Plan-Do-Study-Act: Cycle Your Way to Continual Improvement with the PDSA Model

October 30, 2014
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All attendees are in listen-only mode.

We want to hear your questions! To ask a question during the session, use the chat tool that appears on the bottom right side of your control panel.

Attendees will receive an evaluation survey after the webinar. Please let us know how we are doing and new topics you would like us to cover.
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- Clinical Services (Diabetes, ADHD)
- SBHC Operations (PCMH, HIT)
- Policy & Advocacy
- Quality Improvement
- Special Initiatives
- School-Based Health Alliance Tools

http://www.sbh4all.org/webinars
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.
Today’s Presenter

Laura Brey
Senior Training and Technical Assistance Specialist
School-Based Health Alliance
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
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:
Example

• 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 Tip #1

Achieve agreement and write the aim clearly
AIM Tip #2

Include numerical goals
AIM Tip #3
Set stretch goals
AIM Tip #4

Avoid aim drift
AIM Tip #5

Be prepared to refocus the aim
Second Question

How will we know that a change is an improvement?
### Measurement for Learning and Process Improvement

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To bring new knowledge into daily practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tests</td>
<td>Many sequential, observable tests</td>
</tr>
<tr>
<td>Biases</td>
<td>Stabilize the biases from test to test</td>
</tr>
<tr>
<td>Data</td>
<td>Gather &quot;just enough&quot; data to learn and complete another cycle</td>
</tr>
<tr>
<td>Duration</td>
<td>&quot;Small tests of significant changes&quot; accelerates the rate of improvement</td>
</tr>
</tbody>
</table>

### Measurement for Research

<table>
<thead>
<tr>
<th>Purpose</th>
<th>To discover new knowledge</th>
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<tbody>
<tr>
<td>Tests</td>
<td>One large &quot;blind&quot; test</td>
</tr>
<tr>
<td>Biases</td>
<td>Control for as many biases as possible</td>
</tr>
<tr>
<td>Data</td>
<td>Gather as much data as possible, &quot;just in case&quot;</td>
</tr>
<tr>
<td>Duration</td>
<td>Can take long periods of time to obtain results</td>
</tr>
</tbody>
</table>
A Family of Measures

- Outcome measures
- Process measures
- Balance measures
Outcome Measures

Measures of the customer or patient
Process Measures

Measures of the workings of the system
Balance Measures

Measures of the other parts of the system
Measurement: Types and Time

- Hunches
- Theories
- Ideas

Changes That Result in Improvement
- Process Measures
- Harm Measures
- Outcome Measures

A P S D

DATA

Hunches
Theories
Ideas

A P S D

A P S D

A P S D
Tips for Measurement #1

Plot data over time

Tracking a few key measures over time is the single most powerful tool a team can use.

% Patients with a Visit in Past Three Months
Tips for Measurement #2

The perfect is the enemy of the good.
Tips for Measurement #3

Sampling
Tips for Measurement #4

Integrate measurement into the daily routine
Tips for Measurement #5

Use both words and numbers
Third Question

What changes can we make that will result in improvement?
Change Concept

While all changes do not lead to improvement, all improvement requires change.
Planning for Improvement Process

Now that your SBHC has completed an assessment (or SWOT analysis) and selected its priority areas, the next step is to develop an improvement plan. The improvement plan will serve as the broad guide for addressing areas in your initiative or program. The improvement plan is to include desired goals or milestones, objectives, activities/strategies, and indicators for evaluation.

Developing Objectives

- The objectives should align with the priorities selected using the assessment or SWOT analysis exercise.
- Effective objectives are SMART: Specific, Measureable, Attainable/Achievable, Realistic, and Time-bound.

Directions

**Step 1:** Using the information collected from the SBHC assessment or S.W.O.T. analysis, select the priority area(s) to direct the focus of the improvement process. Identify which areas of your current practices or situation needs attention.

**Step 2:** Provide a brief summary of the clinic’s current practice, role, and/or involvement for each of your selected priority areas. Summarize what is the “area of improvement” you are focusing on—it can be paraphrased from a question item on the particular assessment tool used or the SWOT analysis exercise.

**Step 3:** Write a SMART objective that will aim to improve the current situation. Do this for all priority area(s) before developing activities and strategies.

**Step 4:** Once you have written the objectives, go back to brainstorm or suggest activities or strategies that will serve as the steps towards achieving the specific objective.

**Step 5:** Assign a data/timeline for each of the activities or strategies listed. You may include a desired timeframe to achieve the overall objective, but be sure to include an itemized timeline for completing the activities listed as well.

**Step 6:** Identify the key person(s) responsible for each objective. Indicate the lead person(s) responsible for ensuring the activities are completed.

**Step 7:** Indicate how you will evaluate whether the objective was achieved. Your evaluation indicators can focus on different levels of outcomes: implementation/process or effectiveness/impact.
**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 H/W 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 providers 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)  • 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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<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. teachers 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 SBHC’s current situation (practice, role, and/or involvement) in priority area:**

**Desired Goal or Milestone:**

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What is the 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)

**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
Repeated Use of the PDSA Cycle

**Hunches**

**Theories**

**Ideas**

Changes That Result in Improvement

Very small scale test

Follow-up tests

Wide-scale tests of change

Implementation of change

Learning from Data

APSD

APSD

DSAP

APSD
Why Test?

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

Use of flowsheet will improve care to known standards

Improved Decision Support

Cycle 1A: Adapt Clinic X Standard’s based 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 flow sheet with all patients for one week

Cycle 1E: Implement and monitor the standards
PDSA Tip #1: Scale Down

Years
Quarters
Months
Weeks
Days
Hours
Minutes

“Drop 2”
PDSA Tip #2: “Oneness”
PDSA Tip #3: Changes in Parallel
PDSA – Key Questions

Plan for Change
- How will I sustain the positive changes?
- What area will I work on next?

Standardize the implementation
- How can I incorporate the new way of doing things to make it part of my regular practice?
- How will I communicate/share this best practice/improvement theory?
- What staff development is needed?

Assess the impact through data review.
- Did my improvement theory work?
- How does this new data compare to the baseline data?

What is the research-based best-practice/improvement theory?
- What changes am I implementing?
- What are the drivers and restraining factors?
- What is my data-gathering plan to see if my improvement theory worked?

Review the baseline data, what are the root causes that are producing the results I'm getting?
- What does research say about how this system could be improved?
- Study research-based best practice/improvement theory addressing areas of need.

Define the System

Review data to determine baseline performance in the specific area identified.
- How big of a problem is it?
- What data do I have that show current levels of performance (baseline data) of the area I'm trying to improve?
- What do the data tell us? Any new insights?

Plan for Continuous Improvement

Plan
- ACT

Study
- Study

Do
- DO

Assess Current Situation

Analyze Causes

Try Out Improvement Theory

Standardize Improvements

Study the Results
Plan-Do-Study-Act Planning Worksheet

School/USBHC 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 planning 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 results with original predictions.
- 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 PDCA 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 PDCA, 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.

PDCA 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. PDCA cycles are 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 PDCA 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 Improvement</td>
<td>Cost of failure large</td>
<td>Very Small Scale Test</td>
<td>Very Small Scale Test</td>
</tr>
<tr>
<td></td>
<td>Cost of failure small</td>
<td>Very Small Scale Test</td>
<td>Very Small Scale Test</td>
</tr>
<tr>
<td>High Confidence that current 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></td>
<td>Cost of failure small</td>
<td>Small Scale Test</td>
<td>Large Scale Test</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
Team Practice: Tip #3

Ask for forgiveness, not permission
Team Practice: Tip #4

Learning with others
Web Resources

http://www.ihi.org/resources/Pages/HowtoImprove/ScienceofImprovementHowtoImprove.aspx
References

Deming WE. *Out of the Crisis*. Cambridge, Massachusetts: Massachusetts Institute of Technology Center for Advanced Engineering Study; 1982.


Questions?

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Save the Date

2015 Annual Convention
June 16 – 19
JW Marriott
Austin, Texas

Call for Abstract
Submission Now Open!
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- Letters of support for grants

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Closing Reminders

This presentation has been recorded and will be archived on the School-Based Health Alliance website within the next 2-3 business days.

To request support and technical assistance related to PDSA and Improvement Models, please send us an e-mail at: programs@sbh4all.org

Take a moment to fill out three poll questions that will appear on your screen.

We will also be sending out a brief email evaluation survey within the next two days. Please let us know how we are doing.
Thank You for attending!

Additional Questions? Contact us at: programs@sbh4all.org