Plan – Do – Study – Act:

Your Way to Continual Improvement with the PDSA Model
Objectives

1. Describe the two parts of the improvement model.
2. Identify who should be on the SBHC improvement team.
3. Learn how to set improvement Aims.
4. Learn how to develop improvement measures.
What are we trying to accomplish?
How will we know that a change is an improvement?
What changes can we make that will result in improvement?

AIM
MEASURES
CHANGES

Many RAPID TESTS OF CHANGES in the real world of care

From Associates in Process Improvement.
Question #1
What are we trying to accomplish?

AIM Content:
• Explicit Statement
• Specific Actions
• Stretch Goals

AIM Characteristics:
• Time Specific
• Measurable
• Define Participants
Example:

- The clinic will improve care of HIV/AIDS patients by making changes in the following areas: self-management and adherence support; decision support for clinicians; clinical information systems; delivery system design; community linkages; and leadership. Focusing on education, prevention, and early intervention, our goals include:
  - 80% of patients with at least one visit every 3 months
  - 85% of patients with documented medication education/adherence counseling
  - 90% of applicable patients with PCP/MAC prophylaxis
AIM Tips

1. Achieve agreement and write the aim clearly.
2. Include numerical goals.
3. Stretch goals.
4. Avoid aim drift.
5. Be prepared to refocus the aim.
### Question #2:

**How will we know that a change is an improvement?**

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Measurement for Learning and Process Improvement</th>
<th>Measurement for Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>To bring new knowledge into daily practice.</td>
<td>To discover new knowledge.</td>
</tr>
<tr>
<td>Tests</td>
<td>Many sequential, observable test.</td>
<td>One large “blind” test.</td>
</tr>
<tr>
<td>Biases</td>
<td>Stabilize the biases from test to test.</td>
<td>Control for as many biases as possible.</td>
</tr>
<tr>
<td>Data</td>
<td>Gather “just enough” data to learn and complete another cycle.</td>
<td>Gather as much data as possible, “just in case.”</td>
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<tr>
<td>Duration</td>
<td>“Small tests of significant changes” accelerates the rate of improvement.</td>
<td>Can take long periods of time to obtain results.</td>
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</table>
A Family of Measures

1. **Outcome Measures:**
   - Measures of the customer or patient.

2. **Process Measures:**
   - Measures of the workings of the system.

3. **Balance Measures:**
   - Measures of the other parts of the system.
Measurement: Types & Time

Changes that result in improvement.

Process Measures

Harm

Outcome Measures

DATA

Hunches
Theories
Ideas
Tips for Measurements:

1. Plot data over time

2. “Best is the enemy of good” - Voltaire

3. Sampling

4. Integrate measurement into the daily routine

5. Use both words and numbers
Question #3:
What changes can we make that will result in improvement?

Change Concept:
While all changes do not lead to improvement, all improvement requires change.
Example

Priority Area: Enhancing obesity prevention & treatment

Summary of SBHC’s current situation (practice, role, and/or involvement) in priority area:
The providers in the SBHC indicate they are comfortable in talking to patients and their families about weight and obesity. The medical chart audit revealed that we are not consistently calculating the child’s BMI, even though HW is recorded. In addition, our providers were not formally trained in the Expert Recommendation guidelines, but were following a majority of the guidelines. The clinic's involvement within the greater school environment (outside the clinic) and in the community, in regards to obesity prevention efforts, is very limited, almost non-existent.

Desired Goal or Milestone: All primary care staff in the SBHC are trained to consistently employ best clinical practices in obesity prevention and serve as a health education resource in the classrooms.

<table>
<thead>
<tr>
<th>Area for Improvement (from assessment tool)</th>
<th>Objective</th>
<th>Activities/Strategies</th>
<th>Date / Timeline:</th>
<th>Key Person(s) Responsible</th>
<th>Evaluation indicator(s) (Type of outcome)</th>
</tr>
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<tbody>
<tr>
<td>SBHC primary care provider(s) participate in clinical guidelines training/workshop for screening, counseling, and treating students who are overweight or obese, or at risk for co-morbidities (Question 1)</td>
<td>By December 2013, all primary care providers in the SBHC will have participated in at least one training workshop that covers best practices for screening, counseling, and treating obesity in children and adolescents.</td>
<td>Revisit archived version of training webinar hosted by School-Based Health Alliance and Kaiser Permanente. (from Sept. 2013) Participate in at least one online training module that covers pediatric obesity screening and counseling</td>
<td>Nov. 1, Dec. 1, 2013</td>
<td>NP (lead) PA Medical Director</td>
<td>Archived webinar is viewed by all PC staff (Process) Staff completes the pre- and post-tests of the training module. (Process) Medical chart audits at mid-point reveal more consistent use of best practices (Impact)</td>
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<tr>
<td>SBHC staff delivering health education curricula in classrooms (Question 22)</td>
<td>By May 2014, the nutritionist will conduct at least two classroom presentations related to healthy eating for each grade level in the school. By May 2014, the health educator will conduct at least 3 presentations related to physical activity, e.g. cardiovascular health, benefits of exercise, etc., to P.E. classes.</td>
<td>SBHC nutritionist and health educator meet with school’s health and P.E. teachers to discuss proposal to conduct sessions in their classes. Nutritionist and health teacher review curricula and determine appropriate timing for presentation. Health educator works with P.E. teacher to determine the appropriate class sessions to deliver presentations. Nutritionist and health educator conduct presentations in classrooms based on mutual agreements with the health and P.E. teachers.</td>
<td>Nov. 1 2013-Dec 1, 2014 Dec. 1, 2013-Jan. 15, 2014 Jan. 15-June 15, 2014</td>
<td>Nutritionist (lead) Health educator (lead) Health teacher P.E. Dept. Chair P.E. teachers</td>
<td>Dates of presentations (process) List of classrooms (Process) Topics covered (process) Activities conducted within each presentation (Process) Number of students present during each session (process) Student evaluations of presentation content (Impact)</td>
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Improvement Plan Template

Priority Area:

Summary of SDHC’s current situation (practice, role, and/or involvement) in priority area:

Desired Goal or Milestone:

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Tracking and Sharing Change Ideas: PDSA cycle

1 small, quick test to learn how a specific, observable change works in the real world

**Act**
- Adapt, adopt, abandon
- What changes are to be made next cycle?

**Plan**
- Questions and predictions (why?)
- Plan to carry out cycle

**Study**
- Do analysis
- Compare to predictions
- Summarize what was learned

**Do**
- Carry out the plan
- Document problems and observations

Frontline staff **test** with multiple PDSAs, then **implement** resulting best version of the change.

Every site will submit 1 PDSA per month to be discussed on monthly calls

Adapted from the Institute for Healthcare Improvement Breakthrough Series College.
Repeated Uses of PDSA Cycle

Changes that result in improvement.

Implementation of change

Wide-scale tests of change

Follow-up tests

Very small scales test

Hunches
Theories
Ideas

DATA

Adapted from the Institute for Healthcare Improvement Breakthrough Series College.
Why Test?

- Increase degree of belief
- Document expectations
- Minimize resistance
- Learn and adapt
- Evaluate costs and side effects
Start Small and Do More

Cycle 1A: Adapt clinic X standards based on flow sheet and test with one of Joanne’s patients.

Cycle 1B: Revise flowsheet and test with Dr. Burton’s patients next Monday.

Cycle 1C: Present refined flowsheet to all 3 clinicians and document feedback.

Cycle 1D: Revise and test flowsheet with all patients for one week.

Cycle 1E: Implement and monitor the standards.

Use of flowsheet will improve care to known standards.

Improved Decision Support
PDSA Tip #1

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

“Drop 2”
PDSA Tip #2

“Oneness”
PDSA Tip #3

Changes in Parallel

Self-Management Support
Delivery System Design
Decision Support
Clinical Information Systems
Community Resources
Leadership
PDSA Tip #4

Part 1
Plan-Do-Study-Act Planning Worksheet

**School/SBHC Team Name:**

**PDSA Cycle/Focus**

**Date**

**OVERALL PLAN:**

List your main goal or aim for one of your priority areas.

**Objective for this cycle:**

Select from your improvement plan.

**Questions you may consider to help you achieve this objective:**

Here is where you reference and discuss what you and your team need to consider before moving forward. Think about any barriers or challenges you foresee and how to address them.

**Theory of change (Brainstorm - by doing “X” will we achieve our objective?):**

How or what do you predict will help achieve the objective?

How are you framing the strategies you plan to use?

**PLAN (for change):**

This is where you break down a larger objective.

Plan the test or observation, including a plan for collecting data.

- Make predictions about what will happen and why
- Develop a plan to test the change (Who? What? When? Where? How?)

<table>
<thead>
<tr>
<th>What</th>
<th>Who</th>
<th>By When</th>
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**How will we demonstrate the effectiveness of our actions:**

- What data needs to be collected?
- What are your metrics or measurements?
- Who is responsible for data collection?

**DO:**

Try out the proposed activities or strategies on a small scale.

- Collect information and data.
- Document observations, problems encountered, and special circumstances.
- Begin preliminary analysis of the data.

**STUDY:**

Analyze effectiveness of plan and summarize lessons learned.

- Complete the analysis of the data.
- Compare what was originally predicted.
- Summarize and reflect on what was learned.

**ACT:**

Plan for the next cycle — How shall we modify our existing plan, or shall we start a new one?

- Based on lessons learned, where do we go from here?
- Do we need to modify our strategies or approaches to change?
- What should the next PDSA cycle focus on?

**PLAN-DO-STUDY ACT Cycles**

Every goal or aim requires a series of smaller steps to facilitate improvement or change. Plan-Do-Study-Act, or PDSA, is a recurring method for rapid improvement process designed to maintain changes over time. It can focus on changing current practices or behaviors, or trying new things.

PDSA cycles typically take place after a broader improvement plan has been developed. A designed plan for improvement helps determine the subsequent steps for generating change. PDSA cycles are the actions that test proposed strategies or activities to achieve objectives and reach desired goals and outcomes. Some cycles are more complex and take longer to complete, while others are simpler and finish faster. In short, the PDSA rapidly tests a proposed change on a small scale, allows observations to be made, analyzes results and findings, and helps to decide how to move on to the next series of steps, or try these methods on a broader level.

Adapted from the Institute for Healthcare Improvement’s Worksheet for Testing Change.
## PDSA Tip #5

<table>
<thead>
<tr>
<th>Current Situation</th>
<th>Resistant</th>
<th>Indifferent</th>
<th>Ready</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Confidence that current change idea will lead to</td>
<td>Cost of failure large</td>
<td>Very small scale test</td>
<td>Very small scale test</td>
</tr>
<tr>
<td>improvement</td>
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<td></td>
<td>Very small scale test</td>
</tr>
<tr>
<td></td>
<td>Cost of failure small</td>
<td>Very small scale test</td>
<td>Small scale test</td>
</tr>
<tr>
<td>High Confidence that current change idea will lead to</td>
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<tr>
<td></td>
<td>Small scale test</td>
<td>Large scale test</td>
<td>Implement</td>
</tr>
</tbody>
</table>
Teams

“A team is a small number of people with complementary skills who are committed to a common purpose, set of performance goals, and approach for which they hold themselves mutually accountable.”

–Jon R. Katzenbach
Team Composition

• System
• Technical
• Day-to-day
Team Practice Tip #1

Team Time

• Huddles
Team Practice Tip #2
Simplify Team Reports

• Good bullets; not paragraphs
• Shorter, more frequent
[SITE NAME] Project Statement
School Health Services CoIN
School-Based Health Center Track
School Year 2019 – 2020

What are we trying to accomplish?

MISSION
Convene state-level health and education leaders, payers, SBHC administrators and clinicians to create the structural supports that reward efforts to continuously improve quality in school-based health care and celebrate its contributions to preventive health care outcomes for children and adolescents.

AIM STATEMENT
By the end of the 2019-20 school year, for participating SBHCs in each state:
- 50% of participating SBHCS will show improvements in the three or more of core measures
- All SBHCs will increase the number of unduplicated clients visits by 15%
- 50% of participating SBHCS will use best business practices and internal policies that promote sustainability
- All SBHCs will track at least one test measure (TBD)

Opportunity
If successful, this project will benefit the students and schools [SITE NAME] in the following ways:

1.
2.
3.
4.
5.

Sample Reports
MODEL FOR IMPROVEMENT

Objective for this PDSA Cycle:

Is this cycle used to develop, test, or implement a change

What question(s) do we want to answer on this PDSA cycle?

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SBHC PDSA Review Checklist

Check the change idea
- Can you tell what is being changed in day-to-day activities, practices or processes?
  - Change idea:
    - If yes, provide positive feedback for a well-stated/meaningful/clear change idea!
    - If no, add a comment suggesting they clarify what change they plan to make in day-to-day activities, practices and processes. If you think you know what the change might be, restate or reword it for clarity and add it to your comment to see if you are on the right track. You might also reference a couple of related change ideas examples.

Check the change idea:
- Can you tell how the change is linked to improvement (what the team thinks will be improved if the change idea works)?
  - Improvement:
    - If yes, provide positive feedback for a well-stated/meaningful/clear improvement goal!
    - If no, reference a couple of related change ideas examples they might want to consider that are linked to improvement. See below for school mental health examples you can use where the change idea (in orange) is linked to the improvement (in green).

Check the question(s) being answered.
- Can you tell what questions this test is answering?
  - Questions:
    - If yes, provide positive feedback for a well-stated/meaningful/clear change idea!
    - If no, add a comment suggesting they clarify what questions they are trying to answer with the test. If you think you know what the questions might be, restate or reword it for clarity and add it to your comment to see if you are on the right track.

Check PDSA duration. Shorter is better.
- Look at dates of test start and completion. Did the PDSA start and end within one clinic session or one week? If not, is there a practical reason the test needed to take longer (e.g. time for students to respond to test of outreach)?
- If yes, provide positive feedback for a "right-sized" PDSA! This is a sign they are getting the hang of it!
- If no, it could be too large a PDSA. Prompt for a smaller PDSA. Give an example or two if you can.
- If blank, prompt them to complete on next PDSA.

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Do:
- Plan to answer questions: Who, What, When, Where
- Plan for collection of data: Who, What, When, Where
- Predictions (for questions above based on plan):

Study:
- Complete analysis of data;
- Compare the data to your predictions and summarize the learning

Act:
- Are we ready to make a change? Plan for the next cycle
Team Practice Tip #3

Ask for forgiveness, not permission
Team Practice Tip #4

Learning with others