

Quality Improvement Basics: Process Mapping Transcript

Slide 1:

Welcome to the Quality Improvement Basics course 'Process Mapping' module.

Slide 2:

Our topics in this module will cover:

- Learning what process mapping is and how it can help to identify what improvements we are able to make in our work
- Understanding how process maps support Quality Improvement and where it fits into the overall Model for Improvement methodology
- Learning the basics to create a process map.
- We'll step through a real-world example in this module... and in the final module of the course we'll again provide another process mapping example

Also, before we start, please open the related documents for this module (tools, templates and any samples) which are available on the web page where you found this module link. It will help you to have those ready for quick reference as screenshots of the documents may not legible on your screen.

Slide 3:

What is process mapping?

Slide 4:

To start off, we'll need a few working definitions before we dive into the detail of process mapping.

First off, 'what is a process'? Generally, it is a complete set of activities or steps designed to produce a result that helps to accomplish a particular organizational goal.

Additionally, a process is the set of tasks that are sequenced together which have a logical beginning, something that 'triggers' the process to start and end point which is the output or result of the process. We'll have an example coming up in a few slides that will help clarify this.

Workflow gets into the detail of how the process works...determining "Who/ Does /What/ When". Workflow is the combination of detailed steps, tasks or events and/or decision points that support the process which enable the overall process to achieve its goal.

In a basic sense, a process is the overall, high level picture of how work is being carried out and workflow is the study and details of how that process actually gets done. You'll hear them used interchangeably at times and people often are referring to the same thing.



Slide 5:

With the previous definitions in mind...process mapping is a visual exercise in diagraming work involved from beginning to end and determining what steps and tasks are needed to complete the work that results in the output at the end of the process. This is the more detailed workflow analysis needed to build a step by step diagram of how the process is accomplished.

Process mapping is a method to visually display, discuss and understand how we actually carry out our work vs how we 'think' the work is being done. One of the primary benefits of process mapping is discovering the gaps between 'what actually happens' vs. what we believe is happening or how we think the policies, procedures and protocols are being carried out.

A visual process map helps a group, such as your quality improvement team, see the larger scope of the process as well as drill down into the specifics of individual process steps and tasks. This fosters discussion and debate around the process so that improvements and modifications can be made to yield better patient outcomes.

Once you have mapped out a process, determined changes that your team believes will enable the needed improvements, those changes may be as simple as making tweaks to your existing process or doing a complete redesign and possibly starting from scratch. An example of a complete redesign is when you move off paper and implement a new electronic healthcare record system. The end goal may be the same, but the way the tasks will be executed, is fundamentally different.

In one of the final slides of our 'QI Basics' module, we learned that processes are part of our larger 'system'. Systems are made up of interconnected components such as people, equipment, environment, and processes – and with systems thinking we recognize that everything is connected, and when a change is made in one process, it can cause changes elsewhere in the system. We need to think about the entire system in order to anticipate the broader impact of any changes we make. So, as you create a process map, have your team consider if any changes made will impact that larger system that you work in.

Slide 6:

When you map out a process, you are gaining insights into how work is actually done, and this helps you answer the 3rd question in the Model for Improvement: "What change can we make that will result in improvement?"

Once we have diagramed the current process and understand how the work is actually done, we can begin a discussion around what changes are needed. Additionally, this would be the point where you can apply Root Cause Analysis and utilize the 5 Why's tool to gain insight as to what the problem is that you're trying to correct.

We can take our current state process diagram and modify it to create a future state process map which reflects our proposed changes.

Based on this new, future state process diagram we can implement the desired changes and test this future state process...and that is where our new process map and PDSA tool interact. Your team has identified changes that are needed to the process based on the process diagram, and now you will document how these changes are carried out by utilizing the PDSA tool to test out the hypothesis that your proposed changes will bring about the desired improvements. The changes you are making to

the process are part of the 'plan' step of the PDSA tool and you'll test your modified process during the 'Do' step of the tool, then Study the changes or results, and take action in the final step: either adapt, adopt or abandon those process modifications.

During the PDSA rapid change test cycle, the new approach to carrying out the process will provide data, feedback and experience (part of the 'Do' step) that then enables us to reconvene and discuss how we can optimize the new process (part of the 'Study' step) as it is unlikely that the future process design will be perfect...which sets your team up for the second round of PDSA rapid cycle testing....in other words, the Act step would be to adapt the changes you made and start a second PDSA test with some further modifications to the process.

Slide 7:

Here are the 5 basic steps to integrating process mapping into your QI team work:

1. Map out the current state: how do we actually do our work currently.
2. With the process diagram in hand we can begin a discussion around what changes are needed. Remember that the proposed change is the answer to the 3rd question of the Model for Improvement: What change can we make that will result in improvement?
3. Once we have some agreement, we can take our current state process diagram and build the future state...map out the desired process and integrate the desired changes.
4. Based on the new, future state process diagram we can implement the desired changes and test this future state process. This is the 'Do' step of the PDSA tool: During this step, the test of your new process is generating data (which answers the 2nd question in the Model for Improvement..."How will we know the change is an improvement?" ...you know because your QI team has chosen some way to measure the process. This is exactly the information that you'll need to study to for the final step here.
5. Based on your PDSA tests, the new approach to carrying out the process has provided data, feedback and experience that then enables your QI team to reconvene and discuss whether to adapt, adopt or abandon the process changes. In steps four and five here, you will study and then act on the modifications to your process.

Slide 8:

So why do process mapping? Why is visually diagraming a process so effective and useful?

The power of process mapping lies in the visual representation of your daily work and building and translating the 'shared mental model' into visual model.

There are always "ah-ha!" moments of discovery when we start to diagram and analyze how work gets done in our organizations. You may have been carrying out the work for years and have an 'aha' discovery about some aspect of the process you are engaged in or learn about some surprising and impactful step in a process that someone else is responsible for. Often times the 'aha moments' are key pieces of information that we need to answer the 3rd questions of the Model for Improvement: What change will result in an improvement?

Most of the work we do relies on the combination of people, the process and technology to achieve desired process results. Process mapping enables you to determine how People, the Process and Technology are integrated to achieve your organizational goals.

It also provides opportunities to correct broken processes or processes that aren't very efficient, effective or achieving desired results...it truly is a unique opportunity to analyze how we do our work and make the best-informed decisions to make improvement rather than the 'just fix it' or 'gut feeling' approaches.

Slide 9:

Additionally, process mapping is a multi-disciplinary undertaking that engages process stakeholders (those actually doing the work) and creates buy-in as we change the way we do our work. Those who actually do the work know the intricacies of the individual steps and tasks and are best suited to make recommendations for improving the process ...with an eye on always aiming to improve patient outcomes, increase efficiencies and reducing errors.

The process mapping technique will also help your team to visually contrast the perceived process...how we think things are done, vs the actual process...what really is being done...and determine how the ideal or 'future state' process ought to be configured.

Slide 10:

Let's walk through some of mechanics of how we map out a process...we'll talk through these and then provide an example.

The first step is to 'frame the process' where you'll want to determine what is included and what is out of scope for a particular process you wish to diagram. Determining the trigger that starts the process and the end result or output is the exercise of framing the process...or putting boundaries around the work you are diagraming.

We then identify and document the major steps in the process from the trigger event to the end result.

As you add the steps, jot down who is responsible for carrying out each step (it's usually best to identify them by role or title rather than a specific name, especially when you consider turnover and scaling up or sharing the process with other units or facilities)

Consider what process inputs are needed or used in the series of task within the process such as reports, data, equipment, etc.

As you start to diagram your process, keep thinking "Who/ Does/ What/ When?"

Lastly, consider if there are any interdepartmental handoffs. Your end result may be that you hand off work or the result to another department. If other departments (or possibly outside organizations) are involved along the way, you may need to consider those as separate processes that impact your process or are impacted by your process.

A simple example of framing a clinical process (a patient coming in for lab work) ...is to identify the starting point as the patient arriving and the end point is when they complete their lab work and leave the facility. Processes that are impacted downstream from this process (and have their own process triggers and end points) are the processes of the specimens being sent out to the lab, the process of receiving results, a process to inform the provider of the results and so on.

Slide 11:

Once you start diagraming your processes and see how they actually are carried out step by step and by whom, you then have the ability to analyze the process and identify:

Bottlenecks and sources of delay (what factors may be slowing your process or bringing it to a halt?)

Rework due to errors (do you find yourself having to repeat steps in the process due to errors that occur?)

Role ambiguity (this simply means that there is not a clear understanding of who should be performing a task?)

Unnecessary duplications (do any of the tasks get repeated unnecessarily? Sometimes repetition is necessary, such as repeating a blood pressure check for confirmation. We are looking for tasks without a valid reason)

Long cycle time (is there a reason the process is taking so long to perform...whether the task itself is long in duration or there are unnecessary wait times or delays...particularly patient wait times).

Lack of adherence to standards (are there best practices that are not being observed that negatively impact the optimal outcomes we are seeking?)

Lack of information (do we have all the information to carry out tasks or steps in the process...which can lead to delays and wait times?)

Lack of quality controls (here we are referring to work we have at hand...quality improvement...are we measuring the process in a way that we can better understand and improve it...what measures do we have in place to provide information so we can analyze, study and recommend improvements?)

Did you notice in this slide that 'unnecessary duplications' is repeated twice? The idea with this intended repetition is that you may make similar discoveries when you visually document the steps of the process...perhaps not a repetition, but perhaps one of process pitfalls we just covered in this list.

Slide 12:

Mapping the Process

Slide 13:

As we start to create the 'as-is' or current state process diagram, it's helpful to think about how much detail is required. This will vary for each process you diagram but base the number of steps and detail on the need to understand the process. You don't want to get to the point of creating work instructions for each step. A work instruction describes each action that is taken. For example, your EHR vendor or IT department provides a guide on how to reset our password, with each click of the mouse and each key we need to press...too much detail!

The 80/20 rule is a good approach. Create a diagram that is useful for discussion using 20% of your time which approximates how the process steps are carried out. The last 20% of the process diagram usually gets so far into the detail that it takes up 80% of your time.

When mapping out the steps, it's quite common to have "ah-hah's" along the way that unearth the needed details that were not common knowledge or known to only the process experts...those carrying out the actual work. Following the 80/0 rule, you can capture the 'low hanging fruit' or the essential steps of the process. You can add more detail later.

The reason we want to create this as-is or current state process map is to first understand how our process is carried out before we attempt to make any modification, such as when using the QI model for improvement and the PDSA tool. After we document our current process, we then can use the diagram to build the new or future state process and confirm the changes that will lead to desired improvement.

Slide 14:

In the spirit of keeping your process diagrams simple and easy to understand (for both those inside and outside your quality improvement team), there are three basic shapes:

A circle or oval for the initial and final steps of the process, a square for each task or step and a diamond for a decision or question along the way.

Similar to the way we read and write, it's best to have the diagram flow from top to bottom and left to right. For the tasks, be sure to label them using the 'who does what' approach with a subject verb and object. The 'when' question is answered by the fact that each step is followed by another.

Questions are most frequently yes/no in nature for the diamond and enable the diagram to branch off into different series of task based on an answer to the question.

Slide 15:

Here is a very basic example which adds one more shape in the lower left representing a document or report in a process. You are not bound to use this shape and you can use a square or rectangle and make a note that a document or report is being used or required for that step. Take a moment to pause the course to walk through the steps in this slide.

Slide 16:

Here is a sample medication refill process before a clinic started using an EHR to accomplish the process. You'll see that most steps identify who is carrying out the task...this is important as we need to know who is carrying out the work when we modify or redesign the process. You might also think about the time factor...how long does it take to perform each task and is there a delay between steps...how long and why? Here again, pause the course if you'd like to review this example.

Slide 17:

The clinic that created the current state process then redesigned their medication refill process to reflect the new EHR-based process (think back to the people, process and technology components and how they interact). You can see from the previous slide that many tasks or steps were eliminated along with one decision or diamond step as well.

As you can see, this process, with far fewer steps, is also saving time for all the process stakeholders. Once you feel confident in your basic process mapping skills, you may want to branch out and learn about value stream mapping through the 'Lean' methodology. This process methodology is very

similar but takes a closer look at how each step in the process provides value to the end customer (most often patients in healthcare).

Slide 18:

Let's create an example of a basic process map. You'll need to assemble your quality improvement team and those that work directly with the process you'll be mapping. We'll diagram a very simple annual exam that includes a pre-diabetes risk test or screening process at a primary clinic as our example.

You can use sticky notes and a flip chart or white board along with some markers. Let's start with identifying the beginning or trigger and the end of the process.

We will start the process with a circle (just draw a circle on a square sticky note) that states the patient is coming to the clinic for an annual exam and we want to ensure that they complete a one-page prediabetes risk test, if applicable, and that it gets discussed with their provider during the encounter. The final step is that the encounter is complete, and the patient leaves the clinic...also a circle to indicate the final step.

We will allow for some space between the 'circle' beginning and end sticky notes on our white board.

Slide 19:

The patient then checks in at the front desk where we use a square sticky note and then a decision needs to be made (this next step is indicated by a stick note rotated to indicate a diamond / decision step) ...as to whether they should be handed a prediabetes risk test if they meet the guidelines. We are placing the steps in the process where we think they occur and not drawing any connecting lines yet...doing this allows for further discussion, adding steps that may haven't been identified and documented and reordering steps or decisions that may be out of sequence.

Slide 20:

If the patient does meet the guidelines for a prediabetes risk test, they are given one, which is one step, then an adjacent sticky note indicates the step where they fill it out and return it to the receptionist. We jot those steps down on a sticky note and add them to our current-state, 'as-is' process.

Slide 21:

The patient waits for the Medical Assistant (MA) to room them in the next step...another yellow square and then the MA includes the prediabetes risk test in the patient chart or among other encounter documents...so far so good.

As you add steps, consider what improvements you might make to the process and keep those in mind for the next phase of process mapping, which is to analyze and recommend those improvements. However, let's first complete our current state process map.

Slide 22:

The clinician provides the annual exam and then the following step is a diamond decision sticky note which asks if the patient filled out the risk test.

You will note that we could have added many steps and details about the exam itself, but the purpose of this process map is to focus on the prediabetes risk test and there are many details and steps that occur during the exam that are not relevant to this particular aspect of the process. We are trying to complete the general process using 20% of our time and then go back and figure out the details and have more discussion with the 80% of our time that remains.

Our process continues with the clinician discussing the prediabetes risk test results with the patient followed by another diamond decision step asking if the patient is indeed at risk for prediabetes (that is, was the test positive or negative)? If the patient is indeed at risk, then a referral is created to a health coach and/or the National Diabetes Prevention Program. If not, the exam is over and then patient leaves.

Slide 23:

Now that we have the major steps identified, your team can discuss and deliberate the sequence, level of detail, who is performing the tasks and so on. Is there anything that jumps out at you or your team...these are the earlier mentioned 'aha' moments and are the important insights into how work is getting done and where you've identified possible improvements. Again, notice that we haven't drawn any connector lines between the steps and decision points yet. Once you have consensus around the process map and steps, you can then begin to draw in the lines.

Slide 24:

...and here we have a completed, basic process diagram. Take a picture as we have done here. If you have the ability and time to convert this to an electronic diagram using Microsoft Visio, PowerPoint, Word or some other similar tools, this will give you the ability to electronically modify the current state process and also have a very clear baseline document to create your future state process from. It's important to have this current state diagram present as you deliberate about what changes you want to make to your process (once again, answering the 3rd question in the Model for Improvement...what changes can we make that will result in an improvement).