Process Mapping

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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

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**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*. Myron Tribus Quote

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**Process Maps – Why Bother?**

- Greg is an experienced therapist – Linac 1
- Marsha is a seasoned veteran therapist – Linac 2
Process Maps – Why Bother?

Patient enters treatment room

... ...

Patient setup

Beam on

Process Maps – Why Bother?

Linac 1 – Patient Setup Procedure

Ready to Treat

Process Maps – Why Bother?

Linac 2 – Patient Setup Procedure

Ready to Treat

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?

Patient enters treatment room

Marsha is called away to answer an urgent question from a relative of another patient

Beam on

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...
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 Post-it notes, dry erase markers, pencil, etc.
• All Process Maps must have start and stop points.
“Fishbone” Design Diagram

- Each major step is a branch 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
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
  - Score each for severity, occurrence and detectability

Process Maps - Examples

- Patient Registration
- Physician Consultation
- Simulation
- Treatment Planning
- Treatment Delivery
- Patient Follow Up
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.
  5. 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