HealthStream Regulatory Script

Performance Improvement in the Workplace
Version: May 2008

Lesson 1: Introduction
Lesson 2: Opportunities, Teams, & Assignments
Lesson 3: Timeline, Customers, & Process
Lesson 4: Problems, Solutions, & Action Plans
Lesson 1: Introduction

Welcome to the introductory lesson on how to improve performance in the workplace.

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If you have concerns about any aspect of the safety or quality of patient care in your organization, be aware that you may report these concerns directly to The Joint Commission.
**Course Rationale**

Have you ever wondered whether what you do at work makes a difference? And, if what you do does make a difference, could anyone ever really measure that difference?

If so, you will appreciate performance improvement (P.I.). P.I. is a structured method for making a difference and tracking that difference.

This course will walk you through the performance improvement (P.I.) process in a step-by-step way. You will learn how to use the P.I. strategy to help your facility:

- Improve the quality of its services
- Increase customer satisfaction
- Save time and money

Note: You should already have a working knowledge of Part I in this series, *Introduction to Performance Improvement*.

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**The P.I. Process:**

1. Identify opportunity for improvement.
2. Assemble team and deliver assignment.
3. Develop timeline.
4. Identify customers and expectations.
5. Assess current process and outcomes.
6. Identify problems in current process.
7. Develop cost-effective solutions.
8. Develop a plan to implement solutions and evaluate improvement.
Course Goals

After completing this course, you should be able to:
- List the steps in the performance improvement process
- Identify the tasks involved in each step of a P.I. project
This first lesson gave the course rationale and goals.

Lesson 2 describes the first two steps in the P.I. process. You will learn about identifying opportunities and assembling teams.

Lesson 3 describes the next three steps in the P.I. process. You will learn about developing a timeline, identifying customers, and assessing the current process.

Finally, lesson 4 describes the last three steps in the P.I. process. You will learn about identifying problem areas, coming up with cost-effective solutions, and coming up with a plan for putting solutions in place.

FLASH ANIMATION: Course Map

Lesson 1: Introduction
Lesson 2: Opportunities, Teams, and Assignments
- Identifying opportunities for improvement
- Assembling a P.I. team
- Receiving an assignment
Lesson 3: Timeline, Customers, and Process
- Developing a timeline
- Identifying customers
- Assessing process and outcomes
Lesson 4: Problems, Solutions, and Action Plans
- Identifying problem areas
- Developing cost-effective solutions
- Developing an action plan
Welcome to the lesson on opportunities, teams, and assignments. After completing this lesson, you should be able to:

- Select opportunities for improvement based on three key ingredients
- Identify the parts of an opportunity statement
- Recognize the role of each member of a P.I. team

**FLASH ANIMATION: Lesson Map**

Lesson 2: Opportunities, Teams, and Assignments

- Identifying opportunities for improvement
- Assembling a P.I. team
- Receiving an assignment
### Opportunities for Improvement

The first step in any P.I. project is to find a process that needs to be improved.

**P.I. committees** are in charge of finding these processes.

Committees look for processes that could be improved to:
- Increase the quality of your organization’s services
- Increase customer satisfaction
- Save time and money

<table>
<thead>
<tr>
<th>P.I. project goals:</th>
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<tbody>
<tr>
<td>Improve quality of services.</td>
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<tr>
<td>Increase customer satisfaction.</td>
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<tr>
<td>Save time and money.</td>
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</table>
For this course, let's look at a basic example of a P.I. project.

In this example, a P.I. committee at your facility finds an opportunity for improvement. They name this opportunity:

**Project Meal Tray**

The committee writes an opportunity statement about Project Meal Tray. This statement has the following parts:

- **Definition of improvement goal**
- **Establishment of boundaries**
- **Purpose statement**
- **Explanation of importance**
- **Identification of sponsor**

Click on each item to read that part of the opportunity statement.

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<table>
<thead>
<tr>
<th>CLICK TO REVEAL</th>
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<tbody>
<tr>
<td><strong>Definition of Improvement Goal</strong></td>
</tr>
<tr>
<td>We have an opportunity to reduce mistakes on patient meal trays.</td>
</tr>
</tbody>
</table>

**Establishment of Boundaries [glossary]**

We will improve the process that:

- Starts when patients fill out their menus
- Ends when patients receive their meals

**Purpose Statement [glossary]**

This P.I. effort should help patients get the meals they order.

**Explanation of Importance**

This P.I. effort is important because the present rate of mistakes on patient meal trays is expensive. Mistakes waste time, resources, and meals. Mistakes also decrease customer satisfaction.

**Identification of Sponsor**

The sponsor for this P.I. effort is the Support Service Improvement Committee.
Team

The next step in the P.I. process is to put together a team of employees.

This team consists of:
- A project sponsor
- A team leader
- A team facilitator
- Team members

Click on each team player for a description of that player’s role in Project Meal Tray.

<table>
<thead>
<tr>
<th>CLICK TO REVEAL</th>
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<tbody>
<tr>
<td><strong>Project Sponsor</strong></td>
</tr>
<tr>
<td>The project sponsor is a member of the Support Service Improvement Committee. The sponsor is in charge of making sure the team has all the support it needs.</td>
</tr>
</tbody>
</table>

| **Team Leader** |
| The team leader is in charge of the team. The leader keeps the sponsor updated on the team’s progress. |

| **Team Facilitator** |
| The team facilitator helps team members work together. |

| **Team Members** |
| Team members are the workhorses of the team. They have on-the-job experience and knowledge of meal preparation and delivery. They will participate actively in all team meetings. They will find the problem areas in the current process, and come up with solutions. YOU have been selected as a member of this team! |
Assignment

<table>
<thead>
<tr>
<th>Your P.I. team is meeting for the first time. The project sponsor explains your task. <strong>Task: To make sure patients get the meals they want.</strong> Throughout the remainder of the course, this will be your P.I. mission.</th>
</tr>
</thead>
</table>

As a team member on Project Meal Tray, you will play a key role in helping to ensure that patients get the meals they want!
<table>
<thead>
<tr>
<th>Why is Project Meal Tray important?</th>
<th>MULTIPLE CHOICE INTERACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. The P.I. team has on-the-job knowledge of meal preparation and delivery.</td>
<td>Correct: C</td>
</tr>
<tr>
<td>b. The dietary staff wants to help the organization by being involved in a P.I. project.</td>
<td>Feedback for A: Incorrect. A P.I. project is important when it can improve service, increase customer satisfaction, or save time or money. The correct answer is C.</td>
</tr>
<tr>
<td>c. Mistakes on meal trays decrease customer satisfaction and waste time and resources.</td>
<td>Feedback for B: Incorrect. A P.I. project is important when it can improve service, increase customer satisfaction, or save time or money. The correct answer is C.</td>
</tr>
<tr>
<td>d. A, B, and C</td>
<td>Feedback for C: Correct. A P.I. project is important when it can improve service, increase customer satisfaction, or save time or money.</td>
</tr>
<tr>
<td>e. None of these answers</td>
<td>Feedback for D: Incorrect. A P.I. project is important when it can improve service, increase customer satisfaction, or save time or money. The correct answer is C.</td>
</tr>
<tr>
<td></td>
<td>Feedback for E: Incorrect. A P.I. project is important when it can improve service, increase customer satisfaction, or save time or money. The correct answer is C.</td>
</tr>
</tbody>
</table>
You have completed the lesson on opportunities, teams, and assignments.

Remember:
- The goal of performance improvement is to increase the quality of services, improve customer satisfaction, or save time and money.
- Players on a P.I. team include the project sponsor, the team leader, the team facilitator, and team members.
Lesson 3: Timeline, Customers, & Process

**Introduction & Objectives**

Welcome to the lesson on timelines, customers, and process.

After completing this lesson, you should be able to:

- Arrange a timeline for a P.I. project
- Identify the customers affected by a P.I. project
- Determine the needs, wants, and expectations of customers
- Analyze a process by breaking it down into steps
- Recognize the importance of data collection in a P.I. project

**FLASH ANIMATION: Lesson Map**

Lesson 3: Timeline, Customers, and Process

- Developing a timeline
- Identifying customers
- Assessing process and outcomes
You have a P.I. team.
You have a P.I. project.
The next step is to come up with a timeline.
A timeline will help keep your team on track throughout the P.I. process.
On the timeline, your team might want to put:
• Start dates for each step in the P.I. process
• End dates for each step in the P.I. process
• Important milestones
A sample timeline for Project Meal Tray is shown in the image to the right.
The next step is to identify customers and their expectations. Remember: P.I. works to:
- Provide better service
- Increase customer satisfaction

Therefore, you must identify customers. Otherwise, the changes you make may not be meaningful improvements.

When identifying customers, be sure to think broadly. A customer is anyone who needs information or services from someone else.

We already know one of the customers for Project Meal Tray: patients.

Can you think of any other customers?

Type your thoughts in the box below. Then click Submit to compare your thoughts to ours.

Did you think of either of the following?
- Diet technicians
- Tray line employees

Both groups will be affected by Project Meal Tray. Therefore, they are customers.
Customer Expectations (1)

You have identified your customers.

The next step is to find out what those customers:
- Need
- Want
- Expect

Do not assume or guess—ask!

Ask team members with on-the-job knowledge.

Or, offer to do some fieldwork. Between team meetings, interview a patient, a diet technician, or a tray line employee. Then report back to the team.

Click on each of the following for reports of interviews with:
- A patient
- A diet technician
- A tray line employee

CLICK TO REVEAL

Patient
A team member reports the following statement from a patient:
“When you have nothing better to do than look forward to meals, it’s frustrating not to get what you want. Sometimes they tell me the things I ordered weren’t approved by my doctor. Why couldn’t they tell me that before I ordered them? I want to know what I can order, and I want them to get my order right every time!”

Diet Technician
A team member reports the following statement from a diet technician:
“A lot of times, patients don’t fill out their menus correctly. If I go back to find out what they really want, I’m late in getting the order to the tray line. If I can’t find the patient or I’m pressed for time, I just have to guess the best I can. What would help me is to have every menu filled out clearly and correctly every time.”

Tray Line Employee
A team member reports the following statement from a tray line employee:
“We seem to take the blame when things go wrong. We try to fill orders correctly, but it’s hard when things get backed up. We ask the diet techs to get orders to us by a certain time, but a lot of the time, they’re late. We can’t do our jobs right if we don’t have enough time to fill orders. Another problem we have is that the things we need aren’t always in stock. If a patient orders vanilla pudding and we don’t have any pudding in stock, we just have to substitute the next best thing. To fill orders completely every time, we need a better stock supply. And one more thing—a lot of times, the diet techs sort the menus incorrectly. Our people end up delivering trays to the wrong units—and we get the blame!”
FLASH INTERACTION: 3005.SWF

Based on the interviews reported on the previous screen, answer the following questions:

1. What do patients need, want, and expect?
   [answer field]

2. What do diet technicians need, want, and expect?
   [answer field]

3. What do tray line employees need, want, and expect?
   [answer field]

Click Submit to compare your answers to ours.

What do patients need, want, and expect?
Patients need, want, and expect:
- To know what they can and cannot order
- To get what they order every time

What do diet technicians need, want, and expect?
Diet techs need, want, and expect:
- To have every patient menu filled out clearly and correctly every time

What do tray line employees need, want, and expect?
Tray line employees need, want, and expect:
- Enough time to fill orders correctly
- A better stock supply
- Correct sorting of menus
You have identified your customers.

You know what each customer:
- Needs
- Wants
- Expects

The next step is to look at the **process**.

A process is a series of steps that leads to an outcome.

In this case, the outcome is meals for patients.

The process that leads to this outcome is shown in the graphic to the right.
When you study the process, you are able to identify all key steps.

When you identify all key steps, you are able to collect data related to each of those steps.

For Project Meal Tray, your team collects the following data:

- Number of mistakes made by patients when filling out menus
- Number of menus sorted incorrectly
- Number of trays that must be corrected after orders are filled
- Number of trays that cannot be corrected because items ordered are not in stock
- Number of trays delivered to the wrong unit
- Number of patients who ultimately receive incorrect meals
Outcomes

You have collected information about the process.

The next step is to collect information about outcomes.

For example, your team answers the following questions:
- What is the current customer satisfaction rate?
- How much time is lost when trays must be corrected?
- How much money is lost when trays must be corrected?
- How much money is lost when patients do not eat incorrect meal items?
Process & Outcome Data

You have collected information about:
- Steps in the process
- Outcomes of the process

Why is this information so important?

Collecting facts, figures, and other data allows you to:
- Identify problem areas in the process
- Establish a performance baseline [glossary]
- Set improvement goals
- Measure improvement against the baseline

All of this will be discussed in greater detail in the next lesson.
According to the statements collected in **Project Meal Tray**, what do diet technicians need?

a. Fewer patients  
b. Patient menus completed clearly and correctly  
c. Clearer instructions from physicians regarding what patients can and cannot order  
d. A, B, and C  
e. None of these

### MULTIPLE CHOICE INTERACTION

Correct answer: B

Feedback for A: Incorrect. The diet technician interviewed stated only one need: to have menus filled out clearly and correctly every time. The correct answer is B.

Feedback for B: Correct. The diet technician interviewed stated only one need: to have menus filled out clearly and correctly every time.

Feedback for C: Incorrect. The diet technician interviewed stated only one need: to have menus filled out clearly and correctly every time. The correct answer is B.

Feedback for D: Incorrect. The diet technician interviewed stated only one need: to have menus filled out clearly and correctly every time. The correct answer is B.

Feedback for E: Incorrect. The diet technician interviewed stated only one need: to have menus filled out clearly and correctly every time. The correct answer is B.
Summary

You have completed the lesson on timelines, customers, and process.

Remember:
- A timeline is important to keep a P.I. project on track.
- Meaningful improvements are based on what customers need, want, and expect. Therefore, a key step in the P.I. process is to identify customers.
- When identifying customers, think broadly. Remember that a customer is anyone who needs information or services from someone else.
- Do not guess what customers need and want. Ask!
- The next step in a P.I. project is to study the process. Identify each step in the process. Collect information about each step.
- Finally, collect information about outcomes. This will establish a baseline for measuring later improvement.
Lesson 4: Problems, Solutions, & Action Plans

Introduction & Objectives

Welcome to the lesson on problems, solutions, and action plans.

After completing this lesson, you should be able to:

• Identify the root cause of a problem
• Complete a cause-and-effect diagram to illustrate the root causes of a problem
• Identify the key parts of a P.I. action plan

FLASH ANIMATION: Lesson Map

Lesson 4: Problems, Solutions, and Action Plans
• Identifying problem areas
• Developing cost-effective solutions
• Developing an action plan
You know the main problem: mistakes on patient meal trays.

You have information from:
- Patients
- Diet techs
- Tray line employees

You also have information on the process.

The next step is to use this information to find the root causes of the main problem.

Visible problems...

…always have underlying causes.
One way of illustrating root causes is to use a cause-and-effect diagram. This is shown in the image to the right.

To make a cause-and-effect diagram, keep asking yourself: “Why?”

Use all of the information you have gathered to answer this question.

For example:
- Patients do not get the meals they order: Why?
- Because tray line staff do not have enough time to prepare trays properly: Why?
- Because diet techs deliver menus late: Why?
- Because diet techs have to correct patient mistakes on menus: Why?
- Because patients fill out menu forms incorrectly: Why?
- Because patients do not understand how to fill out menu forms

By tracing a problem back to its root cause, you are more likely to find an effective solution.
You have found root causes.
The next step is to come up with cost-effective solutions.
Cost-effective solutions provide enough benefit to be worth the cost.
Cost-benefit analysis can help show whether a solution is likely to be cost-effective.
### Cost-Effective Solutions (2)

Your team comes up with the following possible solutions:
- Change the menu order form so that patients understand it
- Teach patients how to fill out menu forms correctly
- Train diet techs so that they understand how to sort menus correctly
- Come up with a better method for sorting menus
- Look at the process for stocking food supplies

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**Potential solutions for Project Meal Tray:**

- Improved menu order form
- Improved patient education
- Improved training for diet techs
- Improved method for sorting menus
- Improved method for stocking food

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Point 5 of 9
Developing a Plan

The final step in the P.I. process is to come up with a plan.

This plan should describe:
- How to put your team’s solutions in place
- How to evaluate the success of your solutions

The plan should include:
- **An improvement target**
- **Assignment of responsibility**
- **A method of evaluation**

Click on each component of the plan to learn more.

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<tbody>
<tr>
<td><strong>Improvement Target</strong></td>
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<tr>
<td>The improvement target is a <em>specific, measurable</em> goal. For example, in <strong>Project Meal Tray</strong>, your team’s improvement target might be zero mistakes on patient meal trays. The target should meet customer expectations. At the same time, you need to be realistic. Another example of a specific improvement target for <strong>Project Meal Tray</strong> would be a certain customer satisfaction rating. For example, your team might set a goal for 95% patient satisfaction with delivered meals.</td>
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</tbody>
</table>

| Assignment of Responsibility  |
| In most cases, the P.I. team is not responsible for putting solutions in place. For example, your team might recommend that the dietary department should take on the task of revising the menu form. |

| Method of Evaluation  |
| Evaluation should look at:  |
| - The process as a whole, including the improvement target  |
| - Each of the steps in the process  |
| By evaluating each step in the process, you can figure out:  |
| - Which of your solutions have been effective, and which solutions have not been effective  |
| - Where in the process improvement has occurred, and where there are still problems  |
Congratulations

You have completed your performance improvement project. As a result of this project:

- Your organization is more efficient
- Customers are happier

Nice work!
In **Project Meal Tray**, the P.I. team found that tray line employees often do not have enough time to prepare trays correctly. The deepest root cause of this problem is:

- a. The tray line is understaffed.
- b. Diet techs deliver menus late.
- c. Tray line employees do not work fast enough.
- d. Patients do not understand how to fill out menu forms.

**MULTIPLE CHOICE INTERACTION**

Correct: C

Feedback for A: Incorrect. The correct answer is D. Patients do not understand the menu form. Therefore, they make mistakes. The diet tech must correct these mistakes. As a result, menus are delivered to the tray line late. This leaves the tray line staff with too little time to prepare trays correctly.

Feedback for B: Incorrect. The correct answer is D. Patients do not understand the menu form. Therefore, they make mistakes. The diet tech must correct these mistakes. As a result, menus are delivered to the tray line late. This leaves the tray line staff with too little time to prepare trays correctly.

Feedback for C: Incorrect. The correct answer is D. Patients do not understand the menu form. Therefore, they make mistakes. The diet tech must correct these mistakes. As a result, menus are delivered to the tray line late. This leaves the tray line staff with too little time to prepare trays correctly.

Feedback for D: Correct. The correct answer is D. Patients do not understand the menu form. Therefore, they make mistakes. The diet tech must correct these mistakes. As a result, menus are delivered to the tray line late. This leaves the tray line staff with too little time to prepare trays correctly.
You have completed the lesson on problems, solutions, and action plans.

Remember:
- To find the root cause of a problem, keep asking, “Why?”
- A cause-and-effect diagram is a good way to show root causes.
- Tracing a problem back to its root causes helps you find effective solutions.
- A P.I. action plan should include an improvement target, assignment of responsibility, and a method for evaluation.
## Course Glossary

<table>
<thead>
<tr>
<th>#</th>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td></td>
<td>boundary</td>
<td>limit</td>
</tr>
<tr>
<td></td>
<td>purpose statement</td>
<td>expression of a goal or desired outcome</td>
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<tr>
<td></td>
<td>baseline</td>
<td>starting point</td>
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Pre-Assessment

1. Performance improvement (P.I.) committees look for processes that could be improved. The committee chooses processes that could be improved to achieve one of three different goals. The best description of one of these goals is:
   a. Increase customer loyalty
   b. Increase customer satisfaction
   c. Increase the number of customers
   d. Increase the number of repeat customers

   Correct: Increase customer satisfaction.
   Rationale: One goal of P.I. is to increase customer satisfaction. Meeting this goal may lead to the other outcomes listed here. However, the P.I. goal is customer satisfaction.

2. A performance improvement (P.I.) project includes an opportunity statement. One part of an opportunity statement is:
   a. Definition of improvement goal
   b. Explanation of the P.I. process
   c. List of potential barriers to improvement
   d. Identification of changes that need to be made

   Correct: Definition of improvement goal
   Rationale: A P.I. opportunity statement includes a definition of the goal.

3. Choose the best description of a performance improvement (P.I.) project sponsor:
   a. The project sponsor is in charge of the P.I. team.
   b. The project sponsor helps the P.I. team work together.
   c. The project sponsor identifies problems and comes up with solutions.
   d. The project sponsor makes sure the P.I. team has all needed support.

   Correct: The project sponsor makes sure the P.I. team has all needed support.
   Rationale: The project sponsor has the job of making sure the P.I. team has all the support needed to complete the project.

4. Choose the best description of a performance improvement (P.I.) team facilitator:
   a. The team facilitator is in charge of the P.I. team.
   b. The team facilitator helps the P.I. team work together.
c. The team facilitator identifies problems and comes up with solutions.
d. The team facilitator makes sure the P.I. team has all needed support.

Correct: The team facilitator helps the P.I. team work together.
Rationale: The facilitator helps the team work together.

5. You are arranging a timeline for a performance improvement (P.I.) project. Choose the item that must appear on the timeline:
   a. Definition of P.I.
   b. List of project tasks
   c. Definition of project goal
   d. List of P.I. team members

Correct: List of project tasks
Rationale: The project tasks must be listed, with start dates and stop dates for each.

6. You are on a performance improvement (P.I.) team. The team is working on improving process X. You are in charge of identifying anyone who needs information or services related to process X. These people are best described as:
   a. The staff for process X
   b. The managers of process X
   c. The developers of process X
   d. The customers for process X

Correct: The customers for process X
Rationale: One P.I. task is to identify customers. A customer is anyone who needs information or services related to a particular process.

7. The best way to determine the needs and wants of customers is to:
   a. Ask the customer
   b. Ask a polling service
   c. Make an educated guess
   d. Make an assumption based on the information available to you

Correct: Ask the customer
Rationale: To determine the needs and wants of customers, the best approach is to ask the customer directly.

8. The best way to analyze a process is to:
   a. Identify each of the steps in the process
   b. Identify all of the supervisors for the process
c. Identify each of the customers for the process
d. Identify all of the staff who work on the process

Correct: Identify each of the steps in the process
Rationale: A process is a series of steps that lead to an outcome. The best way to analyze a process is to identify its steps.

9. It is important to collect data during a performance improvement (P.I.) project. One important use for data is:
   a. To establish the boundaries of the project
   b. To have numbers to report to upper-level management
   c. To measure improvement against baseline performance
   d. To identify employees who are not doing their job and should be replaced

Correct: To measure improvement against baseline performance
Rationale: In P.I., data are used to measure improvement against baseline.

10. One effective way to determine the root cause of a problem is to:
    a. Get the opinion of customers
    b. Keep asking yourself, "Why?"
    c. Identify the most apparent cause of the problem
    d. Choose the cause that leads most directly to the problem

Correct: Keep asking yourself, "Why?"
Rationale: Root causes are the deepest causes of a problem. To identify these causes, keep asking why more surface problems are happening.

11. Which of the following is one part of a performance improvement (P.I.) action plan?
    a. A method for interviewing customers
    b. A method for evaluating improvement
    c. A method for diagramming the process
    d. A method for coordinating the work of the P.I. team

Correct: A method for evaluating improvement
Rationale: A P.I. action plan should include a method for evaluation.
Final Exam

1. P.I. committees look for processes that could be improved. The committee chooses processes that could be improved to achieve one of three different goals. The best description of one of these goals is:
   a. Cut payroll expenses
   b. Save time and money
   c. Attract new customers
   d. Expand the organization

Correct: Save time and money
Rationale: One goal of P.I. is to save time and money

2. A P.I. project includes an opportunity statement. One part of an opportunity statement is:
   a. Definition of P.I.
   b. List of P.I. team members
   c. Explanation of the project's importance
   d. Identification of potential barriers to improvement

Correct: Explanation of project's importance
Rationale: The opportunity statement should explain the project's importance.

3. Choose the best description of a P.I. team leader:
   a. The team leader is in charge of the P.I. team.
   b. The team leader helps the P.I. team work together.
   c. The team leader identifies problems and comes up with solutions.
   d. The team leader makes sure the P.I. team has all needed support.

Correct: The team leader is in charge of the P.I. team.
Rationale: The leader is in charge of the team.

4. Choose the best description of a P.I. team member:
   a. The team member is in charge of the P.I. team.
   b. The team member helps the P.I. team work together.
   c. The team member identifies problems and comes up with solutions.
   d. The team member makes sure the P.I. team has all needed support.

Correct: The team member identifies problems and comes up with solutions.
Rationale: Team members do the work of P.I. They identify problems and come up with solutions.
5. You are arranging a timeline for a P.I. project. Choose the item that must appear on the timeline:
   a. Definition of improvement goal
   b. Start date for each project task
   c. Explanation of project boundaries
   d. Identification of improvement sponsor

Correct: Start date for each project task
Rationale: The timeline lists project tasks, with a start and stop date for each.

6. You are identifying the customers for process X. To identify ALL customers, you should identify:
   a. The people in charge of process X
   b. The people who created process X
   c. Anyone who has a role in supervising or managing process X
   d. Anyone who needs information or services related to process X

Correct: Anyone who needs information or services related to process X
Rationale: A customer is anyone who needs information or services related to a particular process.

7. The best way to determine the needs and wants of customers is to:
   a. Get opinions from customers
   b. Get opinions from your friends
   c. Get opinions from management
   d. Get opinions from customer service staff

Correct: Get opinions from customers
Rationale: The best way to identify customer needs and wants is to ask the customer directly.

8. The best way to analyze a process is to:
   a. Break the process down into steps
   b. Ask customers about their experience
   c. Identify the person who developed the process
   d. Compare the goal of the process to the actual outcome

Correct: Break the process down into steps
Rationale: A process is a series of steps that lead to an outcome. The best way to analyze a process is to break it down into its steps.
9. It is important to collect data during a P.I. project. One important use for data is:
   a. To identify the steps in the process
   b. To identify a sponsor for the project
   c. To identify customers for the process
   d. To identify problem areas in the process

Correct: To identify problem areas in the process
Rationale: In P.I., data are used to identify problem areas.

10. Root causes of a problem can be illustrated in a cause-and-effect diagram. The best way to make a cause-and-effect diagram is to:
    a. Keep tracing back to deeper problems by asking, "Why?"
    b. Brainstorm possible causes that might lead to the problem
    c. Record only those causes that lead most directly to the problem
    d. Survey customers to identify as many causes of the problem as possible

Correct: Keep tracing back to deeper problems by asking, "Why?"
Rationale: Root causes are the deepest causes of a problem. To identify these causes, keep asking why more surface problems are happening.

11. One part of a P.I. action plan is:
    a. An improvement target
    b. A list of P.I. team members
    c. A definition of improvement
    d. An explanation of the P.I. process

Correct: An improvement target
Rationale: A P.I. action plan should include an improvement target.