

*Southern California Renal Disease Council, Inc.  
ESRD Network 18*



## *Quality Improvement Fundamentals*

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## *Quality Fundamentals*

### **Learning Objectives:**

- Understanding the purpose of Quality Improvement.
- Outline the Quality Improvement Process.
- Introduce the tools used in the Quality Improvement Process.
- Understanding the importance of the Root Cause Analysis.
- Learn to fill out a Quality Assessment and Performance Improvement plan (QAPI).



## *What is Quality?*

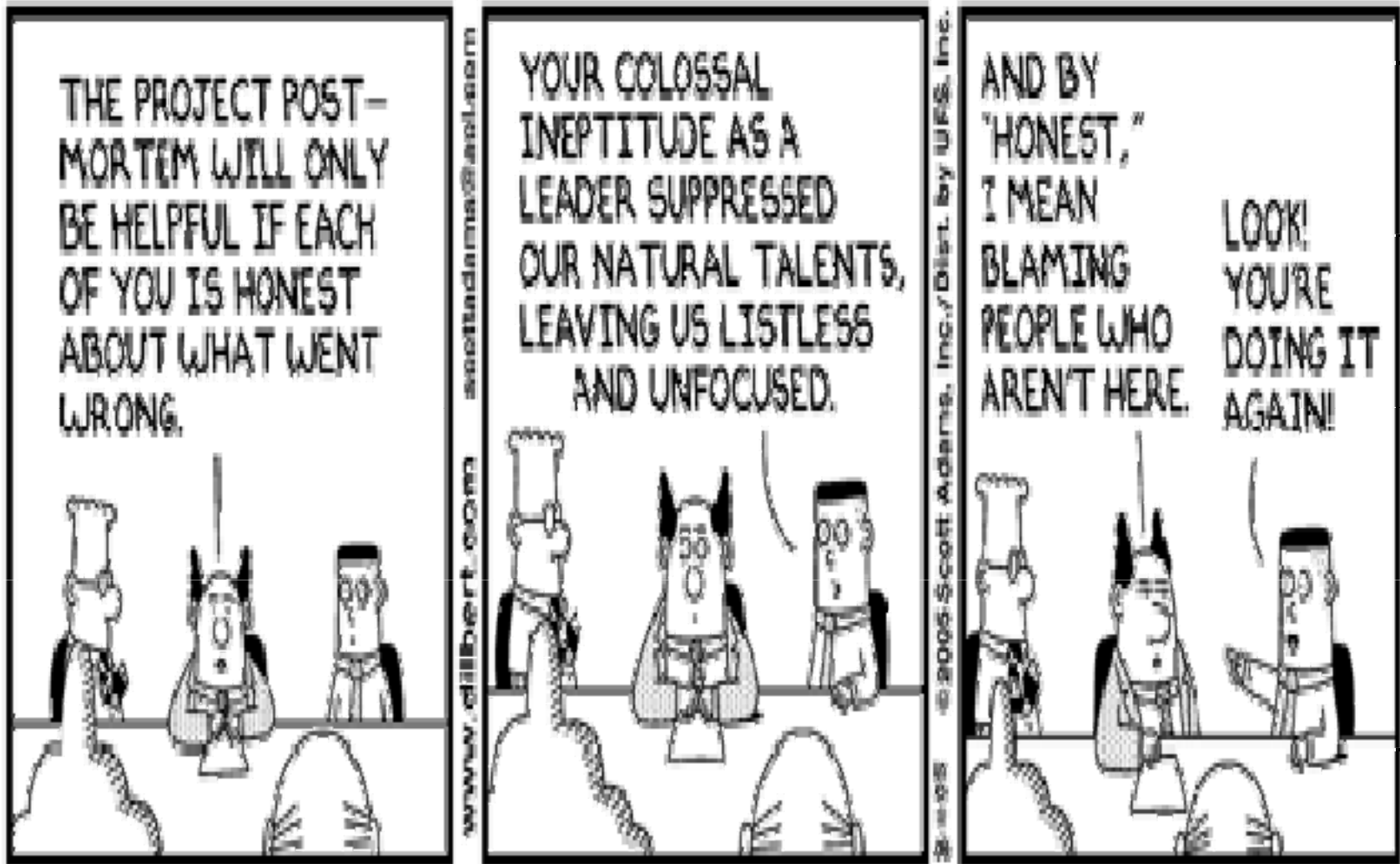
- To Err Is Human: Building a Safer Healthcare System (1999).
- Crossing the Quality Chasm: A New Health System for the 21<sup>st</sup> century (2001).



## *Contrasting QI and QA*

- **Quality Assurance** – QA was reactive, retrospective, policing, and in many ways punitive. It often involved determining who was at fault after something went wrong. This term is older and not as likely to be used today.
- **Quality Improvement** – QI involves both prospective and retrospective reviews. It is aimed at improvement-measuring where you are, and figuring out ways to make things better. It specifically attempts to avoid attributing blame, and to create systems to prevent errors from happening.





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## *Pareto Principle*

- Pareto analysis is a **statistical technique** in **decision making** that is used for selection of a limited number of tasks that produce significant overall effect. It uses the **Pareto principle** – the idea that by doing 20% of work, 80% of the advantage of doing the entire job can be generated. Or in terms of quality improvement, a large majority of problems (80%) are produced by a few key causes (20%).
- Pareto analysis is a formal technique useful where many possible courses of action are competing for attention. In essence, the problem-solver estimates the benefit delivered by each action, then selects a number of the most effective actions that deliver a total benefit reasonably close to the maximal possible one.<sup>[citation needed]</sup>



# *Continuous Quality Improvement (CQI)*



## *QI vs. QA Quiz*

- Short Example of QI vs. QA

From the following statements, which do you think have a QA focus and which have a QI focus?

- Which staff member failed to transfer the call to the correct extension?
- Are we creating an environment encouraging clinicians to report errors?
- How do we reduce production errors on the widget line?
- Patient had a bad outcome; were the doctors or nurses at fault?
- What could we do to increase the efficiency of chart filing?



## *Quality Improvement Process*

The process involves:

- Defining the problem.
- Investigating through gathering evidence.
- Identifying root causes.
- Implementing solutions.
- Monitoring those solutions to ensure they continue to prevent the original problem.



## *Quality Improvement Process Cont.*

- Quality Improvement is a continuous cycle of planning, implementing strategies, evaluating the effectiveness of these strategies and reflection to see what further improvements can be made.



## *Quality Improvement Process Cont.*

### **Fishbone Diagram**

(aka: Cause and Effect Diagram)

- The fishbone diagram will help to visually display the many potential causes for a specific problem or effect.



## *Quality Improvement Process Cont.*

### **Fishbone Diagram (continued)**

- Benefits of a fishbone diagram:
  - It helps teams understand that there are many causes that contribute to an effect.
  - It graphically displays the relationship of the causes to the effect and to each other.
  - It helps to identify areas for improvement.



## *Quality Improvement Process Cont.*

### **5 Whys:**

Repeatedly asking the question “Why” to peel away the layers of symptoms which can lead to the root cause of a problem.

- Although this technique is called “5 Whys”, you may find that you will need to ask the question fewer or more times than five before you find the issue related to a problem.



## *Quality Improvement Process Cont.*

### **Benefits of the 5 Whys:**

- Help identify root cause of a problem.
- Determine the relationship between different root causes of a problem.
- One of the simplest tools; easy to complete without statistical analysis.



## *Quality Improvement Process Cont.*

### **Fishbone Diagram (continued)**

- The Cause-and-Effect diagram can be used by individuals or teams – most effective by a group.
- The team assists by making suggestions of possible causes until no more causes can be suggested.
- Once the entire fishbone is complete, a team discussion takes place to decide what are the most likely root causes of the problem.



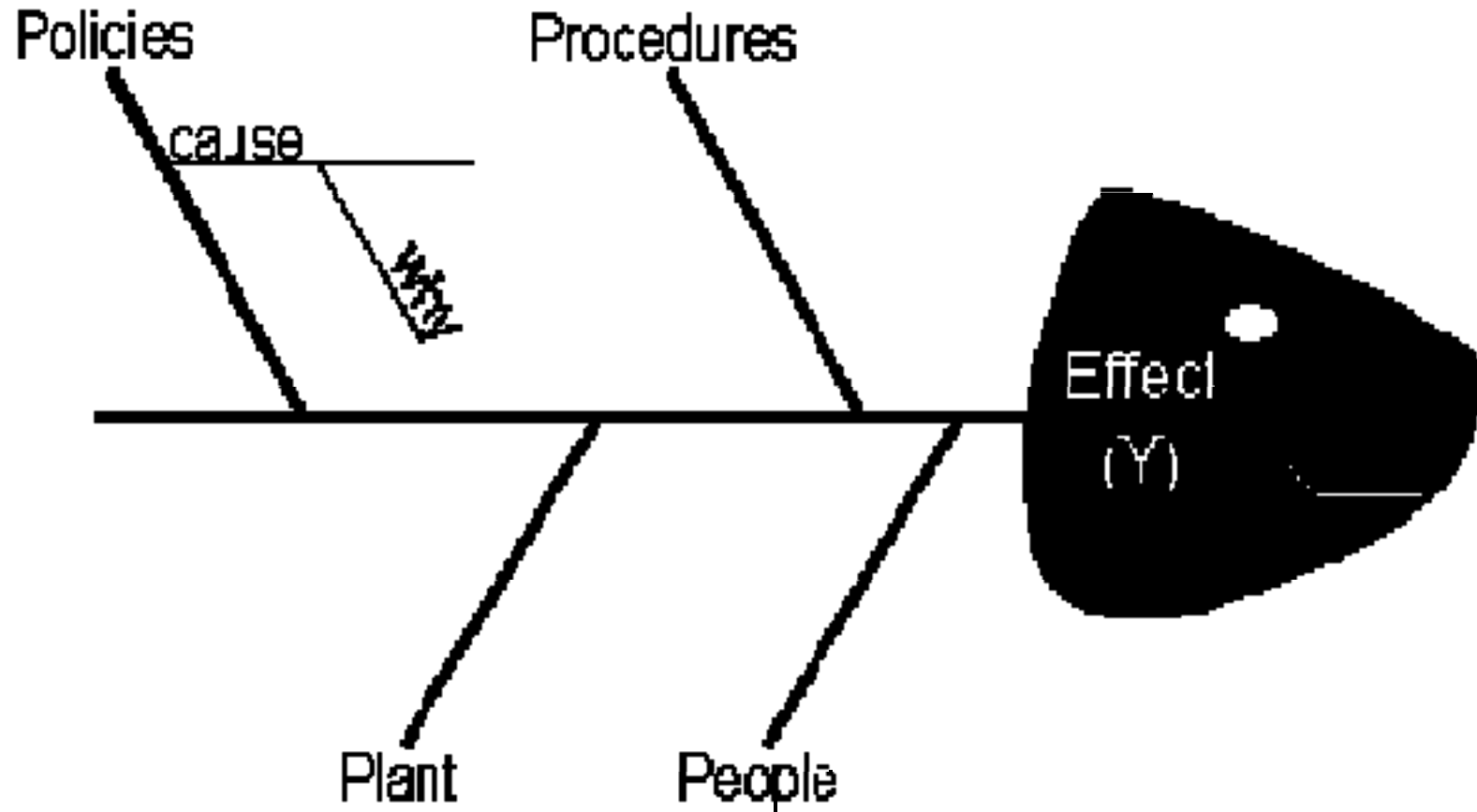
## *Quality Improvement Process Cont.*

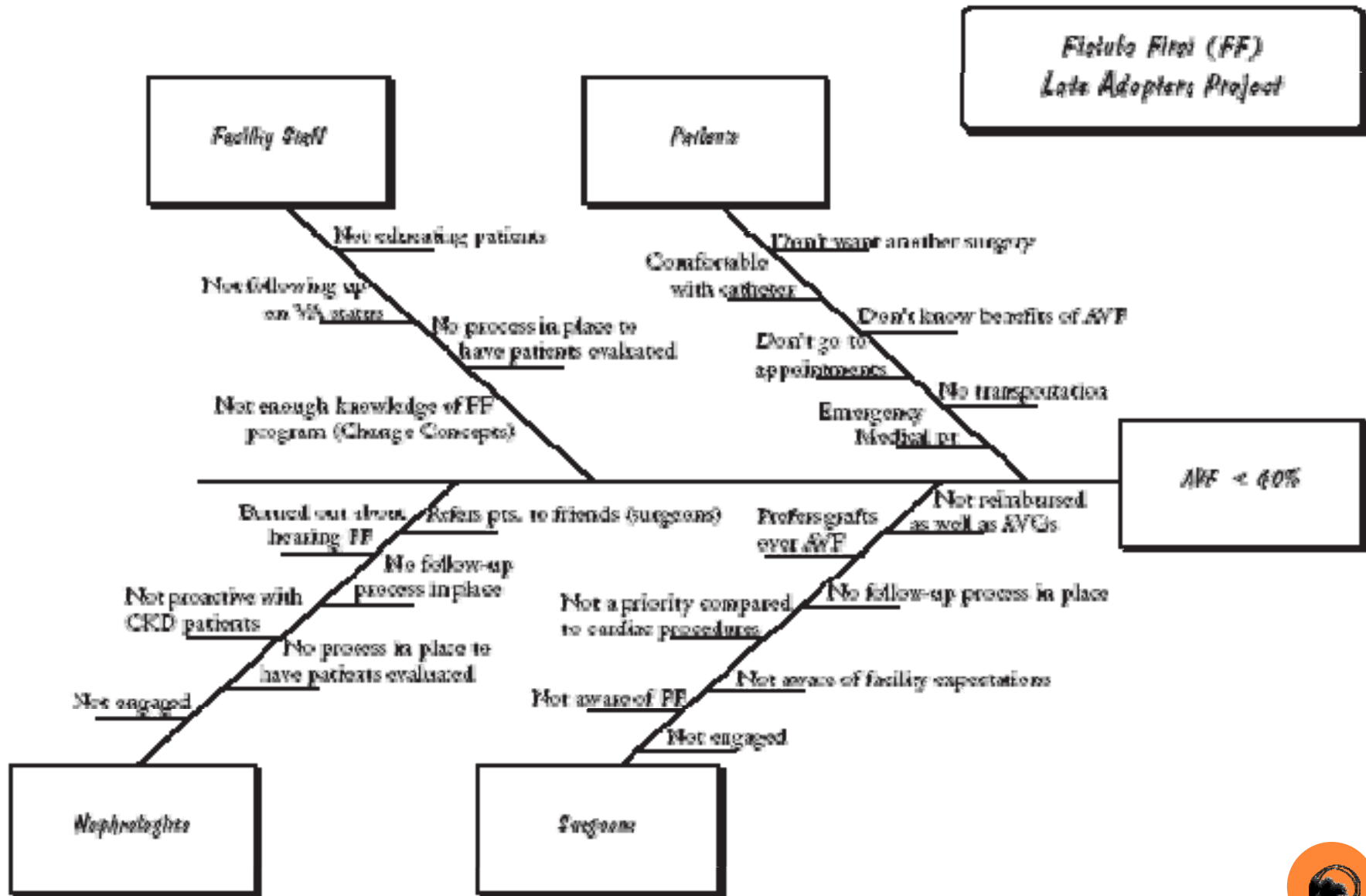
### **Whys and The Fishbone Diagram**

- The 5 Whys can be used individually or as a part of the fishbone diagram.
- The fishbone diagram helps you explore all potential or real causes that in a single defect or failure.
- Once all inputs are established on the fishbone, you can use the 5 Whys technique to drill down to the root causes.



## *Whys and The Fishbone Diagram*





## *Quality Improvement Process Cont.*

### **Root Cause Analysis (RCA):**

At its most basic, the process asks three questions, which together provide the framework of a root cause analysis investigation.

1. What was the problem?
2. What were the causes of the problem?
3. What actions should be taken to prevent the problem from occurring again?



## *Quality Improvement Process Cont.*

- Root cause analysis can use a variety of techniques to uncover root causes, including cause mapping, change analysis, the Ishikawa fishbone diagram, 5 Whys, and others.
- All are designed to analyze the elements affecting a particular outcome to determine the root causes.



## *Quality Improvement Process Cont.*

### **Root Cause Analysis Investigations:**

- Every cause uncovered by RCA must be backed up by evidence.
- RCA usually uncovers a system of root causes.
- RCA uncovers specific causes and effects.
- RCA results in executable, quantifiable solutions that may be monitored.



## *Quality Improvement Process Cont.*

### **Root Cause Analysis Investigations (continued):**

- RCA does not point blame at any one person or group, but simply identifies a system of causes and effects that lead to an incident.
- RCA focuses on past events.



## *Quality Assessment and Performance Improvement Plan (QAPI)*

- Interdisciplinary Team: (minimum)
  - Physician.
  - Registered Nurse.
  - Social Worker.
  - Dietitian.



## *Quality Assessment and Performance Improvement Plan (QAPI)*

### **494.110: (V626) Condition**

The dialysis facility must **develop, implement, maintain and evaluate** an effective, **data driven**, quality assessment and performance improvement program with participation by the professional members of the **interdisciplinary team**.



## *What do I do first?*

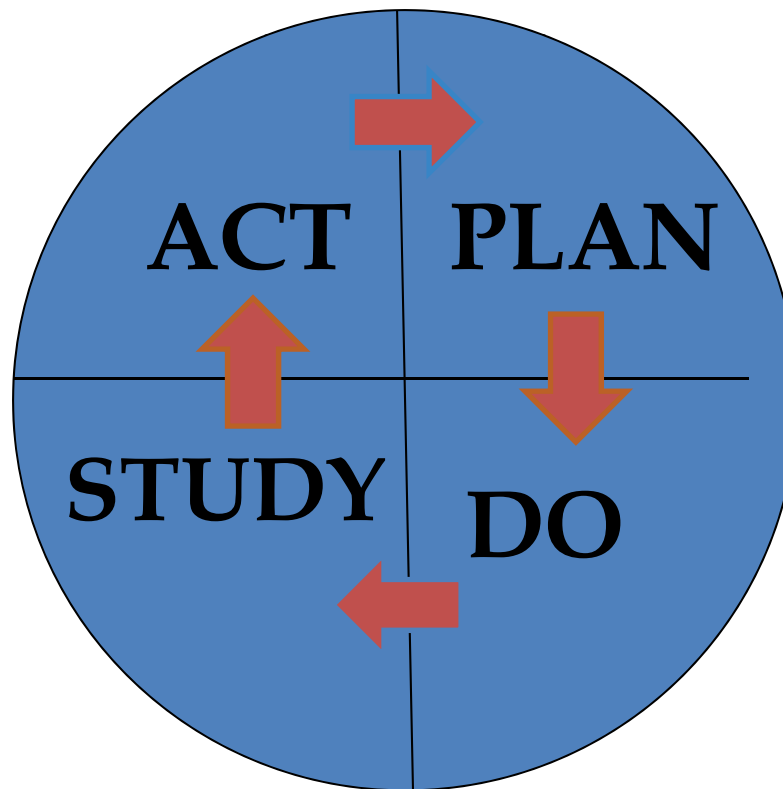
- Root Cause Analysis using.
  - Ishikawa and/or the 5 Why?
  - Flow chart the process.
- Identify the problem.
  - Areas of decreased productivity, areas where errors occur etc...
- Create a problem statement.
  - The root of the problem.
  - The AIM statement should follow outlining the goal of the project.



## *Quality Improvement Process Cont.*

### **Plan-Do-Study-Act**

The PDSA is the format the Network uses for developing a QAPI plan.



## *Quality Improvement Process Cont.*

- PDSA is a cycle of improvement that involves asking three key questions:
  1. What are we trying to accomplish?
  2. How will we know that a change is an improvement?
  3. What changes can we make that will result in an improvement?



## *Quality Improvement Process Cont.*

- PDSA approaches promote action by getting clinicians to reflect and brainstorm strategies that they hope will lead to improvement.
- It also promotes evaluation of these changes once the strategies have been implemented.



# PDSA Template

**PROJECT:**

**TEAM:** (List all members)

**BACKGROUND:** (Summary of facility’s identified problem and description of what the facility has been doing to improve the problem.)

Adopted from IHI  
Website, June 2007

<b>Step 1.</b> <b>PLAN:</b> Plan the test.	<b>What is the objective of this improvement cycle?</b>
	..... <b>What is the goal? (Include a numeric goal to achieve.)</b> ..... <b>Develop a plan to achieve the goal?</b> <b>(List steps of the plan – this will allow you to identify the step that may need modifying/revising if necessary.)</b>
	..... <b>2 of 3 pages</b> <b>What data sources are needed for the test? (What data sources will you be using to monitor your progress?)</b>
	..... <b>What measures are used to analyze if you are achieving the goal?</b> <b>BASELINE:</b> <b>Measure:</b> (Numerical formula) <b>Monitoring frequency:</b>



<p>Step 2. <u>DO:</u></p>	<p>Implement the plan. <u>Document problems and unexpected observations.</u></p>
<p>Step 3. <u>STUDY:</u> Set aside time to analyze the data and study the results.</p>	<p>Analyze the results and compare the results with your goal.</p>
<p>Step 4. <u>ACT:</u> Determine if the test was successful or the plan needs to be revised.</p>	<p>If the test was successful, how will you implement the plan on a wider scale?</p> <p>If it was not successful, what needs to be changed based on what you have learned? Should you continue to search for other root causes?</p>



## *Quality Improvement Process Cont.*

### **Plan**

- Set your objective for the project.
- Set goals to achieve (numerical goals and a target date).
- Develop your plan on how you will improve your identified problem.
- Include a plan for collecting data.
- List data sources you will use to monitor your progress for the project.



## *Quality Improvement Process Cont.*

### **Plan (continued):**

- Write out the measure you will be using to analyze if you are achieving your goal. (numeric formula)

Example:

**# of prevalent patients using AVF as primary access**

**= AVF rate**

**Total # of patients at the facility**



## *Quality Improvement Process Cont.*

### **Plan (continued):**

- Note the frequency in which you will conduct measurement of your progress.
- Note your baseline for comparison towards your goal.



## *Quality Improvement Process Cont.*

- Do:
  - Implement your plan.
  - Document problems and unexpected observations of your plan.
- Study:
  - Analyze the results and compare it to the goal.
  - This analysis should be conducted with the interdisciplinary team.



## *Quality Improvement Process Cont.*

- Act:
  - Is your plan successful?
  - How will you ensure continued improvement?
  - If it wasn't successful, what needs to be changed based on what you have learned?
  - Should you continue to search for other root causes?



## *Plan-Do-Study-Act (PDSA)*

- The PDSA cycle is a continuous cycle. It allows you to frequently assess your plan and make revisions as necessary to achieve your goal.
- Your plan should be reviewed at least monthly and/or when you realize that your strategy or activity is not working.



## *Quality Improvement Process Cont.*

- Note your progress on your form so that you have record of the strategies/activities you've attempted and results of those attempts as well as the revisions you have made to improve your plan.



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