

Acknowledgements

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Disclosures

- Vice President, Center for the Assessment of Radiological Sciences (CARS)
 - A non-profit organization dedicated to improving quality and safety of radiotherapy and radiological imaging.

Learning Objectives

- To understand why process maps are useful in the clinical environment.
- To become familiar with a few examples of process maps.
- To discuss several important tips for creating useful process maps.

What is a Process?

- A process is a series of steps or actions performed to achieve a specific purpose.
 process has inputs and outputs
- A process can describe the way things get done.
- All clinical workflows involve many processes.

What is a Process Map?

• A pictorial representation of the sequence of actions that comprise a process.

Process Maps are used to

- Document processes.
 - Provide a reference to discuss how things should be done
 - Describe and understand the clinical workflow
- Analyze and improve on processes.
 - Identify areas of complexity and ambiguity
 - Identify failure modes and areas of re-work
 - To generate ideas for safety barriers
 - Illustrate process improvements

Why is Process Mapping Important?

- It provides an opportunity to learn, standardize, and improve clinical processes
 - Clinical processes if not clearly documented can be ambiguous and subject to multiple interpretations

You don't learn to Process Map, you Process Map to learn". <u>Myron Tribus Quote</u>

Process Maps – Why Bother?





- Greg is an experienced therapist Linac 1
- Marsha is a seasoned veteran therapist Linac 2



Process Maps – Why Bother?









Process Maps – Why Bother?



Process Maps – Why Bother?

- Marsha returns within a few minutes and asks Greg if the patient has been setup correctly
- Greg, always glad to have done the job right, answers yes enthusiastically...

Process Maps – Why Bother?



What are the Benefits?

Immediate benefits

- Improving communication everyone is on the same page!
- Harmonizing clinical practice and ensuring that everyone operates with a shared model.
- Improving efficiency. Workflow inefficiencies can become obvious when mapped out visually

Preparing to Process Map

- Assemble the Team.
- Agree on which process you wish to process map.
- Agree on the purpose of the process.
- Agree on beginning and ending points.
- Agree on level of detail to be displayed.
- Start by preparing a narrative outline of steps.
- Identify other people who should be involved in the process map creation, or asked for input, or to review drafts as they are prepared.

Important Points

- Process Map what is, not what you would like the process to be.
- Process Mapping is dynamic. Use Postit notes, dry erase markers, pencil, etc.
- All Process Maps must have start and stop points.

"Fishbone" Design Diagram

- Each major step is a baugh on the tree
- Sub-steps are branches, and then twigs, etc.



Ishikawa Diagram

- Looks like a process map, but...
- General use is as a cause-effect tool
- Can be used to show the variables that go into a process



Types of Process Map

Process flow diagrams



Frank Gilbreth, 1920's, ASME

Symbols Used to Process Map



Start & End: An oval is used to show the materials, information or action (inputs) to start the process or to show the results at the end (output) of the process.

Activity: A box or rectangle is used to show a task or activity performed in the process. Although multiple arrows may come into each box, usually only one arrow leaves each box.

Decision: A diamond shows those points in the process where a yes/no question is being asked or a decision is required.

Process Maps: Applications

Failure Mode and Effects Analysis (FMEA)

- Assemble team
- Create process map
- Identify failure modes Process map
- Score each for severity, occurrence and detectability





External Beam	
Patient Assessment	
1	
Imaging for RT planning	
Treatment Planning	
Review and Varification	
Treatment Delivery Eg	ipment and
Sof	viare Quality inagement
On-Treatment Quality	Ford EC et al Med Phys 39 (12)
	2012
Post-	"Consensus recommendations for
Treatment Completion	incident learning database
And a start of the	structures in radiation oncology"

Process Maps - Examples













Process Maps - Examples







The Rough Guide

- Step 1: Decide what process to map. The scale of the process is an important concern here. Don't bite off more than you can chew!
- Step 2: Form a group and identify a team leader. It is vital that all
 professional groups are represented in this process. This may include
 administrators and managers as well as clinical staff.
- Step 3: Create an initial process map. It is often useful to make a first draft that does not attempt to capture the entire process in detail but rather the workflow at a more general level.
- Step 4: Iterative mapping. The process map is refined with the input of all staff involved.
- Step 5: Check with external resources to make sure that no steps have been missed.
- Step 6: Use the process map to perform FMEA.

Useful, Usable Maps and Diagrams

- What's important in designing process maps?
 - 1. In our business it is customary to look at processes from the patient's perspective
 - 2. For clinical processes a **multidisciplinary team** is necessary for the development of a valid map
 - 3. The number of sub-processes identified should be the **smallest number** to meet the objective

Useful, Usable Maps and Diagrams

- What's important in designing process maps?
 - 4. The users of the map should have the **same understanding** of the meaning of the sub-processes.
 - Choose the right level of detail. A map that is too general loses its utility, while one that is too detailed becomes unmanageable and staff lose the big picture.
 - 6. Don't get hung up on fancy graphics. There is value in the **process of creating the map**.

Closing Thoughts

- Brainstorming and Affinity Diagrams can be used to identify processes you wish to Process Map.
- There is no single right way to Process Map. It is a tool to standardize clinical workflow to minimize mistakes
- Process Maps can be used in a variety of settings outside Quality Improvement, such as:
 - Orienting new employees
 - In-service presentations
 - Brainstorming possible process changes
 - Creating or revising policies and procedures that support the process
 - Creating measures
 - Identifying logical outcomes of a process