

Let's Talk Informatics

Introduction to Workflow Mapping in Healthcare

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Please be advised that we are currently in a controlled vendor environment for the One Person One Record project.

Please refrain from questions or discussion related to the One Person One Record project.

Informatics...

utilizes health information and health care technology to enable patients to receive best treatment and best outcome possible.

Clinical Informatics...

is the application of informatics and information technology to deliver health care.

AMIA. (2017, January 13). Retrieved from <https://www.amia.org/applications-informatics/clinical-informatics>

Objectives

At the conclusion of this activity, participants will be able to...

- Identify what knowledge and skills health care providers will need to use information now and in the future.
- Prepare health care providers by introducing them to concepts and local experiences in Informatics.
- Acquire knowledge to remain current with new trends, terminology , studies, data and breaking news.
- Cooperate with a network of colleagues establishing connections and leaders that will provide assistance and advice for business issues, as well as for best-practice and knowledge sharing.

- Identify the importance of workflow mapping for health care
- Gain a thorough understanding of interpreting workflows
- Understand how workflows can be applied for organizational change management needs

Conflict of Interest Declaration

- We do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device, or communications organization, or other for-profit funder of this program.

Lean Principles

Value and Waste



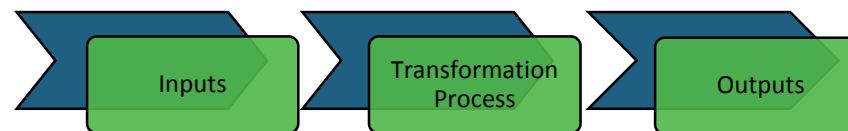
- A **LEAN** process is one in which includes only activities which create value, with no wasteful activities
- **Value** - a process activity the customer is willing to pay for, and that transforms the input in some productive way
- **Non value added (Waste)** – process activities which do not add **value** and the customer is not willing to pay for are considered waste (moving, storing, filing, etc.)
- **Necessary Non Value Added** - It is often difficult to distinguish between value added activities and wasteful activities as some activities are simply necessary process steps within the current operating conditions, none the less the goal remains to eliminate all waste
 - these activities may be linked to policy, equipment and software limitations
 - these activities will be more difficult to remove in the short term
 - these activities may require better system design and investment to eliminate (new equipment, software systems, resources)

Lean Process

“Inputs Determine Outputs”

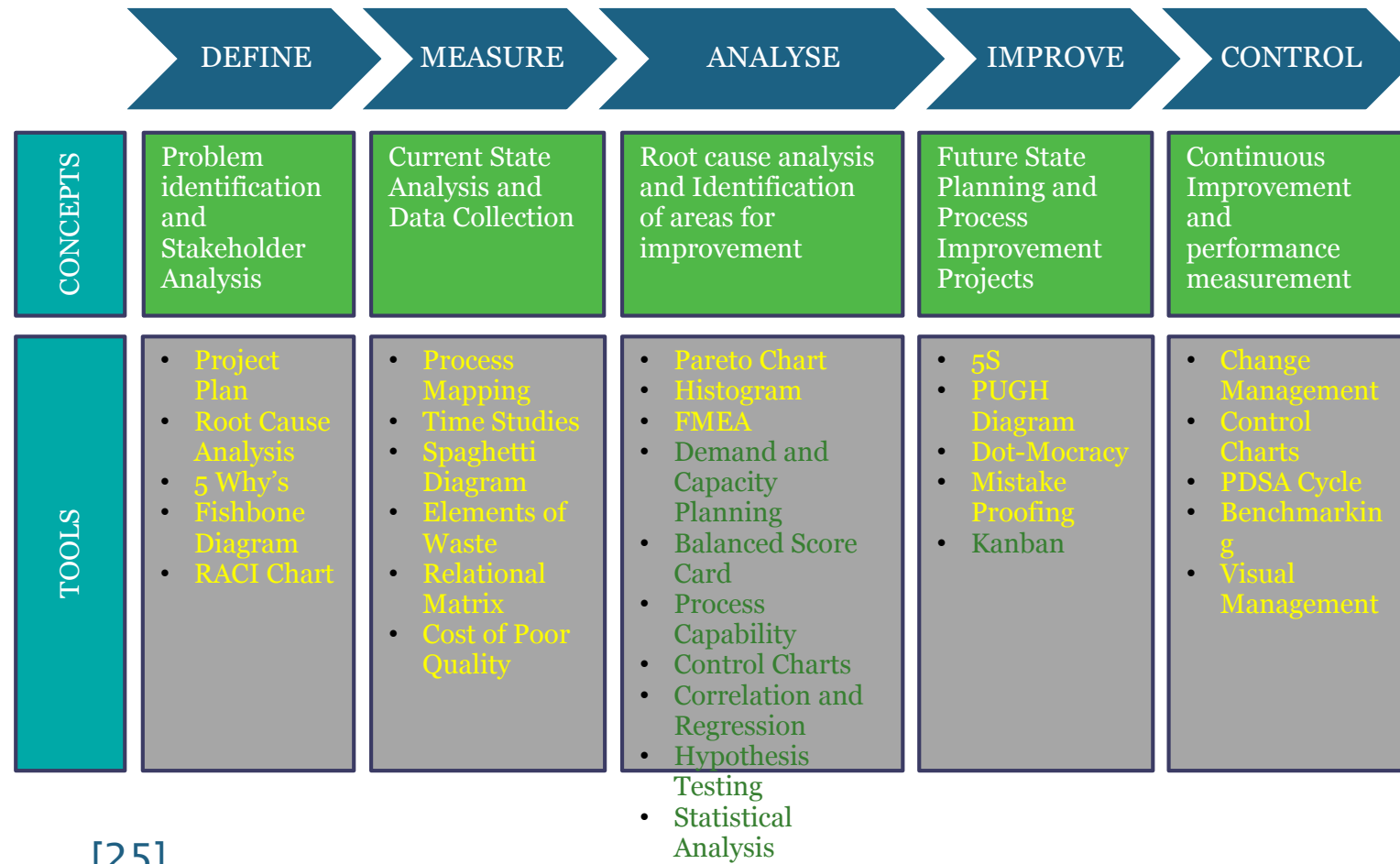
- $Y = f(x)$
 - Y represents outputs
 - X represents inputs
 - F represents the transformation process
- Understanding the relationship between inputs and outputs enables us to design better processes to achieve the desired output

“Every system is perfectly designed to get the results it gets.” – W. Edwards Deming



Outputs should never be unexpected as they are determined by how the process is designed and performs

Six Sigma has a similar life cycle to traditional project management, but instead uses the DMAIC cycle to carry out projects...

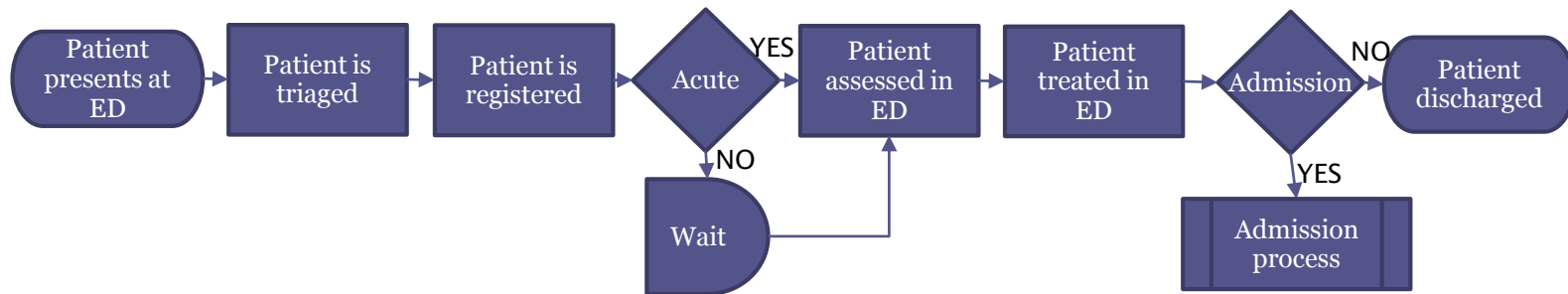


Workflow Mapping

LSS Core Tool

- Process Flow Mapping is a tool used to document a process visually for the purposes of review and critical auditing to identify wasteful steps that could be eliminated to improve efficiency
- A lot of variety and room for creativity, but common applications are...
 - Traditional Process Map
 - Swimlane Map
 - Suppliers, Inputs, Process Steps, Outputs and Customer (SIPOC)
 - Value Stream Map

Traditional Process Map



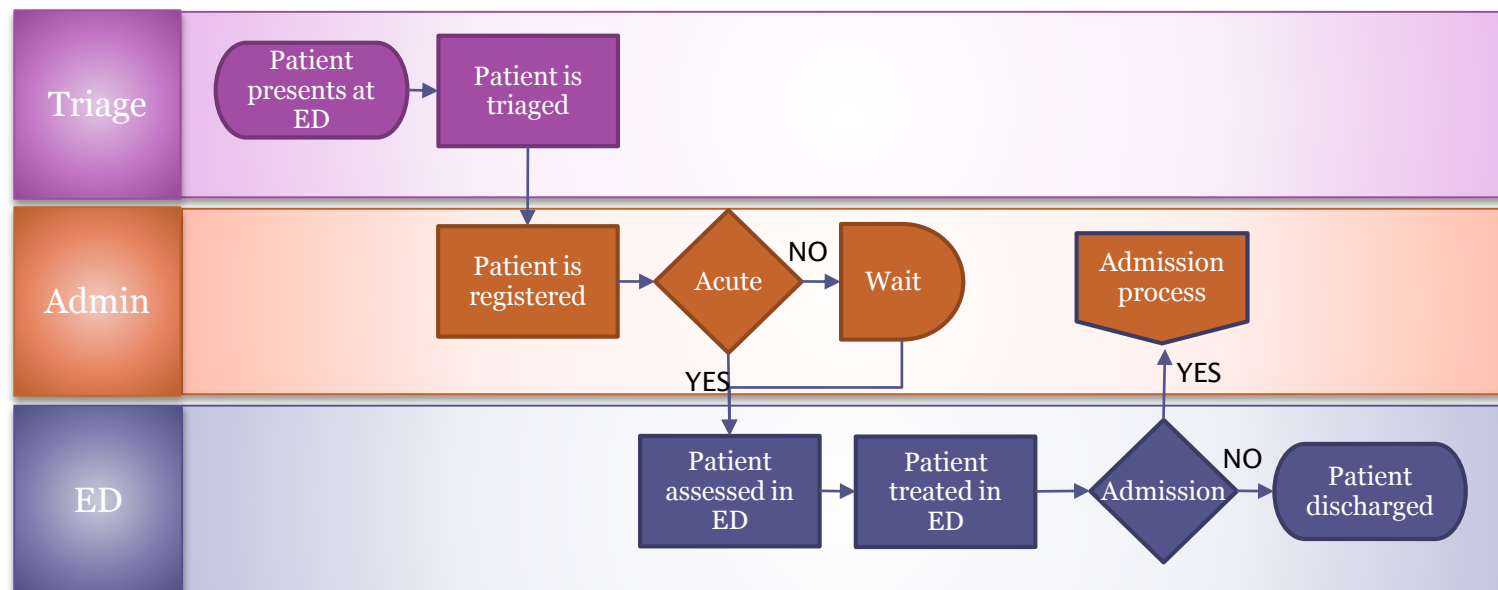
IHI Flowcharts part 1 and 2

<https://youtu.be/tq7dQVaTbcc>

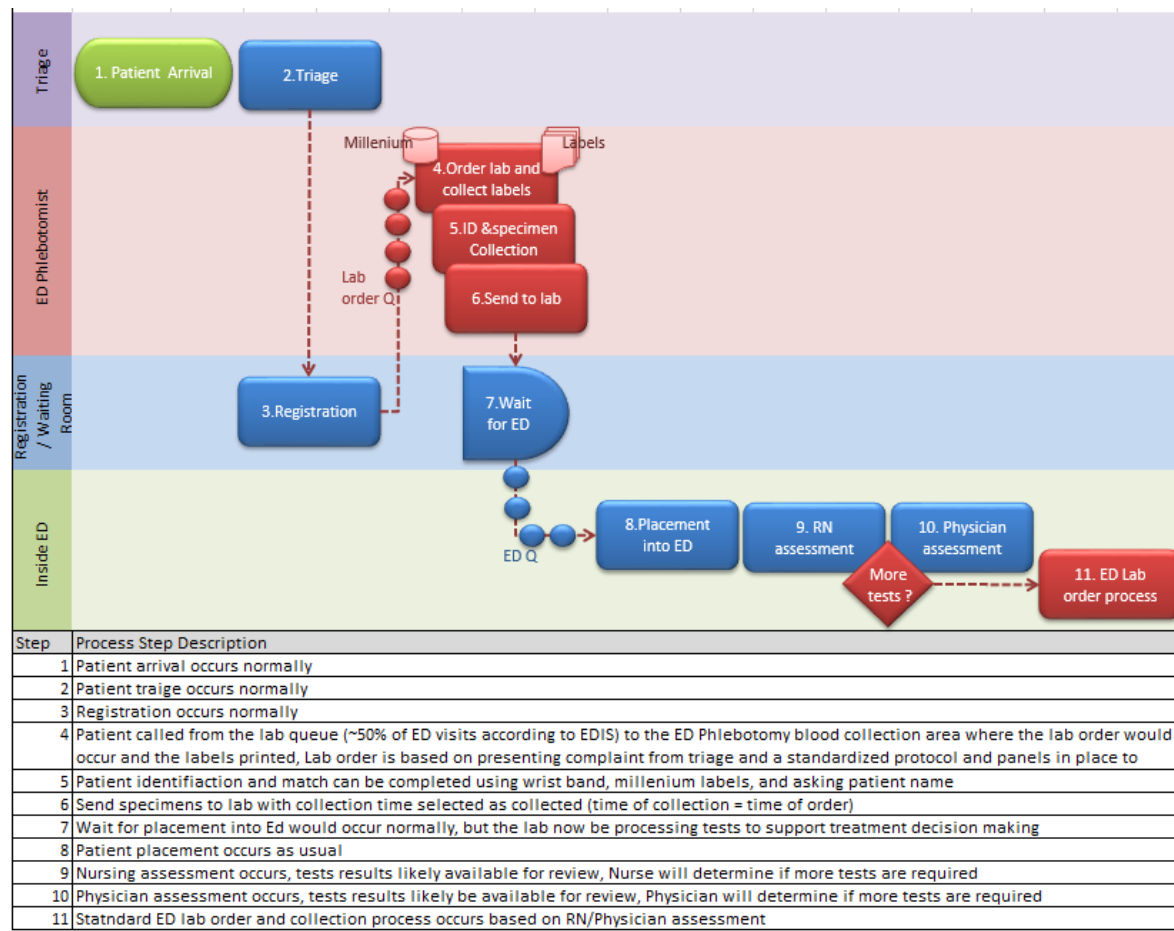
<https://youtu.be/yFtV0-gm9nk>

Traditional Process Map with Swimlanes

- You can use swim lanes and/or colors to delineate between different resource groups or work areas

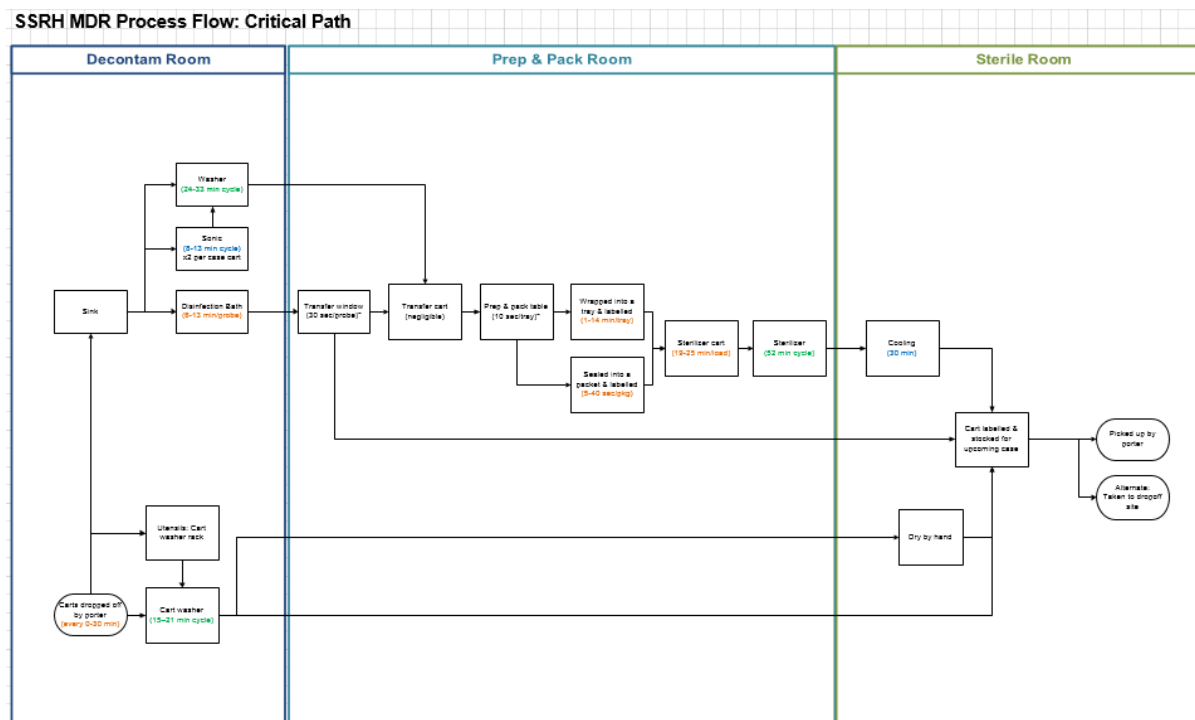


Traditional Process Map with Swimlanes



- This is a traditional swim lane map, however the blocks have IDs and additional descriptive data and information is highlighted in the table below...

Traditional Process Map with Phases



- Here the swim lanes are vertical and are dividing up functional work areas of the process

S

I

P

O

C

Supplier

- Printing Customer
- Sales Department
- Marketing Department
- Telephone Company
- Training Department

Inputs

- Category
- Order System
- Custom Database
- Call Accounting
- Database
- Stock Database
- Production Training

Process

```
graph TD; A[Receptionist Receives Customer Call] --> B[Exchange Information]; B --> C[Receptionist Input the Order Information into System]; C --> D[Discuss Product Details with Customer]; D --> E[End the Call];
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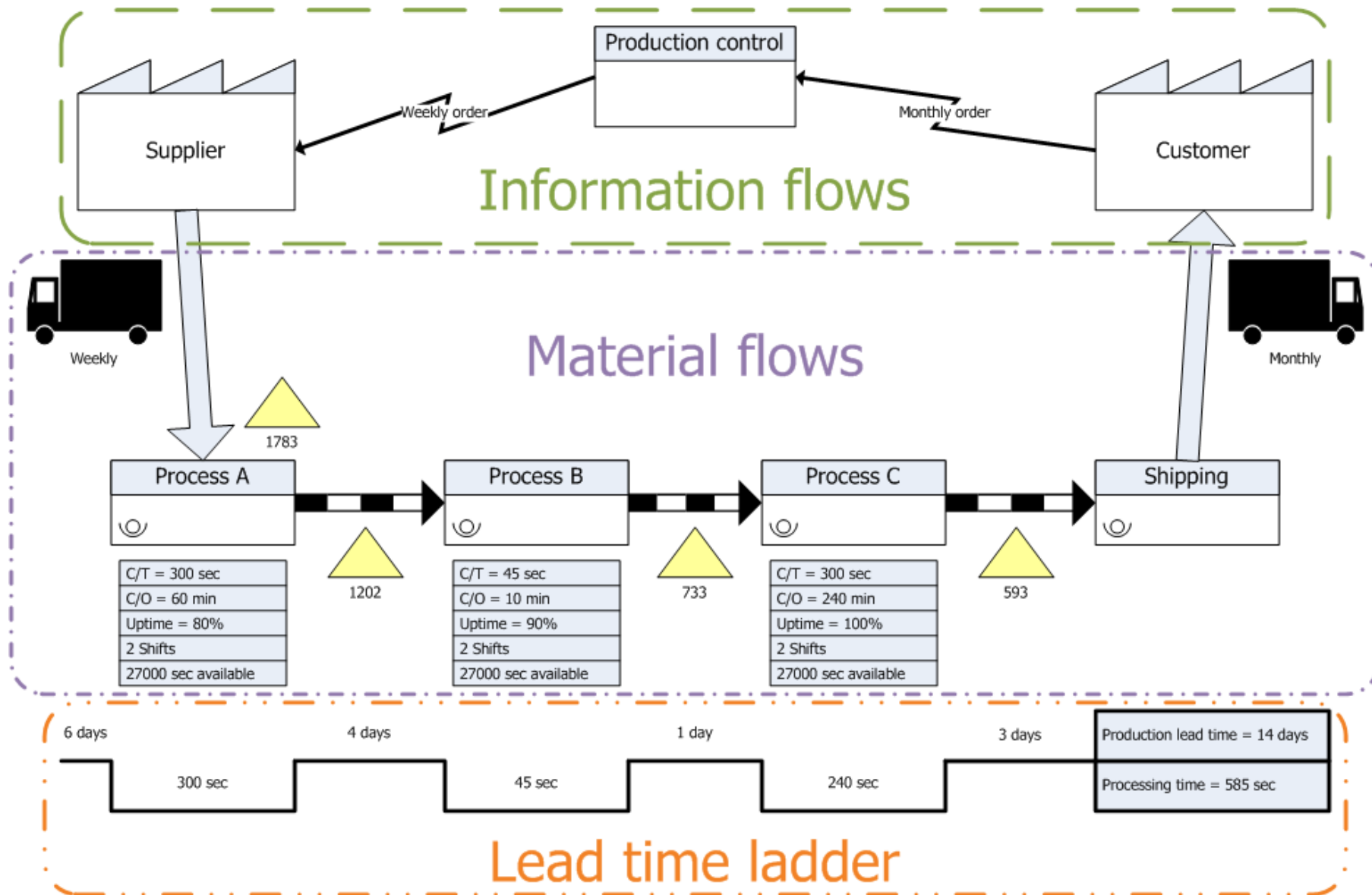
Outputs

- Record Order Information
- Record Payment Information
- Update Stock Database
- Update Customer Database
- Update Call Accounting Database
- Credit Card Trade Data

Customers

- Warehouse Department
- Financial Department
- Marketing Department
- Credit Card Processor
- Customer Who Called

Value Stream Map



Workflow Mapping

General Instructions...

- Define the process you plan to map by clearly identifying the start and end points
- Collect information (ideally do both of the following)
 - Interview process participants discussing the required steps in order to carry out the process
 - Carefully observe the process detailing the required steps in order to carry out the process (Gemba walk can be applied to do this)
- Focus on developing a map that details the existing process as it is, avoid jumping to solutions, how to do things differently or highlighting problem areas
- If feasible collect relevant data regarding process cycle times, failure rates and variation
- Capture who is doing what activities, when they are doing them and what they require to successfully complete the activity
- Once complete it is useful to validate with stakeholders to ensure it is comprehensive and accurate
- The project team can now review it to uncover problems, bottlenecks, missing or extra steps, waste, variation, defects, inefficiencies

Capturing Workflows



Start/ End

Indicates the start and end points of any given process



Application
Input/ Output

For example, during patient registration or triage. If the data is recorded in an electronic application, this shape is used.



Process Step

Indicative of any process step, for example, clinician administering medications to the patient.



Follow up
Item

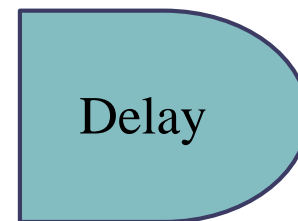
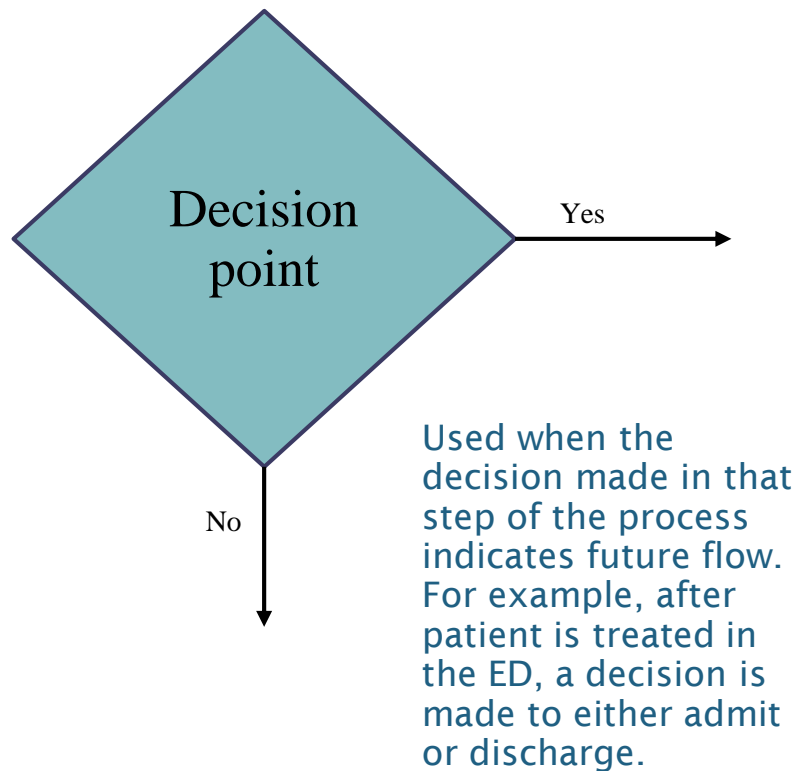
Generally used if more information is required for any given step in the process. For example, are there routine medication administration times? How often is medication administration recorded?



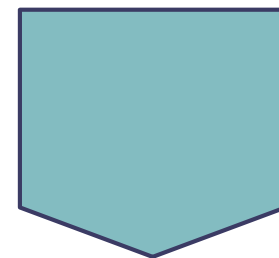
Paper
document

Used for any part of the process which involves paper documentation. For example, if medications provided are documented on a paper MAR (Medication Administration Record)

Capturing Workflows



Used when there is a delay in the process. For example, after registration if non-acute patients are made to wait before receiving treatment

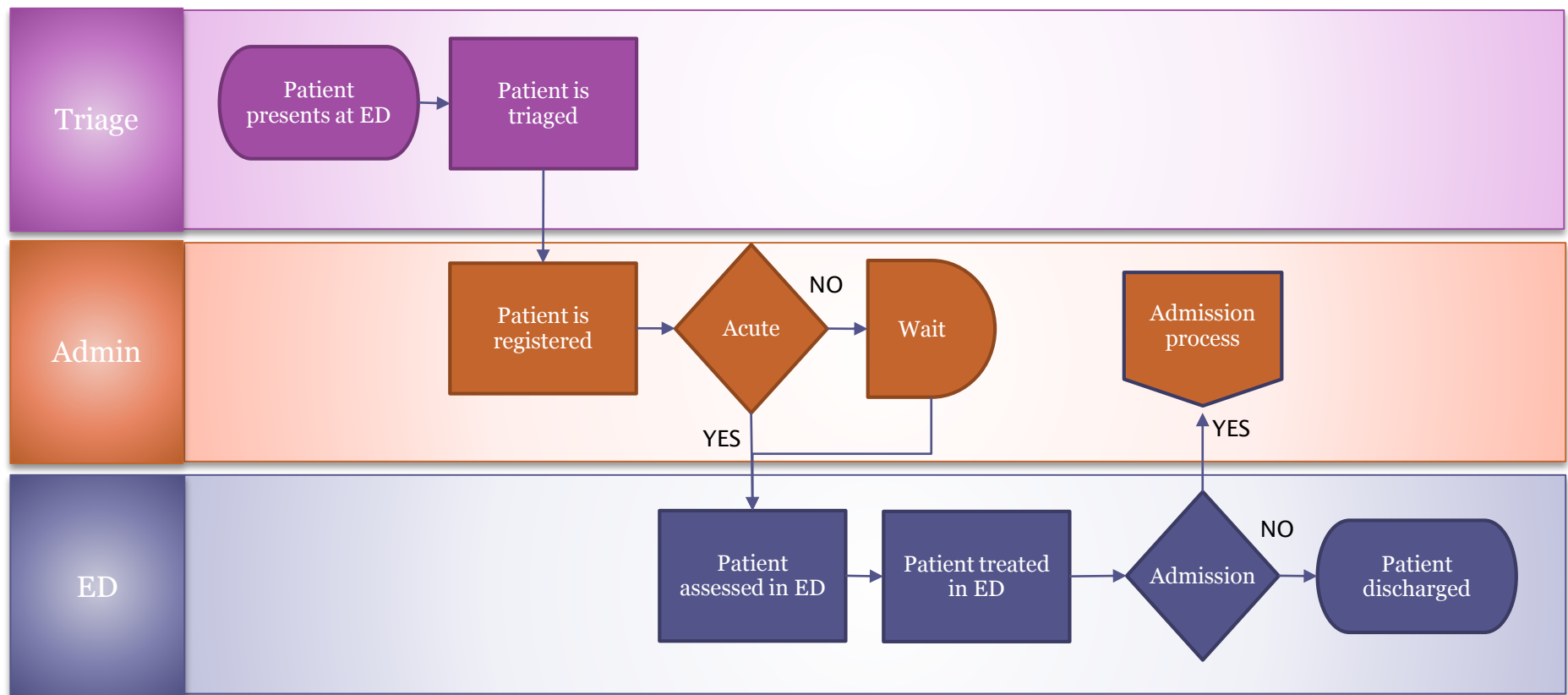


Off page reference

Often after a decision, the sub-process for one of the options may be so detailed that a separate process flow is required to be documented. For example, patient admission process.

 Arrows indicate flow

Capturing Workflows



Applications of Workflow Mapping in Health Care

- Clinical flowchart – demonstrate tasks and decision making points of a process
 - Diagnosis of a disease including screening process
 - Recommended Management/treatment guidelines
 - Referral system

Applications of Workflow Mapping in Health Care

- Nursing Process
 - In-patient care
 - Triage

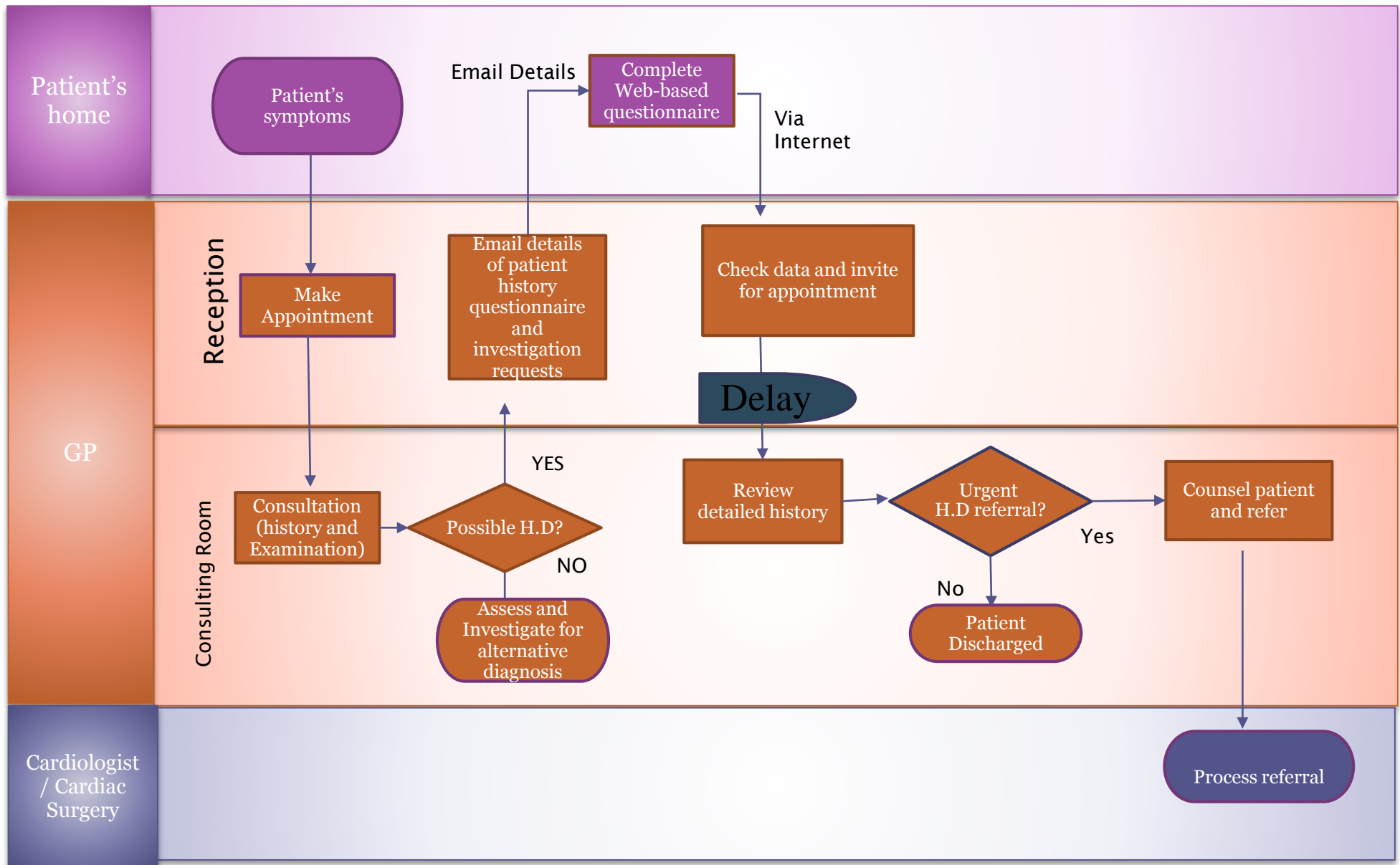
Applications of Workflow Mapping in Health Care

- Clinical processes are complex due to
 - Multi-disciplinary - activities vary by roles, many roles are involved in a single process.
 - Multiple paths
 - Varying outcomes
 - Unique clinical situations – No “one-size fit all”

Why do Workflow Mapping in Health Care?

1. To improve a process, we need to understand the current process:
 - Model the process “as-is”.
 - Identify Key areas for improvement.
 - Model the improved “future-state” process.

Workflow for referral system for Heart Disease



What is Organizational Change Management?

“

Organizational Change Management is a framework used to manage the people side of an initiative.

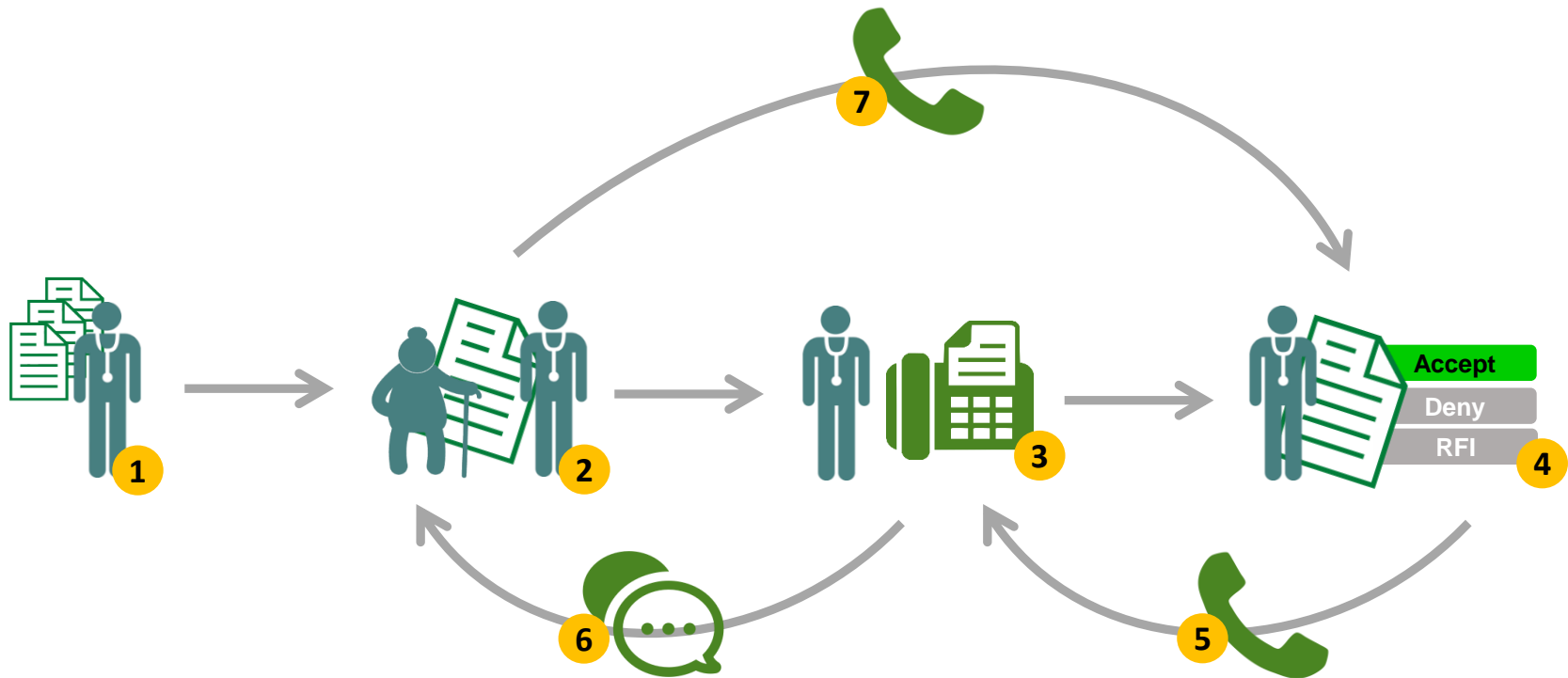
Imagine if project management is akin to handling a project's physical health, then organizational change management is akin to handling the project's mental health.

”



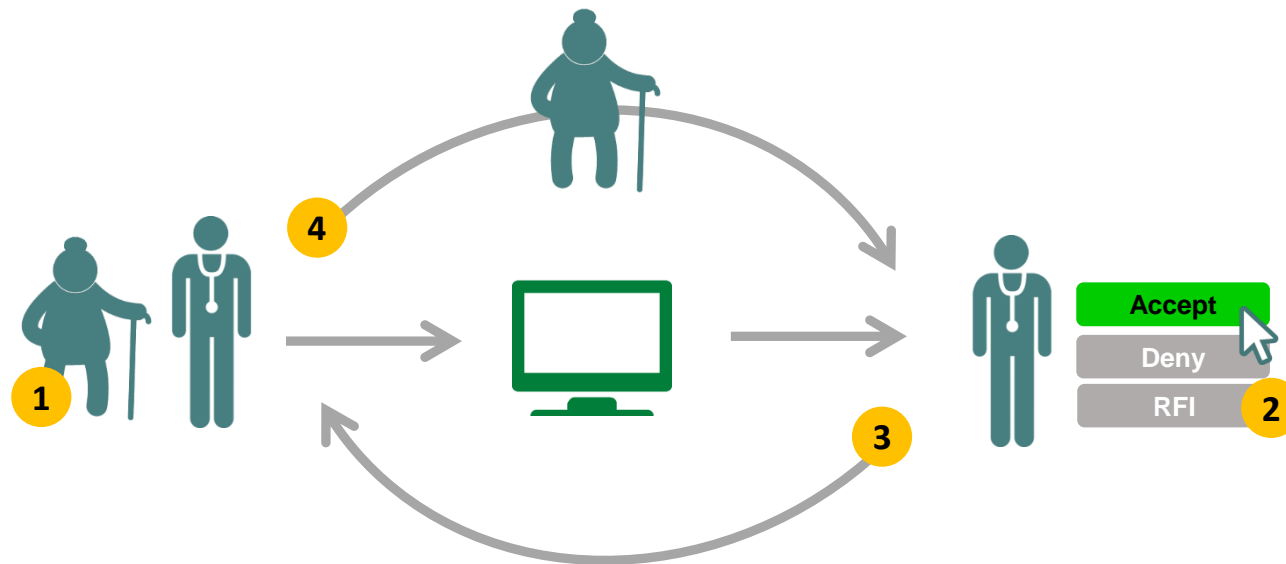
Sample Clinical Change Scenario

Acute to rehab referral: paper based process



Sample Clinical Change Scenario

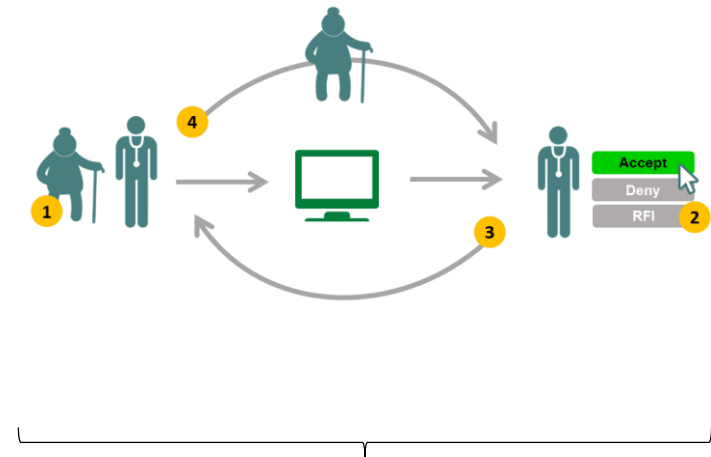
Acute to rehab: electronic process



Workflow Mapping Exercise



Current State Workflow



Future State Workflow



Stakeholder Mapping Exercise

	Ranking	Engagement Exercise
Parties whose everyday workflow is affected by the change		
Parties who can affect the success of the change, but are themselves not affected by the change		
Parties who need to be aware of the change		

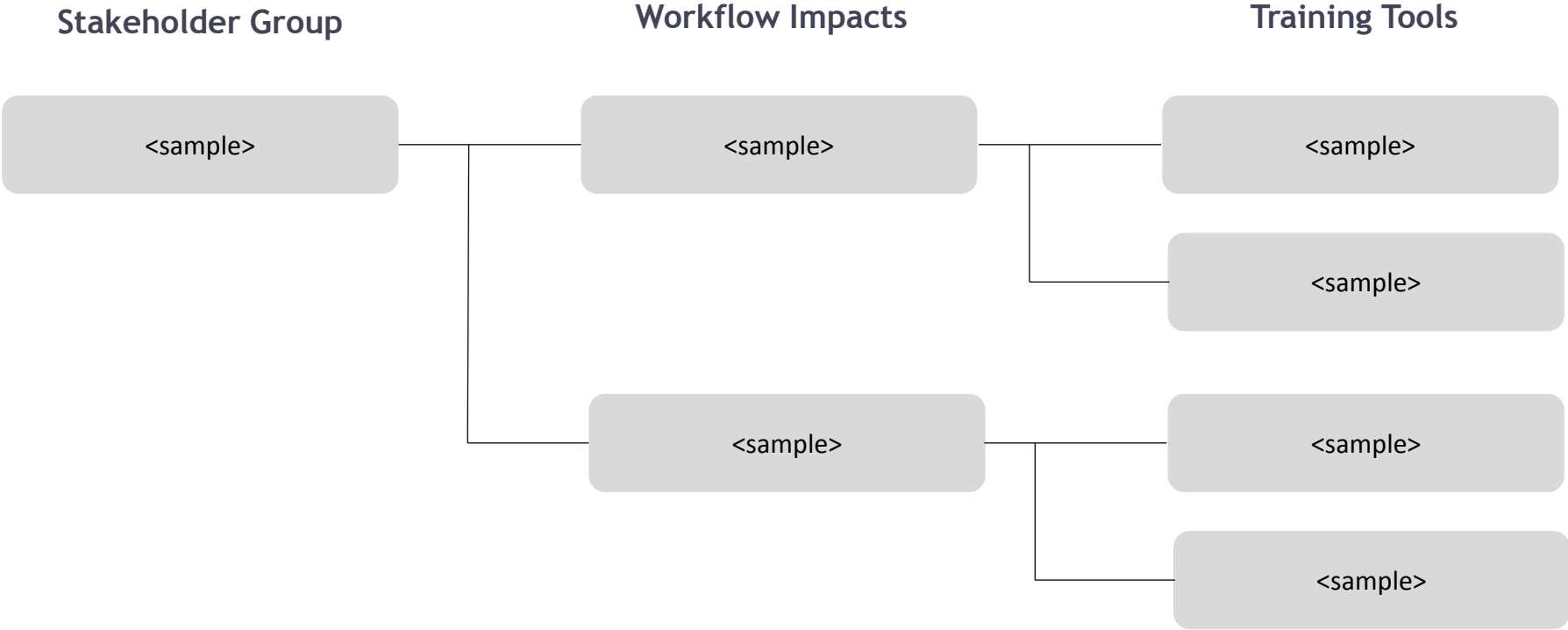


Communication Channels Exercise

Stakeholder group	Key Message
Parties whose everyday workflow is affected by the change	
Parties who can affect the success of the change, but are themselves not affected by the change	
Parties who need to be aware of the change	



Training Requirements Exercise



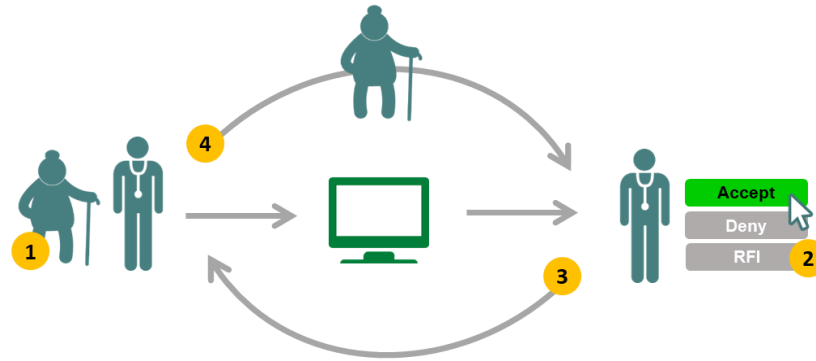
Monitoring & Evaluation



1.	
2.	
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Monitoring & Evaluation



1.	
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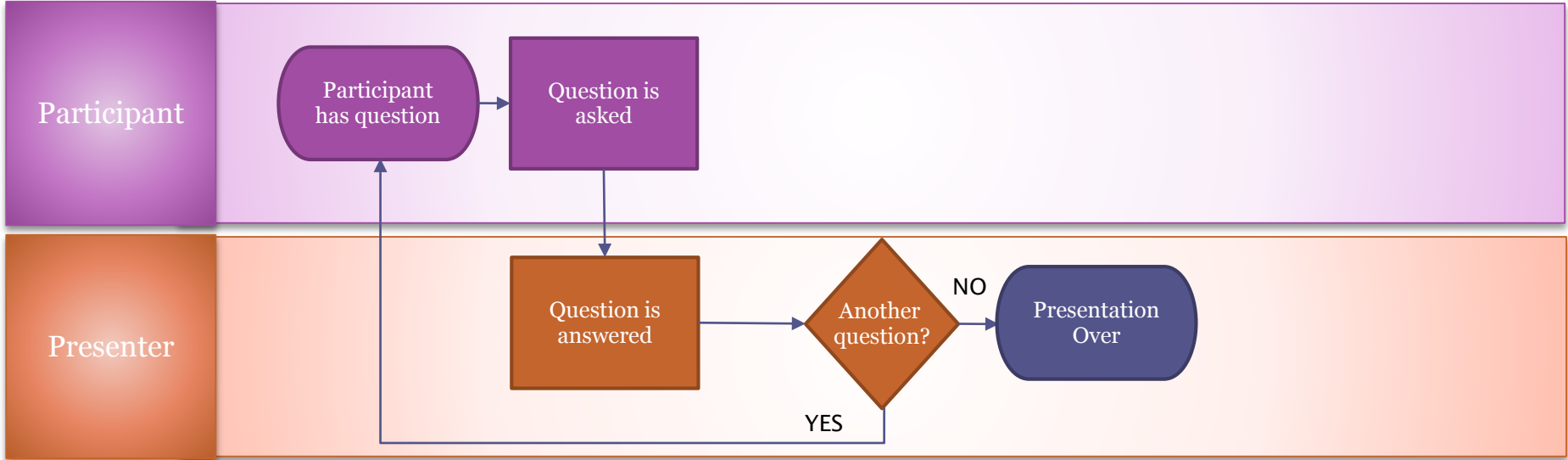
Benefits

Communication

- Documenting workflows requires the identification of all the steps in a process, the way things are actually being done
- The steps can then be assigned to roles responsible
- Training material for new staff can be developed
- Refresher documents for those who do not participate in the process on a regular basis

Process improvement

- The visual helps to recognize gaps in the process
- Assist with identifying duplication or areas where improvement can occur
- Highlight areas where policy & procedures should be developed or updated



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- Digital Health Canada for 1CE hour for each presentation attended. Attendees can track their continuing education hours through the HIMSS online tracking certification application, which is linked to their HIMSS account.

Thank you for attending this event.