Quality Improvement Basics: Mapping the Process

Slide 1 Objectives

In the previous module we talked about what process mapping is and how it can be a helpful tool in quality improvement.

After completing this module, participants will be able to:

- Recognize the importance of a culture of safety in facilitating effective process mapping.
- Describe the key steps involved in process mapping.
- Develop a process map using three primary flowchart symbols.

Slide 2 Mapping Out Your Process

Let's walk through how to map a process.

- Start with mapping the process in its present state to understand how activities are currently carried out. This will allow you to identify opportunities for improvement and proposed modifications for a future state process.
- Determine the trigger that starts the process and the end point of the process. In doing this you are scoping or framing the process, so everyone is on the same page about the bounds of what is being discussed. For example, if the process being considered is how a particular blood test is obtained from the patient, the process might start with the patient arriving at the lab and end when the patient leaves the lab. By defining this we've created a shared understanding that we are not talking about upstream processes such as the clinician's order or anything that led up to that point. We're also not talking about downstream processes such as the specimens being sent out to the lab or informing the clinician or patient of results.
- Once you've determined your start and end points, you'll identify and document the major steps in the process from the trigger event to the end result. You will answer "Who/ Does/ What/ When?" It's helpful to think about how much detail is required to understand how key steps in the process work. Brainstorm the activities that take place. Then put them in sequential order.
- Remember to create or maintain a safe space as staff describe what is currently happening. If leaders react in negative ways, this can shut down the conversation as to how the work is actually being done and the issues and barriers staff are facing. If staff are fearful of being judged or reprimanded, they may not share openly, and you lose the opportunity to learn from and work with the team to make positive changes in processes and systems.
- As you map the steps in the process, also note who is responsible for carrying out each step. It's usually best to identify them by role or title rather than a specific name.
- Consider if there are any interdepartmental handoffs. 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. The next module covers swim lane process mapping which can be a useful tool for documenting multi-disciplinary or multi-organizational processes.

- Test that your process map is complete – make sure every step leads to another step until the process is complete. Review the process map with others involved in the process (workers, supervisors, suppliers, customers) to see if they agree that the process is drawn accurately. When reviewing people may identify a step they forgot about that needs to be added in, so it's generally best to wait to add lines between the steps until you've confirmed agreement on the flow.
- When mapping out the steps, it's quite common to have "ah-ha" moments along the way that uncover details that were not common knowledge or known to only to certain people doing the work. Capture these and share with others as appropriate to provide context for changes made to the process.
- Review the process with an eye towards opportunities for improvement. Look for redundancies or complexities that could be reduced or eliminated.

Slide 3 Process Shapes

If you are interested in diving deep into the art of process mapping, there are common symbols you can use. In the spirit of this Quality Improvement Basics Course and keeping your process maps simple and easy to understand, there are three basic shapes to know:

- An oval or circle represent the initial and final steps of the process – the start and finish. As we'll see in the upcoming examples, there can be multiple final steps to a process depending on the how the process map is organized.
- Each task or step is represented by a square or rectangle that includes who does what. The order of those steps addresses the question of when.
- Finally, a diamond is used to represent a decision point or a question that needs to be answered to determine next steps. When possible, it's ideal to frame questions so the answer is yes or no in nature. The process map then branches off into a different series of tasks based on the answer to the question.

Similar to the way we read and write, it's ideal to have the diagram flow from top to bottom and/or left to right.

Slide 4 Gather Your Supplies

You may be wondering what tools or supplies you need to make a process map. If you're convening your team in person, sticky notes are a great tool. For the start and end points of the process you can draw a circle on the sticky note. For the task steps the sticky note can be placed as a square, and for question, simply turn the sticky note on the diagonal to create a diamond. Sticky notes are also nice because you can move them around. If you realize you forgot a step, you simply adjust. Alternatively, you can use a white board where you can keep modifying your process map.

Groups can also do process mapping in a virtual environment. There are a lot of tools available to create electronic process maps. Your organization's office suite may have an option such as Google Quora or Microsoft Visio. There are also a number of collaborative web-based tools you can check out – many of them with simple versions for free. You can do an internet search for process mapping tools

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and explore your options such as Miro, Mural, or Lucid Chart. You can also use shapes in everyday applications like Microsoft Word or PowerPoint or Google Docs or Slides.

Now let's walk through a few example process maps. Please note that these examples are purposefully simplified for the purposes of teaching the method and they may not align with your organization's processes. These are not meant to represent best practice – rather they demonstrate how to create and read a process map.

Slide 5 Childhood Immunizations Example

This process map details the steps involved in assessing a child for immunizations. In this case it is noted that all steps in the process are completed by the assigned nurse, so the color coding is representative of kinds of steps in the process. The process starts in the red oval at the top left when a child has a well-child appointment with the primary care provider. Right away we have a decision point – did the child come to the appointment? If not, we follow the no arrow to check the child's report for their immunization status and answer if the child is overdue for shots. If they are overdue, the guardian will be mailed an immunization notice. If they are not overdue, no action is taken.

Going back to the first decision point – if the child did come in for the appointment, the next step is to check the patient report for immunization status and answer if the child is overdue for shots. If the child is overdue, the guardian is given an immunization notice and staff answer or refer any questions the guardian has. Once this is complete or if the child is not overdue at this time, the guardian is provided information about next immunizations and encouraged to continue regular well child exams.

Notice that this process doesn't include the actual provision of the immunization. Presumably if the guardian agrees to the information provided that would kick of a new process. Also notice that if the patient did not come to the appointment and was not overdue for shots, no action is taken. It could be that there is a separate process that indicates follow up for missed appointments, but this process map is focused solely on the steps involved in assessing for childhood immunizations.

Slide 6 Adult Annual Health Assessment Example

Our next example is of an adult annual health assessment. In this example we can see a color key at the right side that shows three different roles involved in this process – registration, the medical assistant, and the physician, advanced practice nurse or physician assistant.

The process starts with the red oval at the top left when the patient checks in. There are first a series of questions that need to be answered to determine if the patient should be asked to complete the assessment. If the patient is under the age of 18, had a visit in the last 12 months, or is there for an acute visit, the process ends with the red ovals stating, "Do not collect adult annual health assessment." If none of those are true, the patient is asked to complete the assessment. The process continues with the medical assistant rooming the patient and then reviewing the assessment and flagging any positive responses for the provider. The provider then reviews the assessment and determines if further assessment is needed. If yes, the provider conducts further assessment. From there, or if further assessment was not needed, the provider has a conversation with the patient about the findings from the assessment. If the patient agrees with the findings and recommendations, they are referred to the care coordinator to arrange for follow-up. If they do not agree to the findings or recommendations, the

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provider flags the item for review at their next visit. The process ends with the provider finalizing documentation and coding for the visit.

Notice in this example many of the steps involve detailed steps or tasks that are not written out. For example, there are not instructions for how the medical assistant flags positive responses for provider review, or details of how providers complete a referral to the care coordinator for follow-up. If there are issues identified with those kinds of tasks, it may be appropriate to include more detail in this process map, complete a separate process map for those activities, or develop a detailed job aid. It will be up to your team to determine how detailed the process map needs to be for the purposes of your improvement initiative.

Slide 7 Emergency Department Patient Flow Example

Our final example is of patient flow in an emergency department. In this example, there are multiple players involved and each new role is introduced when their part of the process starts.

This process starts at the top left with the red oval indicating that the patient has arrived at the emergency department. The patient is first registered at the front desk in the electronic patient record. Registration needs to answer the question – is triage available? If so, the nurse completes triage. If not, the patient is sent to the waiting room and when triage becomes available, the nurse completes triage. After triage, the nurse needs to determine if the patient can be fast-tracked. If yes, the patient is set to fast-track and the fast-track nurse completes an assessment. The fast-track nurse practitioner (NP) then visits and treats the patient and orders any tests as indicated. Finally, the fast-track NP dispositions the patient and the process ends with the patient either being admitted, transferred or discharged.

If the patient cannot be fast-tracked, they are sent to an emergency department (ED) room where an ED nurse completes an assessment. Then the ED doctor visits and treats the patient, and orders any tests as indicated. And finally, the ED doctor dispositions the patient and the process ends with the patient either being admitted, transferred, or discharged as represented in the red ovals at the bottom right.

Slide 8 In Summary

- A culture of safety is essential for effective process mapping. Team members must feel safe and encouraged to share how they do their work without shame or fear of retribution so the team can identify changes that can lead to improvement.
- Key steps in process mapping include determining a starting and ending point in the process you will map, identifying and drawing the steps in the process in the appropriate order, getting agreement for all involved parties that the map is accurate, and then determining if and where improvements can be made.
- Flowchart symbols and shapes include ovals for starting and end points, squares for process steps, diamonds for decision points, and connector lines with arrows. Using agreed upon shapes helps ensure all parties understand the process map.

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This quote by Dr. Myron Tribus, “You don’t learn to Process Map, You Process Map to learn,” points out that the real value of process mapping is not the completed flowchart, but instead what you have learned along the way.

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