Quality Improvement Community of Learning

May 1, 2023
2:00-4:00 pm ET
Tell us where you’re from!

• Take a moment to find the “annotate” button on your zoom tool bar

• Now, locate the “stamp” feature

• Pick your favorite stamp and let us know where you’re joining from!
The NICHQ Team

Stacey C. Penny, MSW, MPH
Senior Project Director

Callie Rowland, MPH
Project Manager

Sue Butts-Dion
Improvement Advisor

Jane Taylor, EdD
Improvement Advisor

Rinka Murakami, MPH
Analyst, Applied Research & Evaluation

The faculty have nothing to disclose.
Objectives of the 4 QI Workshops

Support those new to quality improvement (QI) in:

• Laying a foundation for learning and improving
• Developing improvement capability for PQC, and other state or hospital-based teams
• Creating the environment for and leading quality improvement
• Applying QI principles to your existing projects
Discussion Questions

As we move through the workshop today, please consider and participate in discussing these questions:

1. How can we implement our changes in a way they become sustainable?
2. How might we think about spread: across the state, across our system, across all clinical teams or staff?
3. How can we take what we have learned in these 4 sessions and apply it to day-to-day work?
## QI Community of Learning Overview

### Session Title

<table>
<thead>
<tr>
<th>Session Title</th>
<th>Date and Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Improvement: What and Why? Foundations of Improvement</td>
<td>Tuesday, January 31&lt;sup&gt;st&lt;/sup&gt; 1:00 – 3:00 PM ET</td>
</tr>
<tr>
<td>Activating the How Using PDSA Cycles to Learn and Improve</td>
<td>Tuesday, February 21&lt;sup&gt;st&lt;/sup&gt; 1:00 – 3:00 PM ET</td>
</tr>
<tr>
<td>Measurement for Improvement Collecting, Displaying, and Analyzing Data for Learning and Improvement</td>
<td>Monday, April 3&lt;sup&gt;rd&lt;/sup&gt; 2:00 – 4:00 PM ET</td>
</tr>
<tr>
<td>Holding the Gains Sustaining Improvement and Cohort Learning</td>
<td>Monday, May 1&lt;sup&gt;st&lt;/sup&gt; 2:00 – 4:00 PM ET</td>
</tr>
</tbody>
</table>
Methods: How we Designed this Community of Learning Series

• Four Workshops
• Pre-work assignments for some workshops for the opportunity to apply what you learned in webinar to make learning practical and concrete
• Use of SharePoint and Jam Board for shared learning and feedback from us
Agenda for Session 4

• Welcome
• Review
  • analyzing data
  • testing changes
  • creating purpose or aim statements
• Implementing, Sustaining and Spreading Changes
Model for Improvement

Run chart review

Scale matters: note y axis
Let’s review rules

Run Chart Decision Rules

Rule 1: Shift
(6 or more consecutive)

Rule 2: Trend
(5 or more consecutive. Don’t count initial point)

Rule 3: Number of Runs
(See table)

Rule 4: Astronomical Data Point

The most useful rules for analyzing run chart data are:

a) Astronomical point
b) A shift of 6 points above or below median without crossing it
c) A trend of 3 points steadily ascending or descending
d) Too few/too many runs - data points crossing the median
e) All of the above
Plan-Do-Study-Act Review

• Discussion Question:
When you are working with others and want them to make a change or try a new idea using PDSA, how do you explain it?
Sources of Change Ideas: Review

Changes may come from:

• Literature: evidence-based changes
• Experience of experts
• Staff experience
• Lived experience
• Observation
• Analogous observation
• Innovation
Changes: Review

• Good ideas "ready for use"
• Evidence based ideas
• Specific changes that will bring about improvement
• Different approaches to processes, work design that will lead to improvement
• May also include generic concepts (The Improvement Guide, pp. 357-408)
  • Specific applications of generic change ideas
### Change Ideas Review: driver diagram as guide

#### Example Driver Diagram: Severe Hypertension During Pregnancy (Based on AIM Bundle)

<table>
<thead>
<tr>
<th>Aim</th>
<th>Primary Drivers</th>
<th>Secondary Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce rates of severe maternal morbidity (SMM) related to hypertension among women giving birth at ABC Hospital by 40% by August 1, 2021</td>
<td>System Readiness</td>
<td>• Standards for early warning signs, diagnostic criteria, monitoring, and treatment of severe preeclampsia/eclampsia (include order sets and algorithms)</td>
</tr>
<tr>
<td></td>
<td>Recognition and Prevention</td>
<td>• Unit-based drills and education on protocols</td>
</tr>
<tr>
<td></td>
<td>Response</td>
<td>• Processes for timely triage and evaluation of pregnant and postpartum women with hypertension, including ED and outpatient areas</td>
</tr>
<tr>
<td></td>
<td>Reporting and Learning Systems</td>
<td>• Medications stocked and immediately available on the Labor and Delivery Unit and in other areas where patients may be treated</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• System plan for escalation, obtaining appropriate consultation, and transport as needed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Standard protocols to accurately assess blood pressure and urine protein</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Standard response to maternal early warning signs, including listening to and investigating patient symptoms and assessment of labs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Support women and families in understanding the signs and symptoms of hypertension</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Respond to elevated blood pressure reading within 60 minutes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Implement standard severity-based hypertension management plan with checklists and escalation policies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Create and implement patient-centered support program for patients, families, and staff for all severe hypertension (acute and chronic)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Team huddles for high-risk patients and post-event debriefs that include patient and family</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Multidisciplinary case review for all severe hypertension/eclampsia cases admitted to ICU to identify system-level issues</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• System of ongoing education of clinical staff (e.g., CME, competencies)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Share data broadly (aggregate data stratified by race, use storyboards) to connect to purpose and create a narrative for working toward equity</td>
</tr>
</tbody>
</table>
Aim Statement Review

• What do you intend to accomplish?
• For whom?
• By how much?
• By when?
Poll (Callie, they may choose up to 6 right answers)

Aim statements make the following contribution:
A) Communicate the magnitude change expected
B) Provide direction for the team
C) Are always “Smart” aims
D) State what system or process will improve
E) Do not include a statement of goal(s)
F) All of the above
Model for Improvement

What are we trying to accomplish?

How will we know that a change is an improvement?

What change can we make that will result in improvement?

Act  Plan
Study  Do

Sequence of Improvement

Source: IHI

- Developing a change
- Testing a change
- Implementing a change
- Test under a variety of conditions
- Make part of routine operations
- Sustaining improvements and spreading changes to other locations

Theory and Prediction

More Robust Testing
Implementation

Implementation in improvement science has a unique definition and meaning:

• The change becomes a part of the routine day-to-day operation of the system
• No longer expect failure to occur – learned all that is needed
• Need to plan for human reactions to change because more people are impacted than are during testing
• Increased resistance compared to testing
• Implementation requires more time than testing
To make change permanent and sustainable

Key tasks
1. Updating job descriptions,
2. Implement change in hiring and orientation processes,
3. Create standard work,
4. Document the new process,
5. Implement training,
6. Develop robust communication plans that include what and why the change
7. Continue measurement to ascertain if gains are held
## Deciding on the Scale of the Test

Source: The Improvement Guide: A Practical Approach to Enhancing Organizational Performance, Table 7.1, p. 146.

<table>
<thead>
<tr>
<th>Readiness To test changes</th>
<th>No commitment</th>
<th>Some commitment</th>
<th>Strong commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low degree of belief that change idea will lead to Improvement</td>
<td>Cost of failure large</td>
<td>Very small-scale test</td>
<td>Very small-scale test</td>
</tr>
<tr>
<td>Low degree of belief that change idea will lead to Improvement</td>
<td>Cost of failure small</td>
<td>Very small-scale test</td>
<td>Very small-scale test</td>
</tr>
<tr>
<td>High degree of belief that change idea will lead to Improvement</td>
<td>Cost of failure large</td>
<td>Very small-scale test</td>
<td>Small-scale test</td>
</tr>
<tr>
<td>High degree of belief that change idea will lead to Improvement</td>
<td>Cost of failure small</td>
<td>Small-scale test</td>
<td>Large-scale test</td>
</tr>
</tbody>
</table>
Different stages require different activities

Testing
Trying and adapting a change.
Learning what works in your system.
Start on a small scale and expand to wider range of conditions, as knowledge grows.
Change is not permanent
Failure very useful here, even expected
Fewer people impacted than during implementation

Implementing:
• Making this change a part of the routine day-to-day operation of the system in your pilot population
  • Don’t expect failure here
  • More people impacted than during testing
  • Increased resistance compared to testing
  • Generally requires more time than testing
Sequence of Improvement

Theory and Prediction

Developing a change

Testing a change

Implementing a change

Test under a variety of conditions

Make part of routine operations

Sustaining improvements and spreading changes to other locations

Make new ways of operating the norm

More Robust Testing

Source: IHI
## Worksheet: Considerations for Sustainability

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Notes on Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>What would we continue to measure? What would we stop measuring? What is our plan if we see a negative signal (aka special cause variation)?</td>
<td></td>
</tr>
<tr>
<td><strong>Ownership</strong></td>
<td></td>
</tr>
<tr>
<td>Who will own the new standard work? Are they engaged and onboard with our improvement work?</td>
<td></td>
</tr>
<tr>
<td><strong>Communication and Training</strong></td>
<td></td>
</tr>
<tr>
<td>How will we communicate about this work? Who will be the messengers? How will we support individuals in the “new right way”? What type of training will we use?</td>
<td></td>
</tr>
<tr>
<td><strong>Hardwiring the Change &amp; Build the Infrastructure</strong></td>
<td></td>
</tr>
<tr>
<td>How will we make it hard to do the wrong thing and easy to do the right thing? How will we standardize? Can we reduce reliance on human memory? What about documentation. Do we have all the resources needed?</td>
<td></td>
</tr>
<tr>
<td><strong>Assessment of Workload</strong></td>
<td></td>
</tr>
<tr>
<td>Are our changes increasing the overall workload to the system? If so, how can we decrease the workload? If not, how will we communicate about what is changing and not changing?</td>
<td></td>
</tr>
</tbody>
</table>

Source: Institute for Healthcare Improvement
Our Baseline

Percent

Baseline

UCL

LCL

0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

1/1/13
1/3/13
1/5/13
1/7/13
1/9/13
1/11/13
1/13/13
1/15/13
1/17/13
1/19/13
1/21/13
1/23/13
1/25/13
1/27/13
1/29/13
1/31/13
2/2/13
2/4/13
2/6/13
2/8/13
2/10/13
2/12/13
2/14/13
2/16/13
2/18/13
2/20/13
2/22/13
2/24/13
2/26/13
2/28/13
We are improving!

![Improvement Chart]

- UCL
- LCL
- Testing

Percent

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%


NICHQ
We hit our target . . .
Holding our Gains!

Sustaining

Period of sustained performance

Baseline

Improvement period, no
Scale up and Spread

• Taking a new system or intervention and replicating it at other locations
• Overcoming system and infrastructure issues that arise during both implementation and spread to secure results at the system level
Sequence of Improvement

Developing a change
Test under a variety of conditions
Testing a change
Implementing a change
Make part of routine operations
Sustaining improvements and spreading changes to other locations
Theory and Prediction

Source: IHI
Everett Rogers Adopter Categorization:

- Innovators: 2%
- Early Adopters: 13%
- Early Majority: 35%
- Late Majority: 35%
- Laggards: 15%
## Adopter Characteristics and Strategies

### Innovator enthusiasts, 2.5%

**Characteristics**
- Venturesome, risk takers
- Appreciate innovation for its own sake
- Motivated by the idea of being a change agent
- Love to talk about new ideas/products
- Gate keepers for early adopters

**Strategies**
- Seek them out and invite them to be partners in design

### Early adopter visionaries, 13.5%

**Characteristics**
- Once benefits start to be seen they leap in
- Have a natural desire to be trendsetters
- Provide excellent tester subjects to trial for innovation
- They work out kinks for early majority
- Serve as the opinion leaders

**Strategies**
- Involve in testing, reward and promote their participation
- Recruit to be peer educators
- Keep in the loop, inform and provide feedback

### Late majority skeptics, 34%

**Characteristics**
- Skeptical, cautious and hate risk
- Often innovation shy and do not like your new idea
- Very cost sensitive and respond to economic necessity
- Require bulletproof solutions
- Respond to peer pressure and trusted advisors

**Strategies**
- Reduce cost and maximize ease of use
- Provide strong user support and minimize learning curve
- Get credible endorsements from respected skeptics

### Last adopter disbelievers, 16%

**Characteristics**
- Want to maintain status quo, reference is in the past
- Often isolated from opinion leaders
- See proposed innovation as a hindrance
- Usually invest only if all other alternatives are worse

**Strategies**
- Provide personal control – when, where, how they adopt
- Maximize their familiarity with new process / behavior
- Let them learn from other successful last adopters

---

Adapted from Rodgers, Diffusion of Innovation
IHI Framework for Spread

Leadership
- Topic is a key strategic initiative
- Goals and incentives/policies aligned
- Executive sponsor assigned
- Day-to-day managers identified
- Aim developed

Social System
- Early adopters
- Key messengers
- Communities
- Technical support
- Transition issues

Knowledge Management

Better Ideas
- Develop the case
- Describe the ideas

Set-up
- Adopter audiences
- Successful sites
- Key partners
- Infrastructure supports to enable adoption
- Initial spread strategy (leverage system structure)

Measurement and Feedback

Communication (awareness & technical)
Five key factors that influence adoption of ideas

- Relative Advantage
- Simple Easy
- Trialable
- Compatible
- Observable

Adapted from Rodgers, Diffusion of Innovation
Exercise: Assess the readiness of ideas for rapid expansion

1. Select one improvement or promising intervention you want to spread

2. Use a 1-5 scale to rate each of the five attributes from the viewpoint of the target audience. Record your assessment in the table below:
   1 - Change is very weak relative to this attribute
   3 - Change is okay relative to this attribute
   5 - Change is very strong relative to this attribute

3. Based on the assessment and considering the adopter categories and strategies handout, discuss with your colleagues the steps you would take to accelerate the uptake of the change
**Worksheet: Assess the Readiness of an Idea for Rapid Spread**

Change/Improvement/Intervention: __________________________________________

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Score (1 – 5)</th>
<th>Actions to Take</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relative advantage</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., how strong is the evidence that the</td>
<td></td>
<td></td>
</tr>
<tr>
<td>change is better than the old way)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility with current system</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., how well does it fit the current</td>
<td></td>
<td></td>
</tr>
<tr>
<td>structure, values, and practices)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Simplicity of the change</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., how easy is the change to adopt)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Testability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., can people try it)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Observability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(i.e., can people see it before trying it)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
A summary of Diffusion of Innovations

By Les Robinson

[Fully revised and rewritten Jan 2009]

Diffusion of Innovations seeks to explain how innovations are taken up in a population. An innovation is an idea, behaviour, or object that is perceived as new by its audience.

Diffusion of Innovations offers three valuable insights into the process of social change:

- What qualities make an innovation spread.
- The importance of peer-peer conversations and peer networks.

behaviours so they become better fits for the needs of individuals and groups. In Diffusion of Innovations it is not people who change, but the innovations themselves.

Why do certain innovations spread more quickly than others? And why do others fail? Diffusion scholars recognise five qualities that determine the success of an innovation.

1) Relative advantage
This is the degree to which an innovation is perceived as better than the idea it supersedes by a
Sue and Jane hope that you will take these humble lessons and apply them to your AIM work, your Perinatal Quality Collaborative work, your unit or organizational challenges and even your day-to-day life to experience the joy of learning how to do things better, how to improve your lives and the lives of those you serve.

Sue  
Jane
Thank you!

Please take a moment to complete the brief evaluation before signing off!
Resources

• Diffusions of Innovation (5th Ed 2003)., Everett Rogers. Free Press
• University of Cincinatti PDSA (Plan Do Study Act) cycles // Testing BEFORE Implementing.https://www.youtube.com/watch?v=_YOq4KXBahM
• https://www.nichq.org/resource/quality-improvement-101
• https://www.nichq.org/resource/quality-improvement-102
• SpreadPlannerIHITool (4).pdf
Resources, cont.

• How to Improve, IHI Website [How to Improve | IHI - Institute for Healthcare Improvement](https://www.ihi.org/guide/content/how-to-improve)

• Dr. Robert Lloyd's "A Family of Measures" on youtube@ [https://www.youtube.com/watch?v=uow7mzrFif4](https://www.youtube.com/watch?v=uow7mzrFif4)

• Dr. Lloyd's "Applying Four Rules to Understand a Run Chart" on youtube @ [https://www.youtube.com/watch?v=8e38RCU8-uA](https://www.youtube.com/watch?v=8e38RCU8-uA)