

## PLAN, DO, STUDY, ACT

The Plan-Do-Study-Act (PDSA) cycle was originally developed by Walter A. Shewhart as the Plan-Do-Check-Act (PDCA) cycle. W. Edwards Deming modified Shewhart's cycle to PDSA, replacing "Check" with "Study." [See Deming WE. *The New Economics for Industry, Government, and Education*. Cambridge, MA: The MIT Press; 2000.]

Stage	What happens	Example
<b>Plan:</b> Identify an Opportunity and Plan for Improvement	<p>Assemble your team; examine what you're currently doing; identify potential improvements or solutions; develop an improvement theory</p> <p>Create a problem or goal statement: What are we trying to accomplish? How will we know a change is an improvement? What change can we make that will result in that improvement?</p>	<p><b>THE CHANGE:</b></p> <p><b>What are we testing?</b> Our intent is to test action planning with patients, using a form we got at our last national meeting.</p> <p><b>Who is testing the change?</b> We are going to initially test action planning with two patients on their next visit.</p> <p><b>When are we testing?</b> The next two patient visits.</p> <p><b>Where are we testing?</b> The test will be conducted at our FX facility.</p> <p><b>PREDICTION:</b></p> <p><b>What do we expect to happen?</b> We expect to be able to create an action plan with our patients but that it will take a lot longer than our usual session.</p> <p><b>DATA:</b></p> <p><b>What data do we need to collect?</b> Subjective findings from the provider and nurse stating how the action planning unfolded and discussion with patients as the action plan is made.</p> <p><b>Who will collect the data?</b> Clinical champion.</p> <p><b>When will the data be collected?</b> Immediately after each patient visit the provider and nurse will discuss their sense of the action planning. Patients will be asked their views of action planning, too.</p> <p><b>Where will the data be collected?</b> In the exam room.</p>
<b>Do:</b> Test the Improvement Theory by Carrying Out the Change	<p>Carry test out on a small scale; Collect, chart, and display data to determine effectiveness of the test; Document problems, unexpected observations and unintended side effects</p>	<p><b>What was actually tested?</b> We tested action planning with two patients.</p> <p><b>What happened?</b> We tried action planning with the first two diabetic patients that we saw. We used a form to guide action planning, and we were able to come up with specific actions in each case.</p> <p><b>Unexpected Observations?</b> We found that the action planning went more smoothly than we expected, and we didn't run over our usual time.</p> <p><b>Problems?</b> No real problems were encountered other than some confusion in our explanation of action planning with the first patient, however, we were able to recover after checking our reference</p>

		notes (in the exam room!). Our first test aims to develop action planning; to measure effectiveness of the action planning, we have to wait for a week to follow up with the patients to see whether they were successful with their plan.
<b>Study:</b> Check the Results	Determine if test was successful ; Compare against baseline and measures of success stated in the AIM statement; Describe and report what you learned	<b>Complete analysis of data, summarize what was LEARNED, compare data to predictions</b> Our initial feeling was that the patients would not be comfortable with action planning. It turned out that the explanation of self-management we had provided to them made sense and they were able to make a plan in the session.
<b>Act:</b> Standardize the Improvement or Develop a New Theory	Make changes based on what you learned: If improvement was successful, test it on a larger scale and make plans to standardize improvements; If not successful, develop a new theory and test it. Continue through the cycle until you get it right. Celebrate and communicate your success!	<b>What changes should we make before the next cycle?</b> We will practice action planning with each other twice so our delivery is smoother in the exam room. <b>What will the next tests be?</b> (1) We will use action planning with the next five diabetic patients from our registry; (2) We will test our ability to follow up by phone on the action plans developed by the first two patients.

Below are two worksheets; use whichever one makes the most sense to you, or adapt to meet your needs.

**“They always say time changes things, but you actually have to change them yourself.”**

Andy Warhol  
*The Philosophy of Andy Warhol*

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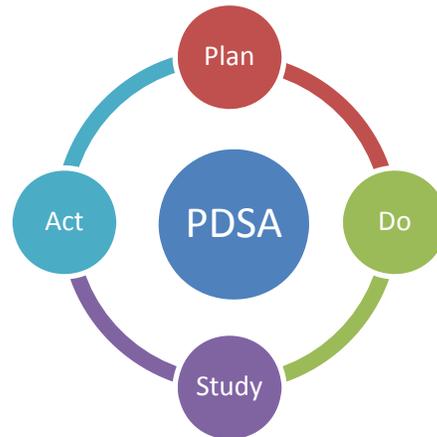
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## PDSA Worksheet (Example 1)

*Model For Improvement*    Cycle: \_\_\_\_\_    Date: \_\_\_\_\_

### CYCLE FOR LEARNING AND IMPROVEMENT

Objective:



**PLAN:**

Questions:

Predictions:

Plan for change or test: who, what, when, where

Plan for collection of data: who, what, when, where

**DO:** carry out the change or test; collect data and begin analysis.

**STUDY:** complete analysis of data; summarize what is learned.

**ACT:** are we ready to implement the change that we tested? Plan for the next cycle.

## Quality Improvement Test of Change (PDSA) Worksheet (Example 2)

Agency Name: \_\_\_\_\_

Date: \_\_\_\_\_

<b>Quality Improvement Project Aim:</b> <i>(Problem statement worded in a specific and measurable way)</i>	
Where are you starting? What is your baseline data/performance measurement?	
Describe your test of change/idea/intervention (relate it to an identified <b>Root Cause</b> )	
Anticipated Change: what improvement do you expect to result from the planned intervention?	

### PLAN

List the tasks needed to implement this pilot test process/policy/procedure	Person Responsible	Timeframe	Where is plan element to be tested
1.			
2.			
3.			
4.			
5.			
6.			
7.			

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**How will you document/measure the planned results/outcomes?**

<u><b>Quantitative Measures</b></u> (e.g. % of clients who receive contraceptive counseling)	<u><b>Qualitative Measures</b></u> (e.g. ease of use, time it took, staff/client impact)

**How will you collect these data?**

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**Do (Implementation and Documentation of Implementation Steps)**

<b>Describe what actually happened when you implemented the test process/policy/procedure.</b> Did your test project go as planned? What worked and what didn't work? Did your data collection method(s) work? Why or why not?

**STUDY**

<b>Describe the measured results.</b> Using the measures you selected during the planning step, what were your test results?	
<u><b>Quantitative Measures</b></u> (e.g. % of clients who receive contraceptive counseling )	<u><b>Qualitative Measures</b></u> (e.g. ease of use, time it took, staff/client impact)

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**How did your data/results compare to your predictions & your baseline data/measurement?**

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**Look at your qualitative and quantitative data again.** What lessons have you learned from the data and feedback collected? What does it tell you about the effect of the tested change? If it showed no improvement or proved impractical for any reason, what change do you want to test next? If it showed improvement, how will you expand the test? If you predict that an expanded test will show similar results, will they be enough to reach your stated aim/goal, or do you need to add other changes for a cumulative effect?

**ACT**

<b>Describe what modifications to the plan will be made for the next cycle based upon what you learned.</b>
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