Overview of Quality Improvement Science

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Objectives of this Session

- Develop a strategy for improving delivery of adolescent immunizations in a primary care setting
- Apply the Model for Improvement to test changes, using the EQI PP Toolkit and/or other examples of adolescent immunization-focused tools and resources
<table>
<thead>
<tr>
<th><strong>Purpose</strong></th>
<th><strong>Measurement for Research</strong></th>
<th><strong>Measurement for Learning and Process Improvement</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>To discover new knowledge</td>
<td>To bring new knowledge into daily practice</td>
</tr>
<tr>
<td><strong>Tests</strong></td>
<td>One large &quot;blind&quot; test</td>
<td>Many sequential, observable tests</td>
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<tr>
<td><strong>Biases</strong></td>
<td>Control for as many biases as possible</td>
<td>Stabilize the biases from test to test</td>
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<tr>
<td><strong>Data</strong></td>
<td>Gather as much data as possible, &quot;just in case&quot;</td>
<td>Gather &quot;just enough&quot; data to learn and complete another cycle</td>
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<tr>
<td><strong>Duration</strong></td>
<td>Can take long periods of time to obtain results</td>
<td>&quot;Small tests of significant changes&quot; accelerates the rate of improvement</td>
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</table>
It Takes an Effective Team to Do This Work!

- Members representing different kinds of expertise in the practice
  - Clinical Leader
  - Technical Expertise
  - Day-to-Day Leadership
  - Administrative Staff
  - Patient/Parent/Caregiver Partners
  - Project Sponsor
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?

AIM

MEASURES

IDEAS

Act

Plan

Study

Do
The (name of your team) intend to accomplish

By (date)

For (population)

because

Our goals include:

Special guidance that will help us stay on track:
How will we know a change is an improvement?

- Requires **measurement**
- Build measurement into daily work routine
  - Data should be easy to obtain and timely
  - Small samples over time
- Use qualitative & quantitative data
  - Quantitative data is highly informative
  - Qualitative data is easy to obtain
Record Review: Up-to-date (Percent)
All needed vaccines were given at the last visit (percent)
The PDSA Cycle for Learning and Improvement

**Act**
- What changes are to be made?
- Next cycle?

**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

“Did it work?”
“Let’s try it!”

“What’s next?”

“What will happen if we try something different?”
**A PDSA Cycle**

**Act**
- What changes are to be made? Next cycle?

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

**Do**
- Carry out the plan
- Document problems and unexpected observations
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**Study**
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**P**: Ask one doctor (Dr. M) to immunize at a sick visit for 1 patient who is overdue for shots

**D**: Dr. M immunized 2 patients, 1 with fever. Caught patients up.

**A**: Will try one week

**S**: Was some resistance, as predicted, from mother.
Use of the PDSA Cycles

Multiple cycles

Evidence

Best Practice

Testable Ideas

Data

APSD

Wide-Scale Tests of Change

Changes that Result in Improvement

Implementation of Change

Follow-up Tests

Very Small Scale Test

Implementation of Change

Changes that Result in Improvement

Use of the PDSA Cycles

Multiple cycles

Evidence

Best Practice

Testable Ideas

Data

APSD

Wide-Scale Tests of Change

Changes that Result in Improvement

Implementation of Change

Follow-up Tests

Very Small Scale Test
Task or Test?

- Task
  - To do’s
  - Meetings
  - Posters
  - Policy
  - Committees

- Test
  - Question
  - Prediction
  - Data
  - Usually involves patient
Decrease the Time Frame for a PDSA Test Cycle

- Years
- Quarters
- Months
- Weeks
- Days
- Hours
- Minutes

Drop down next “two levels” to plan Test Cycle!
What is Important to Understand About Testing?

- Change isn’t permanent
- No support for change beyond test period
- Learning from testing will be significant—up to 50% of tests not expected to yield improvement
- Fewer # of people affected by the test (lower risk)
- It will provide you with the data to prove that a new way works better

Tips for Testing Changes

- Stay a cycle ahead
- Scale down scope of tests – **START SMALL**
- Pick willing volunteers (work with those that want to work with you)
- Avoid the need for consensus, buy-in, or political solutions
- Replicate changes made elsewhere
- Pick easy/feasible changes to try
- Avoid technical slowdowns
- Reflect on the results of every test (successful AND failed tests)
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<tr>
<td><strong>PLAN:</strong></td>
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<tr>
<td>QUESTIONS:</td>
</tr>
<tr>
<td>PREDICTIONS:</td>
</tr>
<tr>
<td>Plan for Change or Test: WHO, WHAT, WHEN, WHERE</td>
</tr>
<tr>
<td>Plan for Collection of Data: WHO, WHAT, WHEN, WHERE</td>
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<tr>
<td><strong>DO:</strong> Carry out the change or test; collect data and begin analysis.</td>
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<tr>
<td><strong>STUDY:</strong> Complete analysis of data; summarize what was learned.</td>
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| **ACT:** Are we ready to make a change? Plan for the next cycle.
Overall Aim: Improving Adolescent Immunization Coverage Rates (and Preventing Disease!)

- Administer all eligible vaccines
- Elicit patient/family concerns
- Assess immunization status at every visit
- Conduct Reminders/Recalls
- Administer all eligible vaccines

Assess immunization status at every visit

Elicit patient/family concerns

Administer all eligible vaccines

Conduct Reminders/Recalls
How teams get results

- Engage leaders
- Form team
- Assign responsibility for key tasks
- Meet
- Small tests of change
- Use of the IIS
- Use of best practices, tools and resources
Questions/Comments?