Rural-Relevant Quality Measures for Critical Access Hospitals

Ira Moscovice PhD
Michelle Casey MS
University of Minnesota Rural Health Research Center

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Overview of Presentation

- Why CAHs Should Publicly Report Quality Data
- National Study of Rural Relevant Inpatient Quality Measures
- Quality Measures for Minnesota CAHs
- National Study of Rural Relevant Hospital Outpatient Quality Measures
- Future Rural Quality Measurement Issues
Why CAHs Should Publicly Report Quality Data

- An important opportunity for CAHs to assess and improve performance on national standards of care.
- As we move toward a health care system that pays for high-quality care, CAHs will need to publicly report data to demonstrate the quality of the care they are providing.
- HIT “meaningful use” requires all hospitals, including CAHs, to report data on quality measures to CMS to qualify for reimbursement incentives.
Why CAHs Should Publicly Report Quality Data

- Long term viability of the Flex Program depends on having national data on program effectiveness
- Existing state and multi-state quality reporting and benchmarking efforts are important and should continue, but comparable national data are needed
- All CAHs need to report on a core set of measures the same way so data are comparable nationally
- Public reporting of quality data provides a richer environment for CAH benchmarking and QI

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Purpose

- Develop up-to-date list of rural relevant inpatient quality measures for CAHs

Approach

- Review measures from previous work, input from NRHA/ORHP meeting on quality metrics, and recent literature on quality measurement in rural hospitals
- Analyze national quality measures to assess rural relevance
- Expert Panel to review/rate measures July 2011
Rural Relevant Inpatient Quality Measures: National Study

- **Criteria for Assessing Rural Relevance**
  - Volume in CAHs
  - Internal usefulness for QI processes
  - External usefulness for public reporting and payment reform

- **Other Considerations**
  - Ease of data collection (e.g., calculation using claims data; effort required for medical record abstraction; and feasibility of using EHRs)
Inpatient Quality Measures Analyzed

- CMS measures for Public Reporting and Reimbursement
  - Hospital Compare measures
  - Hospital Acquired Condition measures
  - Electronic Health Record meaningful use measures
  - Value-Based Purchasing measures
  - Proposed measures for Accountable Care Organizations

- Important quality measurement topics for small rural hospitals identified in previous work and during NRHA/ORHP meeting
  - Joint Commission measures
  - NQF endorsed measures
  - AHRQ measures

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Potential Relevant Inpatient Quality Measures for CAHs

- **Inpatient measures for specific medical conditions**
  - Pneumonia
  - Heart failure
  - AMI (except fibrinolysis and PCI)
  - Stroke
  - Venous thromboembolism

- **Hospital-wide Measures**
  - HCAHPS
  - Hospital Acquired Infections /Conditions
  - Care transitions
  - Medication reconciliation
  - Advance directives
Potential Relevant Inpatient Quality Measures for CAHs

- **Inpatient surgical measures** (CAHs providing surgery)
  - CMS surgical care improvement inpatient measures (except cardiac surgery)

- **Obstetrical measures** (CAHs providing OB)
  - AHRQ obstetric trauma indicators
  - Joint Commission perinatal measures
  - NQF endorsed perinatal measures

- **Structural Measures**
  - Participation in relevant clinical database registries (e.g., stroke care, nursing sensitive care, general surgery)
Quality Measures for Minnesota CAHs

Purpose of Study for Minnesota Office of Rural Health

- Assess whether the Minnesota quality measures address conditions treated in CAHs, and the expected volume of CAH patients for the measures

- Consider alternative methods of analyzing data to address the small volume problem

- Recommendations on rural relevant measures for Minnesota CAHs
Approach and Data for Minnesota Study

- Assess characteristics of Minnesota CAHs
  - American Hospital Association Annual Survey data and Flex Monitoring Team data

- Identify top diagnoses and procedures in Minnesota rural hospitals
  - AHRQ HCUP-NET hospital discharge data for 2009

- Analyze CMS Hospital Compare data for Minnesota CAHs
  - Inpatient process of care data 2006 - 2009
  - Outpatient process of care and HCAHPS 2009

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Characteristics of Minnesota’s 79 CAHs

### Annual Emergency Department Visits
- **Average:** 3,851
- **Range:** 389 - 14,425

### Annual Other Outpatient Visits
- **Average:** 19,705
- **Range:** 89 - 86,367

### Annual Inpatient Admissions
- **Average:** 836
- **Range:** 100 - 3,838

#### Number of Beds

- **15 beds or less:** 10%
- **16 - 24 beds:** 20%
- **25 beds:** 70%
Characteristics of Minnesota’s 79 CAHs

Inpatient Surgery
- 92% of CAHs
- Annual Average = 224

Outpatient Surgery
- 95% of CAHs
- Annual Average = 806

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<tr>
<th>Annual Births</th>
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Table:

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<tr>
<th>Inpatient Surgery</th>
<th>92% of CAHs Annual Average = 224</th>
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<tr>
<td>Outpatient Surgery</td>
<td>95% of CAHs Annual Average = 806</td>
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Inpatient Diagnoses and Procedures in Minnesota Rural Hospitals

- **Top 25 diagnoses** include pneumonia (#2), heart failure (#4), chest pain (#21) and AMI (#24), several OB-related diagnoses, COPD, urinary tract infections, appendicitis, stroke, hip fracture

- **Top 25 procedures** include several OB-related procedures, hysterectomy, knee and hip surgery, endoscopy, colonoscopy, appendectomy and cholecystectomy

- Similar to results of national study on CAH diagnoses
Measures in Minnesota Hospital Quality Measure System

- CMS Hospital Compare inpatient and outpatient process of care measures and HCAHPS
- AHRQ Inpatient Quality Indicators, Patient Safety Indicators, and Pediatric Patient Safety Indicators
- NICU measure
- CDC central line bloodstream infection rate
- Health Information Technology survey responses
- Home Management Plan for Pediatric Asthma

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Reporting to Hospital Compare for 2009: CAHs in Minnesota and Nationally

Participation Rates

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<tr>
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<th>MN CAHs</th>
<th>CAHs Nationally</th>
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<tbody>
<tr>
<td>Inpatient</td>
<td>94%</td>
<td>71%</td>
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<tr>
<td>Outpatient</td>
<td>19%</td>
<td>16%</td>
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<tr>
<td>HCAHPS</td>
<td>54%</td>
<td>35%</td>
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HCAHPS Surveys

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<tr>
<th>Number of Completed Surveys</th>
<th>Number of Minnesota CAHs</th>
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<tbody>
<tr>
<td>300 or more</td>
<td>12</td>
</tr>
<tr>
<td>100 to 299</td>
<td>23</td>
</tr>
<tr>
<td>less than 100</td>
<td>8</td>
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Alternative Methods of Analyzing Data for Minnesota CAHs

- **25 Patients Per Measure Annually**
  - CMS standard for reliably calculating each measure
  - Minnesota has also adopted for annual quality report

- **Using Two Years of Data**
  - Sum data by measure for 2 years (2008 and 2009)

- **Composite Measures by Condition**
  - Patients who received recommended care divided by opportunities to provide recommended care

- **Appropriate Care Measures - “All or Nothing”**
  - Patients who received all of the care specified by the measures for which the patient was eligible

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Hospital Compare Measures: Minnesota CAHs with 25 or more patients

**Inpatient Measures**
- No inpatient AMI measures
- Two heart failure measures (9 and 21 CAHs)
- Three pneumonia measures (15 to 23 CAHs)
- Five inpatient surgical measures (6 to 23 CAHs)

**Outpatient measures**
- Two outpatient surgery measures (1 and 2 CAHs)
- Two outpatient AMI/chest pain measures: aspirin at arrival and median time to ECG (6 CAHs each)
25 Patient Minimum

**Pros:**
- CMS and State of Minnesota standard based on minimum needed to reliably calculate measures

**Cons:**
- Many CAHs do not meet the 25 patient minimum for a number of quality measures and thus are excluded from public reports
- Even with 25 patients, a hospital’s score is less reliable than it would be with a larger number of patients
Using Two Years of Data for Minnesota CAHs

- Increases number of CAHs with 25+ patients for:
  - no AMI inpatient measures
  - three heart failure measures
  - all six pneumonia measures
  - all surgical care measures except cardiac surgery

**Pros:**
- Allows a greater number of CAHs to be included in public reports of quality data.

**Cons:**
- Different time period for CAHs than other hospitals.
- Takes twice as long to show effect of hospitals’ efforts to improve care.
Composite Measures by Condition for Minnesota CAHs

- Number of CAHs with 25+opportunities to improve care:
  - 4 for AMI
  - 42 for heart failure
  - 60 for pneumonia
  - 36 for surgical care improvement

- Pros:
  - More CAHs have 25 opportunities to improve care than have 25 patients for individual measures

- Cons:
  - May mask large differences in performance on individual measures, making it more difficult to target QI.
  - Concept may be more difficult for consumers to understand than individual measures.
25 + patients for Appropriate Care Measures

- 30 CAHs for pneumonia
- 18 CAHs for heart failure
- 0 CAHs for AMI

Pros:

- Concept of receiving “all appropriate care” for a condition may be easy for consumers to understand

Cons:

- May mask large differences in hospital performance on individual measures, making it more difficult to target QI
- May discourage hospitals by not giving credit for partial achievement or improvement
HCAHPS and Minnesota CAHs

- Hospitals with fewer than 500 inpatient admissions are exempt from reporting HCAHPS in the Minnesota Quality Reporting System.

- Rationale for exemption is not clear
  - HCAHPS issues are relevant for small rural hospitals
  - 6 of the 26 Minnesota CAHs with less than 500 admissions for FY 2008 reported HCAHPS data to Hospital Compare for 2009.
Minnesota Measures that Are Potentially Relevant for CAHs

- CMS pneumonia and heart failure measures, inpatient and outpatient AMI and AMI/chest pain measures (except fibrinolysis and PCI)
- CMS inpatient and outpatient surgical process of care measures (except cardiac surgery)
- HCAHPS patient survey
- AHRQ obstetric trauma, composite patient safety and composite mortality measures
- HIT adoption and use of HIT in clinical practice
Measures That Are Not Relevant For Minnesota CAHs

- AMI fibrinolysis and PCI measures
- Surgical care improvement cardiac surgery measure
- AHRQ Inpatient Quality Indicators (e.g., AAA, CABG and PTCA volume and mortality)
- AHRQ Pediatric Patient Safety Indicators (pediatric heart surgery)
- NICU measure
Potential Additional Measures for Minnesota CAHs

- The Minnesota Quality Reporting System should consider adding more quality measures that are potentially relevant for CAHs in the future such as:
  - Additional inpatient measures for conditions that are commonly treated in CAHs such as obstetrics
  - Additional outpatient measures focused on Emergency Department care, patient transitions and coordination of care
National Study of Rural Relevant Outpatient Quality Measures

- Initial efforts to develop hospital quality measures focused on inpatient settings, and little research has been conducted on hospital outpatient quality measures

- Outpatients constitute a significant portion of patients treated by rural hospitals

- Purpose of the project was to evaluate relevance of the current and proposed CMS hospital outpatient quality measures for CAHs, other rural hospitals

- Includes Emergency Department, outpatient surgery and outpatient visits for medical conditions
National Outpatient Study: Approach and Data

- Review of peer-reviewed literature
- Similar criteria for assessing relevance as inpatient measure work
- Analysis of Medicare Hospital Outpatient 2008 claims using specifications for current and proposed CMS outpatient measures
- Analysis of Hospital Compare 2009 outpatient quality measure data for AMI/chest pain and outpatient surgery
- Review and discussion of measures with UMRHRC Expert Work Group
CMS Current and Proposed Hospital Outpatient Measures

- Emergency Department (ED)
- Outpatient Surgery
- Imaging (e.g., CT scans, mammography)
- Structural measures (e.g., use of health information technology)
- Measures for specific clinical conditions: diabetes, cancer, and heart failure
- Other measures (e.g. vaccination, medication reconciliation)
Emergency Department AMI Measures

- Current AMI and AMI/Chest Pain Measures
  - Aspirin at arrival
  - Median time to ECG
  - Median time to fibrinolysis
  - Fibrinolytic therapy within 30 minutes of Emergency Department arrival
  - Median time to transfer to another facility for acute coronary intervention

- New AMI/chest pain measure
  - Troponin results within 60 minutes
Emergency Department Measures

- Several New ED Measures Address Waits and Timeliness of Care
  - Median time from ED arrival to ED departure
  - Door to diagnostic evaluation by a qualified medical professional
  - Patient left before being seen
  - Door to diagnostic evaluation by a qualified medical professional
  - Median time to pain management for long bone fracture
  - Head CT scan interpretation for stroke in 45 minutes

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Emergency Department Care Coordination/Care Transition Measures

New Transition Record Measure

- Transition record with specified elements given to all patients discharged from ED to home
- Includes major procedures and tests performed during ED visit; principal diagnosis; patient instructions; plan for follow-up care; list of new medications and changes to continued medications

Transfer Communication Measures

- Administrative communications, patient information, medication information, physician information, nursing information, vital signs and procedures and tests
Rural Relevance of ED Measures

**AMI and AMI/Chest Pain Measures**

- Developed for and field-tested in CAHs and other rural hospitals in Minnesota and several other states
- Medicare claims data: AMI and chest pain are treated in majority of CAHs but volume is low especially for AMI only
- Hospital Compare data: CAH reporting is low for AMI and AMI/chest pain measures (107 to 209 CAHs per measure)
Rural Relevance of ED Measures

**ED Waits and Timeliness Measures**

- Overcrowding and wait times are not as much of a problem in rural hospitals (national median wait of 15 minutes in rural EDs vs. 30 minutes in urban EDs)
- Timely triage of patients in rural EDs is important
- Stroke is a fairly common diagnosis in rural EDs and timely interpretation of scans is important
Rural Relevance of ED Measures

Care Coordination and Care Transition Measures

- **Transfer communications measures**
  - Address care coordination between providers for transferred ED patients
  - Developed for and field-tested in CAHs and other rural hospitals in Minnesota and several other states

- **Transition record measure**
  - Addresses coordination of care from patient perspective
  - Includes all ED patients discharged to home
  - 90% of rural hospital ED visits are treat and release visits with no inpatient admission; vast majority of these are discharged to home
Hospital Outpatient Imaging Measures

- CMS calculates using Medicare claims data
  - MRI lumbar spine for low back pain
  - Mammography follow-up rates
  - Abdomen CT --use of contrast material
  - Thorax CT--use of contrast material
  - Cardiac imaging for preoperative risk assessment for non-cardiac low-risk surgery
  - Simultaneous use of Brain CT and Sinus CT
  - Use of CT in ED for Atraumatic Headache
  - Exposure time for procedures using fluoroscopy
Rural Relevance of Imaging Measures

- Scientific basis for appropriate rates is not clear in some cases
- Some measures are not endorsed by NQF
- Responsibility of hospital vs. ordering physicians?
- Some measures address procedures done in many small rural hospitals (e.g., CT scans, mammography) but volume still relatively low
- Focus on utilization rates rather than quality means low priority for QI in rural hospitals
Condition Specific Hospital Outpatient Measures

- **Proposed Diabetes Measures** (e.g., Hemoglobin A1c, LDL and high blood pressure control; dilated eye exam; urine screening for microalbumin or medical attention for nephropathy)

- **Cancer measures under consideration by CMS** (e.g., adjuvant chemotherapy for patients with Stage III colon cancer; adjuvant hormonal therapy for patients with breast cancer; needle biopsy to establish diagnosis prior to surgery for breast cancer)

- **Heart failure measures under consideration by CMS** (e.g., LVF assessment; beta blocker for LVSD; symptom management; patient education; end-of-life care plan)
Rural Relevance of Condition-Specific Hospital Outpatient Measures

- Most of these measures are Physician Quality Reporting System (PQRS) measures and NQF endorsed.

- Diabetes, heart failure and cancer are common OP diagnoses in rural hospitals, but patients are not necessarily seen in the OP for the services addressed by these measures.

- What are the roles of the hospital OP department, primary care physicians, and specialists in providing these services?
Other Outpatient Measures

Other outpatient measures CMS is considering for future development include:

- Pneumococcal and Influenza vaccination status
- Medication reconciliation
- Cardiac rehabilitation referral

Global pneumococcal and influenza vaccination measures are PQRS measures and proposed Inpatient Quality Reporting measures

Medication reconciliation is an important goal across all health care settings and is a meaningful use measure
Summary of Rural Relevant Hospital Outpatient Measures

**Emergency Department Measures**

- Median time to transfer to another facility for acute coronary intervention for AMI patients
- Aspirin at arrival for patients with AMI or chest pain of probable cardiac origin
- Median time to ECG for patients with AMI or chest pain of probable cardiac origin
- Emergency Department Transfer Communication Measures
  - Transition record with specified elements received by discharged patients
  - Door to diagnostic evaluation by a qualified medical professional
  - ED head CT scan results for acute ischemic stroke or hemorrhagic stroke who received head CT scan interpretation within 45 minutes of arrival
Summary of Rural Relevant Hospital Outpatient Measures

Outpatient Surgical Care Improvement Measures
- Timing of antibiotic prophylaxis
- Prophylactic antibiotic selection for surgical patients
- Appropriate surgical site hair removal

Structural Measures
- Ability for providers with HIT to receive laboratory data electronically into their qualified/certified EHR system as discrete searchable data
- Tracking clinical results between visits

Other Measures
- Pneumococcal and influenza vaccination status
- Medication reconciliation
- Advance care directives
Future Rural Quality Measurement Issues

- Changes to CMS Hospital Compare measures
  - Proposed retirement of 8 process measures
  - Surgical care will account for a much larger share of the process measures
  - Overall measure set will include a smaller proportion of rural relevant measures

- Trends Related to Health Care Reform
  - Increased focus on care coordination and transitions
  - Interest in efficiency and total costs of care
  - Debate over the accountable entity for quality measures
Contact Information

Ira Moscovice
mosco001@umn.edu

Michelle Casey
mcasey@umn.edu