Quality Improvement in Mental Healthcare:  
The Measures Matter

Richard Hermann, MD, MS
Associate Professor of Medicine and Psychiatry
Tufts University School of Medicine
Center for Quality Assessment & Improvement in Mental Health
at Tufts-New England Medical Center
www.cqaimh.org
Overview

- Why QI?
- What is measurement-based QI?
- How do the measures matter?
- What drives measure selection?
- Implications for effective QI
## Quality of Mental Health Care

<table>
<thead>
<tr>
<th>Evidence-based Guidelines</th>
<th>Conformance Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Depression</strong></td>
<td></td>
</tr>
<tr>
<td>medication management</td>
<td>31-35% (Wells, 1999)</td>
</tr>
<tr>
<td>psychotherapy / counseling</td>
<td>16-24% (Wells, 1999)</td>
</tr>
<tr>
<td><strong>Schizophrenia</strong></td>
<td></td>
</tr>
<tr>
<td>medication management</td>
<td>29-92% (Lehman, 1999)</td>
</tr>
<tr>
<td>psychosocial treatment</td>
<td>10-45% (Lehman, 1999)</td>
</tr>
<tr>
<td><strong>Bipolar disorder – med. mgmt.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Severe mental illness – evid. based care</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>36-39% (Unutzer, 2000)</td>
</tr>
<tr>
<td></td>
<td>4-19% (Wang, 2002)</td>
</tr>
</tbody>
</table>
Gaps in Other Processes of Care

Prevention
Pts w/ MDD in primary care: 30-50% undetected

Assessment
Pts hospitalized for depression, assessment recorded:
- suicidal ideation 46%
- psychosis 50 % (Wells, 1993)

Continuity
Elderly patients hospitalized for psychiatric disorder
- 52% had OP visit w/in 30 days (Schneider, 2003)
Quality problems are everywhere...
Between the health care we have and the care we could have lies not just a gap, but a chasm.
IOM Crossing the Quality Chasm (2005): Adaptation to Mental Health/Addictive Disorders

- Inconsistent use of evidence-based practices
- Inappropriate variation from provider to provider
- Many with severe illness receive no treatment
- Medical errors threaten patient safety
- Opportunities for prevention often missed
Recommendation 4-2
- Clinicians & provider organizations should measure and continuously improve the quality of the care they provide.

Recommendation 4-3
- Further development of consensus-based core measures, validation, develop models for use in QI
Canada’s “Kirby Report” on Mental Health, Mental Illness, Addiction

- Senate Committee on Social Affairs, Science & Technology, 2004
- Individuals with mental illness & addiction often do not receive the services they need when & where they need them
  - highly fragmented & difficult to navigate
  - does not provide a continuum of services
  - Poor integration between mental health & medical care
- Recommendation: a performance evaluation system to monitor the quality & effectiveness of services
Principles of Measurement-Based QI

- Health care as series of processes
- Quality as problems in processes
- Use of measurement & statistical analysis
- Organization-wide involvement
- Focus on improving process & outcomes
Model for Measurement-based QI

Aim

Intervene
Plan

Measure
Diagnose
Applications of Measurement-based QI

EXTERNAL QI
- Audit & Feedback
- Benchmarking
- Goals / Mandates
- Incentives
- Purchasing
- Consumer choice

INTERNAL QI
- Aim, measure, plan, intervene
- Other approaches

Microsystem
(IP unit, OP team)

Healthcare Organization
(hospital, community health center)

Healthcare System
(govt, payers, accreditors, market)
# Measurable, Improvable Components of Care

<table>
<thead>
<tr>
<th>Structure</th>
<th>Technical Process</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinicians</td>
<td>Prevention</td>
<td>Δ in symptoms</td>
</tr>
<tr>
<td>Facilities</td>
<td>Access</td>
<td>Δ in functioning</td>
</tr>
<tr>
<td>Plans</td>
<td>Assessment</td>
<td>Δ in quality of life</td>
</tr>
<tr>
<td>Financing</td>
<td>Treatment</td>
<td>Satisfaction</td>
</tr>
<tr>
<td>Communities</td>
<td>Coordination</td>
<td>Adverse effects</td>
</tr>
<tr>
<td>Patients</td>
<td>Continuity</td>
<td>Mortality</td>
</tr>
<tr>
<td>Illnesses</td>
<td>Safety</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Interpersonal Process</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Communication</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Decision-making</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Interpersonal style</td>
<td></td>
</tr>
</tbody>
</table>
Measure Selection: Why it Matters

- Determines what problems will be addressed
- Directs resource allocation to these areas
  - Direct costs of QI programs for US & Canadian hospitals: $200,000 / year
  - Indirect costs: clinician & administrative time
  - Opportunity costs: other QI, other administrative goals, clinical care
- Impact greater at upper levels of health system
- May influence the effectiveness of QI activities
US: Progress toward Standardized Measures

- JCAHO: inpatient measures for US hospitals
- NCQA: HEDIS measures for US health plans
- Ambulatory Care Quality Alliance / CMS P4P
- National Quality Forum
Canada: Progress toward Standardized Measures

- British Columbia: Mental Health & Addictions Indicators Project for QI in the public mental health system
- Ontario Mental Health Reporting System for adult inpatient mental health care
- Continuous Enhancement of Quality Measurement Project: a national initiative on quality indicators for mental health services in primary care
- Initiatives also underway in Nova Scotia and Manitoba
### Attributes Informing Measure Selection

<table>
<thead>
<tr>
<th>Meaningful</th>
<th>Feasible</th>
<th>Actionable</th>
</tr>
</thead>
<tbody>
<tr>
<td>stakeholder needs</td>
<td>precisely specified</td>
<td>quality problem</td>
</tr>
<tr>
<td>clinically important</td>
<td>data available</td>
<td>under user’s control</td>
</tr>
<tr>
<td>evidence-based</td>
<td>affordable</td>
<td>interpretable</td>
</tr>
<tr>
<td>valid</td>
<td>accurate</td>
<td>results</td>
</tr>
<tr>
<td>comprehensible</td>
<td>reliable</td>
<td>norms</td>
</tr>
<tr>
<td></td>
<td>case mix adjustment</td>
<td>benchmarks</td>
</tr>
<tr>
<td></td>
<td>pt. confidentiality</td>
<td>standards</td>
</tr>
</tbody>
</table>

#### Domains of Process
- (prevention, detection, access, assessment, treatment, continuity, coordination, safety/errors)

#### Clinical Population
- (diagnostic groups, comorbidities, prevalence, morbidity)

#### Vulnerable Groups
- (children, elderly, racial/ethnic minorities)

#### Modalities
- (medication, psychotherapy, other somatic, other psychosocial)

#### Clinical Setting
- (inpatient, ambulatory, residential, partial, emergency service)

#### Purpose of Measurement
- (internal QI, external QI, consumer selection, purchasing, research)

#### Level of Health Care System
- (population, plan, delivery system, facility, provider, patient)

---

Hermann and Palmer, Psychiatric Services, 2002
Process Measures Assessing Quality (n=308)

- Prevention
- Coordination
- Assessment
- Access
- Continuity
- Safety
- Treatment
## Diagnostic Groups Addressed

<table>
<thead>
<tr>
<th>Disorder</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>Depressive disorders</td>
<td>43</td>
<td>14</td>
</tr>
<tr>
<td>Substance abuse / dependence</td>
<td>24</td>
<td>8</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Dementia</td>
<td>1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Personality disorders</td>
<td>1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Across diagnoses</td>
<td>119</td>
<td>39</td>
</tr>
</tbody>
</table>
# Treatment Modalities Assessed

<table>
<thead>
<tr>
<th>Category</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication</td>
<td>81</td>
<td>26</td>
</tr>
<tr>
<td>Psychosocial</td>
<td>97</td>
<td>32</td>
</tr>
<tr>
<td>Psychotherapy</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Assertive community treatment</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Substance abuse counseling</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Other psychosocial</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Other modality</td>
<td>43</td>
<td>14</td>
</tr>
<tr>
<td>Not applicable</td>
<td>121</td>
<td>39</td>
</tr>
</tbody>
</table>
### Selected Populations Addressed

<table>
<thead>
<tr>
<th>Population</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPMI</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>Elderly</td>
<td>23</td>
<td>7</td>
</tr>
<tr>
<td>Children &amp; adolescents</td>
<td>49</td>
<td>16</td>
</tr>
<tr>
<td>Dual diagnosis</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Comorbid medical conditions</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Pregnant women</td>
<td>1</td>
<td>&lt;1</td>
</tr>
</tbody>
</table>
Most Measures Lack Supporting Research

- Level A: Good research-based evidence (e.g., RCTs) - 61%
- Level B: Fair research-based evidence (e.g., observational data) - 30%
- Level C: Little research evidence, based principally on clinical opinion - 9%
## Testing of Measures

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability testing</td>
<td>21</td>
<td>7</td>
</tr>
<tr>
<td>Validity testing</td>
<td>34</td>
<td>11</td>
</tr>
<tr>
<td>Cost assessment</td>
<td>53</td>
<td>17</td>
</tr>
</tbody>
</table>
Welcome to the National Inventory of Mental Health Quality Measures. To search for measures, please select at least two of the following search criteria.

**Diagnosis:** Not Specified

**Population:** Not Specified

**Data Source:** Not Specified

**Evidence Level:** Not Specified

**Treatment:** Not Specified

**Domain of Quality:** Not Specified

**Clinical Setting:** Not Specified

**Measure searching will be available soon. Sign In to be notified.**

- [Sample Search Results](#)
- [Sample Measure Report](#)

Measures and inventories may be copyrighted by CQAIMH or other organizations. They are provided for use in quality assessment and improvement activities. The distribution or reproduction of these documents for commercial purposes without written consent from copyright holders is strictly prohibited.
What’s the Effectiveness of MBQI?

- Review of 55 controlled trials of QI (Shortell, 1998)
  - found “pockets of improvement” rather than evidence of widespread change

- Routine QI is not well studied
  - Published case reports of successful initiatives
  - Anecdotal evidence: much QI may be ineffective
Determinants of QI Effectiveness: Prior Research

- Environment
- Culture
- Structure
- Strategic
- Technical
- Organizational Factors
- Hospital QI Implementation

Shortell, 1995
Determinants of QI Effectiveness: QI-Fit Study

- Environment
- Culture
- Structure
- Leadership
- Resources

Organizational Factors

Selected Aims & Measures

QI Progress
- Diagnose
- Measure
- Intervene
- Plan

QI Outcomes

Hermann, 2005
The QI-Fit Study

- NIMH-funded study of 32 hospitals in MA & CA
- What are hospitals’ QI objectives for inpatient psychiatry?
  - EBP -- patient-centered care
  - effectiveness -- equity
  - access -- efficiency
  - safety
- Are hospitals achieving improvement?
- Determinants of effective QI
  - Hypothesis: effectiveness is strongly influenced by the fit between the hospitals & their QI objectives
Determinants of QI Effectiveness: QI-Fit Study

Environment

Selected Aims & Measures

Culture
Structure
Leadership
Resources

Organizational Factors

QI Progress
- Diagnose
- Measure
- Plan
- Intervene

QI Outcomes

Hermann, 2005
Conclusion

- Strong momentum toward MBQI by policymakers, payers & oversight organizations
- Expanding measurement infrastructure
  - still need to fill in crucial gaps
  - further progress toward standardized core measures
- MBQI’s impact & return on investment
  - Are we choosing the ‘right’ improvement opportunities?
  - Are we achieving improvement?
  - How can we conduct QI activities more effectively?