of subspecialists (especially in cardiology, surgery)
- Small size and financial vulnerability limit resources for participation in quality initiatives
- No incentive to code all ICD-9-CM diagnoses
- Participation in HospitalCompare is optional
Critical Access Hospitals: Implications for CVEs

• Structural measures (accreditation, Leapfrog)
• HCAHPS (patient experience)
• Composite measures (AHRQ, TJC, multi-year, multi-hospital within system/county)
• Customized measures for CAHs (ED transfer, ED timeliness, cross-cutting)
• May choose collaborative approach, focusing on QI, CE, guidelines and protocols, and networking rather than transparency and accountability
Quality Measurement Enterprise: NQF Contributions

Priorities and Goals → Standardized Measures → Electronic Data Platform → Alignment of Environmental Drivers → Evaluation and Feedback

National Priorities Partnership
High Impact Conditions

NQF Endorsement Process

Quality Data Model
eMeasures Format

Measures Applications Partnership
Measures Database
Model Dashboard

NPP Evaluation
Measure Use Evaluation
Measure Maintenance
NQF Evaluation Criteria

• Importance to measure and report
  • What is the level of evidence for the measures?
  • Is there an opportunity for improvement?
  • Relation to a priority area or high impact area of care?

• Scientific acceptability of the measurement properties
  • What is the reliability and validity of the measure?

• Usability
  • Can the intended audiences understand and use the results for decision-making?

• Feasibility
  • Can the measure be implemented without undue burden, capture with electronic data/EHRs?

• BUT relative importance of these criteria may depend on local circumstances and priorities...
NQF Portfolio

- 670 cross-cutting and condition-specific measures
- 30% outcome measures
Consider Potential Unintended Effects

- Manipulation of data (e.g., exception reporting)
- Teaching to the test
- Risk of overtreatment (especially with all-or-none scoring) or undertreatment (with efficiency measures)
- Increased disparities
## Overall Ranking of National Health Care Systems

<table>
<thead>
<tr>
<th></th>
<th>AUS</th>
<th>CAN</th>
<th>GER</th>
<th>NETH</th>
<th>NZ</th>
<th>UK</th>
<th>US</th>
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<tbody>
<tr>
<td>Rank</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>7</td>
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<tr>
<td>Quality Care</td>
<td>4</td>
<td>7</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>6</td>
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<tr>
<td>Effective Care</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>5</td>
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<td>4</td>
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<tr>
<td>Safe Care</td>
<td>6</td>
<td>5</td>
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<tr>
<td>Patient-Centered Care</td>
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<tr>
<td>Access</td>
<td>6.5</td>
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<td>Cost-Related Problem</td>
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<tr>
<td>Timeliness of Care</td>
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<td>Efficiency</td>
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<tr>
<td>Long, Healthy, Productive Lives</td>
<td>1</td>
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</tbody>
</table>

Note: * Estimate. Expenditures shown in $US PPP (purchasing power parity).
Production of health care is a public health issue
Lessons from agriculture about comprehensive measurement
Iowa’s inspection of Wright County Egg

Iowa Department of Inspections & Appeals
Egg Handler Inspection

QUALITY EGG LLC #1 AMS - USDA ED00-0001264
2731 265TH ST GALT 50101 Wright County
Routine Inspection on 4/15/2010, from 2:45 PM to 3:00 PM by DUDEN, D. SCOTT
Owner: J GLESSNER (515)832-3300
Person In Charge: TONY WASMUND (CFPM: No)

Inspection Summary (IN=IN Compliance, OUT=Out of Compliance, NO=Not Observed, NA= Not Applicable C=Critical, S=Critical & non-Critical)

Buildings, Storage & Processing Areas
1) Building: good repair, clean, adequately vented N/O
2) Free from presence of birds, insects, rodents N/O
3) Adequate system/removal of refuse N/O
4) Floors of cleanable materials, floor drains provided N/O
5) Floors, walls and ceilings clean N/O
6) Plumbing and sewage disposal system adequate N/O
7) Hand Sink: convenient, hot/cold water, sanitary towels provided N/O
8) Storage and use of toxic items N/O
9) Storage of cartons and cases: clean and dry N/O

Shell Egg Washing, Grading and Packing Operations
10) Adequate supply of potable water N/O
11) Current water test on file for private system, date tested N/O
12) Shell washer clean and sanitary condition N/O
13) Wash temperature 90 degrees F or above, rinse water 10 degrees warmer than wash water N/O
14) Sanitizer spray rinse at 50ppm to 200ppm of chlorine N/O
15) Egg drying equipment: clean and maintained N/O

Equipment
16) Canding device, adequate N/O
17) Scales adequate to determine net weight N/O
18) Refrigeration units: 45 degrees F or below, clean, free of objectionable odors, good repair N/O
19) Thermometers: provided and accurate N/O
20) Transportation vehicles: refrigerated, clean and good repair N/O

Labeling and Packaging
21) Loose-packed egg cases properly labeled: firm name/USDA Plant license or number N/O
22) New egg cartons for sales to retail food stores N/O
23) Labeling of egg cartons: grade/size/pack date/name/address/Plant or license number N/O
24) Adequate records maintained N/O
25) Restricted/Inedible eggs properly handled N/O

Personnel
26) Personnel in contact with shell eggs: good hygienic practices, clean clothes N/O
27) Demonstration of knowledge: candling, grading, weighing, washing and sanitation N/O
Lessons from agriculture about comprehensive measurement
USDA “grader” inspection of shell egg plant

### III. Cooler and Storage Areas

<table>
<thead>
<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A. Unprocessed egg coolers clean and free from odors and mold.</td>
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<tr>
<td>B. Processed egg coolers clean and free from odors and mold.</td>
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<td>C. Packing and packaging storage areas clean and dry.</td>
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<td>D. Chemical compound storage areas clean.</td>
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</table>

### IV. Buildings, Premises, and Refuse Handling Areas

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<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>A. Buildings in good repair.</td>
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<tr>
<td>B. Outside premises, shipping, and receiving areas clean, well maintained, and properly drained.</td>
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<td>C. Outside premises free of trash, rubbish, weeds, and surplus equipment.</td>
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<td>D. Refuse removed and stored in designated area that is maintained in a clean and sanitary manner.</td>
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<td>E. Restrooms and lunchrooms clean and sanitary.</td>
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<td>F. USDA grader’s office and candling booth clean and sanitary.</td>
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<tr>
<td>G. Inspection of premises indicates rodent and pest control program is effective.</td>
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</tbody>
</table>

**PLANT MANAGEMENT INITIALS**

HJ HA HP HA HJ HJ FC
Lessons from agriculture about comprehensive measurement
What did USDA and Iowa miss??
Tools from AHRQ

- CVE Learning Network
  http://www.cvelearningnetwork.org/default.asp

- AHRQ Talking Quality
  https://www.talkingquality.ahrq.gov/default.aspx

- AHRQ Health Care Report Card Compendium
  https://www.talkingquality.ahrq.gov/content/reportcard/search.aspx

- AHRQ’s National Quality Measures Clearinghouse
  http://www.qualitymeasures.ahrq.gov/

- My Own Network, powered by AHRQ
  http://www.monahrq.ahrq.gov/

- RWJF’s Aligning Forces for Quality
  http://www.forces4quality.org/welcome
Available from AHRQ

Authors:

Patrick S. Romano, MD MPH
Peter Hussey, PhD
Dominique Ritley, MPH

With the help of many CVE representatives and others

Access on-line at:
http://www.ahrq.gov/qual/perfmeasguide

or to order hard copies free of charge:
send an email to
AHRQPPubs@ahrq.hhs.gov
specify number of copies
include AHRQ Pub. No. 09(10)-0073
Composite measures?

- Defined by AHRQ as “condensing multiple quality measures into a single piece of information.”
- Systems oriented: Create incentives to examine processes that cut across individual measures.
- Allocation oriented: Provide information about how to allocate effort and resources among alternatives.
- Old concept: GPA, Dow Jones, S&P, CPI, clinical trials
- Reduce cognitive burden for users, providing clearer “signal” and reducing the danger of “cognitive shortcuts”
- Enhance precision and thus ability to discriminate between higher-quality and lower-quality providers (with better targeting of the population of interest)
Composite measures

• BUT composites can be difficult to construct and score, do not fix validity problems (e.g., due to differences among patients), and may obscure important information.

• Choose your conceptual model: psychometric or reflective perspective versus clinometric or formative.

• Select individual measures and a weighting/scoring approach consistent with your conceptual model and goals. “All-or-none” weighting is conceptually attractive, and may “raise the bar,” but has major limitations.

• What information is most important and most free of distortion (i.e., provides the “right signal”)?

• Provide different information for different audiences – providers and some consumers want drill-down details.