

King Saud University
College of Business Administration
Department of Health Administration - Masters` Program

PA 505 –The Quality of Healthcare First Semester
1436/ 1437

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Quality Improvement

Improvement

How can we
improve
performance

Performance improvement is the last phase of quality management. Once an opportunity for **improvement** has been identified, action must be taken to find and fix the cause of unfavorable performance. Some performance problems can be resolved quickly, such as the two special cause variations in the rejected insurance claims example in Chapter 4.

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Performance Improvement

Other problems require more in-depth evaluation of the complex factors affecting performance. In these situations, a team is formed to carry out an improvement project. This improvement team is composed of people most familiar with the processes under review. To improve performance, the team must understand the problem and necessary changes.

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Performance Improvement

- ❖ During an improvement project, all factors affecting performance are closely examined.
- ❖ Before changing the process, the improvement team must discover where, when, and why problems occur so that effective solutions can be implemented.
- ❖ To do so, the team uses analytic tools to scrutinize the process and select interventions that will produce successful results.

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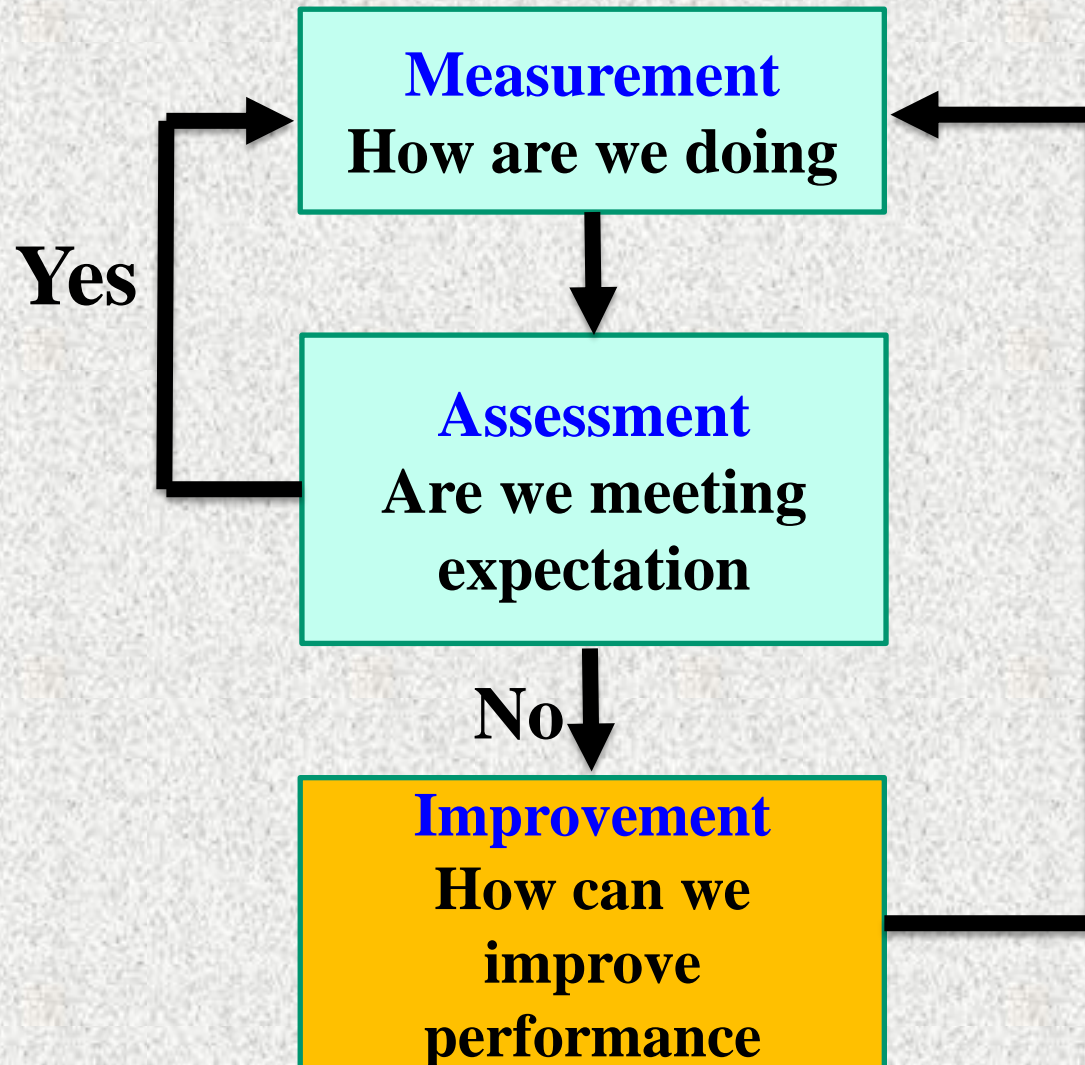
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Improvements in Quality Management

- ❖ As shown in Exhibit 5.1, the improvement phase follows performance assessment.
- ❖ Once improvements are implemented, the quality management cycle begins again.
- ❖ The results of process changes are measured and analyzed to determine whether they fixed the performance problem.

The quality management cycle

Exhibit 5.1.
Cycle of
Measurement,
Assessment, and
Improvement



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Improvement team

A group of individuals organized to work together to accomplish a specific improvement objective.

Improvement project

An initiative set up to achieve a performance improvement objective within a certain time frame.

Analytic tools

Qualitative (language) and quantitative (numeric) tools used during an improvement project; often called quality improvement tools.

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LEARNING POINT Improvement Projects

Performance improvement projects are initiated when measurement data reveal a gap between expected and actual performance. Projects also may be initiated for other reasons. Improvement project teams include people most familiar with the process under review.

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Performance Improvement Steps

- ❖ Performance improvement projects should be **systematic** conducted using step- by-step procedures.
- ❖ Without a defined process, chaos is likely to ensue and the improvement team might not achieve desired results.

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Performance Improvement Steps

A methodical improvement process has several benefits:

- ❖ Performance problems are permanently solved.
- ❖ Work–life quality improves. Performance problems are an annoyance for every- one because they create additional work. People perform better when processes run smoothly.
- ❖ Communication among employees and managers improves. To solve problems, people from different levels of the organization and from different work groups must collaborate.

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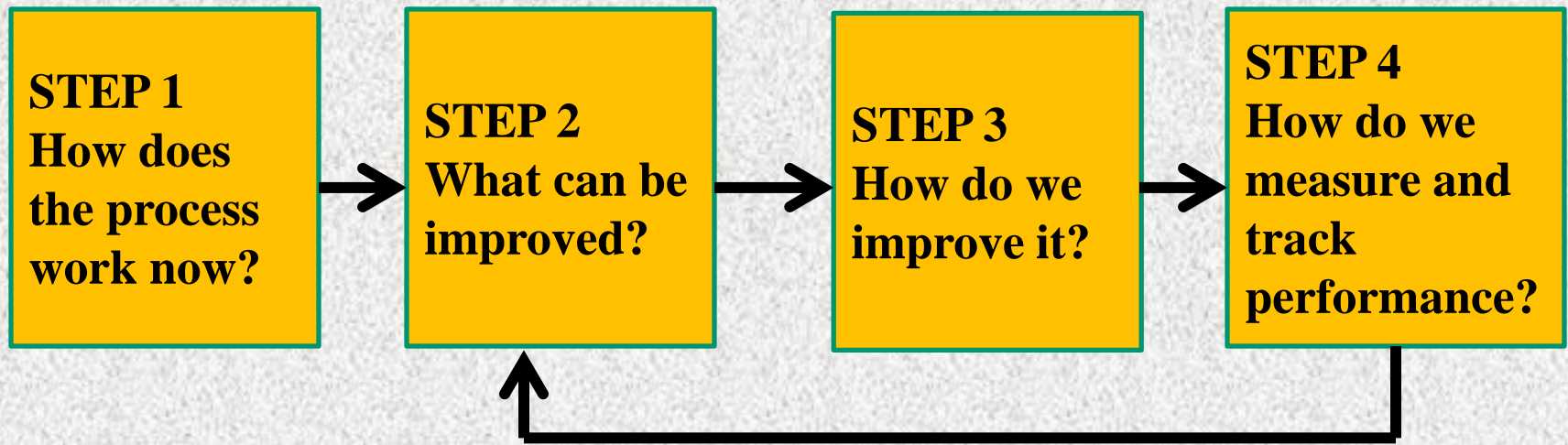
LEARNING POINT Improvement Projects Steps

Opportunities for better performance trigger improvement projects. A typical project consists of four steps:

- ❖ Define the improvement goal.**
- ❖ Analyze current practices.**
- ❖ Design and implement improvements.**
- ❖ Measure success.**

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Exhibit 5.2.
**Questions that Help
Improvement Teams
Maintain Focus**



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Performance improvement models

- ❖ Systematic approaches for conducting improvement projects.
- ❖ Over the years, several systematic performance improvement models have been created for use in healthcare and other industries. All these models incorporate similar steps.

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Plan-Do-Study-Act Cycle

Walter Shewhart, who developed the concepts and techniques of statistical process control, was one of the first quality experts to discuss a systematic model for continuous improvement. In his book *Statistical Method from the Viewpoint of Quality Control*, published in 1939, he referred to this model as the **Plan-Do-Check-Act (PDCA) cycle**.

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Plan-Do-Study-Act Cycle

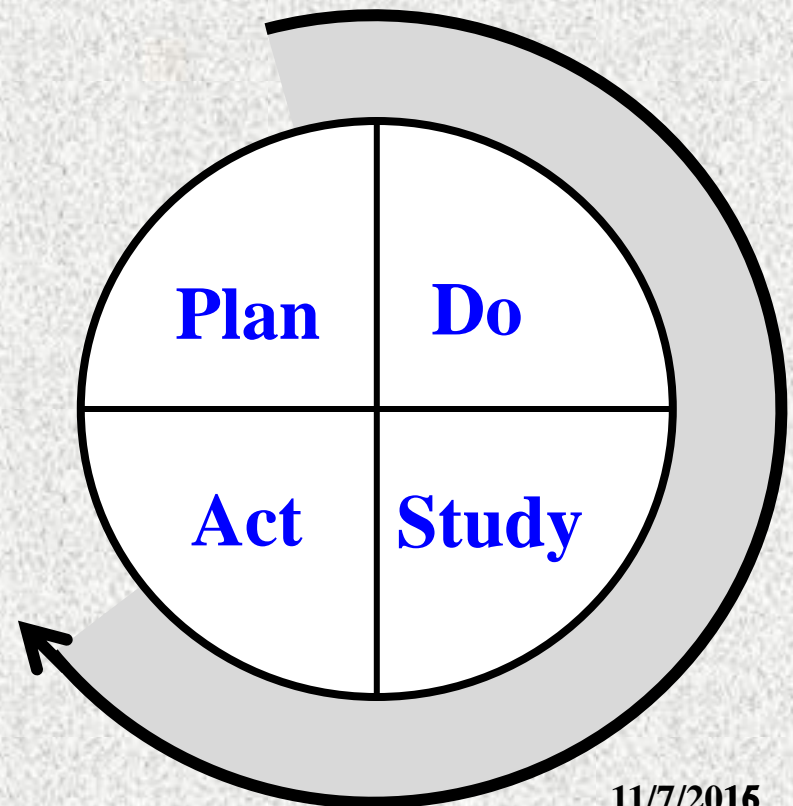
Another renowned statistician, W. Edwards Deming, went to Japan as part of the Allied occupation after World War II to teach the Japanese industrial quality improvement methods, such as statistical process control and systematic process improvement. Deming modified Shewhart's original model and renamed it the **Plan-Do-Study-Act (PDSA) cycle**.

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Plan-Do-Study-Act Cycle

PDSA is the most widely recognized improvement process today (see Exhibit 5.3). To ensure continuous improvement, the steps perpetually cycle and repeat.

Exhibit 5.3.
PDSA Cycle of
Continuous
Improvement



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Plan-Do-Study-Act Cycle

The following lists summarize the steps of each PDSA phase.

Plan

- ❖ State the objectives of the improvement project.
- ❖ Determine needed improvements.
- ❖ Design process changes to achieve the improvement objectives.
- ❖ Develop a plan to carry out the changes (define who, what, when, and where).
- ❖ Identify data that need to be collected to determine whether changes produced desired results.

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Plan-Do-Study-Act Cycle

The following lists summarize the steps of each PDSA phase.

Do

- ❖ **Implement the changes on a small scale.**
- ❖ **Document problems and unexpected events.**
- ❖ **Gather data to assess the changes' impact on the process.**

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Plan-Do-Study-Act Cycle

The following lists summarize the steps of each PDSA phase.

Study

- ❖ Analyze data to determine whether the changes were effective.
- ❖ Compare results with expectations.
- ❖ Summarize lessons learned during and after implementation of the changes.

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Plan-Do-Study-Act Cycle

The following lists summarize the steps of each PDSA phase.

Act

- ❖ If changes were not successful, repeat the PDSA cycle.
- ❖ If changes were successful, or partially successful, implement them on a wider scale or modify them as necessary.
- ❖ Predict results.

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Plan-Do-Study-Act Cycle

Rapid Cycle Improvement

- ❖ The **PDSA** cycle is used in rapid cycle improvement (**RCI**) projects. Unlike a comprehensive (and often time-consuming) process analysis, an **RCI** project incorporates several small process changes and careful measurement of those changes to achieve an improvement goal.
- ❖ This approach is an accelerated method (usually less than six weeks per improvement cycle) of collecting and analyzing data and making changes on the basis of that analysis. The first cycle is followed by a second improvement cycle to evaluate the effects of the changes on the process.

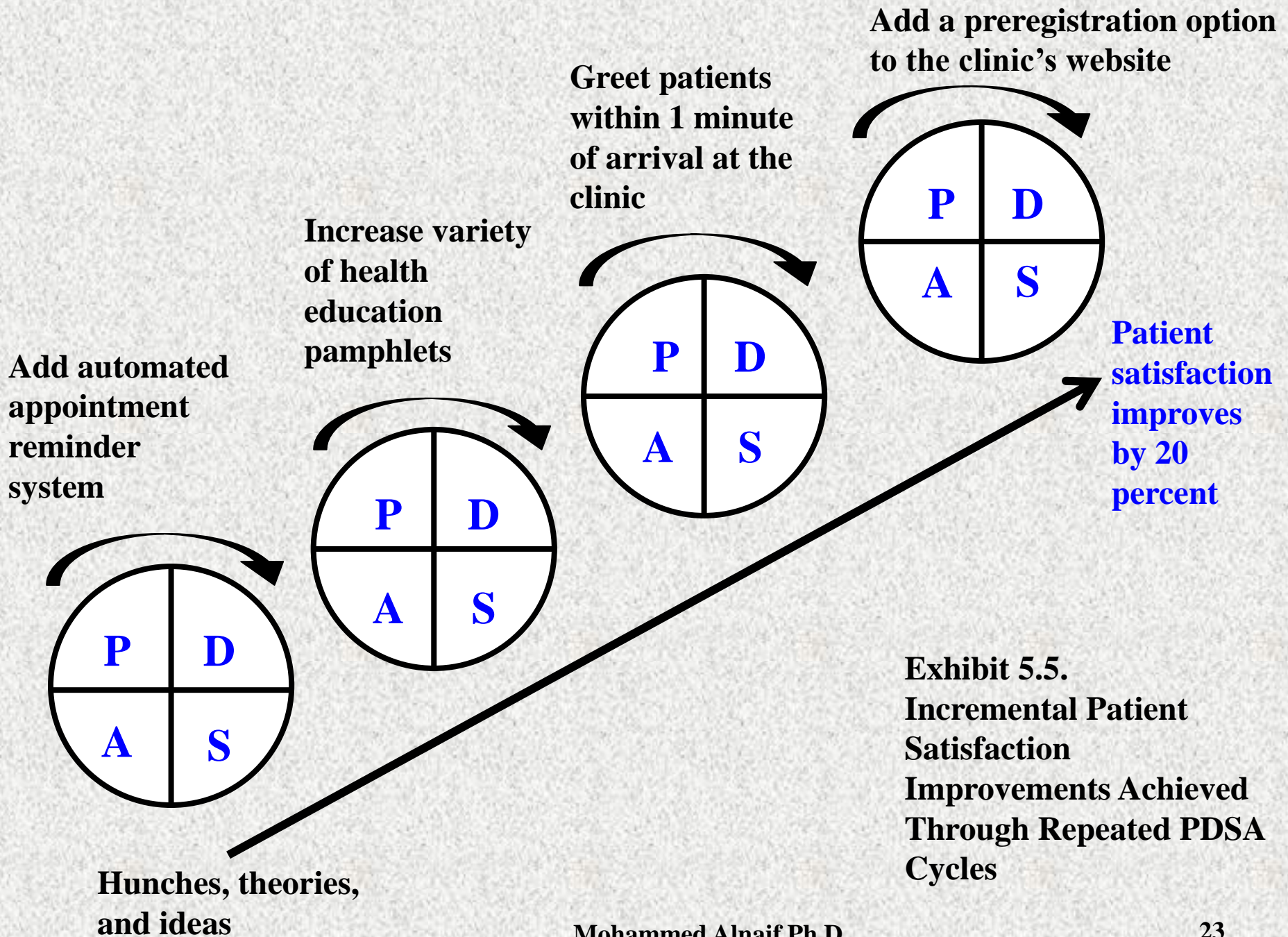
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Plan-Do-Study-Act Cycle

Rapid Cycle Improvement

- ❖ Suppose an ambulatory clinic wants to improve patient satisfaction by 20 percent during the coming year. An improvement team composed of clinic staff and physicians completes a **PDSA** cycle for each improvement idea. Some ideas are successful and become office practices. Ideas that fail are discarded. Over a short period, the team completes several **PDSA** cycles, all linked to the goal of improving patient satisfaction. This **RCI** process is illustrated in Exhibit 5.5.



**Exhibit 5.5.
Incremental Patient Satisfaction Improvements Achieved Through Repeated PDCA Cycles**

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Plan-Do-Study-Act Cycle

Rapid Cycle Improvement

- ❖ Note that the four process changes are made in succession. The team completes the PDSA cycle each change before moving on to the next one. Each adjustment brings the clinic closer to its goal.
- ❖ The RCI model is used in many healthcare improvement initiatives.

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FOCUS-PDCA

In the early 1990s, Hospital Corporation of America, based in Nashville, Tennessee, expanded Shewhart's PDCA model by adding preliminary steps known as FOCUS The FOCUS-PDCA model of performance improvement involves the following steps.

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FOCUS-PDCA

FOCUS phase

- ❖ Find a process that needs improvement.
- ❖ Define the beginning and end of the process, and determine who will benefit from the improvement.
- ❖ Organize a team of people knowledgeable about the process. This team should include employees from various levels of the organization.
- ❖ Clarify the current process and the changes needed to achieve the improvement.
- ❖ Understand the causes of variation by measuring performance at various steps in the process.
- ❖ Select actions needed to improve the process.

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FOCUS-PDCA

PDCA phase

- ❖ **Plan the change by studying the process, identifying areas needing improvement, and determining ways to measure success.**
- ❖ **Do the change on a small scale, and gather data to measure success.**
- ❖ **Check the data to determine whether the change produced the desired improvements. Modify the change if necessary.**
- ❖ **Act to maintain the gains. Implement the change if it is working well. Abandon the change if it is ineffective, and repeat the PDCA phase.**

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FADE

- ❖ The **FADE** model of performance improvement is an adaptation of the original **PDSA/ PDCA** improvement cycle.
- ❖ **FADE** was developed by **Organizational Dynamics Inc. (2006)**, a global management consulting firm that helps all types of organizations improve quality and productivity and enhance customer satisfaction.

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FADE

The FADE improvement model consists of four phases:

- 1. Focus. Choose a problem, and write a statement to describe it.**
- 2. Analyze. Learn more about the problem by gathering performance data.**
- 3. Develop. Develop a solution for the problem and a plan for implementing the solution.**
- 4. Execute. Implement the plan and monitor results. Adjust the plan as needed.**

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FADE

- ❖ The **FADE** model works for all types of performance problems.
- ❖ The **FADE** model of performance improvement is useful for focusing on a problem, analyzing the problem and its causes, developing and implementing a solution, and monitoring success.

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Lean

- ❖ Some improvement models are intended for specific purposes.
- ❖ One such model is the **Lean** model of improvement, which is used to eliminate inefficiencies adversely affecting performance.
- ❖ A **Lean** process includes only value-added steps and therefore produces little waste.

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Lean

- ❖ The **Lean** model of improvement, also called **Lean** manufacturing or **Lean** thinking, originated in the Japanese automobile industry— in particular as the Toyota Production System.
- ❖ **Lean** manufacturing concepts are now used in healthcare to improve efficiency and reduce errors.

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Lean

- ❖ **Lean** principles are applicable to an array of healthcare processes and work settings, from patient care to medical informatics to plant maintenance.
- ❖ Healthcare organizations eliminate waste and thus improve efficiency and quality by applying the five **Lean** principles of process improvement.

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Lean

The five **Lean** principles of process improvement:

- 1. *Value***, identify what is important to the customer and focus on it.
- 2. *Value stream***, Ensure all activities are necessary and add value.
- 3. *Flow***, strive for continuous processing through the value stream.
- 4. *Pull***, Drive production with demand.
- 5. *Perfection***, Prevent defects and rework.

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Lean

- ❖ **Lean relies on various methods and tools, including problem-solving diagrams and statistical techniques, to find waste**
- ❖ **Common sources of waste are processing, correction, overproduction, motion, material movement, waiting, and inventory**

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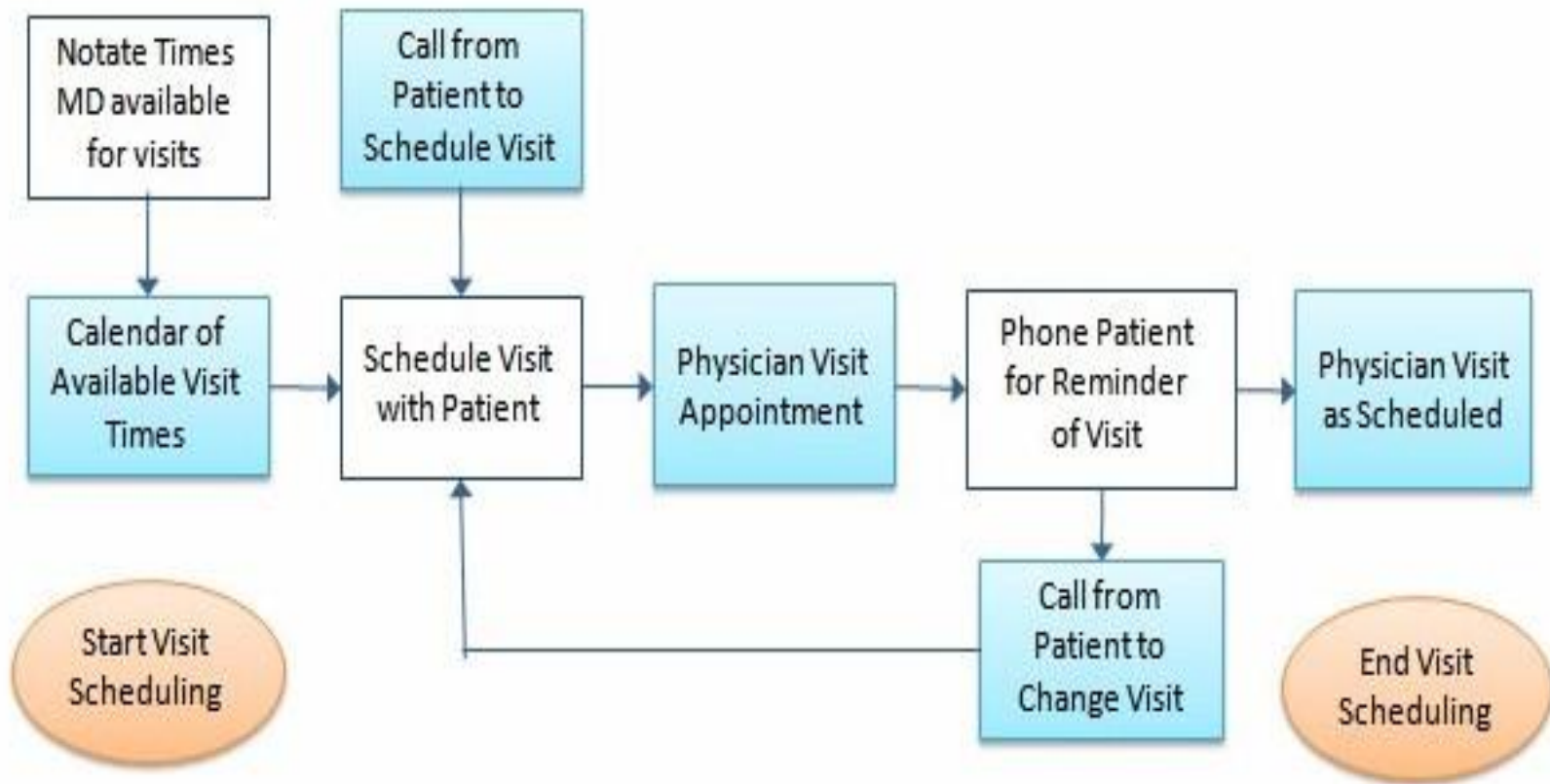
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Muda

The Japanese term for waste, a concept taken from **Lean** manufacturing, (**Muda** is anything that does not add value to the customer. Although some **Muda** is inevitable, the goal of a **Lean** project is to reduce it as much as possible.)

Process diagram, is a visual representation of the flow of individual steps or activities in a process also known as process flowchart or process mapping.

Process Map – Physician visit Appointment (rev)



AHRQ

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Six Sigma

- ❖ **Six Sigma is disciplined methodology for process improvement that deploys a wide set of tools following rigorous data analysis to identify sources of variation in performance and ways of reducing the variation.**
- ❖ **Six Sigma is founded on Shewhart's statistical process control philosophies and a field of statistics known as process capability studies. Sigma (σ) is a letter in the Greek alphabet used to denote variability.**

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Six Sigma

- ❖ The **six sigma** methodology focuses on reducing variation to improve quality
- ❖ Lean is often a precursor to application of **six sigma**
- ❖ The objective of **six sigma** is to reduce process output variation so that, over time, there are no more than 3.4 defects per million opportunities (for defects)
- ❖ A framework to apply **six sigma** to reduce variation has the acronym **DMAIC**—for **define, measure, analyze, improve, control**—a method that is being used in health services quality and performance improvement.

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Six Sigma

Although **Six Sigma** projects can include a variety of structured steps, they most commonly follow the five steps of **DMAIC** (pronounced dee-MAY-ick) methodology:

- 1. Define the problem.**
- 2. Measure key aspects of the process.**
- 3. Analyze the data.**
- 4. Improve the system.**
- 5. Control and sustain the improvement.**

THANK YOU