Introduction to Improvement 101

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Before we start the Webinar please sign your name and organization in the Chat box and send to All Participants
Welcome!

Before we begin, a few notes:

• All participants will be muted upon entry

• Please do not place this call on hold, as we will be able to hear your hold music

• Please use the Chat Box to the right of your screen:
  – Before we start the Webinar sign in your name and organization
  – During the Webinar for questions or comments

• This webinar will be recorded
Questions

If you have a question during the call you can:

• Raise your hand and we will unmute you to ask your question
  – If you have a logistics question, please send it in through the chat

• Use the chat box in the bottom right corner of your screen
  – We ask that you send your questions to “All Participants” so attendees can view all questions throughout the call
Welcome Teams!

- NYSPQC Safe Sleep Project Hospital Teams
- NYS IM-CoIIN Safe Sleep Project Community Based Organizations
- NYS IM-CoIIN Pre/Interconception Care Teams (FQHCs, MICHCs, etc.)
Session Objectives

At the end of this session participants will be able to:

• Describe the Model for Improvement and its utility in structuring an improvement initiative.
• Identify components of an effective aim statement.
• Incorporate measures for improvement into an initiative.
• Explain the role of testing changes in accomplishing the AIM
The Learning Model: IHI Breakthrough Series Model (BTS)
Overview of Breakthrough Series Learning Collaborative

- An improvement method that relies on spread and adaptation of existing knowledge to multiple settings to accomplish a common aim.
Overview of Breakthrough Series Learning Collaborative – BTS Essentials

• Technical Content (Ideas)
  – Collaborative Charter which includes aim and goals
  – Change Package
  – Measurement System

• Model for Improvement
  – Structured method for organizations to make positive changes

• Attention to Structure
  – Learning Sessions and Action Periods
  – Focus on shared learning, awareness of psychology of change
IHI Breakthrough Series™ Core Model

Enroll participants

Prework

Refine Topic

Develop framework and changes

Expert Meeting

LS 1 ➔ LS 2 ➔ LS 3

AP 1 ➔ AP 2 ➔ AP 3

Support

Email • Visits • Phone Conferences
Monthly team reports • Assessments

Opportunity:

Expert Meeting

LS Learning Session
AP Action Period
P Plan
D Do
S Study
A Act

Summative congresses & publications

Enroll participants
Learning Session and Action Period Objectives

**Learning Session 1**
- Get Ideas
- Get Methods
- Get Started

**Learning Session 2**
- Get More Ideas
- Get Better at Methods
- Get a “Stride”

**Learning Session 3**
- Celebrate Successes
- Get ready to Sustain and Spread

**Action Period 1**
- Test all changes on small scale

**Action Period 2**
- Test & implement all changes

**Action Period 3**
- Holding the gains and spread

**Goals**
- Support teams in their improvement work
- Build collaboration and shared learning
- Assess collaboration and progress

**Tools**
- First Tests (PDSAs)
- Conference calls (Coaching)
- Listserv
- Monthly Data Collection
A Model for Improvement
Have you been involved in any kind of quality....

Different titles over the years

Might remind you of Alphabet Soup
What Is Quality?

“I don’t know, but I know when I see it!”

Anonymous
The Science of Improvement

Dr. W. Edwards Deming, a statistician, described four components for effective improvement:

• Appreciation of a system
• Understanding variation
• Theory of knowledge
• Psychology

Deming called the interplay of these four areas “Profound Knowledge”

Knowledge for Improvement

Subject Matter Knowledge:
Knowledge basic to the things we do in life. Professional knowledge & training. On-the-job experience.

Profound Knowledge:
The interaction of the theories of systems, variation, knowledge, and psychology.
Improvement: Learning to combine subject matter knowledge and profound knowledge in creative ways to develop effective changes for improvement.
Important Principles for Quality Improvement

• Customer Focus
• Systems and Process view
• Measurement of system and processes
• Motivation and Rewards of people
• Learning and Knowledge
• Pragmatic Use of Scientific Method
Scale of Formality of Approach for Improvement Efforts

- Improve the family’s shopping experience
- Improve service in a clinic
- Improve a process in a hospital
- Design a new service line
- Redesign the medication system in a hospital
- Redesign a national system (e.g., Medicare)
- Redesign care across systems in one community

Formality, documentation, tools, time, group interaction, measurement, etc.

One mom, one baby

Least formal and complex

Less required

Most formal and complex

More required
All improvement requires change

Think back to an easy change you made that was an improvement

• What made it easy?
• Who supported you in the change?
• Why do you think it was easy?
Think back to a change that was hard to make, so hard, you might have given up

• What made it hard?
• What barriers did you face?
• What do you think it was so difficult to make this change or this improvement?
Not all changes are improvements

• “All improvement requires changes, but all change does not result in improvement.”
  – Source Unknown

• What change have you experienced that has NOT resulted in improvement?
Not all changes are improvements

• “All improvement requires changes, but all change does not result in improvement.”
  – Source Unknown

• What change have you experienced that has NOT resulted in improvement?
Not all changes are improvements

• “All improvement requires changes, but all change does not result in improvement.”
  – Source Unknown

• What change have you experienced that has NOT resulted in improvement?
The Model for Improvement (MFI) is a method to help increase the odds that the changes we make are an improvement.

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Model for Improvement - 3 Fundamental Questions

AIM: What are we trying to accomplish?

MEASURES: How will we know if a change is an improvement?

CHANGE: What changes can we make that will result in improvement?
MFI Part I
AIM Statement
Model for Improvement

AIM: What are we trying to accomplish?

MEASURES: How will we know if a change is an improvement?

CHANGE: What changes can we make that will result in improvement?

Aim

• Measures

• Ideas – PDSA cycles

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Why an Aim Statement?

• Answers and clarifies “What are we trying to accomplish?
• Creates a shared language and shared methods
• Facilitates organizational conversations and understanding
• Supports accountability for team leaders
What Are We Trying to Accomplish?

**Aim:** A written statement of the accomplishments expected from each improvement effort; similar to SMART objectives

Key components:

- Directs team - Should answer, “what are we trying to accomplish?”
- Sends message on magnitude of change
- Unambiguous, concise intent
- Identify specific target system or patient population to be improved

and

- Some guidance for carrying out the work
- Numeric measureable goals

*A well crafted AIM is the single highest predictor of team success*
SMAART Aims (Objectives)

- **Specific**: Understandable, unambiguous
- **Measurable**: Numeric goals
- **Actionable**: Who, what, where, when
- **Achievable** (but a stretch)
- **Relevant** to stakeholders and organization
  - Strategic, Compelling, Important
- **Timely**: with a specific timeframe
Developing the Aim Statement

- Align with strategic goals of the organization
- Use numerical goals consistent with your project plan
- Write a clear and concise statement indicating “who, what, when, and where“
  - **Who** will undertake the work, and who will be affected by it
  - **What** does the team intend to do
  - by **When** will the aim be accomplished
  - **Where** - define pilot site and spread site(s)
Sample Aim Statement

Happy Valley Pediatrics intends to identify, treat, and prevent children who are at risk for obesity or are obese so that:

- 95% of 2-12 year olds have BMI in chart & are classified;
- 95% who are overweight are medically assessed
- 95% have follow up contact within 4 weeks of overweight finding
- 95% have care plan with goals

IS THIS AIM START (Specific, Measurable, Actionable, Achievable, Relevant Timely)? If not what’s missing?
NYSPQC Safe Sleep Project Aim Statement

By September 2016, we AIM to reduce infant sleep-related deaths in NYS by improving safe sleep practices for infants. To accomplish this, we will form a multidisciplinary team (with members from our OB and neonatal care units) and work to implement evidence based infant mortality reduction strategies to achieve:

- > 10% Increase in infants placed to sleep in a safe sleep environment during hospitalization
- Document education for > 95% of caregivers prior to discharge; and
- > 95% of caregivers reporting prior to discharge that they understand safe sleep educational messages (infant to sleep alone, on back, in crib).

IS THIS AIM START (Specific, Measurable, Actionable, Achievable, Relevant, Timely)? If not what’s missing?
Pre and Interconception Project Aim

Aim of Community Pilots

Pilots will develop a specific aim statement for their project.

An Aim statement summarizes what your pilot hopes to achieve during the project.

The Aim statement should be time specific, population specific and measurable. For example,

*By September 2016, the number of local primary care providers that reported integrating the “one key question” into primary care visits will increase from x to y.*
Individual Team AIM Statements

1. Draft your team AIM statement to assure it meets the SMAART criteria
   - Specific: Understandable, unambiguous
   - Measurable: Numeric goals
   - Actionable: Who, what, where, when
   - Achievable (but a stretch)
   - Relevant to stakeholders and organization
   - Timely: with a specific timeframe

2. SS Teams add your AIM statement to your Storyboard for LS 1 Sept 9th
   (After LS1 you will have an opportunity to revise and finalize your AIM statement)
Review of Aim Statement Worksheet

Hospital Team: __________________________
Aim Statement being reviewed: __________________________

Review the aim statement for the components of a SMART AIM — Specific, Measurable, Achievable, Realistic and Timely

1. SPECIFIC – Is the statement precise about what the team hopes to achieve?

2. MEASURABLE – Are the objectives measurable? Will you know if the changes resulted in improvements?

3. ACHIEVABLE – Is this doable in the time you have? Are you attempting too much? Could you do more?

4. REALISTIC – Do you have the resources needed (people, time, support?)

5. TIMELY – Do you identify the timeline for the project – when will you accomplish each part?
MFI Part II
Measurement
AIM: What are we trying to accomplish?

MEASURES: How will we know if a change is an improvement?

CHANGE: What changes can we make that will result in improvement?

- Aim
- Measures
- Ideas – PDSA cycles

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How do we know that a change is an improvement?

Improvement efforts should focus on developing and making changes, not measurement. 

**But** measurement plays an important role:

- Key measures are required to assess progress on the team’s aim
- Specific measures are required for learning during PDSA cycles
- Balancing measures are needed to assess whether the system as a whole is being improved
- Data from the system (including from patients and staff) can be used to focus improvement and refine changes
Four Types of Measures: Improving Diabetes Screening Example

• **Outcome**
  – Measures direct effect on the patient, the voice of the customer
  – Example: HgbA1C

• **Process**
  – Measures the change in how care is provided to the patient, the workings of the system
  – % of patients with HgbA1C measured at initial visit

• **Structural**
  – Measures about the environment in which care is provided
  – Use of an electronic medical record

• **Balancing**
  – Measures unintended effect of the desired change
  – % patients screened for hypertension
Data for Improvement
Use of Run Charts

- For purpose of improvement, “Tracking a few key measures over time is the single most powerful tool an improvement team can use.”
  - Source: IHI
Why do we track measures using Run Charts?
# 3 Faces of Measurement

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Improvement</th>
<th>Accountability</th>
<th>Clinical Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aim:</strong></td>
<td>Improvement of care</td>
<td>Comparison, choice, reassurance, spur for change</td>
<td>New knowledge</td>
</tr>
<tr>
<td><strong>Methods:</strong></td>
<td>Test observable</td>
<td>No test, evaluate current performance</td>
<td>Test blinded</td>
</tr>
<tr>
<td>Test observability</td>
<td>Accept consistent bias</td>
<td>Measure and adjust to reduce bias</td>
<td>Design to eliminate bias</td>
</tr>
<tr>
<td>Bias</td>
<td>“Just enough” data, small sequential samples</td>
<td>Obtain 100% of available, relevant, data</td>
<td>“Just in case” data</td>
</tr>
<tr>
<td>Sample size</td>
<td>Hypothesis flexible, changes as learning takes place</td>
<td>No hypothesis</td>
<td>Fixed hypothesis</td>
</tr>
<tr>
<td>Flexibility of hypothesis</td>
<td>Data used only by those involved in the improvement</td>
<td>Data available for public consumption</td>
<td>Research subjects' identities protected</td>
</tr>
<tr>
<td>Testing strategy</td>
<td>Sequential tests</td>
<td>No tests</td>
<td>One large test</td>
</tr>
<tr>
<td>Confidentiality of data</td>
<td>Data available for public consumption</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

# Safe Sleep Project Measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Numerator</th>
<th>Denominator</th>
<th>Data Collection</th>
<th>Data Collection Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation of Safe Sleep</td>
<td>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization with documentation of safe sleep education</td>
<td>Number of medical records reviewed for either mothers or infants discharged home following birth hospitalization</td>
<td>Each month the medical records of mothers or infants that were discharged the previous month are checked for documentation of safe sleep education</td>
<td>Documentation of Safe Sleep Education Form and Log</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital Safe Sleep Practices</td>
<td>Number of infants without medical contraindication sleeping or wake and unattended with safe sleep practices</td>
<td>Number of infants sampled</td>
<td>Each month sample at least 20 infants from the NICU, nursery and/or rooming-in using the crib check tool.</td>
<td>Crib Check Tool</td>
</tr>
<tr>
<td>Safe Sleep Knowledge</td>
<td>Number of caregivers that checked understanding of alone, on back, in crib</td>
<td>Number Caregivers Surveyed</td>
<td>Each month a sample of 20 caregivers will be surveyed to check for understanding of safe sleep education</td>
<td>Caregiver Survey</td>
</tr>
</tbody>
</table>
Part III
Better Ideas
Changes That Result in Improvement
Model for Improvement

AIM: What are we trying to accomplish?

MEASURES: How will we know if a change is an improvement?

CHANGE: What changes can we make that will result in improvement?

• Aim

• Measures

Ideas – PDSA cycles

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To Be Considered a PDSA Cycle

1. The test or observation was Planned
   • **Always includes a prediction about how the change will result in an improvement**
   • Includes a plan for running the test and collecting data to study

2. The plan was attempted (Do the plan)

3. Time was set aside to analyze the data and Study the results.
   • Did my prediction hold?
   • What assumptions need revision?

4. **Action** was rationally based on what was learned
   • Adapt
   • Adopt
   • Abandon
The PDSA Cycle for Learning and Improvement

**Can be used for:**
1. Small scale test
2. Series of tests
3. Wide-scale tests
4. Implementation
5. Spread

**ACT**
- What changes are to be made?
- Next cycle – Adopt, Adapt, or Abandon

**PLAN**
- Objective
- Questions and predictions (why)
- Plan to carry out the cycle (who, what, where, when)
- Plan for data collection

**STUDY**
- Complete the analysis of the data
- Compare data to predictions
- Summarize what was learned

**DO**
- Carry out the plan
- Document problems and unexpected observations
- Begin analysis of the data
- Next cycle – Adopt, Adapt, or Abandon
What is a test?

• Putting a change into effect on a temporary basis & learning about its impact
What it is NOT!

- Data collection
- Implementing a solution
- A project plan OR an action plan
- Rolling out an educational program
- Getting a form, policy, procedure approved by the official committees
Tests v. Tasks

A Test:
• Allows you to predict an improvement
• Provides quick feedback
• Allows you to try something
• Allows you to make changes
• Helps identify what changes should be made

A Task:
• Is the Vital Behavior that has to happen for the action to take place
• Should be identifiable
• Should be defined
• Might be supported by evidence
Tests v. Tasks

Desired Change – eating a healthier diet.
Tests v. Tasks

*Desired Change – eating a healthier diet.*
Why test?

• Forces us to think small
• Increases your belief that the change will result in improvement
• Predict how much improvement can be expected from the change – and confirm or abandon your prediction
• Opportunity for learning without impacting performance
• Learn how to adapt the change to conditions in the local environment
Why test?

- Evaluate costs and side-effects of the change
- Minimize resistance upon implementation
- Localize a good idea to my practice setting
- Allows you to see how to adapt and make changes before implementing
- Provides a history for how you came to your end result
Successful Cycles to Test Changes

- Plan multiple cycles for a test of a change
- Think a couple of cycles ahead
- Initially, scale down size of test (# of patients, clinicians, locations)
- Test with volunteers
- Do NOT try to get buy-in or consensus for test cycles
- Be innovative to make test feasible
- Collect useful data during each test
- In latter cycles, test over range of conditions
Building Confidence for Change

Change ideas, suggestions, intuition

System changes that will result in improvement

Learning from data...
The Steps To Change

1. Prerequisites for change
2. Develop a change
3. Prototype a change
4. Test under a variety of conditions
5. Implement a change
6. Embed in daily operations
7. Spread throughout the system

Confidence that change is effective
Repeated Use of the PDSA Cycle

- **Hunches**
  - Ideas

- **Theories**

- **Very Small Scale Test**
  - Simple and designed to succeed

- **Follow-up Tests**
  - Over a variety of conditions to identify weaknesses

- **Wide-Scale Tests of Change**
  - Designed to predict and prevent failures

- **Changes that Result in Improvement**

- **Implementation of Change**

Process measures and feedback on Cycle questions

DATA

APSD

APSD

APSD

APSD
<table>
<thead>
<tr>
<th>Current Situation</th>
<th>Resistant</th>
<th>Indifferent</th>
<th>Ready</th>
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<tbody>
<tr>
<td>Low Confidence that current change idea will lead to Improvement</td>
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<tr>
<td>Cost of failure large</td>
<td>Very Small Scale Test</td>
<td>Very Small Scale Test</td>
<td>Very Small Scale Test</td>
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<tr>
<td>Cost of failure small</td>
<td>Very Small Scale Test</td>
<td>Very Small Scale Test</td>
<td>Small Scale Test</td>
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<tr>
<td>High Confidence that current change idea will lead to Improvement</td>
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<tr>
<td>Cost of failure large</td>
<td>Very Small Scale Test</td>
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<td>Large Scale Test</td>
</tr>
<tr>
<td>Cost of failure small</td>
<td>Small Scale Test</td>
<td>Large Scale Test</td>
<td>Implement</td>
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</table>
Homework After LS 1 - PDSA Exercise

1. Brainstorm potential changes that will result in improvement
2. Choose one to try first
3. Make the prediction
4. Using the PDSA Worksheet plan the change (using the left side of worksheet)
5. Test the PDSA and complete the right side of the worksheet
### PLAN

**Briefly describe the test:**

How will you know that the change is an improvement?

What driver does the change impact?

What do you predict will happen?

<table>
<thead>
<tr>
<th>List the tasks necessary to complete this test (what)</th>
<th>Person responsible (who)</th>
<th>When</th>
<th>Where</th>
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<tbody>
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<td>6.</td>
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Plan for collection of data:

### DO

- **Test the changes.**
  - Was the cycle carried out as planned?  [ ] Yes  [ ] No
  - Record data and observations.

### STUDY

- **Did the results match your predictions?**  [ ] Yes  [ ] No
  - What did you observe that was not part of our plan?
  - Compare the result of your test to your previous performance:

### ACT

- **Decide to Adopt, Adapt, or Abandon.**
  - Adopt: Improve the change and continue testing plan. Plans/changes for next test:
  - Adopt: Select changes to implement on a larger scale and develop an implementation plan and plan for sustainability
  - Abandon: Discard this change idea and try a different one

**Team Name:**

**Date of test:**

**Test Completion Date:**

**Overall team/project aim:**

**What is the objective of the test?**

**What 90 day goal does the change impact?**
Remember: Steal shamelessly and share seamlessly, and...

- Some is not a number
- Soon is not a time
- Hope is not a plan
Summary Improvement Principles

• *Miss Frizzle (Magic School Bus):*
  • “Take chances, make mistakes, get messy.”
Questions? Comments?