Crossing the Quality Chasm in : Bringing Concepts and Tools of Continuous Quality Improvement to Your Pediatric Practice

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Objectives

By the end of this session, you will be able to:

• Describe the role and opportunities for quality improvement in pediatric behavioral healthcare systems
• Understand the Quality Improvement processes
• Describe the use of specific Quality Improvement tools
Crossing the Quality Chasm

“Quality problems occur typically not because of failure of goodwill, knowledge, effort or resources devoted to health care, but because of fundamental shortcomings in the ways care is organized.”

The American health care delivery system is in need of fundamental change. The current care systems cannot do the job. Trying harder will not work: Changing systems of care will!
CARE SYSTEM

Supportive payment and regulatory environment

Organizations that facilitate the work of patient-centered teams

High performing patient-centered teams

Outcomes:
• Safe
• Effective
• Efficient
• Personalized
• Timely
• Equitable

REDESIGN IMPERATIVES: SIX CHALLENGES
• Reengineered care processes
• Effective use of information technologies
• Knowledge and skills management
• Development of effective teams
• Coordination of care across patient-conditions, services, sites of care over time

IOM Crossing the Quality Chasm Report Brief – March 2001
• Children and adolescents in out-of-home treatment centers: 42.9 percent were receiving antipsychotic medications without having any history of or current psychosis [4-state study]

• Reliance on seclusion and restraint in out-of-home treatment settings, despite substantial psychological and physical harm to patients and an estimated 100-150 deaths in the United States annually. 2,3


IHI Triple Aim

- Improving the patient and provider experience of care.
- Improving the health of populations.
- Reducing the per capita cost of health care.
Quality improvement in Healthcare

“Quality improvement in healthcare is the direct correlation between the level of improved health services and the desired health outcomes of individuals and populations.”

-Institute of Medicine

IOM Crossing the Quality Chasm Report Brief – March 2001
Why respond to quality chasm with QI?

• QI focuses on improving outcomes; it can be applied to almost any topic.

• QI stresses first experimenting with small changes, where financial and motivational risks are minimized, and then spreading to a larger population once tested.

• QI framework provides opportunity to use ‘trial and learn’ to optimize services to complex systems.
Continuous Quality Improvement

• Opportunity for improvement exists in every process on every occasion
• Focuses on the system and not the person in improving health care
• Requires commitment to:
  – improve operations, processes, and activities
  – meet community needs in an efficient, consistent and cost-effective manner
## Quality Improvement vs. Quality Assurance

<table>
<thead>
<tr>
<th>Quality Improvement</th>
<th>Quality Assurance</th>
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<tbody>
<tr>
<td>Raises quality</td>
<td>Guarantees quality</td>
</tr>
<tr>
<td>Emphasizes prevention</td>
<td>Relies on inspection</td>
</tr>
<tr>
<td>Uses a proactive approach</td>
<td>Uses a reactive approach</td>
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<tr>
<td>Requires continuous efforts</td>
<td>Looks at compliance with standards</td>
</tr>
<tr>
<td>Relies on teamwork</td>
<td>Requires a specific fix</td>
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<tr>
<td>Examines process or outcomes</td>
<td>Relies on individuals</td>
</tr>
<tr>
<td>Asks, “How can we provide better services?”</td>
<td>Asks, “Do we provide good services?”</td>
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### Project-level [“qi”] vs. Organization-wide QI [“QI”]

<table>
<thead>
<tr>
<th>Topic</th>
<th>“Small qi”</th>
<th>“Big QI”</th>
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<tbody>
<tr>
<td>Improvement</td>
<td>Program or unit level</td>
<td>Organization wide with a system focus</td>
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<tr>
<td>Quality improvement planning</td>
<td>Program or unit level</td>
<td>Organization-wide and often tied to the strategic plan</td>
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<tr>
<td>Evaluation of quality</td>
<td>Performance of a process capacity over time</td>
<td>Organization-wide processes that cut across all program and activities</td>
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<tr>
<td>Quality improvement goals</td>
<td>Delivery of program or unit-level service</td>
<td>Organization’s strategic plans</td>
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<tr>
<td>Utilization of QI</td>
<td>Individual program or unit level plans</td>
<td>Entire organization</td>
</tr>
<tr>
<td>Benefit of high quality</td>
<td>Improving the efficiency and effectiveness of programs and process</td>
<td>Improving the efficiency and effectiveness of public health department</td>
</tr>
<tr>
<td></td>
<td>and process in public health department leading to improved community</td>
<td>management system organization wide to improve community health</td>
</tr>
<tr>
<td></td>
<td>health</td>
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# Tools and Methods of Improvement: Examples

<table>
<thead>
<tr>
<th>Domain of interest</th>
<th>Helpful tools and methods</th>
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<tbody>
<tr>
<td>Healthcare as processes within systems</td>
<td>Diagrams that illustrate flow and cause-effect, narrative descriptions, case examples</td>
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<tr>
<td>Variation and measurement</td>
<td>Data recorded over time and analyzed on run and control charts</td>
</tr>
<tr>
<td>Customer/beneficiary knowledge</td>
<td>Measurements of illness burden, functional status, quality of life</td>
</tr>
<tr>
<td>Leading, following, and making changes</td>
<td>Leadership training programs, Reflective action</td>
</tr>
<tr>
<td>Collaboration</td>
<td>Conflict resolution, acquiring specific communication skills (e.g., SBAR), group learning</td>
</tr>
<tr>
<td>Social context and accountability</td>
<td>Documenting unwanted and unnecessary variation, public reporting</td>
</tr>
<tr>
<td>Developing new locally useful knowledge</td>
<td>Develop new, locally useful knowledge (PDSA cycles)</td>
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Quality Improvement Tools

• Six-sigma methodology
• Lean methodologies
• Plan Do Study Act (PDSA): more to come…. 
Quality Improvement Tools: Six Sigma

**Six-sigma-methodology:** Relies on statistical measurement to reduce cost, decrease process variation, and eliminate defects.

- 4 steps: Define, measurement, analysis, improvement, control
Quality Improvement Tools: Lean

- Driven by customer’s needs and aims to improve processes by removing non-value-added activities.
  - *Value stream mapping*-graphically display process of services or product and opportunities for improvement highlighted.
Quality Improvement Tools: Plan-Do-Study-Act (PDSA)

- Four-stage problem-solving model for improving process or carrying out change
  - Approximates scientific method
    - Plan: Hypothesize
    - Do: Experiment
    - Study: Evaluate
    - Act: Translate (when evidence-based)
  - Characteristics:
    - Iterative and continuous process—not one time pursuit
    - Rapid cycles
    - “Trial and learning”
- QI Project Workbook, Modified from Leslie et al, 2017; From another context but applicable to clinical practice.
Plan-Do-Study-Act: A brief history

– Dr. Edwards Deming-adapted from work of Walter Shewart.

• Quality as primary driver for industrial success
• Applied to automobile industry
• Adapted from an process in industrial engineering
  – Identifying customer needs
  – Reducing variations in processes
  – Minimizing inspections

– Post-World War II Japanese Quality Revolution in automobile and electronic industries; process referred to as the “Deming cycle”
Modified IHI Model of Improvement

Phase 1: Pre-Work
- **Prioritizing** a quality gap, or area for improvement
- **“Readying”** a team to work on the quality gap
- **Educating** the team about the quality gap by analyzing current structure, process, and outcomes to identify factors in quality gaps

Phase 2: Planning
- **AIM:** What are we trying to accomplish?
- **Measure:** How will we know that a change is an improvement?
- **Change:** What changes can we make that will result in improvement?

Phase 3: Action
- Act
- Plan
- Study
- Do

Phase 4: Reflection
- How can **sustaining successful changes** be done most efficiently?
- How can **spreading successful changes** be done most effectively?
- How will we measure the impact of **spreading successful changes**?

Modified from: [Institute for Healthcare Improvement: www.ihi.org](http://www.ihi.org)
Phase 1. PRE-Work:

• Prioritizing a quality gap, or area for improvement
• “Readying” a team to work on the quality gap
• Educating yourselves, as the team, about the quality gap by analyzing current structure, process, and outcomes to identify factors that may provide an opportunity to improve the quality gap
Phase 1: Pre-Work, Prioritizing a Quality Gap

• Prioritize a quality gap.
• Things to consider include:
  – *Relevance*
  – *Importance*
  – *Incidence and prevalence of concern*
  – *Severity*
  – *Feasibility for redress (within your locus of control)*
What are potential areas for improvement in your work?

• Consider the following factors and identify one that best meets the following criteria
  – Relevance
  – Importance
  – Severity
  – Feasibility for redress (within your locus of control)
Phase 1: Pre-Work, “Readying” a Team

• Identify team members, typically includes:
  – Day-to-day leaders, management sponsor, technical expert, stakeholders (internal and external)

• Craft *operating agreement* to govern how you will work collaboratively, typically includes:
  – Ground rules
  – Roles/responsibilities
  – Governance approach
  – Timeline
Phase 1: Pre-Work, “Educating” the Team

• There are a number of QI tools that teams may use to portray any information when educating themselves about a quality gap. Some examples include:
  – *Flowcharts* and *process maps* that capture processes, refer to 18 of handout.
  – *Cause-and-effect (fishbone)* diagrams that categorize issues, refer to 20 of handout.
  – *Graphs* (bar graphs, pie charts, histograms, Pareto charts) that display data
  – *Spaghetti diagrams* that map processes on a physical floorplan
Sample High-Level Flowchart: Ischemic Heart Disease Patient Flow

1. Patient has acute symptoms
2. Triage in ER: Evidence of MI?
   - Yes: Early anti-ischemia/infarction therapy
   - No: Inpatient evaluation and therapy
3. Invasive evaluation done?
   - Yes: Procedure Indicated?
     - Yes: Revascularization procedure
     - No: Ambulatory care: Rehab and follow-up
   - No: Ambulatory care: Initial Evaluation
4. Ambulatory care: Follow-up care
Case Example: Process Maps
Case Example: Process Maps
See pages 15-16 of worksheet.
Phase 2. Planning

1. **Aim.** What is the problem you are trying to address?

   [Consider relevance, importance, prevalence, severity, and is it in your locus of control.]

2. **Measure.** How will you know that a change is an improvement?

   [Consider optimal measures to ascertain intended and potential unintended consequences.]

3. **Change.** What changes can we make that will result in improvement?

   [Consider feasibility, existing evidence base, ethical, and culturally appropriate.]
Phase 2.1: Aim. What is the problem you are trying to address?

1. **Aim.** What is the problem you are trying to address?  
   
   [Consider relevance, importance, prevalence, severity, and is it in your locus of control.]
Phase 2.1: Aims Statement.

- Aims statement should be SMART
  - Specific
  - Measurable
  - Attainable
  - Realistic
  - Timely

Tufts Medical Center, HEALERS case example:
- By January 1, 2016, 95% of surveyed parents and caregivers of children at FHC will report having received the “teach back” during their clinical visits.
Phase 2.2. Measure. How will we know that a change is an improvement?

Consider measures of structure, process, and outcome, documented in charter and consult measures form in worksheet for specific considerations.
Phase 2.3. Change. What changes can we make that will result in improvement?

Review the flow chart/cause-and-effect diagrams and charter to inform key driver diagram (18-19); consult change strategies form in worksheet.
Improve QI Capacity at FHC through a Cross-Departmental QI Project on Health Literacy

Identify a QI Topic for a Cross-Departmental Project: Health Literacy

Build HL and QI Capacity

Improve Infrastructure to Support a Cross-Departmental QI Project

Address Barriers and Facilitators to Participation

Choose a clinically relevant QI topic that addresses an ACGME core competency

Select change strategies responsive to staff/faculty needs and apply cross settings, specialties, and trainee rotations

Encourage use of health literacy tools: “encouraging questions” and “teachback”

Develop HL and QI educational materials and resources and disseminate through multiple venues

During project, share QI principles, methods tools, and results

Secure departmental leadership support, establish timeline, and create shared language, resources, approach

Identify trainee, faculty, and staff champions

Secure staff support for data

Provide incentives including MOC credit for faculty and trainees

Modify an existing American Board of Pediatrics Health Literacy Performance Improvement Module for team use and for inpatient setting

Identify additional barriers and facilitators through evaluation process

EXAMPLE: Key Driver Diagram from TMC Floating Hospital, HEALERS Project

OVERARCHING AIM

PRIMARY DRIVERS

CHANGE STRATEGIES

Key
FHC=Tufts Medical Center/Floating Hospital for Children
HL=Health Literacy
QI=Quality Improvement
ACGME=Accreditation Council for Graduate Medical Education

HEALERS: A cross-departmental quality improvement initiative focused on health literacy.
Phase 3. Action

1. Plan
   - State objectives
   - Make predictions
   - Develop plan for test cycle

2. Do
   - Carry out the test, document problems and unexpected observations
   - Begin analysis of the data

3. Study
   - Summarize what you learned

4. Act
   - Determine what changes are to be made.
Example, Run Chart

Parent Report: Encourage Questions

Parent Report: Teach Back

Provider Report: Encourage Questions

Provider Report: Teach Back
Findings (Qualitative)
Phase 4. Reflection

• Sustaining successful change most efficiently;
• Spreading successful change most effectively; and
• Measure impact of spreading successful change
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Modified from: Institute for Healthcare Improvement: www.ihi.org
Phase 4. Reflection

• Sustaining successful change most efficiently;
• Spreading successful change most effectively; and
• Measure impact of spreading successful change

HEALERS Case Study

• Generated publication (currently under review)
• Provide recommendations to American Board of Pediatrics in improvement areas based on local adaptations made
Objectives revisited

By the end of this session, you will be able to:

• Describe the role and responsibility of quality improvement in public health
• Understand the Quality Improvement processes
• Describe the use of specific Quality Improvement tools
Quality Improvement in Pediatrics: Stand on the shoulders of giants…

- Additional resources listed in handout.
Additional Resources for Web-based Training

On-Line Training

- **IHI Open School:**
  http://www.ihi.org/education/ihiopenschool/Pages/default.aspx

- **Lean Enterprise Institute:** www.lean.org
Thank you!

• Any Questions?
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