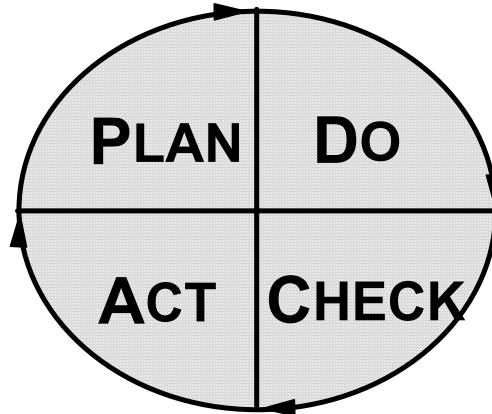
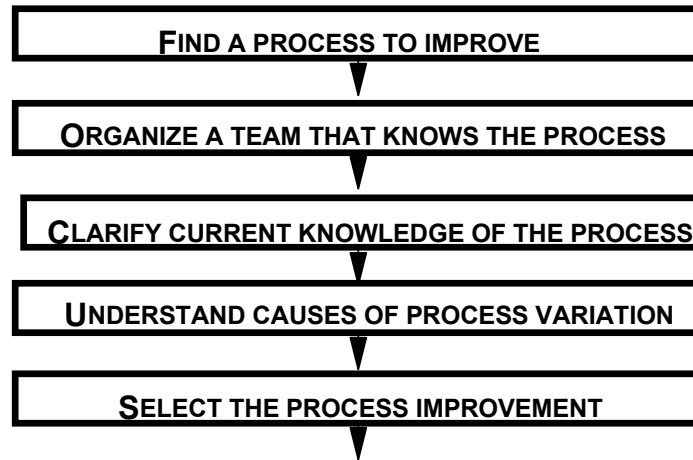


THE FOCUS-PDCA STRATEGY



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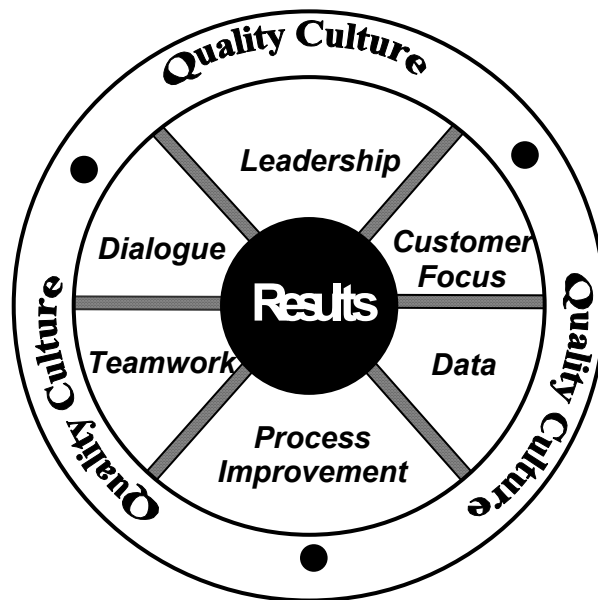
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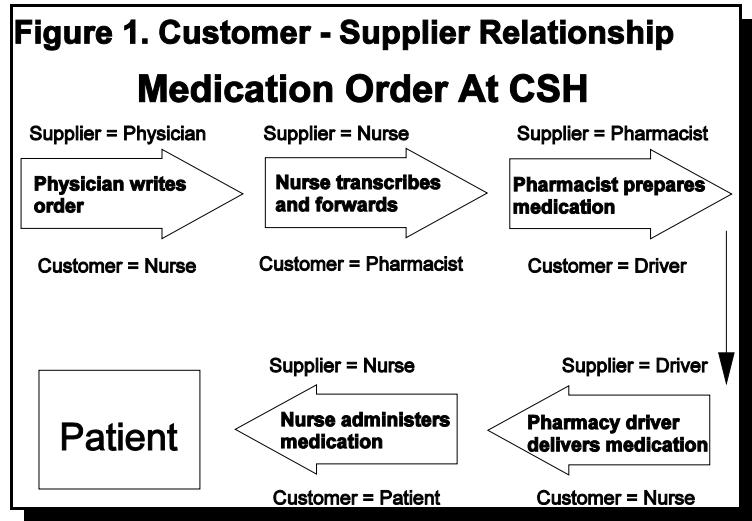
INTRODUCTION

The intent of this manual is to assist CSH Performance Improvement Teams (PITs) in using the FOCUS-PDCA methodology to improve processes and, thus organizational performance. Incidentally, please note that at our facility Performance Improvement Teams are also called Process Improvement Teams (PITs). The manual is also intended as an aid in training employees in the use of the FOCUS-PDCA methodology. Of course, every performance improvement opportunity encountered will not lend itself to the presented methodology; indeed, some performance improvement activities do not even require a PIT. Furthermore, for the design of completely new processes some elements of the FOCUS-PDCA methodology will not be relevant. However, to the greatest extent possible CSH will use the FOCUS-PDCA methodology to both structure and document process improvement efforts. This approach should create a common set of documents and data that can be understood and shared by all Divisions, Departments and Offices (DDOs).

Why all of the emphasis on process? Research suggests that approximately 85% of all the problems encountered in the health care field are process problems. *This means that only the remaining 15% are problems with equipment or performance issues with people.* These problems are sometimes referred to as "special causes" to separate them from process issues. Devoting adequate resources to process improvement activities should yield the most rapid and effective changes in organizational performance. The most recent JCAHO standards place significant emphasis upon improving organizational performance (IOP) through the analysis and systematic improvement of processes.

But what is a process? A process is simply a series of related steps that, using available staff and material resources, meet the customer's needs. Along this series of steps *suppliers* provide *inputs* to the process while *outputs* are created for the *customers*. Every process and each step within a process typically has a customer and a supplier. Often an extremely complex process that consists of many sub-processes will be referred to as a *system*. To improve a process this *customer-supplier* relationship must be understood by all staff involved in the performance improvement effort.

Figure 1 illustrates this relationship applied to a common process at CSH: the administration of medications. This example uses a medical procedure; however, any process consists of similar customer-supplier relations and their respective inputs and outputs. Thus it makes little difference whether the process is painting offices, cleaning floors, assessing clients or answering telephones. Does this method of process analysis really differ substantially from the way problem solving has always been conducted at CSH? Yes, it does. A properly constituted PIT armed with process improvement tools is much more effective and efficient than an *ad hoc* group or "task force" that simply produces recommendations for change (and typically begins with the study of a solution rather than the process). Of course, performance improvement involves problem solving; however, problem solving alone may not always significantly improve a process. In fact, traditional problem solving could solve one DDO's problem while creating new problems for other DDOs. This is because without a thorough understanding of the process, it is easy to view one segment as the whole, and ignore other components of the system that may equally need improvement.



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The Joint Commission on Accreditation of Healthcare Organizations' (JCAHO) Accreditation Manual for Hospitals (AMH) states that performance is *what* is done and *how* well it is done to provide health care or other services. So where does quality fit into all of this? From a performance and process perspective, *quality is doing the right things right*. And if we do the right things right we hopefully achieve:

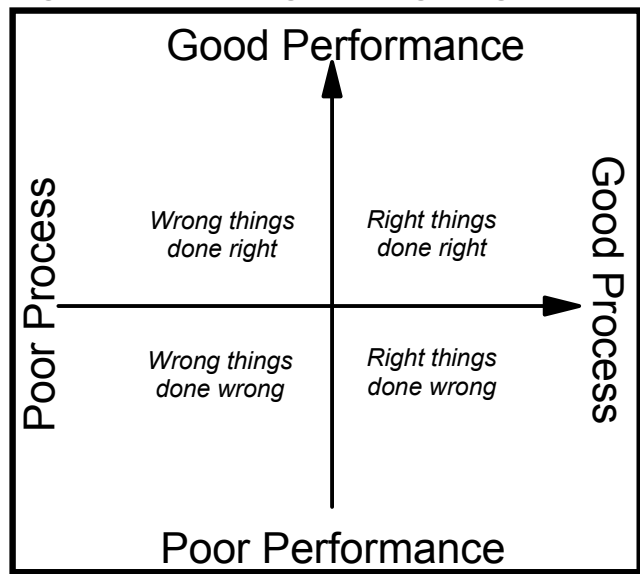
- T Positive outcomes for our patients;
- T customer satisfaction;
- T a work environment that attracts and retains talented staff; and
- T good financial performance.

Figure 2 demonstrates the relationship between process and performance necessary to result in quality. Let's look at some examples of these relationships.

< **Right Things Done Right**

Suppose a mechanic in our automobile shop has a new electronic engine analyzer. Now further suppose that he knows how to use the equipment (process) and uses it correctly all of the time (performance): *this is doing the right things right and high quality is the result.*

Figure 2. "The Right Things Right"



Concept: The Quality Quest

< **Right Things Done Wrong**

But what if the mechanic does not use the equipment properly even though it is properly calibrated? Or what if a Treatment Team has a very good process for producing treatment plans but they don't follow the established process? *These are examples of doing the right things incorrectly and the result is a lack of quality.*

< **Wrong Things Done Wrong**

The worse case is when the mechanic's equipment is not functioning properly *and* he doesn't know how to properly use it. Keeping with our treatment example, what if a Treatment Team had a poor process for producing plans and then failed to even understand or follow that process? *This produces the most severe lack of quality: doing the wrong things wrong.*

< **Wrong Things Done Right**

And lastly, what if the mechanic uses the equipment correctly all of the time but the equipment is faulty? Or what if the Treatment Team always follows the established process of developing plans but the process is faulty? *Again we have poor quality for the wrong thing is being performed correctly.*

Clearly, we must do the right things consistently right, and the best way to achieve this is to design the best processes to get the job done. This will yield improved quality or organizational performance.

○ Remember, whether we are talking about improving organizational performance or quality improvement, the concept of doing the right things consistently right applies all the same.

The Total Quality Management (TQM) movement has created many useful tools to facilitate process improvement activities. The methodology presented within this manual will introduce several of these tools; however, a complete presentation of TQM is well beyond the scope of this endeavor. The suggested readings list in the appendix will refer you to additional TQM literature. TQM tools have proven useful in a wide variety of settings and the reader is encouraged to not dismiss them as trendy jargon. Remember, if you only have a hammer every problem will look like a nail! Among the tools to be discussed is brainstorming, multivoting, Pareto charts, flowcharts and cause-effect (fishbone) diagrams. Not only do these tools improve efficiency when correctly used but, as an added bonus, they can even be fun to implement.

Although performance improvement teams are only one dimension of TQM, they are an important element and this manual will focus on their operation. The primary agenda of PITs is to improve organizational performance using the tools described throughout this manual. However, at least initially, PITs serve another purpose: they frequently serve an educational purpose and over time this may be as important as the early performance improvements. Many initial teams will serve to sow the seeds of quality leadership throughout our facility.

Above all do not get discouraged. Early on try to select improvements within your span of control. Concentrate on results that will gain the respect of others (including the skeptics). Concentrate your efforts on getting the attention of top management and making them believers and champions of the process. Without their support most performance improvement efforts will wither on the vine. Some people seem to quickly grasp TQM and how to use its tools. To them customer surveys, measurement techniques, analysis of data, flow-charting, etc., seem like a natural way of doing business. But for others it will be a slow transformation that can take years to accomplish.

○ Remember the old adage "It's better to light a single candle than curse the darkness." Start out slowly and try to build champions.

The following sections will explain in some detail the individual stages of the FOCUS-PDCA methodology. Please take note that the cycle is not as linear as it may appear. Many techniques, e.g., brainstorming, multivoting, etc., are introduced in the stage that they are most likely to be first encountered; however, this does not mean that using them earlier in the process would be inappropriate. Even the different stages of the FOCUS-PDCA cycle may overlap and blend rendering the process seamless to the extent that identifying a particular stage is not easy.

FIND A PROCESS TO IMPROVE

There are many ways to find a process to improve. A comparison has been made to a fruit tree. When you first begin to harvest the fruit, it is very easy since it probably is lying about the ground; however, the more harvested the more difficult it becomes to obtain. Thus, when an organization first begins performance improvement activities, the opportunities are relatively easy to discover. So easy that they may readily suggest improvements that can quickly be achieved. The longer the organization continues its improvement activities, the more likely it is that intractable problems will be encountered, i.e., the remaining fruit is on the higher branches. Because of this increasing difficulty in dealing with processes, there are more structured ways of finding opportunities than simply picking one up from the ground. At CSH the following systems are but a few that may suggest opportunities for improving performance:

- < The Quarterly Review
- < Standards of Care
- < Customer Satisfaction Surveys
- < The Problem Identification Tracking System (PITS)
- < Accident and Injury Reports
- < Action/Recommendation Sections of Committee Minutes
- < Employee Suggestions
- < Third Party Surveys

Though the improvement opportunity may appear obvious, it is important that some data exist to support the need for the improvement. Some of the above systems, e.g., the quarterly review, are presented in a format that readily lends itself to performance improvement. In other cases, it may be necessary to develop some mechanism for specifically learning the extent of the problem. If this is not accomplished, it may become difficult to show significant improvement occurred. Understanding the importance of measurement and the expectations of customers will help determine both the composition of the PIT and the boundaries of the process to be improved.

○ Performance improvement activities are usually started because a manager or several managers deem it important. Without this managerial concern, it may be difficult to produce change. It is an advantage to have everyone pulling for the team.

○ The PIT Facilitator can suggest ways of measuring improvements.

Try to avoid the following common mistakes in the search for improvement opportunities:

- < Selecting a system to study instead of a process. A system may consist of so many processes that the complexity is overwhelming. For example, instead of selecting treatment planning, the team might want to consider the assessment process or the process of the interdisciplinary team conference.
- < Selecting a process no one is interested in. Initially, try to pick opportunities for improvement that people care about! This approach will greatly improve the level of commitment of both management and the team members. This does not mean that you should avoid critical issues with which staff may not want to deal.
- < Selecting a desired outcome instead of a process. Frequently managers will already have a desired solution to the problem in mind and will convene a PIT to study the solution. PITs must be free to select whatever interventions they think are best. Sure, the suggested solution may be the best, but this is determined only after thorough analysis of the process.

○ The boundaries of the process should never be so broad that the procedure becomes unmanageable. In most situations the problems have existed for a long time and do not have to be fixed all at once. Boundaries that cross departments, sections, etc., are acceptable, often necessary, and are referred to as cross-functional. Just insure that cross-functional teams are kept to a practical number.

ORGANIZE A TEAM THAT KNOWS THE PROCESS

WHO MAKES UP THE TEAM?

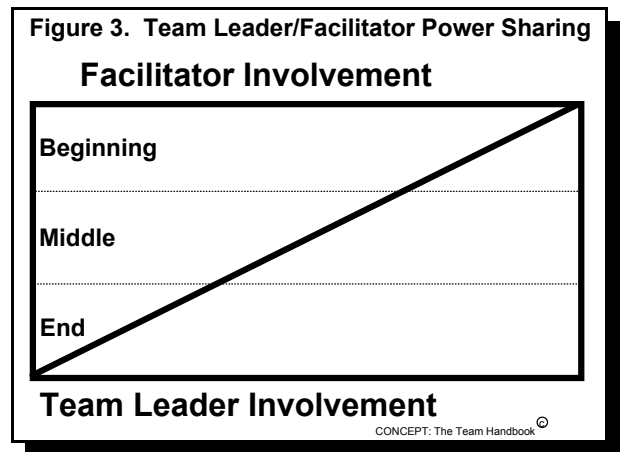
The Team Leader

The Team Leader chairs the PIT and is sometimes also the "owner" of the process. To call a staff person the owner of a process is simply to assume that he or she has some degree of direct control over the process. If the process is under the managerial responsibility of the Team Leader, it may be easier and less time consuming to improve the process. Frequently this is not possible, particularly with cross-functional teams and in such cases the Team Leader could be one of the "co-owners" of the process. Also, to the greatest extent possible the Team Leader should be a good group leader with a knowledge of consensus building skills.

Examples of Responsibilities:

- < Schedule meetings
- < Serve as full participating member of the team (see team member role)
- < Function as the contact person for communication between the team and the CSH management hierarchy. For example, the Team Leader should act to resolve problems that may occur with members not being granted sufficient time for the work of the team, etc.
- < Arrange for the appointment of a Recorder and Time Keeper
- < Lead the team in the use of the various performance improvement tools, i.e., brainstorming, consensus building, etc.

Figure 3 shows how the roles of the Team Leader and the Facilitator change as the team matures. At the beginning the Team Leader may rely on the Facilitator to provide much of the necessary leadership; however, as the team becomes more comfortable in its responsibilities, the Team Leader assumes more of the leadership. Of course, this growth process would not be necessary if the Team Leader was already experienced in leading PITs. Remember the "85-15" rule mentioned earlier? This can also be applied to the actual process of conducting a PIT. The Team Leader must provide the proper structure for the team to function and, in general, not blame the members for problems.



The Facilitator

A Facilitator is assigned to a PIT to assist the team in the use of process improvement tools. Although the Facilitator attends the team meetings, he or she is not the Team Leader or even an official member of the team. They facilitate not dictate and they are more concerned with how decisions are made rather than with what the decisions actually are.

Examples of Responsibilities

- < Assist members in measurement, understanding of statistics, etc.
- < Assist and train Team Members in use of improvement tools.
- < Assist Team Leader in dealing with divisive or digressive members.
- < Assist teams in summary presentations to management.

The Recorder

The Recorder is responsible for keeping the minutes of the team and, optionally, for documenting the track of the FOCUS-PDCA process. Unless the recorder agrees to serve for the duration, this responsibility should be rotated among team members. And remember, if a secretary is a team member, he or she should not be automatically selected to serve as the Recorder.

Examples of responsibilities include:

- < maintenance of minutes as requested by the team, and
- < if requested, documentation of the progress of the PIT using the Performance Improvement Action Report format (see Appendix 4).

The Time Keeper

The Time Keeper is a team member who has agreed to periodically remind the team of the assigned time remaining for agenda items and the meeting as a whole. This action can be very beneficial in insuring that members of the team stay on task. Many of the tools and roles of the members described within this manual have a primary purpose of keeping the team on track and focused. The use of these tools should further enable groups to break out of the old mold of spending significant time on items extraneous to the task at hand.

Team Members

Simply stated, the members of the team are the process experts, i.e., those that best understand the process to be improved. Although this may appear obvious, frequently teams are composed of members who *supervise* the experts and do not have direct knowledge of or experience with the process. Supervisors can be expert members of a PIT - just remember to let the process determine the members instead of position, stature, etc.

○ Check to insure that team members represent the customers and suppliers in the process, i.e., those who provide inputs and receive outputs.

Examples of responsibilities include:

- < attending team meetings on a regular and prompt basis;
- < full participation in all process improvement activities and recognition that the assignment to the team is not an imposition, i.e., not an assignment to be considered as an addition to their "real job;" and
- < conducting in-between meeting assignments in a timely and responsible manner.

THE GROUND WORK

Management should provide a mission statement that makes it clear to team members what the boundaries of the process are, what action is within the authority of the team and what the anticipated outcomes are. Although the mission statement is developed by management, the PIT must be allowed to clarify or refine the goals until they are satisfied with them.

At the first few meetings the following should be accomplished by the team:

- < Agreement on the ground rules for:
 - when and where the meetings will be held;
 - attendance requirements;
 - handling of absences; and
 - naming of the timekeeper and the recorder.
- < An agreement to abide by the "100-mile" rule. *The 100-mile rule says that no team member will be called from the meeting unless the reason is so important that the member would be interrupted even if the meeting was held 100 miles from the work place. This*

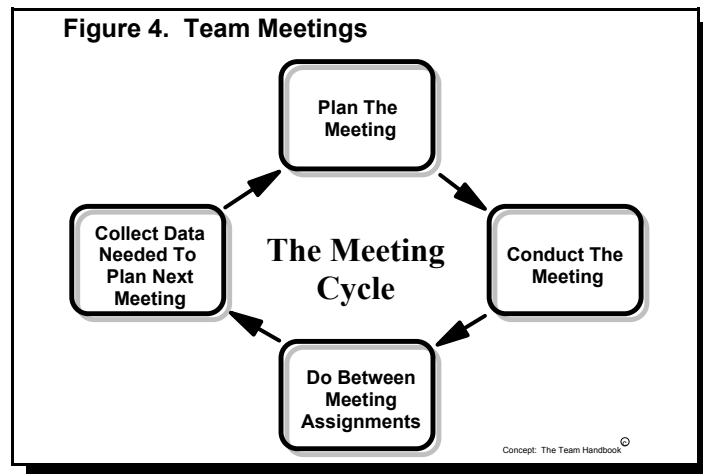
will go a long way toward keeping the team focused on the task at hand.

< Educational Goals

In some instances the team may not be quite ready for the performance improvement activities and it will be necessary for the Facilitator to provide some training at the onset. Such training would include but not be limited to the following:

- An overview of the quality movement
- The Pareto Principle
- Customer/Supplier Relationship
- Concept of processes
- The Scientific Method including operational definitions and the importance of data measurement and analysis.

After a few meetings the team should settle into an effective routine where the agendas are produced ahead of time and assignments are conducted between meetings. Figure 4 illustrates this cycle. The importance of conducting between meeting assignments cannot be over-emphasized. Performance improvement team members must work and frequently some of this work can only be handled as a between meeting task. This is particularly true when it comes time to implement the strategies that the team developed. Remember, PIT members are selected because of the input that they will provide to the team and not simply to represent some area or constituency group.



CLARIFY CURRENT UNDERSTANDING

One of the most important early activities that the team must engage in is to ensure that all members understand the process to be improved. Frequently, members are familiar with only a few steps of the process and are not aware of what might be occurring on either side of their activity segment. Again, all of the techniques described in this manual are based on the assumption that each team member will understand how the entire process works, both before and after changes are put into place.

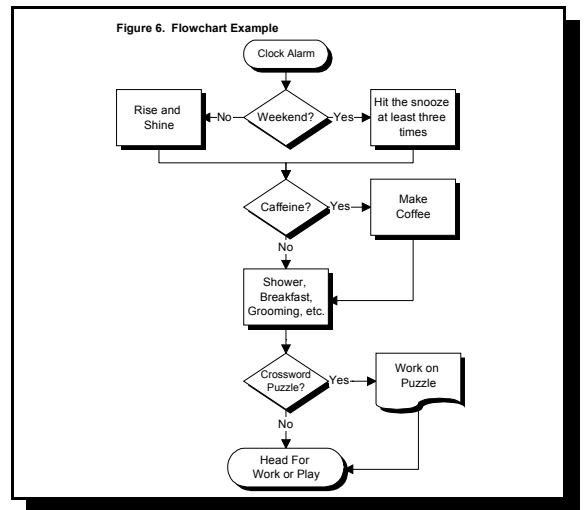
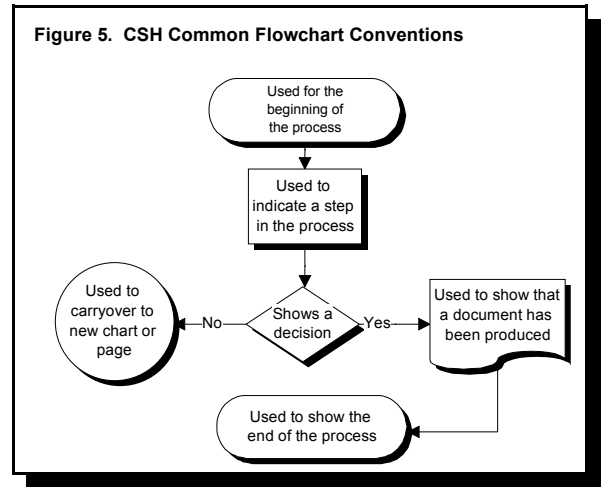
A frequent problem that occurs at this stage of the team is the temptation to prematurely entertain suggestions for process improvement. It is essential to a process improvement effort that sufficient time be devoted to simply understanding the way things are currently working. Interjecting fragmented solution suggestions at this point only makes it more difficult for the team to arrive at a complete process analysis.

Another barrier to good process analysis is the failure to "drive out fear." Driving out fear, one of Dr. Deming's famous 14 points (see Appendix 2), is critical to helping the team truly address the way that a process currently works. Often team members are afraid to exercise the candor necessary for this to happen. They may be afraid to confirm that a process does not follow existing written policy or that it contradicts certain verbal directives, etc. Clearly, if this information is not available to the team, the process improvement efforts will fail. This is not a trivial point for it is absolutely essential that the process be completely understood as it currently exists before any efforts are undertaken to improve it. As has been previously emphasized, a splintered improvement effort that is not based on thorough process analysis is not compatible with the way we have chosen to pursue performance improvement endeavors.

Several tools are available to assist the team in driving out fear and facilitating the free and open communications necessary to the project. One of the most important tools used during the clarification (C) phase of FOCUS-PDCA is flowcharting.

FLOWCHARTING

Flowcharts are simply symbols and connecting lines used to show steps in a process. Figure 5 describes the symbols that are commonly used in our facility for flowcharting. Figure 6 offers a simple example of these symbols applied to a morning wake-up routine. Flowcharts need not be overly complex to be helpful to the team; in fact, the team should avoid the pitfall of bogging down in endless flowcharting detail. Concentrate on the essential steps in the process. Even if detailed flowcharts are deemed to be necessary, proceed with caution because it can take weeks to get one that the entire team agrees upon. Regardless, the efforts expended in flowcharting will be repaid many times over by the benefits of enabling the team to see, often for the first time, "the big picture."



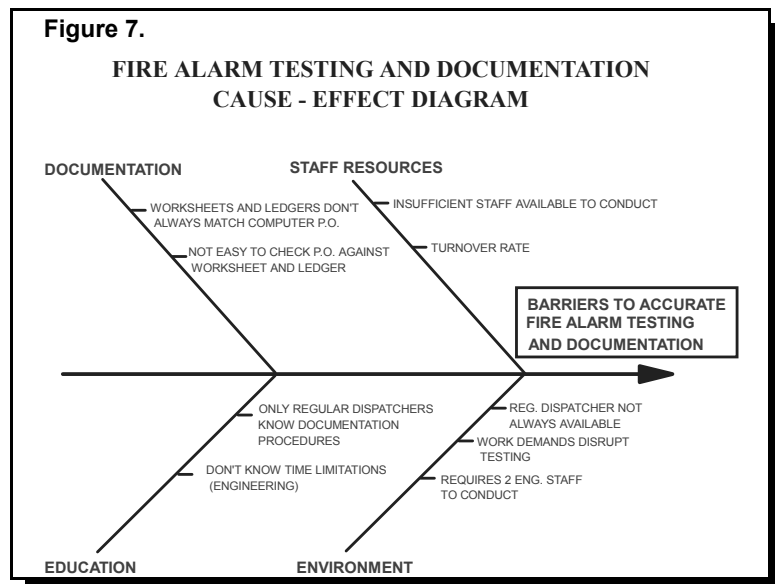
- If you do decide on a detailed chart make sure that the team agrees upon the amount of detail necessary.
- Your Facilitator will help you with flowcharting and provide you with references for additional study.

UNDERSTAND CAUSES OF PROCESS VARIATION

In this stage of FOCUS-PDCA the team strives to understand why the existing process is not working, i.e., what are the reasons for process variation. At this point it may become necessary to introduce refined measurements of the process in order to more specifically determine what is causing most of the problems. This is most readily achieved by the process of Pareto analysis which, amongst other tools, is described in this section of the manual. *Never forget that a complete understanding of the customer's needs are essential to understanding why a process is or is not producing the required output.*

CAUSE-AND-EFFECT DIAGRAMS

Cause-and-effect diagrams, also known as "fishbone" diagrams are an excellent aid in the (U) understanding phase of the FOCUS-PDCA cycle. A cause-and-effect diagram is actually only a graphic presentation of a list. The advantage of this arrangement of a simple list is that the team is often able to better understand the factors that contribute to a particular problem. The cause-and-effect diagram should be constructed after the flowcharting process has been completed, because only then will the team have sufficient detailed knowledge of the process to suggest cause and effect relationships.



Cause-and-effect diagrams can be approached from two perspectives. One is to diagram all of the factors necessary to accomplish a certain goal, while another is to diagram all of the factors that are contributing to failure to meet the goal, i.e.,

the barriers. Figure 7 is an example of a diagram that was used in process analysis here at CSH. We can see that the diagram illustrates all of the factors that are apparently contributing to the problem of inaccurate fire alarm testing and documentation. The contributing factors in this example are broken out into four main categories, *documentation*, *staff resources*, *education* and *environment*. And under each of these categories we find contributing factors specific to that category. The diagram could be further expanded by having additional lines or "bones" under the contributing factors. While this is a simple diagram it does show how merely rearranging a list can offer additional insight into process analysis.

○ Remember cause-and-effect diagrams illustrate possible problems but only hard data can indicate the actual problems.

BRAINSTORMING

While brainstorming may be used anywhere in the FOCUS-PDCA cycle, the first need for it will likely be encountered in the (U) understanding phase. Before a team makes a decision they should ensure that they have looked at as many options as possible. Brainstorming can not only serve up these options but it can be fun as well. Brainstorming is effective because it is free form and does not restrict people in offering ideas. It encourages responses from team members who may for a variety of reasons be reluctant to participate. Performed properly it contributes a lot to "driving out fear" and opening up communication. In general the following rules should be followed when conducting a brainstorming session:

1. Go to extreme lengths to encourage every one to participate. Remind them that *any* idea will be placed on the flip-chart or blackboard.
2. The Facilitator and Team Leader must make extraordinary efforts to insure that ideas are not criticized by team members. In fact, there should be no comment made at all unless a team member is offering an idea that expands upon a previously submitted idea. Remember that many people are tuned in to subtle feedback. Sometimes all a member has to do is frown when an idea is suggested to insure that the other member will not make an additional suggestion. *And that unoffered suggestion may be the best of the lot.* This is very critical since supervisor/subordinate relationships may be represented on the team or other less obvious relationships, e.g., status, pay grade,

tenure, etc.

3. There will be a strong tendency of the team toward digressing into lengthy discussions regarding suggested items. For example, if you are brainstorming factors that contribute to a problem, the team will frequently drift off into discussions of how to resolve that particular problem. The Team Leader and Facilitator must keep the team focused on the task at hand by constantly reminding them that the time will come for discussion. This is an important part of the PIT procedure for it is here that we encourage the team to strive for the big picture and to avoid implementing fragmented and segmented solutions - solutions that could eventually make the problem worse.

After the above rules have been explained to all of the team members, the brainstorming should proceed using the following steps:

1. Clarify the topic. Address the group with a question such as "how can we expedite the procedure of getting all of the signatures necessary to put a policy into effect?"
2. Use a technique called "silent thinking" to give the group several minutes to come up with ideas. By silent thinking we simply mean that no one will speak out loud until the time is up. Remember to encourage team members to jot down their ideas.
3. After the period of silent thinking, the Team Leader should go around the group and have each member *offer one of their ideas at a time*. When a team member has no ideas remaining they pass and the process is continued until all of the members have passed. **Remember rules 1 and 2 on the previous page.**
4. After number three is completed, the Team Leader should lead the group in an effort to combine the items that are obviously redundant.

○ A flip chart ,overhead projector or blackboard is absolutely essential to brainstorming.

So now we have forty-six ideas but how do we narrow down the list to a manageable few?

MULTIVOTING

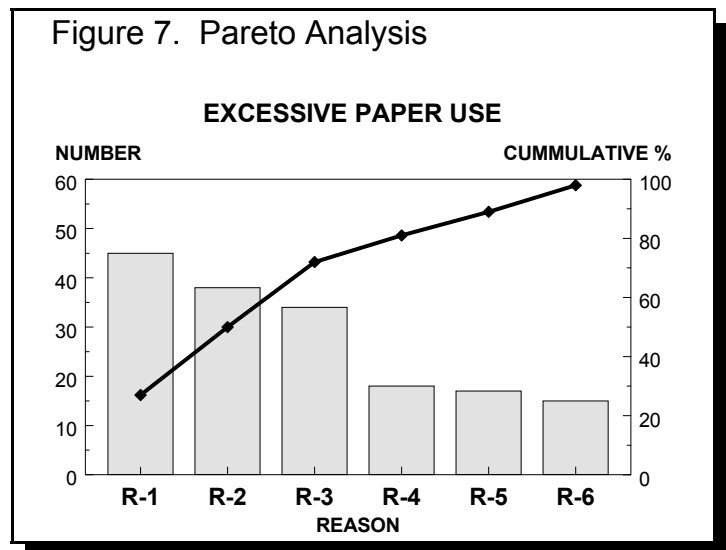
As with brainstorming, multivoting can be used anywhere in the FOCUS-PDCA cycle when there is a need to reduce a list of ideas, problems, etc. However, it

too, will probably be first needed in the (U) understanding phase, and for that reason it is introduced here. One of the enormous benefits of multivoting is that it can prevent one or two members of the team from dominating the proceedings and disproportionately influencing the outcome of brainstorming.

The following example illustrates the use of multivoting. A team has brainstormed forty-six possible reasons why a particular desired outcome is not occurring, e.g., damaged property is not removed in a timely manner from each building. The Team Leader and Facilitator have decided, based upon the size of the team and the number of problems, that each team member will have ten (10) votes and that a maximum of four (4) votes can be placed on any one of the forty-six (46) items. This means, for example, that if a team member feels particularly strong about two (2) items, then eight (8) votes can be used on those two with only two remaining votes. On the other hand, a member may give ten (10) items one (1) vote each, etc. Based upon the team dynamics up to the point of voting, the Team Leader decides to hold either an open or secret ballot. After the process has been explained to the team, the voting takes place and the votes are tallied and openly displayed. Often, the results will indicate four or five items with the lion's share of the votes and the rest of the votes scattered throughout the list. The list has now been narrowed down to a manageable few and the team can proceed. Often at this stage the Facilitator will prepare a bar chart of the results that will further illustrate the significance of the voting.

PARETO CHARTS

The Pareto Principle states that "80% of the trouble comes from 20% of the problems." These figures will vary but the use of a Pareto Chart will help team members understand which issues are more important than others. This is a technique for narrowing down the issues to the "vital few." One significant use of Pareto analysis is that it can

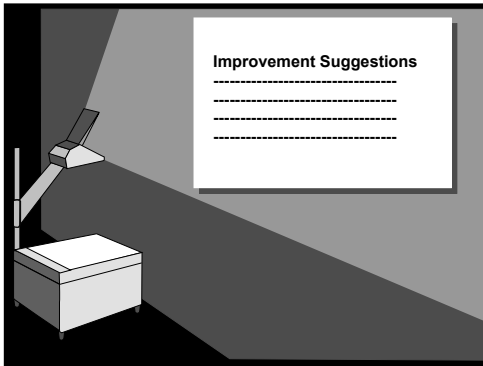


facilitate consensus building within the team. Figure 7 is an example of a Pareto analysis of the excessive use of copy machine paper. The Pareto chart tells us that a PIT should focus on reasons one, two and three. Although there are other problems, the chart shows that they do not account for anywhere near the amount of excessive paper use as the first three. The abrupt break in the line part of the chart further illustrates the separation of the "vital few" from the rest of the reasons. Another advantage of this approach is that if a team member happens to have a "pet peeve", for example, reason number five, the Pareto analysis will prevent this team member from dominating the proceedings should his or her problem not be a significant factor.

○ Pareto analysis obviously requires operational definitions and accurate data collection. Your Facilitator can assist you.

SELECT THE PROCESS IMPROVEMENT

At this point in the cycle the team should be ready to select the improvement or improvements that will be made in the process. Again, the arrival at this phase may be relatively seamless, i.e., there may be a transparent movement from the



understanding of process variation to the selection of improvements. The improvements may have been very obvious or they may be a synthesis from much brainstorming, multivoting and Pareto analysis. The important issue here is that the change(s) selected must be (1) clearly defined and understood by all, and (2) based upon good data. Always be mindful of the fact that the crux of the FOCUS-PDCA approach is to really *solve* problems. Be patient and make sure that you have data to support the selected strategy and do not forge ahead with the

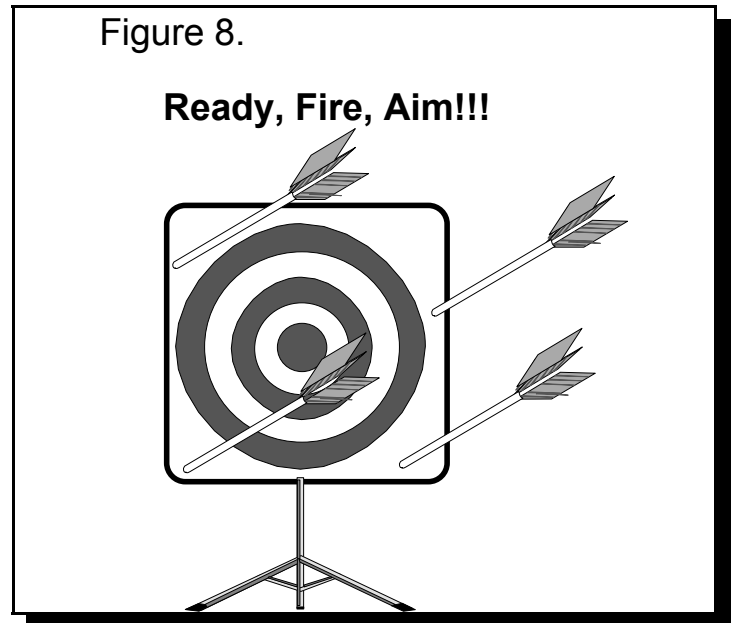
first seemingly reasonable solution that is suggested. It may be necessary to use a structured approach that results in a precise statement of the planned improvements that was reduced down from a thorough study of the alternatives by addressing such questions as:

- C Does the solution really deal with the root cause of the problem?
- C What are the potential negative consequences of each solution?
- C Which ones will be easiest to implement and maintain?

And above all insure that you are not making the process more complex than it was to begin with!

PLAN THE IMPROVEMENT

During the planning stage the team should outline how the improvements will be accomplished, i.e., the who, what, where, when and why. This is an important part of the FOCUS-PDCA strategy for several reasons. It is important that everyone currently involved (and planned for involvement) understands how the changes will be implemented. Consideration should be given to developing a pilot project for the selected changes. Remember that many managers tend to operate on a "Ready, Fire, Aim" basis which is the result of years of reacting to problems *after* they have reached a crisis point. Unfortunately, this encourages employees to react even if it isn't the right thing to do. The key to the (P) Planning stage is to **think ahead** - carefully considering what resources, training, etc., will be necessary to get the project off to a successful start. The up front time that is spent will be well worth the effort.



Consideration of the following issues may be helpful during the planning stage:

- C Would a pilot implementation be appropriate?
- C Exactly what is the change to be made?
- C Are you absolutely positive that the suggested change(s) is appropriate?
- C How will the change affect staff members jobs?
- C How long will it take to initiate the change?
- C What will you do about unexpected problems?

- C How will you monitor the change?
- C How will any necessary training be accomplished?
- C Is there anything at all left that can be done to maximize the probability of success?

DO IT!

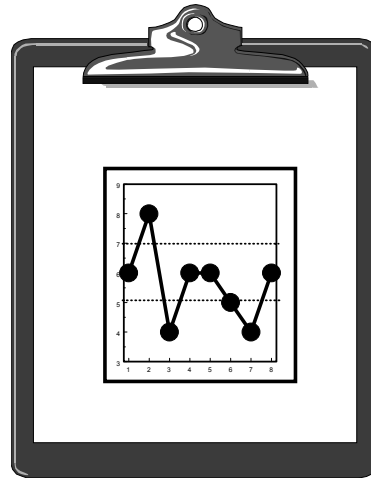
As incredible as it may seem, some performance improvement efforts wither on the vine because the selected improvements were never implemented. After the planning has been completed, the time comes when you have to “do it.” At this stage it will probably be necessary to involve at least the level of management that originally established the team. Unless a key manager was on the team, these will be the people who can most smoothly effect the implementation of the planned improvements. During this phase careful monitoring should be conducted to insure that the improvement is being implemented according to the plan. Sometimes it is difficult to shake teams loose from the planned meeting schedule and make the members realize that it is now time to roll up their sleeves and effect the results of all of their collective effort. This can usually be overcome by reminding the team of their empowered nature and its accompanying responsibility. This is not to suggest that in certain situations the implementation could not best be delegated to staff who did not participate in the PIT. However, even in such a case, those staff to whom the implementation is delegated should have at the very least served as consultants to the team.



○ Personally supervise the implementation of the changes

CHECK THE STATUS

After the implementation of the improvements, it will be necessary to continue data collection to determine if the improvements have proven successful in bringing the process under control. If continued checks indicate that the desired outcome has not occurred and the improvements were appropriately implemented, it may be necessary to return to the selection stage and take another look at the suggested improvements. If all is going well, the team should perform a self analysis of their performance with emphasis on how the team process could have been improved.



Remember to ask the following questions:

- L Overall, has the process improved as expected?
- L Has it improved from the perspective of the identified customers?
- L Has it improved from the perspective of those who worked on the team?
- L Have there been any savings identified?
- L How could the team have better worked together?

ACT TO MAINTAIN THE GAINS

If initial success is indicated by the Check phase of FOCUS-PDCA, data should still be periodically gathered to insure that the gains are maintained. It is very important to insure that initial gains are not lost through subsequent complacency, failure to follow through on implemented changes, etc.

At this time the changes may have become firm enough to consider revising the flowchart, policies and procedures, etc. Even if the project shows initial success, much depends on the efforts extended toward holding the gains. In a facility as large as ours there is often a tendency

- O Consideration of the following is helpful:
- C Specifically what does your data tell you about the change?
- C Does the change need refinement?
- C Have you completed your documentation of your improvement efforts?
- C What lessons have been learned and is there anywhere else that you can apply them?

for things to reverse to their previous state if well planned and consistent monitoring is not in place. If an opportunity for improvement was deemed significant enough to invest staff resources in the formation of a PIT, then surely any efforts to "hold the gains" are worth the effort.

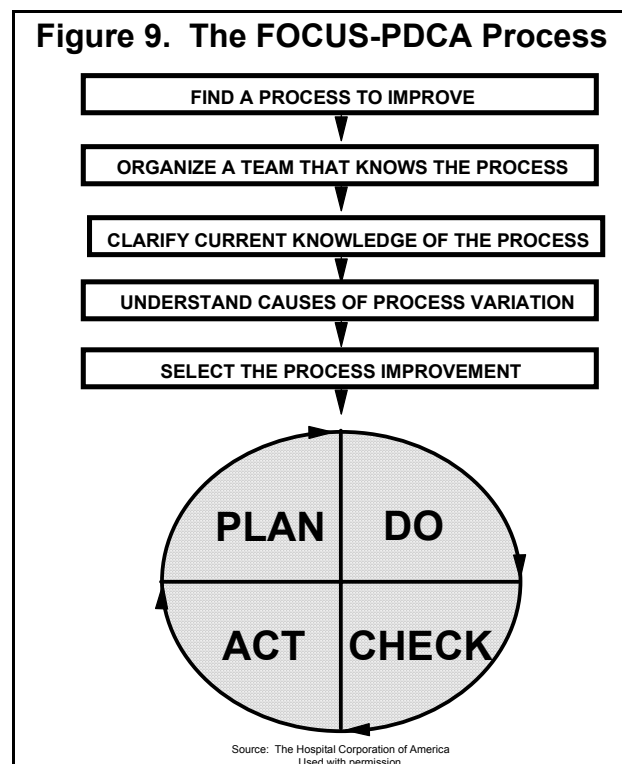
COMMONLY ASKED QUESTIONS

Should you use every step in the process?

Beginning teams should strive to follow the model as closely as possible to avoid missing information that may prove essential before the improvement is completed. Granted, some steps may be repetitive or even not helpful; however, you will not know this until you have worked with the entire system. More experienced teams and facilitators will not use this manual as a script but rather as a planning guide. There may be times when the experienced teams modify the process; however, it is recommended that teams stick as closely as possible to the steps as previously described.

Are there any time limits on when a team should finish?

No, teams should work at a comfortable pace and not try to do everything at once. The main concern here is that the pace not be so slow that the team is constantly having to play catch up. For example, a team that meets for one hour every other week will probably spend fifteen minutes of that hour just getting reoriented to the task.



Can teams use tools other than the ones mentioned here?

Any scientific tools appropriate to the task can be used. The ones listed in this manual are only the most common.

Appendix 1

Suggested Reading

Deming, W. Edwards. *Out of the Crisis*. Cambridge, Mass.: MIT, Center for Advanced Engineering Study. 1986

Fuller, F. Timothy. "Eliminating Complexity from Work: Improving Productivity by Enhancing Quality." *National Productivity Review*. Autumn, 1985: 327-344

JCAHO. *The Measurement Mandate*. Oak Terrace, Illinois: JCAHO, Department of Publications. 1993

JCAHO. *Framework for Improving Performance: From Principles to Practice*. Oak Terrace, Illinois: JCAHO, Department of Publications. 1994

Scholtes, Peter R. *The Team Handbook*. Madison WI: Joiner Associates. 1988

Walton, Mary. *The Deming Management Method*. New York: Dodd, Mead and Company. 1986

Walton, Mary. *Deming Management At Work*. New York: Perigee Books. 1991

Appendix 2

Deming's 14 Points

The following are Dr. Deming's famous 14 points which he continued to revise up until the time of his death at age 91! This version is from December, 1988. A thorough understanding of these points can be gained from reading his book listed in appendix 1.

1. Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.
2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities and take on leadership for change.
3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.
4. End the practice of awarding business on the basis of price tag. Instead minimize total costs.
5. Improve constantly and forever the system of production and service to improve quality and productivity, and thus constantly decrease costs.
6. Institute training on the job.
7. Institute leadership. The aim of leadership should be to help people and machines and gadgets to do a better job. Leadership of management is in need of overhaul as well as leadership of production workers.
8. Drive out fear so that everyone may work effectively for the company.
9. Break down barriers between departments. People in research, design, sales, and production must work as a team to foresee problems of production and in use that may be encountered with the product or service.
10. Eliminate slogans, exhortations, and targets for the work force asking for zero defects

and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.

11. Eliminate work standards on the floor. Substitute leadership. Eliminate management by objective. Eliminate management by numbers. Substitute leadership.
12. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be changed from sheer numbers to quality. Remove barriers that rob people in management of their right to pride of workmanship. This means, *inter alia*, abolishment of merit rating and of management by objective.
13. Institute a vigorous program of education and self-improvement.
14. Put everyone in the company to work to accomplish the transformation. The transformation is everyone's job.

Appendix 3

Glossary

Benchmarking	A process of measuring one organization's performance against a similar organization that is recognized as a high performer.
Boundary	The begin or end point of a process to be improved. There may be several sub-processes within the boundaries and they may include one or more departments, sections, etc.
Brainstorming	A procedure by which all members of the team are allowed to offer suggestions without criticism or judgement. The main goal is to gather as many ideas as possible in a short period of time.
Cause and Effect Diagram	A tool for improving performance that allows participants to organize all of the factors that affect either a problem or a desired outcome. More than a simple list, it illustrates how each factor contributes to the outcome.
Continuous Quality Improvement	Making continual improvements in process and performance to consistently achieve better results. For this manual we have used this term and Performance Improvement interchangeably.
Control Limit	The expected limits (upper and lower) of common cause

variation statistically calculated from the process average.

Cross-functional team

A Performance Improvement Team addressing an improvement that affects more than one department or section of CSH.

Customer

The person or area that receives the output of a process. It is helpful to think of clients as the ultimate customer of all processes at CSH. Often the more immediate customer is a fellow employee.

Data

The collection of facts on which a discussion or inference is based.

85/15 Rule

States that at least 85% of an organization's problems can only be corrected by improving processes and systems. Only the remaining 15% are considered to be "people" problems.

Empowerment

In the context of this manual, to give a Performance Improvement Team the responsibility and authority to improve a process.

Expert

An individual who has acquired knowledge and experience relative to a specific process.

Facilitator

An advisor or coach assigned to the Performance Improvement Team for the purpose of coaching and/or training the team in the use of performance improvement tools.

Fishbone Diagram

See Cause and Effect Diagram

Flowchart

A visual step-by-step breakdown of all of the sequences of action in a process. They allow a team to develop a common understanding of a process.

Functional Team	A Performance Improvement Team that addresses a process where any changes would not be likely to affect operations outside of a single work area.
Indicator	A valid, reliable quantitative process or outcome measure related to one or more performance dimensions, e.g., appropriateness and effectiveness.
Information	Data that have been analyzed and interpreted into a form useful for decision making.
Input	What a supplier furnishes to a process. See Figure 1.
Multivoting	A mechanism to conduct a poll to select the most important or popular items from a list with a minimum of discussion.
Operational Definitions	A precise definition of important terms and procedures that will be used by the team.
Pareto Chart	Derived from the Pareto Principle which states that "80% of the trouble comes from 20% of the problems." A Pareto Chart allows the team to focus improvement efforts by ranking problems and/or their causes.
Performance	The way in which an individual or organization carries out its important functions.
Performance Improvement	The continuous study and enhancement of processes of providing services to increase the probability of achieving desired outcomes.
Process	A goal oriented interrelated series of actions.
Recorder	The person assigned by the Team Leader to record the

proceedings of the team meeting.

Sentinel Event	A serious event that requires further investigation every time it occurs.
System	A complex series of many processes.
Team Leader	The person who runs the team, arranges logistical details, etc.
Timekeeper	The person assigned by the Team Leader to track the time spent on each agenda item and periodically inform the team of the amount of time remaining.
Variation	The inevitable difference among individual outputs of a process. Excessive variation leads to waste and loss.

Appendix 4

Performance Improvement Action Report Format

All performance Improvement Teams must document their efforts in a Performance Improvement Action Report (PIAR) and submit this report to the Performance Improvement Resources Section of the Information Systems and Program Evaluation Department. The writing of this report is a team responsibility and should be handled as any other team task, i.e., specific assignments should be made and target dates met. The PIAR is a narrative report which is designed to provide detailed information about the team's efforts and the results realized from those efforts. The report should provide a historical view of the team starting with the identification of the opportunity for improvement and ending with what efforts are being used to hold the gains. Data should be provided to support findings and major decisions.

The PIAR should be organized as follows:

- F** Describe how the opportunity for improvement was discovered and why it was considered to be of sufficient priority to support a team effort. Data should be attached that demonstrates the need for the improvement. These data can include such information as charts, graphs, customer survey results, PI/CQI monitoring results, external survey reports, etc. Give a clear statement of the opportunity for improvement indicating the agreed upon boundaries of the process.
- O** Identify your team members and describe each person's role in the process under study. Explain what the team is empowered to do.
- C** Describe the steps of the process as it is currently working. Include outlines, flowcharts, etc. that were developed in the course of studying the process.
- U** Describe the causes of the process variation that the team discovered. Explain what you have done to obtain customer input and what the customers of the process have said about what is important to them. What has the team decided is the most important process variable to change. Attach any data used in the efforts to analyze the process variation.
- S** Clearly describe the process improvement(s) that the team is proposing for implementation.
- P** Describe the preparations the team is making before the changes are implemented. Give details of any planned pilot studies, gradual phase in, etc.

Explain what data collection will be used to demonstrate the effectiveness of the changes and include examples of the collection tools.

- D** Describe how the implementation of the changes is, in fact, being carried out. If the implementation varied from the plans, offer an explanation as to the reason.
- C** Describe what has occurred as a result of the changes that have been implemented. Has the process improved as anticipated? Has it improved from the perspective of the customer? Has the process improved from the perspective of the team members? Evaluate the team effort and describe how the effort could have been improved.
- A** What actions are being implemented to hold the gains that have been achieved? Have policies and procedures been revised? Has training been provided? Include what efforts have been taken to make all involved in the process aware of the changes and describe any plans for additional team efforts to improve the process.

ACTION BOARDS

The use of an action board to illustrate the progress of a team is strongly recommended. Such boards not only keep departments informed of improvement activities but also serve as notice to visitors that performance improvement is a viable and visible part of the organization. The Performance Improvement Resources Section of ISPE is available to assist you in creating action boards.

