Quality Peer Groups for CAHs: FMT Work in Progress

Michelle Casey, MS
Peiyin Hung, MSPH
Ira Moscovice, PhD
University of Minnesota

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Background

• FMT financial peer groups are defined by:
  – Net patient revenue, long-term care, provider-based rural health clinic, government ownership, Census Region

• Currently, FMT quality performance peer groups are defined by state and by HRSA region
  – Many measures have small patient volume for CAHs

• Useful for planning Flex Program activities, but…
  – Wide range in number of CAHs per state
  – Variation in CAH characteristics within states & regions
Research Question / Purpose

• What’s the best way to compare CAHs on quality performance?
  – Is it fair to compare CAHs that have very different patient volumes, are structured differently, offer different services, etc.?

• Purpose of Project: identify peer groups of CAHs for analyzing quality performance.
Goals for Selecting Indicators

- Applicable to a range of quality measures
- Significantly related to quality performance
- Limited number of indicators (3-5) and categories (2-4) for each indicator
- Distribution of CAHs across categories
- Minimize high correlations between indicators
• Review of literature and information from quality measurement programs
• Analysis of AHA Annual Survey data, FMT CAH data, Hospital Compare data
• Expert opinion
Review of Literature

- Comparisons based on size/volume, CAH status, other hospital characteristics
- Many comparisons less relevant for CAHs (e.g., teaching status, specialty designation)

Quality Measurement Programs

- Minimum volume for reporting/making data public
- CAHs vs. other hospitals
- No evidence of peer groups within CAHs
Potential Indicators

- **Size/Volume** (e.g., inpatient admissions, emergency and outpatient visits)
- **Scope/Scale of Services** (e.g., OP & IP surgery, obstetrics, swing beds)
- **Staffing** (e.g., RN + LPN FTEs, physicians with privileges)
- **Payer Mix** (Medicare & Medicaid share of inpatient days)
- **Geographic Location** (Census Regions)
- **Other Hospital Characteristics** (e.g., system membership, accreditation)
Analysis

- Step 1: Analyze distribution of CAHs for potential indicators
- Step 2: Select potential indicators for further analysis
- Step 3: Compare performance on quality measures among CAHs by categories of indicators and variation within categories of selected indicators
Step 1: Analyze CAH Distribution

- **Annual inpatient admissions**
  - Categories: ≤300, 301-700, and 701+

- **Annual outpatient/ER visits**
  - Categories: ≤17k, >17k-35k, and >35k

- **Annual inpatient surgery volume**
  - Categories: none, 1-60, 61-180, and 180+

- **Census Region**
  - NE (5%), West (21%), South (26%), Midwest (47%)

- **Nurse FTE (RN+LPN) per 1000 patient days**
  - Categories: ≤2, 2.1-4, and 4.1+

- **Medicare + Medicaid share of patient days**
  - Categories: <70%, 70.1-80%, >80%
Step 1: Analyze CAH Distribution

- Obstetrics: 37%
- Outpatient Surgery: 86%
- Inpatient Surgery: 75%
- Swing Beds: 88%
- System Affiliation: 44%
- Accreditation: 31%
Step 2: Indicators for Further Analysis

– **Patient volume**
  - Inpatient admissions
  - Outpatient / ER visits
  - Inpatient Surgery

– **Staffing**
  - RN+LPN FTEs/adjusted patient days

– **Geography**
  - Census Region

– **Other Hospital Characteristics**
  - System membership
  - Accreditation

– **Payer Mix**
  - Medicare + Medicaid share of IP days
Step 3: Compare CAH Performance on Process Measures

• Better performance is significantly related to:
  – higher volumes of inpatient admissions (13 measures); inpatient surgery (15), and OP/ER visits (13)
  – Location in Northeast census region (worst in South)
  – Affiliation with system (7 measures)
  – Accreditation (10 measures)

• No consistent relationship found for:
  – Medicare + Medicaid share of IP days
  – Nurse staffing and performance
CAH Performance on Process Measures

Annual Inpatient Admissions:

- OP-4: Aspirin at arrival (chest pain / AMI)
  - <=300: 95.6%
  - 301-700: 96%
  - 701+: 95.8%

- SCIP-Inf-1: Preventive antibiotic(s) 1 hour before incision
  - <=300: 94.3%
  - 301-700: 91%
  - 701+: 91.8%

- PN-6: Most appropriate initial antibiotic(s)
  - <=300: 82%
  - 301-700: 86.8%
  - 701+: 91.8%

- HF-2: Assessment of LVS function
  - <=300: 69%
  - 301-700: 82.5%
  - 701+: 90.9%
Step 3: Compare CAH Performance on HCAHPS

- Lower volumes of IP admissions and IP surgery = significantly higher HCAHPS scores except for discharge info measure
- Significant differences by Census Region on 9 measures; West has lower performance on 8 measures
- Mostly insignificant relationships between HCAHPS performance and system affiliation or accreditation
- Trend for higher nurse staffing to be related to higher HCAHPS performance, but small differences
Communication with nurses

Responsiveness of hospital staff

Communication about medicines

Discharge information

Care Transition

HCAHPS Performance by Admissions

Annual Inpatient Admissions:

- <=300
- 301-700
- 701+

- Care Transition
  - <=300: 57
  - 301-700: 54
  - 701+: 54

- Discharge information
  - <=300: 86
  - 301-700: 88
  - 701+: 88

- Communication about medicines
  - <=300: 70
  - 301-700: 69
  - 701+: 68

- Responsiveness of hospital staff
  - <=300: 80
  - 301-700: 76.5
  - 701+: 74

- Communication with nurses
  - <=300: 85
  - 301-700: 83
  - 701+: 82

University of Minnesota
University of North Carolina at Chapel Hill
University of Southern Maine
### HCAHPS Performance by Admissions

<table>
<thead>
<tr>
<th>Question</th>
<th>&lt;=300</th>
<th>301-700</th>
<th>701+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely recommend the hospital</td>
<td>74</td>
<td>73</td>
<td>77</td>
</tr>
<tr>
<td>Quietness of hospital environment</td>
<td>71</td>
<td>67</td>
<td>64</td>
</tr>
<tr>
<td>Overall rating of hospital 9-10</td>
<td>76</td>
<td>76</td>
<td>75</td>
</tr>
<tr>
<td>Pain management</td>
<td>74</td>
<td>74</td>
<td>73</td>
</tr>
<tr>
<td>Room and bathroom were &quot;Always&quot; clean</td>
<td>80</td>
<td>79</td>
<td>79</td>
</tr>
</tbody>
</table>

*Annual Inpatient Admissions:*

- <=300
- 301-700
- 701+
Patients Who Definitely Recommend the Hospital by Admissions (N=921 CAHs)
Conclusions

• High correlations between some characteristics
• Several hospital characteristics are significantly related to performance on process and HCAHPS measures
• Volume is positively related to process performance and negatively related to HCAHPS performance
• Considerable variation in quality performance within groups of CAHs
Questions for Discussion

• Does your State Flex Program, hospital association, or CAH quality network use any peer group indicators to analyze CAH quality performance?

• How do you think quality peer group indicators should be used?
Questions for Discussion

• Which of the proposed indicators would be useful for comparing the quality performance of CAHs in your state with similar CAHs?
  – Inpatient admissions
  – Outpatient / ER visits
  – Inpatient Surgery
  – System membership
  – Accreditation
  – Census Region

• Are there any alternative indicators that you think would be useful?
Additional Information:

mcasey@umn.edu

www.flexmonitoring.org

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