Technical and Adaptive Challenges in Implementation

Melinda D. Sawyer, DrPH, MSN, RN, CNS-BC
Director, Patient Safety and Education
Armstrong Institute for Patient Safety & Quality
Johns Hopkins Hospital
Johns Hopkins Medicine

Objectives

- Identify the 4 key phases of TRiP
- Differentiate technical vs. adaptive challenges during implementation
- Identify successful strategies to lead through change
- Apply this knowledge to a QI project
QI Project Success?

Success

Failure

Next Exit

Failure
Leading Change

One of most common leadership mistakes is expecting technical solutions to solve adaptive problems. 

Heifetz, Leadership Without Easy Answers

Rand Study Confirms Continued Quality Gap

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage of Recommended Care Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low back pain</td>
<td>68.5</td>
</tr>
<tr>
<td>Coronary artery disease</td>
<td>68.0</td>
</tr>
<tr>
<td>Hypertension</td>
<td>64.7</td>
</tr>
<tr>
<td>Depression</td>
<td>57.7</td>
</tr>
<tr>
<td>Orthopedic conditions</td>
<td>57.2</td>
</tr>
<tr>
<td>Colorectal cancer</td>
<td>53.9</td>
</tr>
<tr>
<td>Asthma</td>
<td>53.5</td>
</tr>
<tr>
<td>Benign prostatic hyperplasia</td>
<td>53.0</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>48.6</td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>45.4</td>
</tr>
<tr>
<td>Headaches</td>
<td>45.2</td>
</tr>
<tr>
<td>Urinary tract infection</td>
<td>40.7</td>
</tr>
<tr>
<td>Hip fracture</td>
<td>22.8</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>10.5</td>
</tr>
</tbody>
</table>

McGlynn et al, NEJM 2003; 348(26):2635-2645
Approaches to Improve TRiP

<table>
<thead>
<tr>
<th>Approach</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evidence-based medicine, Clinical practice guidelines, Decision aids</td>
<td>Provision of best evidence and convincing information leads to optimal decision making and optimal care</td>
</tr>
<tr>
<td>Professional education and development</td>
<td>Bottom-up learning based on experiences in practice and individual learning needs leads to performance change</td>
</tr>
<tr>
<td>Self-regulation, Recertification</td>
<td></td>
</tr>
<tr>
<td>Assessment and accountability</td>
<td>Providing feedback on performance relative to peers, and public reporting of performance data motivates change in performance</td>
</tr>
<tr>
<td>Feedback, Accreditation, Public reporting</td>
<td></td>
</tr>
<tr>
<td>Professional education and development</td>
<td></td>
</tr>
<tr>
<td>Patient-centered care, Patient involvement, Shared decision making</td>
<td>Patient autonomy and control over disease and care processes lead to better care and outcomes</td>
</tr>
<tr>
<td>Total quality management and continuous quality improvement, Restructuring</td>
<td>Improving care comes from changing the systems, not from changes in individuals</td>
</tr>
<tr>
<td>processes, Quality systems, Breakthrough projects</td>
<td></td>
</tr>
</tbody>
</table>

Adopted from Grol R. JAMA 2001;286:2578-2585

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Table 2. Effects of Different Strategies to Improve Patient Care

<table>
<thead>
<tr>
<th>Strategy</th>
<th>No. of Reviews</th>
<th>No. of Studies</th>
<th>Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational materials, mailed information</td>
<td>9</td>
<td>3-37</td>
<td>Limited effects</td>
</tr>
<tr>
<td>Continuing medical education</td>
<td>4</td>
<td>3-17</td>
<td>Limited effects</td>
</tr>
<tr>
<td>Interactive educational meetings</td>
<td>4</td>
<td>2-6</td>
<td>Few studies, mostly effective</td>
</tr>
<tr>
<td>Educational outreach visits</td>
<td>8</td>
<td>2-6</td>
<td>Particularly affects prescribing and prevention</td>
</tr>
<tr>
<td>Use of opinion leaders</td>
<td>3</td>
<td>3-6</td>
<td>Mixed effects</td>
</tr>
<tr>
<td>Feedback on performance</td>
<td>7</td>
<td>16-37</td>
<td>Mixed effects, effect on test ordering</td>
</tr>
<tr>
<td>Reminders</td>
<td>5</td>
<td>5-68</td>
<td>Mostly effective</td>
</tr>
<tr>
<td>Substitution or delegation of tasks</td>
<td>7</td>
<td>2-14</td>
<td>Pharmacist: effect on prescribing, Nurse: no effect</td>
</tr>
<tr>
<td>Use of computer (systems)</td>
<td>4</td>
<td>7-21</td>
<td>Computerized decision support, mostly effective</td>
</tr>
<tr>
<td>Total quality management and continuous quality improvement</td>
<td>1</td>
<td>55</td>
<td>Limited effects, weak study designs</td>
</tr>
<tr>
<td>Patient-oriented interventions</td>
<td>7</td>
<td>2-34</td>
<td>Mixed effects, reminding patients, mostly effective in prevention</td>
</tr>
<tr>
<td>Combined and multifaceted interventions</td>
<td>16</td>
<td>2-39</td>
<td>Mostly (very) effective</td>
</tr>
</tbody>
</table>

Grol R. JAMA 2001;286:2578-2585
The phases of change

Leadership is critical at each phase

1. Summarize the Evidence
   - Identify interventions associated with improved outcomes
   - Select interventions with the largest benefits and lowest barriers to use
   - Convert interventions to behaviors

2. Identify local barriers to implementation: understand the process and context of work
   - Observe staff performing the interventions
   - "Walk the process" to identify defects in each step of intervention implementation
   - Enlist all stakeholders to share concerns and identify potential gains and losses associated with intervention implementation

3. Measure Performance
   - Select Measures (Process and/or outcome)
   - Develop and pilot test measures
   - Measure Baseline Performance

4. Ensure all patients receive the interventions
   - Evaluate regularly across performance measures
   - Educate about the evidence supporting the intervention

Translating Evidence into Practice
- Envision the problem within the larger health care system
- Engage Collaborative multi-disciplinary teams centrally (stages 1, 2, & 3) and locally (stage 4)

Leaders tackle both technical & adaptive challenges

<table>
<thead>
<tr>
<th>Technical</th>
<th>Adaptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premise: There is knowledge to implement a solution; often a solution that involves a skill/task</td>
<td>Premise: Can only be addressed through changes in people’s priorities, beliefs, habits, and loyalties</td>
</tr>
<tr>
<td>Patient safety &amp; quality methods, processes → a focus on tasks</td>
<td>Effects of context on the successful application of these methods/processes → a focus on unit &amp; organizational culture</td>
</tr>
</tbody>
</table>
Leading Technical Change

1. Summarize the Evidence
   - Identify interventions associated with improved outcomes
   - Select interventions with the largest benefits and lowest barriers to use
   - Convert interventions to behaviors
   - Observe staff performing the interventions
   - "Walk the process" to identify defects in each step of intervention implementation
   - Enlist all stakeholders to share concerns and identify potential gains/losses associated with intervention implementation

2. Identify local barriers to implementation: understand the process and context of work

Leading adaptive change

Clarify what hill you will climb and invite others to show to you how to climb it

- Communicate the need for change
- Surface real and perceived losses
- Create a containing vessel to communicate
- Tune into WIFM
- Value the dissenter
- Monitor organizational pressures
Failing to Differentiate: Technical vs. Adaptive

Strategy to Identify Challenges: Pre-Mortem Exercise

- Identify challenges and vulnerabilities to project success before they occur.
  - Technical and adaptive challenges

- Helps the project team build intuition and sensitivity to where future problems might be.

http://www.hopkinsmedicine.org/armstrong_institute/training_services/cusp_offerings/cusp_guidance.html
Pre-Mortem Exercise: Step 1

• Imagine that we are 2 years into the future and, despite all of the team’s efforts, the project has failed. Things have gone completely wrong on a number of fronts. Now, ask “What could have caused this?”

Pre-Mortem Exercise: Step 2

• Generate the reasons for failure. Spend the next 10 minutes writing down all the reasons you believe this failure occurred.
• Rank each failure by your level of concern 1 = lowest concern to 5 = highest concern
Pre-Mortem Exercise: Step 3

• Address the 2 or 3 items from your list that are of greatest concern and list what you specifically will do differently now that you have considered them.

Pre-Mortem Exercise: Step 4

• Periodically review the potential problem list to resensitize yourself and the other members of the team to problems that may be emerging.
Types of leaders

- Strategic leaders
  - Able to design for the future, and see the system as a whole

- Operational leaders
  - Understand what it takes to get the job done

- Networking leaders
  - Can leverage both internal and external relationships

Macyoby, 2013.

All 3 types are needed for a change effort to be successful

Think this doesn’t apply to you?
A learning organization leverages leadership from all roles.
Competencies for leading change

Transformational leaders:

- Are sensitive to the influence of systems
  - Supporting just culture
- Design for the future
  - Developing a vision for both technical & adaptive change
- Can identify causes of variation & react appropriately
  - Knowing the difference between common causes & special causes
- Develop relationships
  - Identifying and leveraging intrinsic & extrinsic motivators
- Learn from defects
  - Widely sharing what’s learned

Managing polarity

“I believe that the central leadership attribute is the ability to manage polarity.” -- Peter Koestenbaum

Spontaneous, expressive \& Self-disciplined, responsible
Compassionate, concerned \& Assertive, bold
Mindful, reflective \& Active. energetic
Principled, integrated \& Engaged, involved
Realistic, questioning \& Optimistic, constructive
Confident, secure \& Adaptive, flexible
Independent, strong \& Humble, open

Quinn, RE. 2004
Leading at different stages of a project

- **Starting with an ending**—Letting go of an old process/way of thinking
  - Your stakeholders may feel a sense of loss
- **In the neutral zone**—a time of transition
  - There’s excitement as well as confusion & fear
- **New beginnings**—stakeholders are committed & understand the vision
  - A new status quo takes shape

**Discuss:** How might the stage of your project influence your leadership approach?

Spreading change

- **Engage**
  - Win the hearts & minds of your team(s)
- **Educate**
  - Teach your team(s) about your intervention
- **Execute**
  - Implement your plan with purposeful team participation
- **Evaluate**
  - Determine how well your effort has improved care processes & outcomes
- **Endure**
  - Develop policies & procedures; train new people; walk the talk; audit, monitor, and learn

**Expand**
- Pass the intervention on to other units; establish a network of peers; identify your next challenge
Taking advantage of local change efforts

Success at the unit/work area level can:

- Increase the belief that change will be effective
- Create a common understanding of what "good" looks like
- Provide an opportunity to document learning
- Surface the costs and side effects of changes

Langley, 2009.

An eye on the bigger picture

- Do you know the strategic goals of your organization over the next 5 years?
- What are your organization’s priorities when it comes to patient safety and quality improvement?
- How does your safety improvement project align with how organizational improvement is measured?
Johns Hopkins Medicine Strategic Plan

Patient and family-centered care:
- Be the national leader in the safety, science, teaching and provision of patient and family centered care

Goals:
- Promote a culture that embraces, expects, and rewards the delivery of patient- and family-centered care.
- Partner with patients, families and others to eliminate preventable harm and optimize patient outcomes and experience while reducing health care costs.
- Engage patients and families in shared organizational and clinical decision-making.

http://www.hopkinsmedicine.org/strategic_plan

Make your idea more spreadable

Ideas that tend to spread more easily are
- Evidence-based
- Advantageous
- Compatible with existing workflows
- Simple
- Trialable—easy to test
- Observable—clear how to measure success
Don’t try to change your entire organization at once

The spread of new ideas is typically non-linear

Tipping point typically at 10-20% of adoption

Empathy & adaptation

- Understand culture and motivation
- Understand environment & incentive systems
- Understand influence and impact
The vital few and the important many

- How will you recruit champions to spread & adapt your efforts to their local settings?
- How will you connect these champions?
- How will you ensure change efforts are lasting ones?

A year after your intervention

Your change efforts spread to a few other units. There was a great deal of initial enthusiasm. A year later, you discover that one unit has lost focus (does not audit its processes or learn from defects to keep the intervention on track). Its local champion has lost interest and rarely attends team meetings. The safety challenges that prompted the intervention are back.

- What might you have done to reduce the risk of this happening?
- What can you do now?
Strategy to Identify Challenges: Peer-to-Peer Assessment

- Modeled after the nuclear power industry
- Multidisciplinary team of peer assessors
- Watching, talking, and learning technical and adaptive work of a unit, department or organization

PICU CLA-BSI Rate: 2004 – Q4 2014

* SIR is observed/expected
PICU CLABSI Efforts

- CLABSI Conversation by Armstrong Institute
- New tool being used to provide guidance on medical rationale of drawing blood cultures
- Hydrochloric acid locks for cardiac surgical patients with a long length of stay
- Daily CHG baths for children >1
- Curos Caps implemented 6/14
- Performing 2 person CL dressing change
- Collaboration with EVC for daily and terminal cleaning
- Restructure accountability and reporting paths

Weekly Peripheral and Central Line Blood Culture Rates since March
The Armstrong Institute Model to Improve Care

Translating Evidence Into Practice (TRiP)
1. Summarize the evidence in a checklist
2. Identify local barriers to implementation
3. Measure performance
4. Ensure all patients get the evidence
   - Engage
   - Educate
   - Execute
   - Evaluate
   - Endure
   - Expand

Reducing preventable patient harm
- Emerging Evidence
- Local Innovation
- Collaborative learning

Comprehensive Unit based Safety Program (CUSP)
Pre-Work: Measure clinician and staff perceptions of safety culture
1. Educate staff on science of safety
2. Identify defects
3. Recruit executive to adopt unit
4. Learn from one defect per quarter
5. Implement teamwork tools

Implementation Framework

Technical Work
Adaptive Work

BREAK
15 MINUTES
Group Exercise:
45 minutes

You’ve been asked to lead a QI project to improve catheter associated urinary tract infections (CAUTI) in an ICU.

Group Exercise:

Identify:
• Who is on your QI project team?
• 2 themes from the peer-to-peer assessment (1 technical, 1 adaptive)
• Use the 4E’s of TRiP to implement change for each theme
ICU CAUTI Rates:
Q3 2011 – Q4 2014

<table>
<thead>
<tr>
<th>Quarter</th>
<th>CAUTI Rate per 1000 Catheter Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q3 2011</td>
<td>10.10</td>
</tr>
<tr>
<td>Q4 2011</td>
<td>4.90</td>
</tr>
<tr>
<td>Q1 2012</td>
<td>3.16</td>
</tr>
<tr>
<td>Q2 2012</td>
<td>3.29</td>
</tr>
<tr>
<td>Q3 2012</td>
<td>4.63</td>
</tr>
<tr>
<td>Q4 2012</td>
<td>5.24</td>
</tr>
<tr>
<td>Q1 2013</td>
<td>6.24</td>
</tr>
<tr>
<td>Q2 2013</td>
<td>4.89</td>
</tr>
<tr>
<td>Q3 2013</td>
<td>1.70</td>
</tr>
<tr>
<td>Q4 2013</td>
<td>4.84</td>
</tr>
<tr>
<td>Q1 2014</td>
<td>1.82</td>
</tr>
<tr>
<td>Q2 2014</td>
<td>3.52</td>
</tr>
<tr>
<td>Q3 2014</td>
<td>4.51</td>
</tr>
</tbody>
</table>

**Infection Rate:**
- 2014 Goal SIR 0.75
- 2014 SIR 1.40

**SIR is observed / expected**

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ICU CAUTI Rates:
2012 – 2014

<table>
<thead>
<tr>
<th>Year</th>
<th>CAUTI Rate per 1000 Catheter Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3.62</td>
</tr>
<tr>
<td>2013</td>
<td>3.86</td>
</tr>
<tr>
<td>2014</td>
<td>3.61</td>
</tr>
</tbody>
</table>

**Infection Rate:**
- 2014 Goal Rate 1.95

**SIR is observed / expected**
References


