CAH Quality Improvement and Care Transitions Collaborative

Using Quality Improvement Tools

March 15, 2016
**How to Participate in the Session**

- If you have called in by phone, you can “raise your hand” by selecting the hand icon.
- If you would like to call in by phone, select the “phone” icon to receive call in information.
- Select the “Chat Bubble” icon to show the comments box and type your comments and questions in the chat box throughout the session.
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<tr>
<th>Activity</th>
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<th>February</th>
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<th>April</th>
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<tr>
<td>Content and Networking</td>
<td>01/14 Topic: Care Transitions Toolkit Overview and First Sections</td>
<td>03/03 Topic: QI - Immunization Best Practices in Gaining Immunization Compliance</td>
<td>03/15 Topic: QI - ED</td>
<td>04/14 Topic: Care Transitions</td>
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Agenda

• Review Model for Improvement
  • Aims
  • Measures
  • Drivers
  • Change concepts
  • PDSA cycles
• QI Tool Spotlight: Process Maps
• Share and discuss quality improvement methods and tools
• Open forum discussion
Quality Improvement Methods

Quality improvement methods provide the tools to:

(i) identify a problem;
(ii) measure the problem;
(iii) develop a range of interventions designed to fix the problem; and
(iv) test whether the interventions worked.
The PDSA cycle provides the tactical approach to work.

The model for improvement:
- **Act**: What change can we make that will result in improvement?
- **Plan**: What are we trying to accomplish?
- **Study**: How will we know that a change is an improvement?

The three questions provide the strategy.
What are we trying to accomplish?

This is all about setting aims...

The **Project Aim** is not just a vague desire to do better.

It is a commitment to achieve measured improvement:
- In a specific *system*
- With a definite *timeline*
- And numeric *goals*

*Hope is not a plan.*

*“Some” is not a number.*

*“Soon” is not a time.*
Commitment to achieve measured improvement

- In a specific *system*
- With a definite *timeline*
- And numeric *goals*
Examples of an Aim Statement

- Reduce waiting time to see a physician to less than 15 minutes within 9 months.
- Reduce adverse drug events (ADEs) on all medical and surgical units by 75 percent within 11 months.
- Improve medication reconciliation at transition points by 75 percent within 1 year.
What is the aim of your project?
The 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

How will we know a change is an improvement?

Establishing Measures

*Teams use quantitative measures to determine if a specific change actually leads to an improvement.*
Types of Measures

Outcome Measures
How does the system impact the values of patients, their health and wellbeing? What are impacts on other stakeholders such as payers, employees, or the community?

Examples include:
- For diabetes: Average hemoglobin A1c level for population of patients with diabetes
- For access: Number of days to 3rd next available appointment
- For critical care: Intensive Care Unit (ICU) percent unadjusted mortality
- For medication systems: Adverse drug events per 1,000 doses
Types of Measures

Process Measures
Are the parts/steps in the system performing as planned? Are we on track in our efforts to improve the system?

Examples include:
• For diabetes: Percentage of patients whose hemoglobin A1c level was measured twice in the past year
• For access: Average daily clinician hours available for appointments
• For critical care: Percent of patients with intentional rounding completed on schedule.
Balancing Measures

Are changes designed to improve one part of the system causing new problems in other parts of the system?

Examples include:

• For reducing time patients spend on a ventilator after surgery: Make sure re-intubation rates are not increasing
• For reducing patients' length of stay in the hospital: Make sure readmission rates are not increasing
Tips for Effective Measures

- Plot data over time
- Seek usefulness, not perfection
- Use sampling
- Integrate measurement into the daily routine
- Use qualitative and quantitative data
Data Collection

You need a plan

• Ensures the data you collect is useful and reliable without being costly and time-consuming

• Helps ensure the data gathered contains real information that is useful to the improvement effort

• Prevents errors in the data collection process

• Saves time and money that might be spent on repeated or failed attempts to collect useful data
The 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  
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Do

What change can we make that will result in an improvement?

Understanding the Systems for Weight Loss

Outcome

Primary Drivers

Secondary Drivers

Process Changes

Calories In

Calories Out

AIM: A New ME!

Limit daily intake

Substitute low calorie foods

Avoid alcohol

Work out 5 days

Walk to errands

Track Calories

Plan Meals

Drink H2O Not Soda

drives

drives

drives

drives

drives

Attribution Carol Haraden, PhD
Driver Diagram Example: ED Asthma Project

AIM
Reduce median time to first albuterol treatment from triage to 15 minutes for all patients ages >= 2 to <18 years

Primary Drivers

- Time delay from triage to MD/NP/PA assessment
- Time delay from RN order acknowledgement to treatment given
- Time delay from triage to primary RN assessment
- Efficient triage
- Knowledge of PASS score usage/importance

Interventions

- Nurse to nurse communication for high acuity asthma patients
  - Increase use of verbal handoff with PASS score as criteria for nurse initiated protocol
- Standardize method of communication in ED
  - All providers with phones and central phone book
- Nurse Initiated Albuterol Protocol via Triage
  - Allows for initiation of immediate treatment upon recognition of med/severe asthma patients
  - Bypasses multiple process steps
- Increase use of verbal notification to MD/PA/NP for patients with PASS 2-3
- Trial RTs in ED
  - Direct bedding/Walk Back patients with PASS 4-6 (when beds available)
  - Vitals and triage done in room made into set EDTC protocol
- PASS score assigned by screener for “ill appearing” child to facilitate “walk back”
- Implement clinical pathway driven by PASS
**How to construct a driver diagram...**

<table>
<thead>
<tr>
<th><strong>Gather</strong></th>
<th>together the subject matter experts</th>
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<tbody>
<tr>
<td><strong>Brainstorm</strong></td>
<td>&quot;to achieve our goal, the things we need to improve are...&quot;</td>
</tr>
<tr>
<td><strong>Cluster</strong></td>
<td>the ideas to see if groups represent a common driver</td>
</tr>
<tr>
<td><strong>Expand</strong></td>
<td>the groups (or single ideas) to see if new drivers come to mind</td>
</tr>
<tr>
<td><strong>Logically link</strong></td>
<td>together the groups into a driver diagram format</td>
</tr>
<tr>
<td><strong>Work backwards</strong></td>
<td>from project ideas if that helps!</td>
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</table>
What changes can we make that will result in an improvement?

Eliminate Waste
Improve Work Flow
Optimize Inventory
Change the Work Environment
Producer/Customer Interface
Manage Time
Reduce Variation
Error Proofing
Improve Product or Service

Start with your aim and drivers!

Start with your aim and drivers!

Change Concepts

- **Eliminate Waste**
  Look for ways of eliminating any activity or resource in the hospital or clinic that does not add value to patient care.

- **Improve Workflow**
  Improving the flow of work in processes is an important way to improve the quality of patient care delivered by those processes.

- **Optimize Inventory**
  Inventory of all types is a possible source of waste in organizations; understanding where inventory is stored in a system is the first step in finding opportunities for improvement.
Change Concepts

• **Change the Work Environment**
  Changing the work environment itself can be a high-leverage opportunity for making all other process changes more effective.

• **Enhance the Health Provider/Patient Relationship**
  To benefit from improvements in quality and safety of health care, the health-care professionals and patients must recognize and appreciate the improvements.

• **Manage Time**
  An organization can get more achieved by reducing the time to deliver health care, develop new ways of delivering health care, reducing waiting times for services and cycle times for all services and functions in the organization.
Change Concepts

• Reduce Variation
  Reducing variation improves the predictability of outcomes and helps reduce the frequency of adverse outcomes for patients.

• Design Systems to Avoid Mistakes
  Organizations can reduce errors by redesigning the system to ensure that there is redundancy i.e. multiple checks and balances to combat human error.

• Focus on the Product or Service
  Although many organizations focus on ways to improve processes, it is also important to address improvement of products and services.
The 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?

The three questions provide the strategy

The PDSA cycle provides the tactical approach to work

"What will happen if we try something different?"

"Let's try it!"

"Did it work?"

"What's next?"

The PDSA Cycle

**Act**
- Objective
- Questions & predictions
- Plan to carry out: Who? When? How? Where?

**Plan**
- Ready to implement?
- Try something else?
- Next cycle

**Do**
- Carry out plan
- Document problems
- Begin data analysis

**Study**
- Complete data analysis
- Compare to predictions
- Summarize

**Act**
- Objective
- Questions & predictions
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"What will happen if we try something different?"

"Let's try it!"

"Did it work?"

"What's next?"
<table>
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<tr>
<th>Probably Change</th>
<th>Probably No Change</th>
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<tbody>
<tr>
<td>Test</td>
<td>Recruit</td>
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<tr>
<td>Redesign</td>
<td>Distribute</td>
</tr>
<tr>
<td>Eliminate</td>
<td>Continue</td>
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<tr>
<td>Reduce</td>
<td>Examine</td>
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<tr>
<td>Deliver</td>
<td>Discuss</td>
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<tr>
<td>Relocate</td>
<td>Teach</td>
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PDSA Documentation

**Aim:**

*Every goal will require multiple smaller tests of change*

<table>
<thead>
<tr>
<th>Describe your first (or next) test of change:</th>
<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
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**Plan**

List the tasks needed to set up this test of change

<table>
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<th>Person responsible</th>
<th>When to be done</th>
<th>Where to be done</th>
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Predict what will happen when the test is carried out

<table>
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<th>Measures to determine if prediction succeeds</th>
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**Do**

Describe what actually happened when you ran the test

**Study**

Describe the measured results and how they compared to the predictions

**Act**

Describe what modifications to the plan will be made for the next cycle from what you learned
Revised Use of the PDSA Cycle

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?

Wide-Scale Tests of Change

Implementation of Change

Spread

Changes That Result in Improvement

Hunches
Theories
Ideas

Very Small Scale Test

Follow-up Tests

DATA

Sequential building of knowledge under a wide range of conditions

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?
Building Confidence for Change

System changes that will result in improvement

Learning from data

Ideas, suggestions, intuition
Change Idea: Include patients and families in briefing, huddles and debriefing

If we include patients & families in planning & learning, they will take a more active role in safety…

Cycle 1: Day 1: one clinical team on one shift does their briefing at the bedside with one patient and asks the patient and family to participate.

Cycle 2: Day 2: One clinical team does briefing at the bedside with all patients on one shift.

Cycle 3: Patients are providing useful information in the briefing and are more engaged in their care. All teams begin briefing at bedside, with patients.

Cycle 4: Analyze failures, determine plans for patients who don’t want to participate.

Cycle 5: Standardize and document.

Cycle 6: Educate staff on new standards.

99% Reliability

Mini-measure tracks improvement cycles.

Learning from data.

Change Idea: Include patients and families in briefing, huddles and debriefing.
More Tips for Testing

- Test with volunteers
- Use simulation
- Do not try to get buy-in, consensus, etc.
- Be innovative to make test feasible
- Collect useful data during each test
- As cycles proceed, test over a wider range of conditions
Testing: Start small

- 1 patient
- 1 day
- 1 admission
- 1 physician

Testing: 1 → 3 → 5 → All
Why Test?
Why Not Just Implement then Spread?

- Increase degree of belief in the change idea
- Document expectations and results
- Build a common understanding
- Evaluate costs and side-effects
- Explore theories and predictions
- Test ideas under different conditions
- Learn and adapt for the next test
QI Tool Spotlight
Process Mapping
Why is process mapping important?

• It provides an opportunity to learn about work that is being performed
• Most processes today are undocumented

You don’t learn to Process Map, You Process Map to learn.

Dr. Myron Tribus
Process maps are used to...

- Document processes
  - Provide a reference to discuss how things get done
  - Describe and understand the work we do

- Analyze and improve processes
  - Identify areas of complexity and re-work
  - Generate ideas for improvement
  - Illustrate process improvements
Preparing to process map

- Assemble the team
  Identify other people who should be involved in the process map creation, or asked for input, or to review drafts as they are prepared
- Agree on which process you wish to map
- Agree on the purpose of the process
- Agree on beginning and end points
- Agree on the level of detail to be displayed
- Start by preparing a narrative outline of steps
Basic Symbols Used to Process Map

- Start & End
- Activity
- Decision
Important Points

• Process map what is, not what you would like the process to be—current state
• Process mapping is dynamic – use post-it notes, dry erase markers, pencil, etc.
• All process maps must have start and stop points
Gemba Walks

GEMBA = where the work is done

- Patient first—walk in their steps
- Staff next – most valuable resource, consider their perspective
Observing the Process: Keeping it Real

- Avoid assumptions and bias
- Follow the process through at the front line
- Follow the process from the patient perspective (tracer)
- Include a patient advisor on the improvement team, or ask a patient advisor to review the process map and provide feedback
Considering Value in the Process

**Value Added**
Anything the patient thinks is necessary or is willing to pay for (direct care, lab tests)

**Non-Value Added**
Anything the patient considers unnecessary and is unwilling to pay for (errors, waiting)

**Non-Value Added but Necessary**
Anything that supports the patient and is needed but is not considered of value by the patient (regulations, billing, staff training)
Non-Value Added Activity

The Eight Wastes

- Defects
- Overproduction
- Waiting
- Non value-added processing
- Transportation
- Inventory
- Motion
- Employee (underutilized knowledge, skills)
Enhance Your Process Map

• Adjust the process, if necessary, with learnings from your Gemba walk.

• Add starbursts to the process map to indicate places where you find non-value added steps, waste or problems.
The QI Process

- Aims
- Measures
- Drivers
- Value/Waste Identification
- PDSA Cycles
- Document Improvements – Test More Widely
- Implement Changes
## QI efforts and the Patient Voice

### Why?
1. Understand the **ACTUAL** patient experience
2. Identify gaps you may have missed
3. Address core/key issues
4. Reduce waste

### How?
Evolution of PFA role and training:
- PFACs
- Quality Observers
- PFAs in RIEs
- PFAs in RCAs
Discussion Questions

1. What quality improvement methods have you employed in your hospital?
2. What successes have your experienced with quality improvement?
3. What are your biggest challenges with quality improvement?
4. What quality improvement tools have you found to be most effective?
Open Forum
Reminders

April 15th – Submission Deadline for Q1 / 2016 EDTC Measures via QDS

May 15th – Submission Deadline for IMM2 Measure to QualityNet

May 15th – Submission Deadline for OP-27 Measure via NHSN
Thank You!

QUESTIONS?
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Debbie Hunter, MBA
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