

# **Performance Improvement Projects: A Primer for Residents**

***Santa Rosa Family Medicine Residency Program***

By  
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With Forward by Walt Mills, MD

## Author's Note To The Reader

Performance improvement is an iterative process, and one that I am committed to applying to my work. To improve the Primer itself I need feedback, whether positive and negative. Please feel free to e-mail me with suggestions and comments about the Primer.

Together, we will create a generation of Health Care Providers with the knowledge to continuously improve our Health Care System.

Thanks,  
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## Forward

The world of Family Physicians continues to change, rapidly! The AAFP *Future of Family Medicine* report is now more than ten years old, and yet we continue to learn about new models of primary care and practice transformation. In graduate medical education, family physician residents' curriculum has been shaped by ACGME Competencies, also more than a decade old, which expanded expectations for resident education beyond direct patient care and medical knowledge, to include *practice based learning and improvement* and *system based care*. The Family Medicine Residency Review Committee and American Board of Family Medicine have formalized requirements for residents to actively participate in *Performance Improvement* (PI) activities.

We believe that the New Model, the Patient Centered Medical Home (PCMH) and the Science of Improvement are interdependent. For the past three years we have worked to design an Improvement Curriculum that has been piloted by the third year residents at Santa Rosa Family Medicine Residency Program and used to develop actual PI projects. This "Primer on Performance Improvement" is the product of these experiences. It is designed for Residents, Faculty, and staff involved in PI

The knowledge, skills, and attitudes needed to master the PI tools are best acquired by participating and leading change projects with clinical teams that residents are naturally a part of during training. We give examples of how to move from an idea to sustainable improvement and walk through them in a way that we hope can make dealing with PI as organized and useful as other skills Family Physicians need to provide exceptional care for patients and communities.

For example, just as an FP has a rational approach to improving disease processes like CHF, Asthma, Diabetes, etc, 21<sup>st</sup> Century FPs need effective skills in improving the systems of care that deliver care. Such is the intent of this primer in combination with active learning curriculum during Residency.

There are several other sources that should be integrated into the Resident's PI learning experience including the Institute for Healthcare Improvements "Open School" on PI (<http://www.ihl.org/offerings/ihopenschool/Pages/default.aspx>) and the AAFP Quality Improvement webtools (<http://www.aafp.org/practice-management/pcmh/quality-care.html>).

We hope this Primer is a useful tool for all those interested in improvement and even more, in developing sustainable learning organizations intent on delivering exceptional family medicine.

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June 2013

A Primer on Performance Improvement  
Introduction

The urgency to remake the “system” of Health Care Delivery has never been greater in American Medicine than it is today. Performance Improvement has been used in Medicine for decades, and those working in Performance Improvement have learned through experience which improvement methods work well in Health Care and which fall short. This Primer is written as a guide to help the neophyte to Performance Improvement learn Performance Improvement by working through an actual Performance Improvement Project.

The Primer is organized around a tool called the “Project Map.” The Project Map is a step by step guide for leading improvement projects in the Health Care. Before proceeding, turn to appendix A to take a look at the Map. It breaks a project into 3 main sections: 1. Define the problem; 2. Find the solution; 3. Sustain the gain. Each of these sections has 3 parts. The Project Map is designed to be followed in order, beginning with Section 1a, then 1b, etc.. It is based upon work by trailblazers in the field of improvement in Health Care such as the Institute for Health Improvement and the Kaiser Permanente Improvement Institute.

**Make a copy of the Project Map in Appendix A and fill it in as you progress through the project.** This one page document is your summary for tracking your progress and a tool for communicating to your Performance Improvement Team and the Team Leadership.

By following the Project Map and using the tools described, the student will gain an understanding of the fundamentals of Performance Improvement in Health Care and learn how to lead a Performance Improvement Project while avoiding the common pitfalls in improvement work. The Primer has one section for each of the 9 steps of the Project Map, as well as a brief introduction to Change Management. Throughout the curriculum there are references to standard tools used in Performance Improvement, and these tools are included in the appendices.

The Primer is written for a Resident or team of Residents that are leading a Performance Improvement Project. However, it will be useful to anybody in Health Care who is beginning to learn the science of improvement.

<b>Project Map</b>		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

## Where Performance Improvement Projects Fit in the Big Picture

Medical organizations such as a medical group, a community clinic, or a hospital each have a Mission and strategies to achieve their Mission. An example of a Mission Statement is:

Main Town Community Clinic is committed to improving the health of the population of Main Town regardless of any patient's ability to pay.

The "drivers" for achieving the typical mission of a health care organization are often broken down into 3 main categories: 1) Deliver high quality care; 2) Deliver care with great service; 3) Lower the cost of delivering care. Each of these primary drivers may be broken down to secondary drivers, and this may be depicted on a "driver diagram" as below.

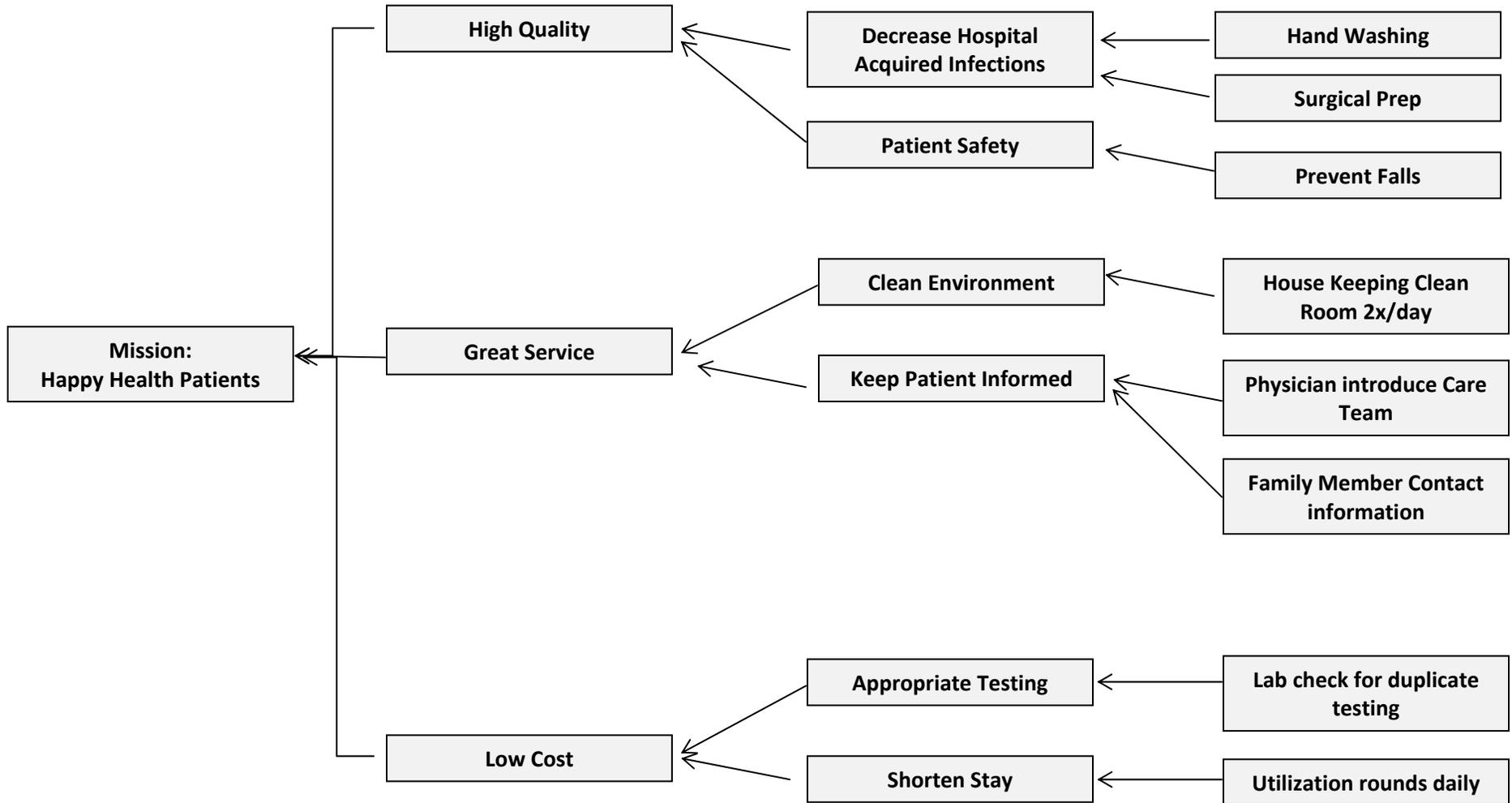
The driver diagram is a useful tool for helping everyone in the organization understand the "Big Picture." That is, the driver diagram is a pictorial representation of how individual projects and initiatives together are the tactics that, when executed, will allow the organization to achieve the Mission.

A Resident or front line physician will often volunteer or be asked to lead an improvement project for the organization. It is important that improvement projects have clear alignment with the Mission and the drivers. Improvement is emotionally challenging and it requires extra work. Health care organizations do not have the resources to waste on pet projects that will not make a demonstrable difference in achieving the Mission. Furthermore, it will be easier to motivate staff and physicians to overcome the emotional barriers to change when they are able to see clearly how those efforts will lead to the organization achieving a Mission that they believe in.

The early steps in the Project Map are designed to make sure that any project undertaken is aligned with the organization's Mission, and has leaders from the organization who support the work. This is critical for success because every improvement project requires resources and will encounter barriers during the implementation. The project will need a leadership team with the motivation and the authority to provide resources, to remove barriers, and to make sure the results are sustained over time.

When Projects are selected wisely, with the support of the organization's leadership, they will successfully allow the organization to fulfill the Mission of bring better health to our patients and our communities.

# Example Driver Diagram For A Hospital\*



\*This is simplified for illustration purposes. A typical hospital will have more secondary drivers and more initiatives

## Definitions, the Key Players, and Their Roles:

### Process

A process is a series of connected activities flowing toward a particular outcome or outcomes. Examples from Health Care include processes as complex as brain surgery and as simple as checking a patient in for a visit.

### Improvement Facilitator

This will be the Resident running the project. The Improvement Facilitator is responsible to guiding the project team through the improvement project. This curriculum is designed for the Improvement Facilitator, and throughout the curriculum it will detail the responsibilities of the Improvement Facilitator at each step of the project.

### The Process Owner:

The Process Owner is the front line leader who directly supervises the workers doing the process. Process Owners are often Managers or Physician Module Leaders. The Process Owner is the person responsible for assuring the staff does their work and that work produces the desired results. For some projects the Process Owner is also the Champion, and in others, the Process Owner reports to the Champion.

### The Champion

The Champion is the leader responsible to the organization for the performance, results, and sustainability of the area in which the Improvement work will occur. Champions are often Directors or Department Chiefs or Managers. In some cases Process Owner reports to the Champion, and in some circumstances the Process Owner is also the Champion.

### Physician Champion

Some processes are primarily done by one job category such as staff (the clinic check in process), and some are more complex and involve close working between physicians and staff. Some of these complex work flows may benefit from having a Champion that is a physician, in addition to a non-physician Champion.

### The Sponsor

The Senior Executive Leader responsible for ensuring direct reports and their individual departments within the service area are committed and aligned to the strategies and overarching goals of the organization. Sponsors often have the title with "Chief" in it such as Chief Nursing Officer or Chief Financial Officer.

### The Project Leadership

In this curriculum, the term "Project Leadership" refers collectively to the Sponsor, the Champion, and the Process Owner.

### The Performance Improvement Team

The team is comprised of one, occasionally more, representatives from each category of jobs involved in the process. For example, in the operating room (OR) the categories represented may include the surgeon, the circulating nurse, the scrub nurse, and the OR tech. In the clinic, a team may include a physician, a nurse, a medical assistant, and a receptionist. The Process Owner is also part of the Performance Improvement Team. Smaller teams are usually more productive, but it is important to avoid excluding a group that performs significant activities in the process.

### Stakeholders

Stakeholders are people who have reason to care about the project's success. They include the people who do the work, the project leadership, the customers of the process, and others who are impacted by the process under examination.

### Example

A Team will be working on a project to decrease the number of contaminated clean catch urine specimens collected in clinic module. The Process Owner is the assistant manager who supervises the work in that module, the Champion is the Director for all of the Primary Care modules in the Clinic, and the Sponsor is the Medical Director for the clinic.

## Section 1- Define the Problem

### a. Reason for Action

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
<b>1a. Reason for Action</b>	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

***“If I had an hour to save the world I would spend 59 minutes defining the problem and one minute finding solutions”- Albert Einstein***

#### Summary

Create a clear statement of the problem, with no presumed causes or solutions.

#### Explanation

This starts as your “feeling” that something is “wrong.” It could be from a report you read, for example “Our average cervical cancer screening rate is 30%, and I think it should be at least 80%.” It may start from your experience, such as “It seems that when I order this medical imaging study I frequently do not get the study I actually wanted.”

It should be a clear statement of the problem, with just the problem, no presumed causes or solutions. At this point it is a good idea to go to a leader who is responsible for the area where the work is done and let him/her know that you see this problem, and would like to work on looking into the problem further (unless you are the Leader of this area). The leader may be a Process Owner, a Champion, or a Sponsor.

At this point, you are not asking for a commitment for a project, just permission to find out if the problem is really as bad as you think, and some preliminary information about the current workflow . (It may feel that the error rate at the medical imaging is 50 %, but in reality it may be 2% but those 2% really bug you!)

After you have a clear “reason for action” and agreement to explore further, you are ready to move on to step 1b, gathering initial data.

#### Who

- Person who identifies the problem
- Either the Sponsor, the Champion, or the Process Owner

#### Tools

The Project Map- Appendix A

#### Outcome

- Improvement Facilitator and Sponsor agreement to proceed to Section 1b, Initial State
- Sponsor guidance on finding data
- Sponsor support for creating a Process Map in Step 1b

Example

Problem Statement: In Clinic Module A, we frequently get contaminated urine specimens when we order clean catch urines.

## Section 1- Defining the Problem

### b. Initial State

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action <b>1b. Initial State</b>	2a. Gap Analysis 2b. Solutions	3a. Completion Plan 3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

#### Summary

Data is gathered to see if the facts support the hunch in the problem statement. The facts gathered will often point toward a focus area for the project.

#### Explanation

This is the time to investigate. Many people believe as soon as they have a hunch that they know the entire problem and the solution. Avoid that trap by investigating with an open mind.

Steps to take at this point of the process are:

1. If you haven't already met with the Sponsor, the Champion and the Process Owner, meet them and let him know your reason for action. Because these people are the ones responsible for the performance of this area be sure to be very diplomatic. People often become defensive if you walk in and tell them that their department is running poorly. You wouldn't just walk up to a parent and tell her "Your baby is ugly and I want to fix him," would you?
2. Gather data from available reports  
In health care we tend to have a lot of data on health outcomes. The data available isn't always the data you want, but it may be a useful proxy for the information you are seeking. For example, if your hunch is that your clinic is not successfully giving the best care to your diabetic patients, gather data that would support or refute this hunch. The Sponsor, Champion, and Process Owner may have this data. The Quality or Finance Departments are also places that will often have reports that you will find useful.

#### A Note about Data:

Data for improvement does not need to reach the level of accuracy as data for science. Data for improvement may be a small sample that simply serves to confirm or refute your ideas and impressions.

3. Gather information by watching the process.  
It is important to gather information by personal observation. If you ask someone to describe the process they will often give you the idealized version of the process. That description will leave out the areas which are most ripe for change. This observation will be used to create a "process map" of the current state (appendix C).
4. Gather the "Voice of the Customer." A process has a "customer." The customer is the person who receives the output of the process. There may be more than one customer. For example, when a physician orders a clean catch urine for a patient, the customers include the ordering physician, the lab that will process the specimen, and the patient. Find out

from the customers what they consider valuable from process, and what parts of the process work well for them, and what does not work well.

5. Review the information from the reports, your observations, and the customers with the Sponsor, the Champion, and the Process Owner.
  - a. After reviewing the information, the Sponsor, the Champion, and the Process Owner should decide if a Performance Improvement Project should proceed. They may decide that this is not the right problem to work on or the right time to work on it once they have reviewed the information.
  - b. If the decision is to proceed, then move on to step 1c.

#### Who

- Sponsor
- Champion
- Process Owner
- Improvement Facilitator

#### Tools

- Process map- Appendix C
- Voice of the Customer- Appendix D
- Data- Appendix E

#### Outcome

- A decision is made on whether the project should be done, and if so, is it done with an improvement team.
- Enough information is gathered to facilitate making the SMART Aim

#### Example

In the example described in step 1a above, the problem statement was in Clinic Module A we frequently get contaminated urine specimens as measured by a high number of squamous cells in the test results when we order clean catch urines.

There was no report available on the number of clean catch urines that were contaminated, so you asked the lab for a list of the last 20 urine clean catch specimens sent from Clinic Module A and you found that 40% of them were contaminated. If the lab could not provide the list, you could ask the providers in Clinic Module A to keep track, with hash marks, of how many clean catch urine specimens they order for one week, and how many come back contaminated.

When you perform your personal observation, you notice that the Medical Assistants vary widely in the instructions they give to the patients on the specimen collection process.

When you do your Voice of the Customer interviews, patients tell you that they don't understand the directions. Some of the patients tell you that the Medical Assistants speak quickly and that they were too embarrassed to ask questions. Some of the patients tell you that they do not understand English well and that made it harder to understand the directions. They also tell you that there is no place to put the wipes or the urine containers near the toilet, preventing them from following the directions correctly. The physicians tell you that they think the Medical Assistants are giving directions consistently. The lab tells you that they receive the specimens appropriately and that the process has no problems from the lab's point of view.

## Section 1- Defining the Problem

### c. Target State

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
<b>1c. Target State</b>	2c. Rapid Experiments	3c. Insights

#### Summary

A project goal is defined.

#### Explanation

Now that you have your data, it is time for the Improvement Facilitator to sit down with the Project Leadership to decide “How good do we need to get, and by when?” The answers to this question will be in the format of a SMART Aim. The Sponsor should take the lead because he/she is the one with the responsibility for choosing the strategies and tactics that will help the organization meet its goals. Each member of the Leadership Team, by virtue of their different positions, brings a unique perspective to the discussion, and all should be in agreement on the SMART Aim. Using a SMART Aim instead of a more vague aim is important because it assures that everyone on the Leadership Team, and subsequently the Project Team, is in agreement on what the desired outcome is and how soon it should be accomplished.

The goal should be enough of a stretch that it takes some work and will give some genuine improvement. On the other hand it should not be so challenging that the team feels “ It’s impossible to achieve, so why even try?” In creating the Aim, the Leadership Team needs to keep the scope of the project realistic, given the time constraints of residency. If the Team is tackling a big project, then the SMART Aim should focus on one piece of the project that can realistically be accomplished. For example, if the goal is improving diabetic care for all of the diabetic patients in Clinic Module A, the Resident’s project may be to accomplish an important first step toward reaching the goal such as “100% of the providers in Clinic Module A use the flow sheet in the electronic record to document lab results and referrals for Eye and Foot Care, by (date 90 days from today).” In this case, clear and consistent documentation is necessary for improving diabetic care, and it is a chunk of work that the Resident Improvement Facilitator will be able to accomplish in the time allotted.

#### Who

- Sponsor
- Champion
- Process Owner
- Improvement Facilitator

#### Tools

SMART Aim- Appendix G  
 Guidelines on Selecting a Good Project- Appendix H

#### Outcome

A goal that Project Leadership all agree upon in the SMART format.

#### Example

By June, 2013 at least 95% of the clean catch urine specimens collected in Clinic Module A will be collected correctly, as defined as a urine specimen with no more than 2 squamous cells/HPF

## Section 2- Find the Solutions

### a. Gap Analysis

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	<b>2a. Gap Analysis</b>	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

“Employees improve their performance through experiencing more control over and involvement in their work, leading to an increase in personal commitment to management aims.”

*Cunningham, Hyman, and Baldry, 1996 Empowerment: The power to do what? Industrial Relations Journal. V. 27 (2), pp. 143-54)*

#### Summary

A Team of Stakeholders look at current performance, ideal performance, and describes all of the causes for the performance gap. The Team then determines which gaps should be targeted for improvement.

#### Explanation

The Project Improvement Team is convened. The Champion and the Process Owner will chose one person from each job category that performs activities in the process that is targeted for change. Examples of job categories in a medical clinic include the receptionist, the call center operator, the Medical Assistant, the nurse, and the health care provider. The Process Owner will be part of the team, and the Improvement Facilitator will run the meetings and facilitate the team’s work.

At the first meeting, the Sponsor and/or Champion should attend. The Sponsor’s job at the initial meeting is to motivate the team by helping them to understand why this project is important and how it connects to the “Big Picture,” which is the Organization’s Mission. Telling a true story about a patient who experienced the negative consequences of the “broken” process is one of the best ways to motivate the team. For example, the story of the young woman who is now dying of advanced breast cancer because our system never notified her that she was due for a mammogram will help the team understand why it is so important that we develop a better system of mammogram reminders.

At the initial meeting a Team Charter should be established. The Team Charter will have 2 parts. The first part is the Project Map with boxes 1a, 1b, and 1c filled, as well as the top section with the Project Leadership Team and team members names filled in. The second part is a short agreement among the team members on how they will work together. (Appendix K)

The Improvement Facilitator introduces the Project Map with sections 1a, 1b, and 1c completed. The SMART Aim is also discussed to make sure the team understand why they are working toward the SMART Aim, and how achieving the SMART Aim will lead to the clinic moving closer toward achieving the Organization’s Mission. The project “scope” is also described, and if known, what types of problems that are “out of scope.” The project scope is the description of which problems the team will work on as well as the deadline for accomplishing the work. For example, in a project on obtaining clean catch urine specimens in clinic, the staff starts to discuss that when patients are sent to the lab for blood draws they get lost. Though this issue needs to be addressed eventually, it is “out of scope” for the project team, and should be placed on a list of problems to fix later (the Parking Lot).

The Improvement Facilitator presents the “Current State” using the data and process map as needed to give the team understanding of what is really happening now. The team should be given opportunity to validate the Current State information presented. For example, the Process Map may be missing activities in the work flow.

The Improvement Facilitator then leads the team through a discussion exploring the causes of the gap between the current performance and the “ideal” performance. The ideal performance is the performance that would allow the team to achieve the SMART Aim. The Improvement Advisor uses the tools such as the 5 Whys, a Cause and Effect Fishbone Diagram, a Pareto chart, 8 Wastes, and 6 S (See appendices F, I, J, L, M) to facilitate this conversation.

The team members will have a tendency to jump to proposing solutions at this point. the Improvement Advisor will need to let the team know at the introduction that this portion of the meeting is focused on eliciting all of the causes for the gap, and that the opportunity to develop solutions will come later. If the team begins to tangent to problems that are not within the project scope (like problems not directly related to the project), the Improvement Facilitator will need to gently redirect the team to stay focused on the SMART Aim. One way to do that is to keep a running list of “other problems” that are encountered, sometimes referred to as the “Parking Lot.” For example, the Improvement Facilitator may say something like “You’re right. That is a really important problem. I’m going to write it in our Parking Lot, and we’ll address that in the future. For now, let’s stay focused on the problems that are directly preventing us from achieving our aim.”

The Improvement Facilitator should encourage the team to describe as many issues as they can that are contributing to the gap. After the team has identified all of the issues, the Improvement Facilitator will lead the team in identifying a limited number to work on, probably 2-4. These issues should be:

1. Doable in the allotted time frame with the given resources. For example, buying a new computer system may be a great solution but not feasible given the budget restraints. Since buying a new system is not doable, the team will need to focus on other causes of the gap, or on exploring new ways to use the existing system.
2. Most likely to result in achieving the SMART Aim. Some of the issues identified may warrant fixing at some time but fixing them now will not have enough impact to close the performance gap. These issues should be put on the Parking Lot, and addressed after the project. The Project Team should focus its efforts on fixable issues that will result in significant improvement within the desired time frame. Remember, 80% of the problem comes from 20% of the causes (Pareto). Focus on those few causes that are creating 80% of the problem.

#### Who

- Improvement Facilitator
- Process Owner
- Representatives of each front line function involved in the work

#### Tools:

Fishbone Diagram (6 M’s)-Appendix I

5 Whys-Appendix J

Pareto Analysis-Appendix F

Process Map-Appendix C

Project Charter- Appendix K  
8 wastes- Appendix L  
6 S-Appendix M

### Outcome

Team identifies a few causes of the performance gap that will become the focus of the improvement work.

### Example

The team identified a few issues that are responsible for the performance gap. The primary issues identified that the team plans to address are:

1. Some patients speak Spanish, not English, and some don't read at all. That makes it challenging for them to understand the instructions that the clinic has printed in English. Furthermore, even though the clinic has written instructions in English, only a few Medical Assistants give them to the patients.
2. Medical Assistants are giving verbal instructions in a variety of descriptions, and not all of them covering key points.
3. No place to put a specimen bottle, the wipes, etcetera near the toilet, leading patients to cut out or modify the necessary steps.

## Section 2 - Find the Solutions

### b. Solutions

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	<b>2b. Solutions</b>	3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

Never tell people how to do things. Tell them what to do and they will surprise you with their ingenuity." --General George Smith Patton, Jr.

#### Summary

The team brainstorms to come up with ideas to close the gap

#### Explanation

At the beginning of the session, the Performance Improvement Team is given ground rules for a brain storming session.

Brainstorming Ground Rules:

1. The team will have 10-15 minutes for brainstorming. During that time people should feel free to suggest any and all ideas they have to address the 3 issues identified in step 2a.
2. Be creative!
3. During brainstorming there should be no critical evaluation of ideas. Criticizing someone's idea at this point will often intimidate others, limiting their willingness to suggest ideas.
4. Every contribution is worthwhile, even if it is weird, silly, or impractical. Even though they may not be something that could be implemented, it may lead to other ideas that are more "doable."
5. Record all ideas on a chart pad, white board or some other display that everyone is able to see.

After the brainstorming is done, the team should start ranking the ideas that they want to test. Some people may not like some ideas. Encourage them to go along with testing the idea. Even if the test shows that the idea won't work, the test may lead to valuable insights. If the test works out well, they will hopefully be convinced about the new idea working well. By the end of the session, the team should have a commitment to testing a few ideas, and an agreement on when to start. The testing should start as soon as reasonably possible, to maintain team enthusiasm and engagement.

#### Tools

Brainstorming

#### Who

The Performance Improvement Team (Generally the Sponsor and Champion are NOT part of this. The people who do the work figure out how to recreate the work)

#### Outcome

Ideas for improvement

### Example

- 1) To address the patients who don't read or speak English:
  - a) The idea that a Medical Assistant should go into the bathroom and demonstrate came up in a joking manner. Although that is not a practical solution, it led to the idea of a Medical Assistant using a plastic model to demonstrate the technique for patients who are illiterate.
  - b) The team wants to test instructions written in English and Spanish.
  - c) The team wants to create instructions in picture form for illiterate patients.
- 2) To address the variety of verbal instructions given by the Medical Assistants :
  - a) A doctor and a Medical Assistant on the team will create a script with all of the key points a Medical Assistant should teach a patient.
- 3) To address the physical environment in the bathroom the team wants to build a shelf near the toilet to allow patients to place items while collecting the specimen.

## Section 2 -Find the Solutions

### c. Rapid Experiments

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	<b>2c. Rapid Experiments</b>	3c. Insights

#### Summary

The team conducts numerous Plan-Do-Study-Act cycles to see which ideas work, and to refine the ideas that do work.

#### Explanation

The concept that a solution should be tested on a very small scale before being implemented widely is one of the foundations of modern Performance Improvement. The test is fashioned like a small scientific experiment. The test cycle has been called the Plan-Do-Study-Act (PDSA) cycle (a.k.a., Plan-Do-Check-Act cycle, Small Test of Change). (See Appendix N)

#### Tools

Plan-Do-Study-Act cycle- Appendix N

Data and Measures- Appendix E

#### Who

The Performance Improvement Team initially

Eventually the entire “test module”

#### Outcome

The final ideas that will be implemented are tested and refined until they are ready for widespread use.

#### Example

##### PDSA #1

The team tested the idea of demonstrating on a model and found that the staff and the patients were very embarrassed using it and so the idea was discarded

##### PDSA #2

The team did find clear written instructions in English and Spanish from another Clinic and decided to use these as the new Clinic standard. They found that handing them to the patient was not as comfortable because it gave the patient one more thing to hold.

##### PDSA #3

However, they found that by using a laminated instruction sheet in the Medical Assistant work station to deliver the instructions, and then having a laminated copy posted near the toilet, patients were able to understand and follow the directions.

PDSA #4The team found the illustrated instructions useful. Patients were generally too embarrassed to admit that they couldn’t read. However, the Medical Assistant verbally reviewed

the instructions and pointed to the picture instructions during the explanation. Both the written and picture instructions were posted in the bathroom, which the patients found helpful.

PDSA # 5 & 6

The initial illustrations were not all helpful, but through multiple cycles of testing, the pictures were refined with the key points clear to the patients.

PDSA # 7

The physician and the Medical Assistant created teaching points, and they put the bullet points on the drawn instructions in the Medical Assistant work station. This helped the Medical Assistants all remember the key points every time they delivered the instructions.

PDSA # 8

The teaching points were refined to be easier for the Medical Assistant to deliver and the patient to understand.

PDSA # 9

Rather than drilling a shelf into the wall the team found a small portable piece of furniture to provide a temporary shelf in the bathroom. They found that in the first location tested, patients bumped into the shelf too often.

PDSA # 10-12

By doing multiple PDSA Cycles, the team tried different locations until they found one that the patients found most useful.

## Section 3 - Sustain the Gain

### a. Completion Plan

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	<b>3a. Completion Plan</b>
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	2c. Rapid Experiments	3c. Insights

#### Summary

The new workflow/ideas need to be spread to the rest of the appropriate work areas. In this step, training and implementation schedules, training modules, audit tools are created.

#### Explanation

This step is about making sure your great new solution is spread to appropriate areas within the organization. The work to be done in this step is dependent upon the project and the organization. Some project outcomes may be appropriate for only one department, and other projects are appropriate for many departments or the entire organization. For example, a project that created a new check-in process may be appropriate to spread to all of the outpatient clinics in a Community Health Center, and a project that improved minor surgery equipment tracking would only be appropriate to spread to departments that use that equipment. A big department like Family Medicine may have many clinic sites, and a project that was piloted at one site may need to spread to the rest of the site.

In this step, a plan is made for the logistics of spread.

1. Plan on how to train everyone on the new workflow. Some issues to consider include:
  - Classroom/group training or one-on-one mentoring?
  - Special time set aside for training or use an existing meeting. If meeting, then who do you need to ask for time on the agenda?
  - One trainer for all, or train local trainers? Who will they be?
  - Do we need to reduce clinic hours for a learning session?
  - Will we need to budget for back fill while people learn the new work?
  - How will I keep track of who has done the training? It is often helpful to keep track of everyone on a spread sheet to make sure you haven't missed anyone, and if necessary, to make sure you don't take too many people out of the same work area at once.
2. For multiple sites, you'll need a schedule of when each one gets trained on the new work. You'll also need to keep track of who is trained, because some people will miss the first training and need to attend a later session. You may need to schedule rooms, trainers, and get the time off for those learning the new work.
3. Job Instructions need to be created. *Standardizing the way a work process is accomplished is a critical foundation of Performance Improvement.* These are useful for training when new employees are hired as well as keeping a standard for the continuing staff. It is important to keep everyone doing the work in the same manner. When people start to "customize" the work, gaps in performance will follow. If someone on the team discovers a new way to do the work that is an

improvement, or the clinic circumstances change in a manner that impacts the work (staffing changes, building modifications, etc.) then the job should be modified with some rapid experiments, the job instructions modified, and everyone trained on the new work.

4. Training the Process Owner. The Process Owner is the one who will need to make sure the staff and providers are doing the work correctly. Consequently, he/she needs to know the new work flow well, and be able to communicate the “why” as well as the “what” for changes. The Process Owner will need to be trained to audit the people doing the work. An “audit tool” is usually helpful (appendix P). If the staff or providers are not doing the job according to the new work instructions, the Process Owner is responsible for discussing this with the person who is not performing. The Process Owner will need to help the frontline staff figure out obstacles to performing the new workflow and for helping them work through these.

### Tools

Job Instructions- Appendix O

Audit Tool- Appendix P

### Who

Performance Improvement Leadership

Improvement Facilitator

### Outcome

Training materials

Audit materials

Schedules

Job Instructions

### Example

The team determined that to reach the SMART Aim they need to implement 3 ideas that were tested. This work needs to be spread to all of Clinic Module A (it began with a small test team in Clinic Module A). It then will need to be spread to Clinic Modules B and C, which are also Primary Care Clinics at the same Community Health Center.

New work:

- 1) Written instructions in English, Spanish, and illustrations.
  - a) The Process Owner determines who will type, produce and laminate the new instructions.
  - b) He/she will find appropriate places to hang the instructions in the bathroom, as well as placing them at the place where the Medical Assistant will provide the instructions to the patients.
  - c) If help is needed such obtaining resources or administrative support for this step the Sponsor is responsible for removing the barriers to successful implementation.
- 2) The Medical Assistants will all learn how to explain the clean catch procedure.
  - a) The Improvement Facilitator makes sure that the job instructions that were created by the provider and Medical Assistant on the team.
  - b) The Job Instruction materials necessary to train the Medical Assistants are printed.
  - c) The Project Leadership decided that an existing Clinic Meeting will be used as the training time. Providers and Medical Assistants are all asked to be present so the providers learn the

same instructions as the Medical Assistants. That way, when the Provider does give instructions, he/she is consistent with the instructions the Medical Assistant gives the patient. All of the work flow is reviewed so that everyone on the team knows who is responsible for each step, where teaching materials will be located, etc..

- d) The teaching points will be posted in the area where the Medical Assistant teaches the patient as a reminder.
- 3) The Process Owner puts in a work order to engineering and shows them what type of shelf is needed, and where it should be located, based upon the team's experience.

The timing of steps 1, 2, and 3 should be determined for each Clinic. All of the Clinics that will be getting the new workflow should be notified that it will be coming, and when.

## Section - Sustain the Gain

### b. Sustain

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	<b>3b. Sustain</b>
1c. Target State	2c. Rapid Experiments	3c. Insights

***“What gets measured, gets managed.” - Peter Drucker, Management Guru, Hailed by Buisnessweek Magazine as “The man who invented management”***

***All systems tend toward chaos. It requires energy to maintain order.  
-The Second Law of Thermodynamics***

#### Summary

This step is about creating the plan for ongoing monitoring to assure that the new process becomes “hardwired.”

#### Explanation

Even excellent new solutions are forgotten as people slip into old habits. It is necessary to monitor the outcome or process measure for at least 18 months to make sure that the new process gets hardwired. This step is about creating the plan for ongoing monitoring, called the “Sustainability Plan.” (appendix Q)

Typically, the Process Owner is responsible for auditing the process. The Performance Improvement Project Leaders decide what measures to track, and the frequency of tracking. It is recommended to track the new process daily or weekly, especially for the first 3-6 months. After that, monthly tracking may be adequate. The measures being tracked are outcome measures if they can be obtained quickly, but may need to be process measures because outcome measures often lag too far behind the actual process. For example, if the goal is to assure good diabetic care, tracking the outcome of HgA1c levels will take too long to give meaningful feedback. Consequently a process measure of the work flow, such as identifying diabetics when they come to clinic with a red sticker on the chart, may need to be tracked, to make sure the staff or providers are doing the new work which we think will give us the desired outcome.

The Process Owner will report the results to the Champion and/or Sponsor. It is the job of that Champion and Sponsor to make sure that the Process Owner doesn’t forget, and to make sure that the process does not slip. The Sponsor/Champion and the Process Owner should agree to control limits. That means the how far the measure is allowed to vary away from the goal before a corrective action is necessary. For instance, if a goal is 75% compliance, a control limit may be performance below 70%. Variation a few percent above and below the goal may be normal and no cause for concern. If the process measure does slip beyond the control limit the Sponsor, Champion, and Process owner should discuss the causes and corrective action to assure that the process gets back to goal performance. They should also agree on what will be measured and how frequently. All of these agreements make up the Sustainability Plan.

### Tools

Sustainability Plan- Appebdux Q

### Who

Project Leadership

Improvement Facilitator

### Outcome

A Sustainability Plan

### Example

The following agreements will make up the Sustainability Plan for the “ clean catch urine project”:

The Project Leadership has decided that one process measure and one outcome measure will be audited. The process measure will be the teaching process by the Medical Assistant. The Manager (Process Owner) who supervises the Medical Assistants will observe one teaching session by each Medical Assistant every week for the first 2 months, and then monthly until 6 months after the project was completed, and the quarterly after that . If any Medical Assistant is missing any of the key teaching points, the Manager will re-train the Medical Assistant.

The outcome measure will be the number of clean catch urine specimens that have evidence of contamination each week. After the first 3 months, if the number is within control limits and stable, the measurement will go to monthly. This will continue beyond the 18 month “hardwiring” period, and become part of the Managers on going work.

The Manager (Process Owner) will report the results to the Champion and Sponsor via e-mail monthly for the first 3 months, and after that quarterly.

## Section 3 - Sustain the Gain

### c. Insights

Project Map		
1. Define the Problem	2. Find the Solution	3. Sustain the Gain
1a. Reason for Action	2a. Gap Analysis	3a. Completion Plan
1b. Initial State	2b. Solutions	3b. Sustain
1c. Target State	2c. Rapid Experiments	<b>3c. Insights</b>

#### Summary

The Performance Improvement Leadership and Performance Improvement Team meet to discuss the experience. The goal of this conversation is to build “institutional knowledge.”

#### Explanation

Improvement projects lead to many educational moments along the way. Education may be about the content of the problem and solution or about the change process itself. For example the team may have tried a new work flow in clinic and found that it didn't work because it led to greater confusion at the check in. This knowledge should be passed on to future teams that may try the same solution. For the improvement process itself, the team may have found that 1 hour meetings are too short to get work done. The team thought 2 hour meetings every other week worked the best. This is knowledge that future Improvement Teams will benefit from. The Leadership should consider buying lunch for the meeting or another token of appreciation for the teams hard work. The team also should hear the following from the Performance Improvement Leadership:

- Recognition for the hard work they've done.
- Remind of why the project was done, and how it fits into the Mission.
- What the plan is for the Parking Lot items. (should the team work on them next? Will another team be convened for a new project? Is it something the Process Owner will work on without a team, and if so, when will the Process Owner report progress to the team on this issue?)

#### Tools

None this step

#### Who

Performance Improvement Leadership  
Performance Improvement Team

#### Outcome

Increased knowledge of improvement  
Recognition for team  
Acknowledgement of the Parking Lot items and plan for next steps

#### Example

The Project Leadership bought Pizza for the team. At the lunch, the Performance Improvement Leaders thanked the team for the great work the team did and discussed how this project fits into the big picture for the organization. The Performance Improvement Leaders ask the Team what they learned, and what they wish they had done differently. The team responds that they tried a

new work flow in clinic and found that it didn't work because it led to greater confusion at the check in. This knowledge should be passed on to future teams that may try the same solution. For the improvement process itself, the team found that 1 hour meetings are too short to get work done. The team thought 2 hour meetings every other week worked the best. This learning will be adopted for future Performance Improvement Projects. Everyone was surprised that the patients said a major challenge was the lack of a shelf in the bathroom, and agreed that they'd need to consult patients more frequently to get their opinions. The Physicians were surprised that the clinic did not have written instructions for the patients in the bathroom.

The leadership told the team that the parking lot would be kept by the Sponsor, and that she wants to make sure this project is spread and sustained for at least 6 weeks before starting another project. At that point she then would like the Project Team to reconvene to work one of the parking lot items, which was creating instruction sheets for the patients on other clinic information like finding the lab and taking fasting blood tests. focus on a new project, taken from the Parking Lot that the team had discovered during the project.

Appendix A  
**Project Map**  
 Project Title:

**Start Date:**  
**Proposed End Date:**

**Process Owner (Champion):**  
**Physician Champion:**  
**Executive Sponsor:**  
**Clinic Team Leads:**  
**Improvement Facilitator:**  
**Team Members:**

Boxes 1-3: Leadership defines the problem and aim			Boxes 4-6: Team finds new ways to work			Boxes 7-9: Leadership spreads and sustains		
<b>1. Reason for Action (Problem Statement)</b>			<b>4. Gap Analysis</b> (Why is there a gap between 2 & 3?)			<b>7. Completion Plan</b> (Spread from test area to rest of units. Who, what, when?)		
<b>2. Initial State</b> (Go from “hunch” to “Data.” Gather process map and other baseline data. Is this really a problem that we should work on?)			<b>5. Solutions</b> (Brainstorm. Gather many potential ideas)			<b>8. Sustain</b> (Who will audit, who follows the data? Who owns responsibility for tracking and taking action if missing target?)		
<b>3. Target State</b> (SMART Aim. How good? By When?)			<b>6. Rapid Experiments</b> (Multiple PDSA Cycles)			<b>9. Insights</b> (What did we learn? How do these lessons apply to the rest of the Orgsnization?)		

## **Appendix B Key Players and Their Roles**

### Improvement Facilitator

This will be the Resident running the project. The Improvement Facilitator is responsible to guiding the project team through the Project Map. This curriculum is designed for the Improvement Facilitator, and throughout the curriculum it will detail the responsibilities of the Improvement Facilitator at each step of the project.

In summary:

- The Improvement Facilitator is responsible for guiding the project through each stage of the Project Map, making sure that the deliverable from each stage is completed and documenting the deliverable for each of those steps.
- For a project that will have more than one Improvement Facilitator taking turns leading the project, the acting Improvement Facilitator is responsible for creating clear documentation of the work that has been done so far and the next steps necessary for the following Improvement Facilitator.
- The Improvement Facilitator will communicate at least monthly with the project Sponsor, and weekly with the project Champion and Process Owner about progress, barriers, learnings, and next steps.
- The Improvement Facilitator will facilitate project team working sessions.
- The Improvement Facilitator will create visual displays and other communication tools needed to assure the team is aware of why the project is being done, the progress it has made, and the next steps planned.
- The Improvement Facilitator will create a Story Board for presenting the project, following a specified format, and presenting it at the Year End Performance Improvement Colloquium

### The Process Owner:

The Process Owner is the front line leader who directly supervises the workers doing the process. She is responsible for achieving the desired outcome measurements. She “owns” the process and are responsible for maintaining the results after the improvement project is complete. Process Owners are often Managers or Assistant Managers. For some projects the Process Owner is also the Champion, and in others, the Process owner reports to the Champion.

The Process Owner performs the following tasks:

- Works with the Sponsor, Champion, and the Improvement Facilitator to develop the SMART Aim
- Communicates the “Why” (the burning platform) to the project team.
- Provides the team with the system view, including intra and inter departmental dependencies
- Provides the team with current performance metrics.
- Makes tough decisions that might cause short term challenges for long term gain
- Recognizes and defends against scope creep
- Attend all project team meetings
- Encourages and facilitates the front line workers on the team to understand the gap in performance and find their own solutions. Restrain self from imposing own ideas of gap and the solution on the team..
- Transitions the project after the solutions have been implemented to the sustainability phase, monitoring process and outcome metrics and sustaining the results.
- Provides the team with frequent rewards and recognition for their efforts.

### The Champion

The leader responsible to the organization for the Project Outcome and sustainability of the Performance Improvement work. The Process Owner reports to the Champion, and in some circumstances the Process Owner is also the Champion. Champions are often Directors or Department Chiefs or Managers.

- Works with the Sponsor, Process Owner, and the Improvement Facilitator to develop the SMART Aim
- Communicates the “Why” to the project team, explaining the connection between the project and the Mission.
- Provides the team with the system view, including intra and inter departmental dependencies
- Recognizes and defends against scope creep
- Provides the team with frequent rewards and recognition for their efforts.
- Develops the business case for the Performance Improvement project, and assures that the project will align with one of the organization’s strategic imperatives
- Helps the Improvement Facilitator determine the Process Owner and the Team Membership, and releases them from other duties as needed for the project.
- Communicates with the Improvement Facilitator at least monthly to hear progress.
- Removes barriers that are inhibiting team progress and escalates barriers to the Sponsor as needed.
- Attends some of the project team meetings, as a silent partner. Primary purpose to emphasize the “Why,” to remove barriers, and to encourage the team.
- Empowers the team to understand the performance gap and to find its own solutions. The Champion does not solve the problems, but rather asks the right questions to guide the team.
- Helps the team move forward by asking the Improvement Facilitator and Process Owner for updates and holding them accountable for deliverables.
- Makes tough decisions that might cause short term challenges for long term gain
- Once a solution is ready to spread, works with the Sponsor, the Process Owner, and the Improvement Facilitator to create a spread and sustain plan.
- Holds the Process Owner responsible for reporting metrics during the sustain phase, and helps the Process Owner develop corrective action plan if the project performs under expectations.
- Provides the team with frequent rewards and recognition for their efforts.

### The Sponsor

The Senior Executive Leader responsible for ensuring direct reports and their individual departments within the service area are committed and aligned to the strategies and overarching goals of the organization.

Operational role:

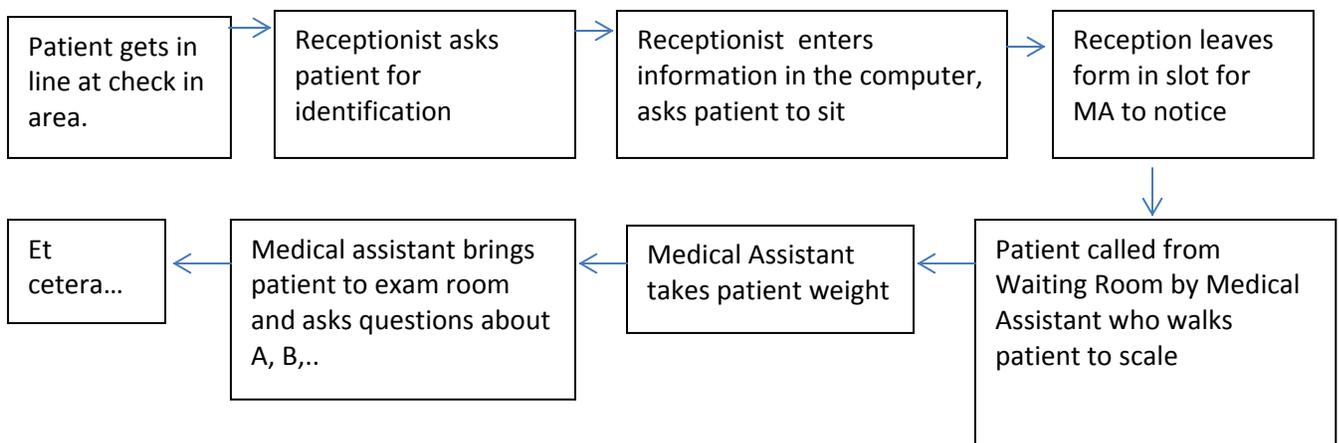
- Sets the overall goal for the project – identifies “how good” and “by when”
- Secures and provides resources to get results
- Helps identify stakeholders and has conversations with other leaders to set the stage for improvement
- Ensures organizational alignment of improvement work
- Resolves work flow issues that crossover into multiple departments
- Removes political and hierarchical barriers that hinder good work
- Ensures teams remain empowered and hierarchy remains flattened

- Monitor overall performance
- Meet at least once monthly with Champion and Improvement Advisor (IA) to review progress
- Communicate the team's progress to other areas of the organization as needed
- Build will – tell stories. Give inspirational examples where a test of change has made an impact. This will connect team members and staff to the aim and establish an understanding of the team's objective within the organization
- Encourage people to do things outside of what they normally have to do
- Be present – round on the project team and staff
- Hold clinicians accountable and keep them engaged

## Appendix C Process Mapping

A process is a flow of something toward a particular destination. In health care, the “something” is often a patient, but it may be a piece of information (e.g., an x-ray request), a supply (a paracentesis kit) or another item you are interested in following. A process is comprised of activities and connections.

For example, a patient’s clinic visit “check-in” is a process. The start point is when the patient gets in line to check in and ends when the patient is left in the exam room by the Medical Assistant. The process has activities (in boxes), in which something is done to move the patient toward the destination. It also has connections, (arrows) indicating the connection between activities. In some process maps, a particular activity may have multiple arrows coming in or out, but the below is a simplified example.



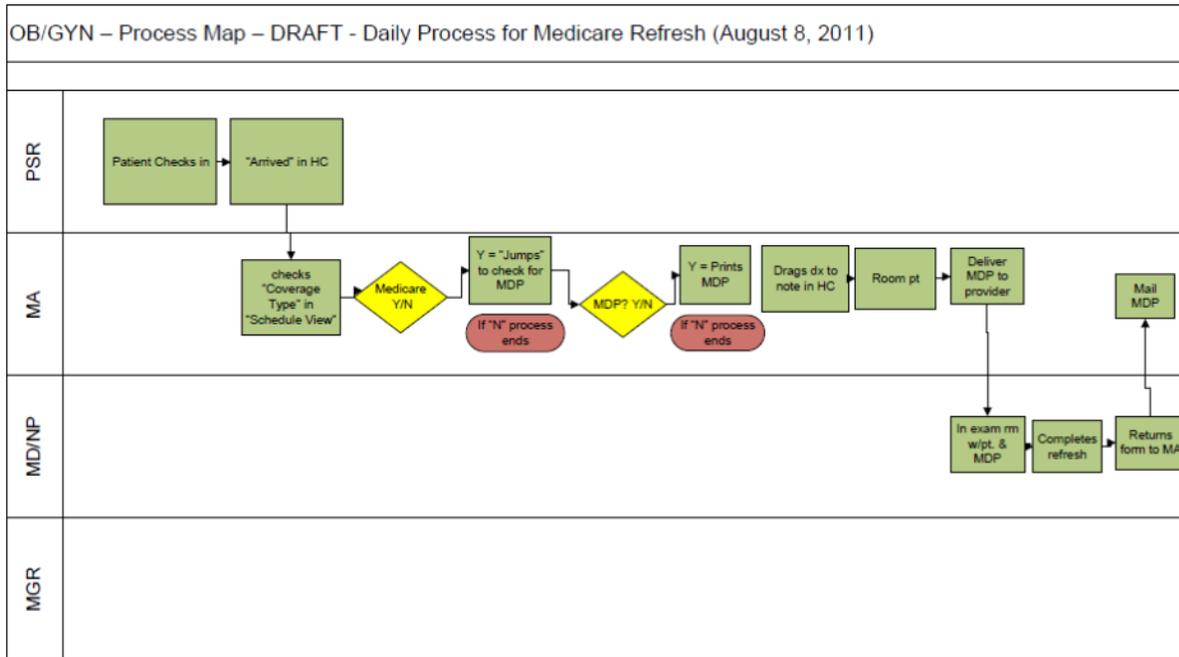
### How to Make a Process Map

- 1) Initial Walk Through
  - a) Begin with a quick “walk through” of the entire process, to get a sense of the flow and sequence of steps.
  - b) “Pin yourself to the problem” as if you were the staff, the material, the information, or patient going through the process.
- 2) More Detailed info gathering
  - a) Who:
    - i) It is usually going to be the Improvement Facilitator who gathers the information.
    - ii) There may be situations in which it is helpful to have one of the front line workers to do a map also. Having them see the entire process from the point of view of a patient, for example, can be very powerful, and that team member will often become a very powerful proponent for change within his/her peer group.
  - b) Get Data that is relevant
    - i) You will want to watch the entire process at least a few times, and watch different staff members performing each task.

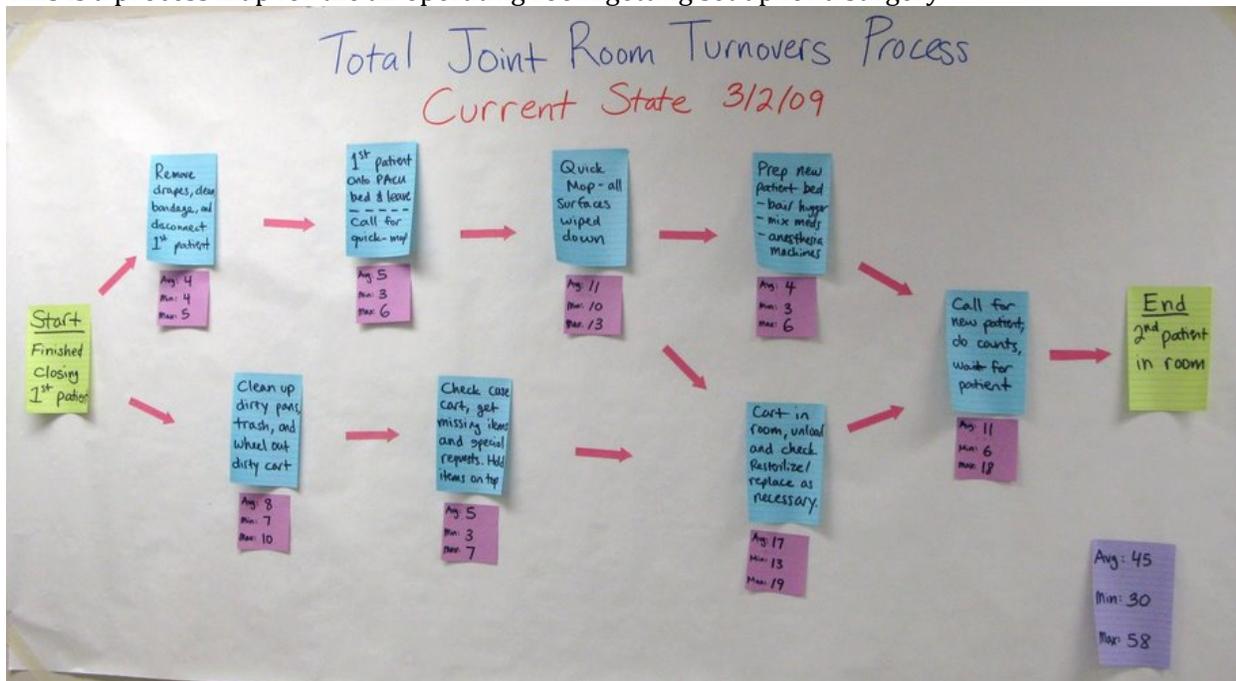
- ii) Note the duration of each activity and each connection. It is important to note the full range of shortest to longest times for each activity and connection. (For example, the check in with the receptionist may take 1 min to 15 min, depending on a patient's insurance. If so, you want to note that range)
  - iii) Look for stories What did you see that the team needs to hear about to get motivated to change?
  - iv) Look for bottlenecks (e.g., all of the work piles up at the work station of person X, who is the only one currently allowed to do a particular step in the process).
  - v) Look for areas of big variability
    - (1) Variation In time
    - (2) Variation in Sequence of activities: Worker A does the work in this order, and person B does it in another order.
    - (3) Variation in how each activity is performed
    - (4) Variation in the work is performed at the same step. For example, One worker does a, b, and c at this point, and another worker at the same step does a, d and e.
- 3) Map the whole process even if several people/departments are involved and multiple hand-offs occur.
  - 4) The point of mapping is NOT the map itself. It is understanding the flow of information and material
  - 5) What to look for
    - a) Process Flow
      - i) Identify all activities and connections in sequence from the patient perspective (or whatever is moving through the process)
    - b) Material Flow
      - i) 'Product/Patient' flow paths. Are there a lot of unnecessary steps because of the pathways taken? Are people searching for equipment? Are patients searching for the x-ray dept?
      - ii) Shared resources in flow path (people and equipment).
      - iii) Inventory locations and levels
    - c) Information Flow
      - i) Form of information (e.g., paper, electronic, verbal)
      - ii) How does the employee know what to do? When?
    - d) Transition areas - information flow across departments, shifts, handoffs
    - e) Time
      - i) Wait time
      - ii) Processing time
      - iii) Turn-over time
  - 6) Common Process Problems
    - a) Non-Value Added- think of value as what actions enhances the product for the customer of the process.
      - i) Which activities do not add value?
      - ii) Which activities can be eliminated?
      - iii) Which activities can be combined?
      - iv) Which activities can be replaced by simpler ones?
    - b) Long waits and pauses
      - i) Where does the process map appear to be a long chain of tasks?
      - ii) Which key event(s) can start before the previous event has finished?
      - iii) Which activities can start sooner then currently indicated?
      - iv) Rework or Poor Timing?
    - c) Balance of Critical Resources

- i) Which activities appear to cluster around key functions/people?
- ii) Where are the hand-offs between participants?
- iii) Can the work be distributed differently to avoid bottlenecks?
- d) Repeated Steps
  - i) Done More Than Once?
  - ii) Where do similar tasks appear to be redone by others?
  - iii) Which activities can be eliminated?
  - iv) How can distances be reduced?

Example of a Process Map. Following a "Task" as it is passed along a Health Care Team



This is a process map for the an operating room getting set up for a surgery



## **Appendix D**

### **Voice of the Customer**

The “Customers” are the people or groups of people who receive the output of the process. For example, when a physician writes an order, the clerk who takes the order from the chart, the nurse who will carry out the order, the pharmacy or ancillary service that may be involved in filling the order, and the patient are all customers. If a performance improvement project is going to change the content or process of writing the order, then the needs of all of these customers need to be taken into account when creating the new process.

The Improvement Facilitator will want to gather information from each of the customers about the “product” they receive from the process, and what they consider valuable or not valuable. This information may be gathered in a variety of ways, including surveys, gathering complaint forms, small groups, or simply going out to ask in one-on-one conversations. The information does not need to be gathered in the rigorous methods we use for research studies (see appendix E). Rather, it should be gathered from enough customers to get a reasonable idea of what the customers would like to receive (and avoid) from the process.

Common pitfalls include forgetting about customers. Did you think of the ward clerk transcribing the order as a customer of the physician order? If he “receives” the order then he is a customer, and he probably wants it to have the key components of time, signature, and legibility, among other things. Another common mistake is to assume you know what the customers need and want. Always ask the customers themselves. Another pitfall is to build an entire system around one customer’s opinion. Ask enough people to know that you are getting a representative sample. That number may vary depending upon the process.

Ideally, each customer group is represented on the improvement team. (Yes, some teams even have patients!) If a customer is represented on the team, that representative must speak to his peers to make sure he represents them well (e.g., the Medical Assistant representing other Medical Assistants). If a customer is not on a team, the team members and Improvement Facilitator need to use their judgment. Speaking to one pharmacist may be adequate to understand the pharmacy needs, but you may need to speak to five or ten patients to understand the needs of patients. Remember, this is not a rigorous science that needs statistically significant results. The team needs just enough data to meet the customer’s needs.

## **Appendix E Data and Measurement**

For the purposes of this Primer, health care data may be broken into 3 main categories:

### Data for Accountability

Specific data reported to regulatory agencies and departments or supervisors within the organization for the purposes of monitoring adherence to specific guidelines, rules, etc.

### Data for Research

Data gathered to prove a hypothesis. This requires rigorous methods of collection and large enough amounts of data to be reach a specified level of certainty.

### Data for Improvement

Small amounts of data are typically adequate to make sure the improvement work is headed in the correct direction. This data is often gathered in an iterative fashion. That is, at baseline, and then small samples after each test to refine a process or test a new method of work.

Just to make it a little more confusing, there are 3 types of measures we use when collecting improvement data.

### **Three Types of Measures**

Use a balanced set of measures for all improvement efforts: outcomes measures, process measures, and balancing measures.

#### Outcome Measures

The measure of the final “product” of the process under examination.

- For diabetes: Average hemoglobin A1c level for population of patients with diabetes
- For access: Number of days to 3rd next available appointment
- For medication systems: Adverse drug events per 1,000 doses

#### Process Measures

Are the parts/steps in the system performing as planned?

- For diabetes: Percentage of pateints whose hemoglobin A1c level was checked quarterly
- For access: Average daily clinician hours available for appointments
- For critical care: Percent of patients with intentional rounding completed on schedule.

#### Balancing Measures

Are changes designed to improve one part of the system causing new problems in other parts of the system?

- For reducing time patients spend on a ventilator after surgery: Make sure reintubation rates are not increasing
- For reducing patients' length of stay in the hospital: Make sure readmission rates are not increasing

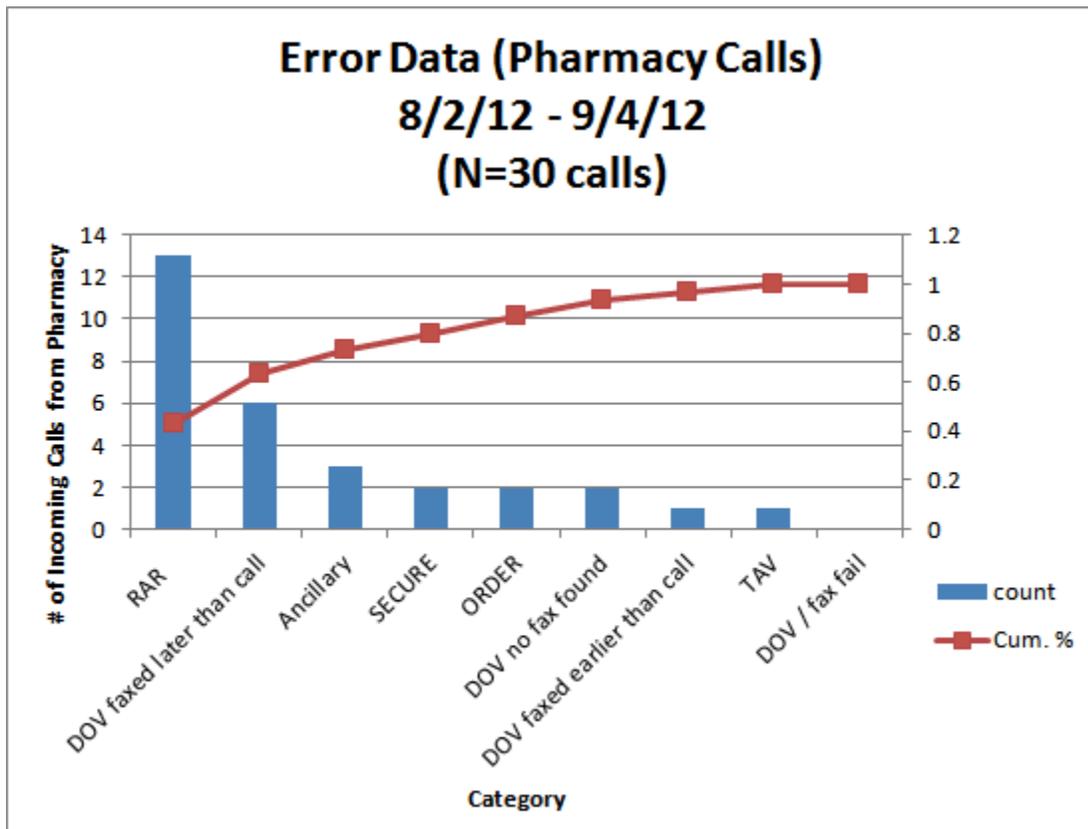
Source:

<http://www.ihl.org/knowledge/Pages/HowtoImprove/ScienceofImprovementEstablishingMeasures.aspx>

## Appendix F Pareto

The **Pareto Principle** states that the majority of the problem comes from just a few causes. For example, in the chart below, it is clear that most of the pharmacy errors (about 70%) in the Clinic came from 2 causes, the “RAR” process, and “late DOV faxes.”

A **Pareto Chart** is a graphic display of the relative importance of the different groups of data. A pareto chart can be constructed by segmenting the range of the data into groups (also called segments, bins or categories). For example, the chart depicted above was derived from a real Performance Improvement clinic. The problem was excessive patient waits at the pharmacy due to errors in the prescription process. The errors were categorized by cause, and a pareto chart was made to show the data. The data, as depicted in the chart, show that about 70% of the errors came from the 2 most common type of errors, which were errors in the “RAR (an automated refill request system)” and errors in the “DOV faxed later” category.



### How to Construct a Pareto Chart

The left-side vertical axis of the pareto chart is labeled Frequency (the number of counts for each category), the right-side vertical axis of the pareto chart is the cumulative percentage, and the horizontal axis of the pareto chart is labeled with the group names of your response variables.

You then determine the number of data points that reside within each group and construct the pareto chart, but unlike the bar chart, the pareto chart is ordered in descending frequency magnitude. The groups are defined by the user.

### **What Questions the Pareto Chart Answers**

- What are the largest issues facing our team or business?
- What 20 percent of sources are causing 80 percent of the problems (**80/20 Rule**)?
- Where should we focus our efforts to achieve the greatest improvements?

Source: <http://www.isixsigma.com/tools-templates/pareto/pareto-chart-bar-chart-histogram-and-pareto-principle-8020-rule/>

## Appendix G SMART Aims

“SMART” is an acronym:

- S Specific
- M Measurable
- A Attainable (Keep it realistic)
- R Relevant (Relevant to organizational goals)
- T Time bound.

The reason to use a SMART Aim is to encourage you to think a little more about "How good" you want to get, what "Good" looks like, and "By when." When working on improvement efforts, using a SMART Aim will help the improvement teams focus and achieve more substantial results.

Here are some examples:

<b>Vague Goal</b>	<b>SMART Aim</b>
Help family medicine make better referrals for urticaria	Decrease Urticaria referrals from Family Medicine to Allergy Dept by 10% by March 30, 2012 .
Improve patient diabetes control	Increase the proportion of diabetic patients who are followed in Blue Clinic who have a hemoglobin A1c < 7 from 60% to 75% by December 31, 2012.

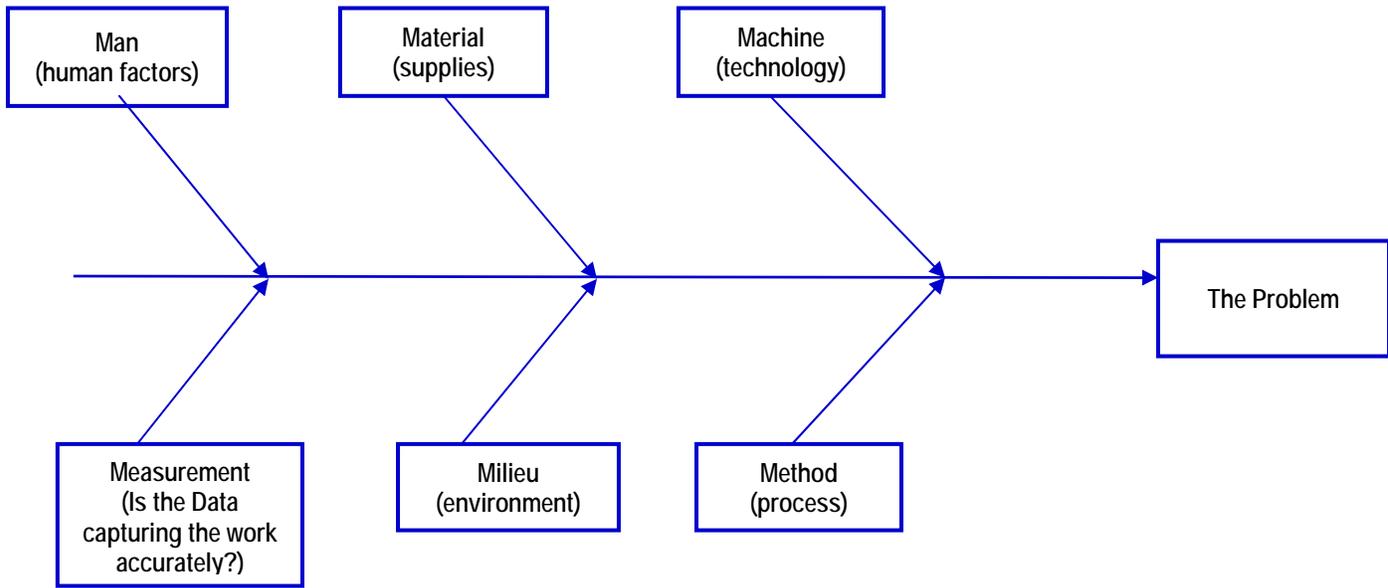
## Appendix H

### **Guidelines on Selecting a Good Project**

- Don't create a team to implement a known, proven solution. The Performance Improvement project is designed to address gaps in current work flows, not to implement a "playbook."
- Look out for conflicts with other projects. It is best to avoid more than one project in a single work area at the same time. Also, consider whether key players in the work flow will be out on medical leave or consumed with other work. You want the personnel who are needed for the work to be present and focused.
- Avoid projects in areas with performance management issues. If there are issues with low performance by staff or management, then have human resources work on the problem first. You won't achieve effective improvement with dysfunctional staff and management.
- If you are new to Performance Improvement projects look for projects with a high probability of success. Don't start off with your toughest or most politically charged problem.
- Choose projects that are closely aligned with the Organization's Goals and Strategies. Avoid projects that are motivated by a personal agenda.
- Consider the scope of the project. Ideally a project should be scoped into one that can be completed in 3-4 months. For big goals, break the work down into smaller projects. Achieving these short term goals will keep the team energized and focused.
- Consider the boundaries within the Organization's. If the project crosses boundaries, then it needs sponsors who have responsibility across boundaries, or co-sponsors across the different areas of focus.
- Choose a project team, and Project Leadership, that have control over the impacted processes.
- Look for metrics that are already available or can be developed simply. Measurement is crucial to success, and it will be easier to make and sustain successful change if the measures are readily available. Data collection daily, or at least weekly is ideal. Quarterly reports cannot effectively be used for improvement.
- Choose projects in which the Sponsor, the Champion, and the Process Owner are supportive. If work in an area needs to change but the Sponsor, the Champion, or the Process Owner, are not supportive, then leadership needs to work on that issue before a Performance Improvement project can begin.
- If one project uncovers additional areas to be improved, finish the first project before moving on to the new areas that were uncovered. Multiple projects, done one at a time in one area will often lead to large gains in performance. Also, teams that identify new areas needing improvement while working on a Performance Improvement project will become discouraged if those areas are ignored.

**Appendix I**  
**The Fishbone Diagram**

**Fishbone Diagram Template**



## **The Cause and Effect (a.k.a. Fishbone) Diagram**

When utilizing a team approach to problem solving, there are often many opinions as to the problem's root cause. One way to capture these different ideas and stimulate the team's brainstorming on root causes is the cause and effect diagram, commonly called a fishbone. The fishbone will help to visually display the many potential causes for a specific problem or effect. It is particularly useful in a group setting and for situations in which little quantitative data is available for analysis.

The fishbone has an ancillary benefit as well. Because people by nature often like to get right to determining what to do about a problem, this can help bring out a more thorough exploration of the issues behind the problem, which will lead to a more robust solution.

To construct a fishbone, start with stating the problem in the form of a question, such as "Why is the help desk's abandon rate so high?" Framing it as a "why" question will help in brainstorming, as each root cause idea should answer the question. The team should agree on the statement of the problem and then place this question in a box at the "head" of the fishbone.

The rest of the fishbone then consists of one line drawn across the page, attached to the problem statement, and several lines, or "bones," coming out diagonally from the main line. These branches are labeled with different categories. The categories you use are up to you to decide. There are a couple of standard choices:

- The 4 P's: Policies, Procedures, People, Plant/Technology
- The 6 M's: Man, Material, Machine, Measurement, Milieu, Method

Once you have the branches labeled, begin brainstorming possible causes and attach them to the appropriate branches. For each cause identified, continue to ask "why does that happen?" and attach that information as another bone of the category branch. This will help get you to the true drivers of a problem.

Environment: The conditions, such as location, time, temperature, and culture in which the process operates

After the team lists all of the causes, use the "3 Sticker Vote" to choose the focus areas for the teams improvement efforts. Every person is given 3 small "dot" stickers (feel free to use fun stickers). The Improvement Facilitator will explain that every dot is a "vote" and everyone is going to vote. The voter may give all 3 votes to a single issue if that issue is very important, or spread his/her votes among 3 or less issues.

Source: <http://www.isixsigma.com/tools-templates/cause-effect/cause-and-effect-aka-fishbone-diagram/>

## Appendix I 5 Why's

The 5 why's typically refers to the practice of asking "why" the failure has occurred, and then repeating the question about the answer you just gave. It is a tool to get to the root cause/causes of the problem. There can be more than one cause to a problem as well. This tool is usually used by the Performance Improvement team as a group.

Here's an example:

Problem: The Washington Monument was disintegrating

Why disintegrating? Use of harsh chemicals

Why using harsh chemicals? To clean pigeon poop

Why so many pigeons? They eat spiders and there are a lot of spiders at monument

Why so many spiders? They eat gnats and lots of gnats at monument

Why so many gnats? They are attracted to the light at dusk.

Solution: Turn on the lights at a later time.

Source: <http://www.isixsigma.com/dictionary/5-whys/>

## Appendix K The Team Charter

This is a short agreement about what the team will work on, and the rules for the team participants. The first half of the chart should include:

- SMART Aim:
- Sponsor:
- Champion(s):
- Process Owner:
- Improvement Facilitator:
- Team Members:
- Start Date:
- Proposed End Date:

The second part of the chart will state the team working agreements. The Team and Project Leadership make the agreements necessary to keep the project progressing smoothly. Examples of topics include:

- How are decisions made (majority vote vs unanimous vote vs ?)
- If a team member misses a meeting how do they get caught up with the team?
- Everyone commit to willingness to “test” ideas even if they don’t like it
- All communications respectful
- How do we respectfully let a team member know if he/she is getting off on a tangent
- Keeping a Parking Lot of ideas for future improvement work
- Commitment to stay within scope of the project

## **Appendix L Eight Wastes**

**Waste** is defined through the eyes of the customer and includes anything that does not add value to the final product or service, and all activities that customers are not willing to pay for.

Front line workers are often so busy doing the work that they don't appreciate the wasteful effort in their work. Listing the categories of waste is a helpful to enable people to realize the work they do that does not directly add value to the customer.

### **1. Delays or Waiting**

Definition:

Waiting for anything – people, paper, equipment, charts, orders, or information. Idle time causing work to stop. Equipment failure or poor maintenance.

Healthcare examples:

Delays in discharge orders, procedure orders, room assignments, test results, lab results. Missed appointments. Long check-in lines. Long waits in “Waiting” rooms or exam rooms with lack of explanation regarding why waits are occurring. Calls on hold.

To Detect This Waste Ask:

Does all equipment have a maintenance schedule? Is the equipment maintenance record up to date? Are there delays in the delivery of the equipment, patients, meds, charts, x-rays, etc. to a location? Are there issues with punctuality with patients or staff? Is there a bottleneck or delays in process due to obtaining information, supplies, equipment, meds, or patients?

### **2. Excess Transport (of patients/ members)**

Definition:

Transportation of equipment or patients further than necessary, or temporarily relocating and moving them.

Healthcare examples:

Moving of samples and specimens. Moving patients. Moving equipment.

To Detect This Waste Ask:

Are the patients moved to the wrong locations? Do you spend a lot of time searching for supplies, patients, charts, empty rooms, etc.? Do you spend time walking to fax, copy, or deliver charts? Do you hand deliver documents, etc. that could be electronically delivered? Do you bring services to patients like EKG, phlebotomy, specialty consultation, or do you make the patient to the service?

### **3. Excess Inventory**

Definition:

Excess stock (medications, supplies)

Healthcare examples:

Equipment in halls. Improper use of storage space. Overstock of anything.

To Detect This Waste Ask:

Are there expired meds or materials in the area? Are there supply boxes sitting on the floor? Are there extra IV poles and beds in the halls? Are you overstocked in the area of use? Are you using the hall for storage space? Are you hoarding material because you worry you may have a hard time getting it in the future? Are you crowding every exam room by stocking materials you rarely use in each room?

**4. Unnecessary Motion or Movement (of staff)**

Definition:

Any movement that does not add value.

Healthcare examples:

Searching for patient records, medications, supplies.

To Detect This Waste Ask:

Can walking be reduced by repositioning equipment and/or supplies? Can supplies and meds be moved closer to the patient care area? Are all current and new employees training in units day to day procedures? Are procedures in place for restocking items especially in patient care areas?

**5. Over-processing**

Definition:

Putting work or effort into things that a patient, physician or healthcare staff person does not want or ask for. A service or process not required.

Healthcare examples:

Redundant charting. Duplicate files. Redundant questions to patients by multiple staff. Asking the patient for the same information multiple times. Retesting due to improper initial testing or testing without appropriate follow up.

To Detect This Waste Ask:

Has this paperwork been done before? Is this a repeat of a test? Are there redundant phone calls? Are more tests being ordered than warranted?

**6. Mistakes or Defects**

Definition:

The time spent redoing, correcting, or reworking a procedure or service

Healthcare examples:

Medication dispensing error. Missing information. Wrong procedure. Wrong specimen. Wrong billing code. Mis-identifying the patient's name or calling them by a name they do not prefer.

To Detect This Waste Ask:

Is a task routinely being done that is not part of a procedure? Is there extra paperwork? Can information be consolidated for ease of use? Are there reasons why patient charts may have incorrect information? Do patients have to be re-evaluated? Does paperwork need to be resubmitted? Do tests need to be re-performed? Is the correct chart being used for the correct patient and is it easily identifiable? Is the correct body part and person being properly identified prior to surgery? Are correct supplies being used for a procedure? Are trays and medication stored in the best location?

## 7. Unnecessary Services

Definition:

A service or process not required.

Healthcare examples:

Unnecessary testing. Unnecessary referrals to Specialists.

To Detect This Waste Ask:

Is this test being performed a repeat of recent results already obtained? Is this form a duplicate of some other form? Can the information on this form be used for other diagnostic criteria? Are kits opened when only one or two items are needed? Are the right people communicated to at the right time for patient or insurance information?

## 8. Unused Creativity

Definition:

Not utilizing people's skills and abilities to their fullest.

Healthcare examples:

Not fully involving staff in contributing ideas for improvements. Not being cross-trained.

To Detect This Waste Ask:

Is staff cross-trained? Is staff encouraged to suggest improvements? Is staff encouraged to implement improvements?

## Appendix M

### 6S

The “6 S’s” is a tool for achieving and maintaining safe workplace organization. Though it sounds deceptively simple, it can be hard to achieve. Furthermore, an organized work place that reduces waste is a cornerstone of performance improvement that must not be overlooked. Consider applying 6S to your work area before any formal Performance Improvement project in that area. It is important that all of the work categories that use the area has representation on the team that does the 6S work. The 6 “S’s” are: Sort, Set, Shine, Standardize, Safety, and Sustain.

The first step is to “**sort**” out the material that the work area does not need. Cut down inventory in the area where most of the work is done (like the exam rooms) to just the minimum amount necessary for a day or two. Excessive inventory leads to clutter, making it hard to find materials, wasting time moving material out of the way, and leading to injuries when excess material falls, etc. Items that are used rarely should be stored in a central store room, allowing the daily work area to be free of clutter.

The second S stands for “**set in order.**” This refers to organizing a work place in a fashion that minimizes the waste of looking for items. Organize items so that the items you use the most are closest to the areas you use them. If you have multiple work areas, like exam rooms, organize them all the same so that everyone who uses them knows how to find things. For example, place the bacterial culture swabs in the top right drawer in every exam room. Place items that are used at the same time together if possible, like a kit for a particular procedure that has all of the syringes, instruments, and gauze needed. That eliminates having to hunt down all of the material every time you do the procedure.

The third S stands for “**shine.**” The team sets a standard for what to clean, how to clean it, who does the cleaning, and how clean it should be. The team should make it clear who will inspect to make sure the area is clean, and how often the area should be inspected. Usually the area supervisor will do the inspections, but it may be appropriate for staff to have one position that has inspection as one of it’s duties.

The fourth S stands for “**standardize.**” If you have multiple work areas, like exam rooms, organize them all the same so that everyone who uses them knows how to find things. For example, place the bacterial culture swabs in the top right drawer in every exam room. Place items that are used at the same time together if possible, like a kit for a particular procedure that has all of the syringes, instruments, and gauze needed. That eliminates having to hunt down all of the material every time you do the procedure. This section also stands for setting standards. Who is responsible for keeping the room in order, how often it is checked, how do we define clean, etc...

The fifth S stands for “**safety.**” This has been added to the original “5S” by some health care organizations. Inspect the new order to make sure it is safe for patients and staff. Create work spaces that minimize strain, tripping hazards, etc. Also, make sure your area is compliant with regulations.

The final S stands for “**sustain.**” It takes energy to sustain order. In this step, make sure it will be clear, even to a new hire, where things belong, and who is responsible for making sure things stay in order. Are there labels making it clear where each item belongs? Is it clear who is responsible for stocking and area, and who is responsible for checking to make sure everyone is maintaining the area as agreed?

## **Appendix N** **Plan-Do-Study-Act Cycle**

The Plan-Do-Study-Act (PDSA) cycle is the basic tool for change. Synonyms include “the Plan-Do-Check-Act cycle” and the “small test of change.” It may be thought of as a miniature scientific experiment. Every time you want to try a new work flow, process step, work area organization, you do it as a small experiment. The experiment should be small, perhaps done by just one person, or one small group in the work area, and designed so that it can be done for a short period of time, such as an hour, a day, or a week. No idea in a complex system such as health care is perfect straight from the drawing board. The PDSA is a way to test an idea on a small scale quickly, then revise it, then test the revised version. This is done on multiple cycles, beginning on the smallest practical scale, and then expanding once the idea has been revised.

### **Step 1: Plan**

Plan the test or observation, including a plan for collecting data.

- State the objective of the test.
- Make predictions about what will happen and why.
- Develop a plan to test the change. (Who? What? When? Where? What data need to be collected?)

### **Step 2: Do**

Try out the test on a small scale.

- Carry out the test.
- Document problems and unexpected observations.
- Begin analysis of the data.

### **Step 3: Study**

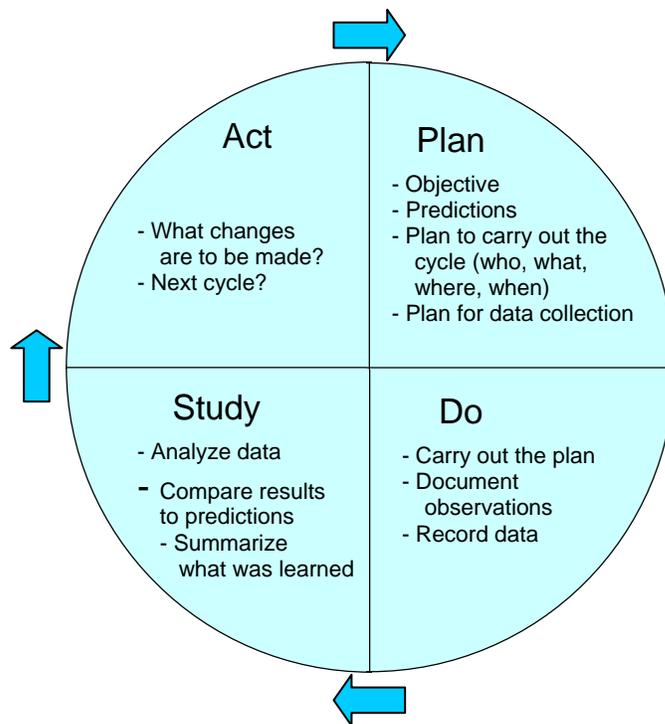
Set aside time to analyze the data and study the results.

- Complete the analysis of the data.
- Compare the data to your predictions.
- Summarize and reflect on what was learned.

### **Step 4: Act**

Refine the change, based on what was learned from the test.

- Determine what modifications should be made.
- Prepare a plan for the next test.



There are many reasons to test the solutions in PDSA cycle before implementing them. These include:

- Allow refinement of an idea. The idea may not work out as expected. When an idea is implemented widely without a small test, it may be found that the idea did not work well and all of the effort making the change was wasted.
- Look for unexpected consequences. The idea may have unanticipated consequences. The PDSA cycle allows the team to identify these early, before the idea creates a large negative consequence.
- Increase the speed of implementation. The tests should be geared to be very small, on the scale of something 1 or a few people can do in an hour, or a few hours, ideally. This takes less time to prepare than a change that will involve a large group of people like an entire clinic. Every day an idea can be tested, refined, and then tested again later that day or the next. These multiple small tests allow the ideas to reach the final, refined state quickly.
- Refine an idea. Very few ideas are perfect “on the drawing board,” especially in a setting as complex as Health Care. The PDSA cycle allows an idea to go through multiple iterations quickly, improving or discarding the idea each time.
- To decide among a few different ideas. Even if one idea seems to work well it is a good idea to test a few ideas. You may find you want to take a little of each, or just figure out which is most effective.
- Change management. Change is hard for people and the bigger the change the harder. People will often resist changes completely. It is much easier to ask someone to go along with testing an idea for a day or a week than it is to tell them “Here’s the new way we do the work. Go do it!” If people see a test and see it is working well, they are going to become more comfortable with the new work. If someone is sold on his/her own idea and it fails in a test, then they will be more accepting of other ideas. As people participate in tests and make their suggestions for refinement, they will take personal ownership of the idea and be much more likely to help it spread to others and sustain it in the long run.

## **The Keys To Success:**

- ❖ Keep the PDSA small.
  - What can you do in the next few days?
  - Think: One doctor, one patient, one Medical Assistant, one nurse, one day.
- ❖ Keep your measurements simple.
  - What can you measure using paper and pen.
  - Data needs to give you an approximate idea, not be published as scientific research.
- ❖ If the PDSA doesn't work out the way you planned, that's ok. It is still an opportunity to learn
- ❖ Perform multiple very small cycles, working toward your SMART Aim.
- ❖ Collaborate. Have open, frequent, respectful communication with your staff and colleagues about what needs to be improved and how to improve it.
- ❖ Be willing to try. It's easy to tell someone else, or yourself, why an idea won't work. We'll never get anywhere if we aren't willing to test new ideas.

## **Appendix 0** **Job Instructions**

Many Performance Improvement projects will create new work flows. The people who do the work will need to learn the new work flows. Creating a standard way the job is done is a foundation of Performance Improvement. Creating a written document that explains the key steps and the expected outcomes is critical for creating a sustainable work flow. These instructions will be needed to train the current employees on the new work flow, to train the new hires when they occur, and for supervisors and employees to refer to when auditing performance.

Teaching someone a new work flow by “telling” alone, or by “showing” alone, will often lead to the job being done poorly, and changing over time with some key steps being dropped. The best way to instruct someone on how to perform a job is to both tell AND show them. In addition, it is critical that the employees have a written reference to go back to after they have first learned a task, or if they forget how a task should be done.

Before instructing someone how to perform a job, the job must be thought through carefully and written down. The instructor should observe the new job and decide which actions constitute the “Important Steps.” An important step is a segment of the operation that advances the work. It is not necessary to include lots of minor steps like “turn on the computer.” You should assume that the employee has a minimal level of competence. A Job should ideally be broken down into 5 or less Important Steps, because too many steps makes it difficult to remember. If it needs more steps, considering breaking it down into 2 or more jobs, and training them separately, making sure someone is proficient at one before learning the next segment.

Next write down the “Key Points” for each step. The Key Points are anything that may: 1) Make or break the job; 2) Injure the employee; 3) Make the job easier to do, like a special trick. For example, a Key Point for the step “Push the Appointments Icon” may be “don’t double click it or you will get a glitch. Single click only.” You should think of an Important Step as “What you do” and a Key Point as “How you do it.” It is helpful to include “why” the step or key point is necessary as well.

**Appendix P**  
**Audit Tool Template Example**  
**(Audit tool should be customized to your needs)**

An audit tool is a simple tool to keep make sure that each employee knows how to perform the job correctly and consistently. It is critical to sustainability that the supervisor audits the workers to make sure they are performing the job in a standardized fashion. Without an audit, work will become individualized by each worker, and sometimes each instance even by the same worker, which increases errors, waste, and at times injuries.

Employee Name

	Patient 1	Patient 2	Patient 3
Patient Chart Number			
Job 1			
Key Step 1	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 2	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 3	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 4	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Job 2			
Key Step 1	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 2	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 3	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
Key Step 4	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No

What's working well?

Is there some part of the work flow that needs to be revised?

What additional training is needed?

Is there anyone I should recognize for doing exceptional work?

Other issues?

**[Name Of Your Project]**  
**Sustainability Agreement and Project Handoff**

**Section 1: Introduction**

This Sustainability Agreement and Project Handoff is a crucial component to sustaining the gains achieved during the [Your Project Name Here] project completed by [Improvement Facilitator] on [Current Date].

**Section 2: Roles and Responsibilities**

The table below shows the parties to this agreement and their roles and responsibilities:

<b>Name</b>	<b>Role</b>	<b>Responsibilities</b>
[Improvement Facilitator Name]	Improvement Facilitator	<ul style="list-style-type: none"> <li>• Completes initial project as identified in the attached project one-pager.</li> <li>• Conducts project hand-off, including hand-off of this document.</li> </ul>
[Process Owner Name]	Process Owner	<ul style="list-style-type: none"> <li>• Takes ownership for sustaining the gains achieved in the project identified in the Team Charter.                             <ul style="list-style-type: none"> <li>○ Obtains and Reviews Key Process Metrics specified and takes appropriate actions based on the metrics obtained.</li> </ul> </li> <li>• Provides process metrics listed in Section 4 to Performance Improvement Advisory Group as requested.</li> </ul>
[Champion Name]	Champion	<ul style="list-style-type: none"> <li>• Takes ownership and accountability for sustaining the gains achieved in the project identified in the Team Charter.                             <ul style="list-style-type: none"> <li>○ Reviews Key Process Metrics specified and assists Process Owner as needed in taking appropriate actions based on the metrics obtained.</li> </ul> </li> <li>• Provide process metrics listed in Section 4 to Performance Improvement Advisory Group as requested.</li> <li>• Identify and prioritize further process improvement opportunities.</li> </ul>

**Section 3: Process Description**

[Briefly describe the processes covered by this agreement.]

**Section 4: Key Process Metrics**

The table below lists the key process metrics that have been identified by the Green Belt as appropriate measures of process performance. The table also lists how and when the data is to be obtained, and expected results:

[List all key metrics needed to manage the process and sustain the gains in the table below:]

<b>Data Item</b>	<b>How Obtained</b>	<b>When</b>	<b>Expected Result</b>
[Metric Name]	[How To Obtain]	[Frequency]	[Expected result of metric]

## **Section 5: Corrective Actions**

The following table lists the potential actions that should be taken when targets fall short to ensure process improvement sustainability:

[List all metrics from the table in section 4, along with actions to be taken in the event that those metrics are not attaining their targets.]

<b>Metric Not Meeting Target</b>	<b>Action To Be Taken To Attain Targets</b>
[Metric Name]	[Corrective Actions]

## **Section 6: Signatures**

By signing below, all parties agree to carry out their responsibilities as set forth in this document. All parties to the agreement confirm that the process improvements cannot be sustained if the actions in this agreement are not carried out. Furthermore, the Process Owner and Champion agree that they have received a completed project documentation binder, and the project has entered the sustainability phase.

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**[Name], Improvement Facilitator** **Date**

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**[Name], Process Owner** **Date**

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**[Name], Champion** **Date**

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**[Name], Sponsor** **Date**