

Business Process Mapping Review

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Purpose of Presentation

- Important Concepts
- Collaborative Requirements Development Methodology (CRDM)
- Business Process Analysis Tools

Important Concepts

Q. What is a business process?

A. A set of activities and tasks that logically group together to accomplish a goal or produce something of value for the benefit of the organization, stakeholder, or customer.

Important Concepts

Q. Why is understanding your business processes important?

A. Understanding your business processes is the key to doing your work more effectively and more efficiently.

Public Health Informatics Institute

- PHII (a program of the Task Force for Global Health)
 - The Collaborative Requirements Development Methodology™ (CRDM) our approach to business analysis
 - Development of system requirements
 - Identification of Systems – buy or build

Collaborative Requirements Development Methodology

Business Process Analysis

Think

How do we do our work now?

- Define goals and objective
- Model context of work
- Describe tasks and workflow
- Identify common task sets

Business Process Redesign

Rethink

How should we do our work?

- Examine tasks and workflow
- Identify inefficiencies
- Identify efficiencies with repeatable processes
- Refine business processes and business rules
- Remodel context of work
- Restructure tasks and workflow

Requirements Definition

Describe

How can information systems support our work?

- Define specific tasks to be performed for optimized business processes
- Describe the implementation of business rules
- Describe in words and graphics how an information system must be structure
- Determine scope of next phase of activities

Collaborative Requirements Development Methodology

Business Process
Analysis

Business Process
Redesign

Requirements
Definition

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Business Process Analysis Tools

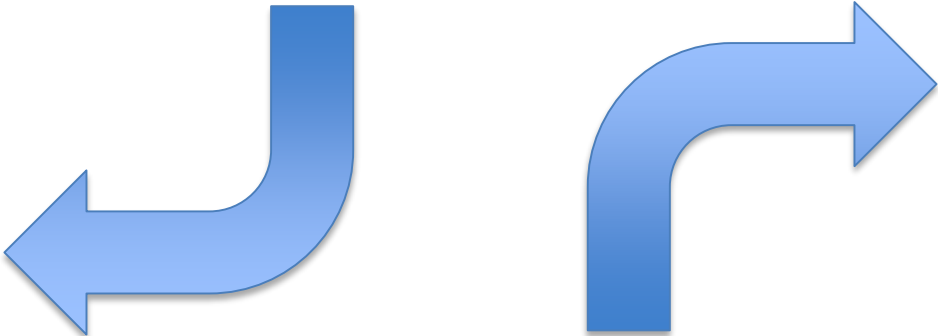
- Business Process Matrix
 - Text tool that allows for an “at a glance” view of the business process
- Task Flow Diagram
 - Graphical tool that shows the activities of the process in a linear fashion

Business Process Matrix

Business Process Matrix

Goal	Objective	Business Rules	Trigger	Task Set	Inputs	Outputs	Outcomes
The major goal in terms of benefits to population health that is supported by the business process.	A concrete statement describing what the business process seeks to achieve. A well-worded objective will be SMART: Specific, Measurable, Attainable/ Achievable, Realistic, and Timebound.	A set of criteria that defines or constrains some aspect of the business process.	Event, action, or state that initiates the first course of action in a business process.	The set of required activities or steps that are carried out in a business process.	Information received by the business process from sources outside of the process.	Information transferred out of a business process.	The result of performing a business process, which indicates the objective has or has not been met.

Business Process Matrix

Goal	Objective	Processes	Outcomes
<p>The major goal in terms of benefits to population health that is supported by the business process.</p>	<p>A concrete statement describing what the business process seeks to achieve. A well-worded objective will be SMART: Specific, Measurable, Attainable/Achievable, Realistic, and Timebound.</p>	<div data-bbox="562 301 1586 1386" style="border: 1px solid blue; border-radius: 50%; padding: 20px; text-align: center;"> <p>As Dr. McKinney said yesterday, start with the why</p>  <p>Then think what does success look like?</p> <p>Fill in the rest as you go...</p> </div>	<p>The result of performing a business process, which indicates the objective has or has not been met.</p>

Task Flow Diagram

Where the work takes place

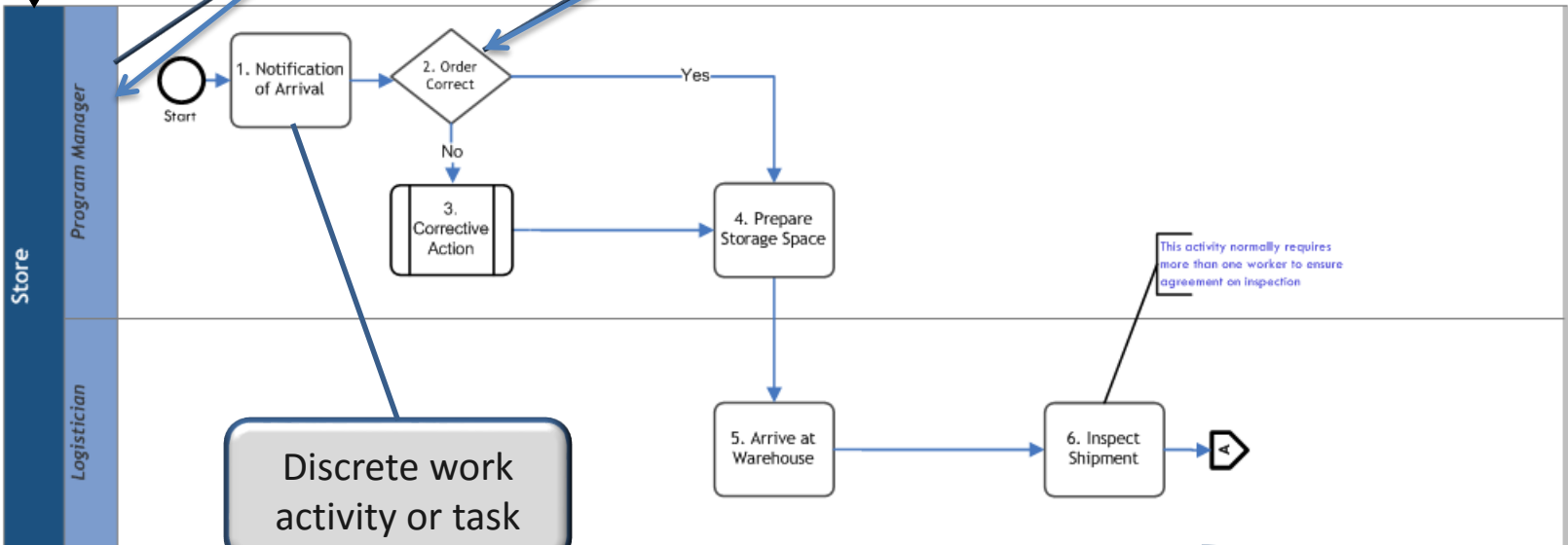
Person who does the work

Decision point in the work flow

Receiving Business Process

Logistics Management
Information System (LMIS)

1 of 2

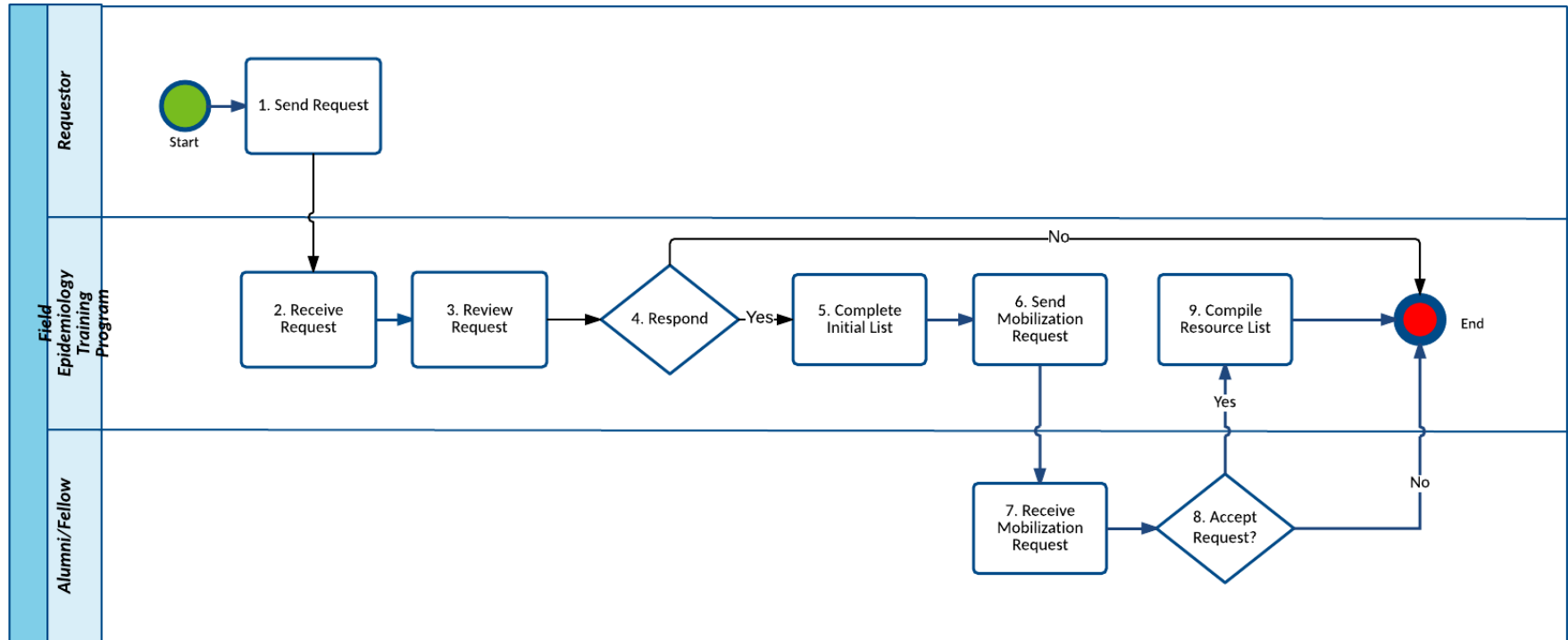


Discrete work activity or task

Activity Details / Narrative	General Process Notes	2. Order Correct	3. Corrective Action	4. Prepare Storage Space	4. Prepare Storage Space, cont.	5. Arrive at Warehouse	6. Inspect Shipment
<p>1. Notification of Arrival</p> <ul style="list-style-type: none"> Program managers or logisticians are notified of a shipment's pending arrival. This notification should happen prior to the physical arrival. The notification could be in several forms: telephone, fax, email, etc. The delivery may be scheduled or may not. Verify what is being received compared to what was requested. 	<p>Objective: Receive verified quantity and quality of goods into store and determine need for remedial action when necessary.</p> <ul style="list-style-type: none"> Portions of this business process may be outsourced. If the goods are arriving at the warehouse from the port (shipped from outside the country) they should have been through a separate process of port clearance/customs. Goods arriving at the warehouse will be handled in different manners according to the requirements of cold chain, security, etc. This business process should describe the receiving process at all levels of the system. The activities in this business process may be performed by different individuals or functional roles based on the level at which the process is occurring (national, regional, district, etc.) 	<ul style="list-style-type: none"> Is what is being received what was requested and/or expected? This activity provides the first verification of quantity of goods ordered versus goods shipped. An order can be accepted even if the order is not correct. This is generally a decision made by Program Manager. In many cases, the shipment is already in transit and will arrive at the warehouse. 	<ul style="list-style-type: none"> The shipment can be flagged for rejection and stored for disposition upon arrival at the warehouse. The order can be accepted as is. The shipper is notified of the incorrect shipment and additional corrective action can be taken. 	<ul style="list-style-type: none"> Identify and estimate adequate space needed for storage of the expected shipment. Verification of appropriate storage, i.e. cold chain, security. 	<ul style="list-style-type: none"> This activity allows the store maximum time to find appropriate space for the shipment. This activity can become a trigger to the Storage business process. 	<ul style="list-style-type: none"> The goods should arrive with documentation from shipper. These documents are typically found within one of the boxes received. Goods can either be quarantined or stored in cold storage at this point in the process prior to inspection. Containers are checked against shipping documents for any apparent damage and/or missing shipping cases. 	<ul style="list-style-type: none"> Quality Check - The shipment is inspected based on predefined criteria including: goods specifications, correct quantities received, usable or damaged goods. Administrative Check - Is what was ordered what was received.

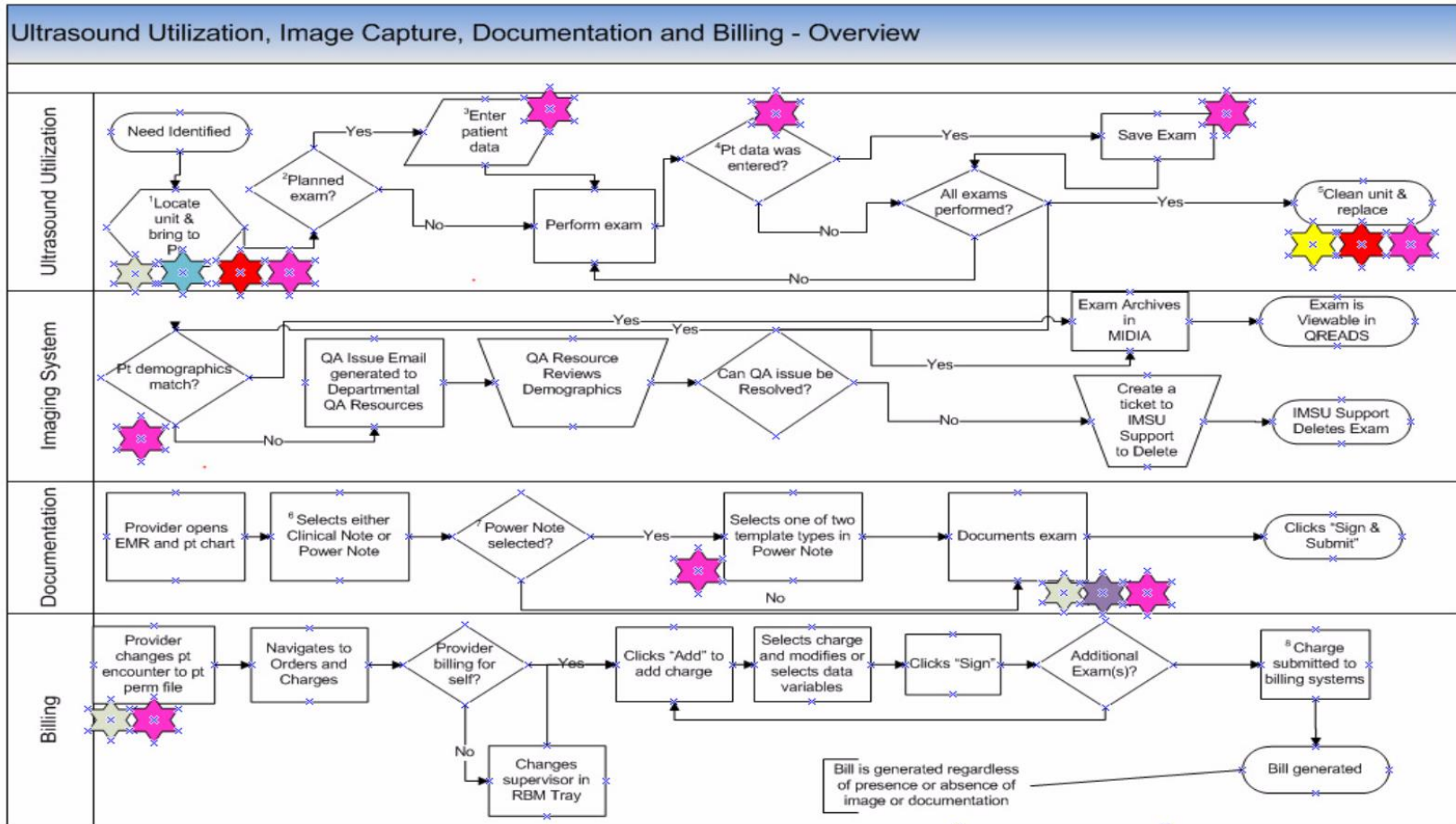
Capture rules, comments and feedback

1 of 1

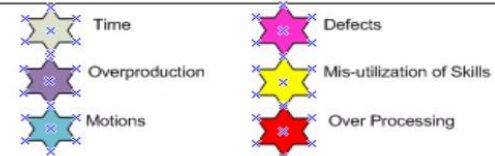


Activity Details/ Narrative	<p>Objective:</p> <ul style="list-style-type: none"> To respond rapidly to request for field resources from requesting organization To identify appropriate resources for mobilization in response to an outbreak or event <p>Measurable Outcomes:</p> <ul style="list-style-type: none"> Response time from receipt of request to resources identified Number of resources on compiled list Rate of resources that accept mobilization request <p>Trigger:</p> <ul style="list-style-type: none"> Outbreak or event requires field resources Training deployment opportunity 	<p>Activity Description:</p> <p>1. Send Request</p> <ul style="list-style-type: none"> The requestor sends a request for field resources in response to an outbreak or event Requestors include WHO/GOARN, MOH, DWB, other FETPs, etc. <p>2. Receive Request</p> <ul style="list-style-type: none"> The request is received by the FETP The FETP can receive this request in multiple formats based on the requestor <p>3. Review Request</p> <ul style="list-style-type: none"> The request is reviewed to determine how many resources are needed, if there are special skills needed, etc. 	<p>4. Respond</p> <ul style="list-style-type: none"> The FETP program/alumni association determines if they will respond to the request <p>5. Complete Initial List</p> <ul style="list-style-type: none"> An initial list of resources is compiled based on the needs of the request <p>6. Send Mobilization Request</p> <ul style="list-style-type: none"> The request is sent to the identified resources The resources could be fellows and/or alumni These requests can be sent via email, phone call, etc. based on the FETP <p>7. Receive Mobilization Request</p> <ul style="list-style-type: none"> The fellows/alumni receive the request to mobilize with the appropriate details 	<p>8. Accept Request?</p> <ul style="list-style-type: none"> The fellows/alumni make a decision on whether or not to respond to the request <p>9. Compile Resource List</p> <ul style="list-style-type: none"> The resource list is developed based on the responses from the fellows/alumni
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Example



- ¹ Units have no permanent home and may be on 4North or South, or in the Bronch Lab.
- ² If exam is planned, patient data is entered to facilitate storage of the image and future billing.
- ³ Enter patient last name, first name, medical record number and date of birth (no other fields required)
- ⁴ If procedure is not planned and patient information is not entered, an image cannot be saved.
- ⁵ Unit must be stocked ultrasound machine cleaner (Cavi-wipes cannot be used on ultrasound machines)
- ⁶ Documentation may be done in consult note, CCS progress notes, CCS procedure notes, or TX CCS
- ⁷ Clinical note is blank & free-text. There are two types of Power Note templates – see Documentation and Billing Fishbone



Example

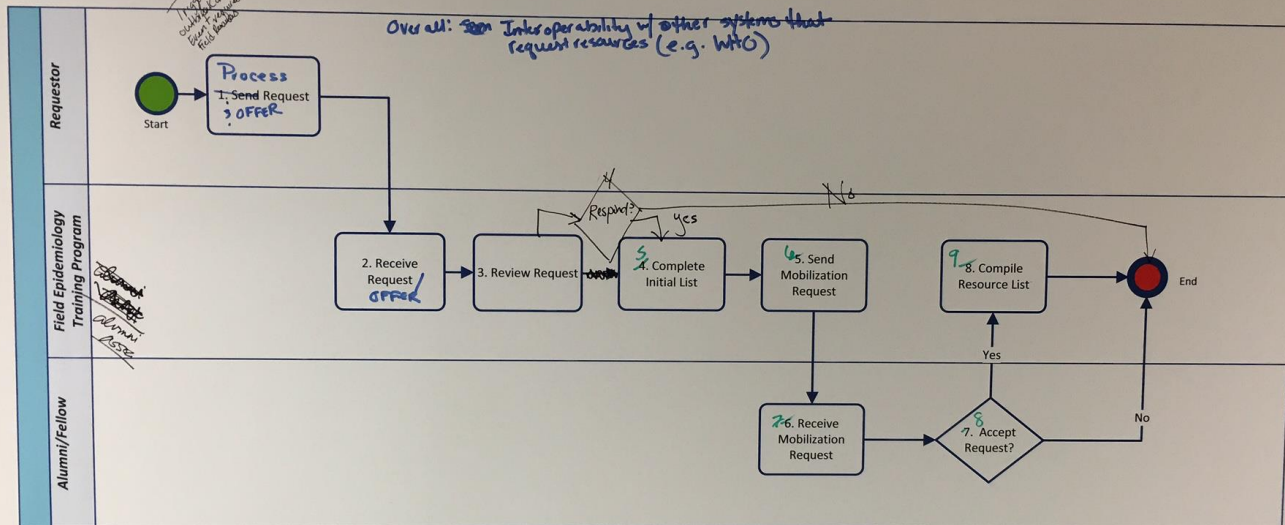


Example

Processing 2. Receive Resource Requests ^{3 OFFERS}

Field Epidemiology Training Program

1 of 1



Activity Details/ Narrative

Objective:

- To respond rapidly to request for field resources from requesting organization
- To identify appropriate resources for mobilization in response to an outbreak or event

Measurable Outcomes:

- Response time from receipt of request to resources identified
- Number of resources on compiled list
- Number of resources that accept mobilization request

General Notes:

- N/A

Activity Description:

- 1. Send Request** *Can be the FETP program*
 - The requestor sends a request for field resources in response to an outbreak or event. Requestors include WHO/GOARN, MOH, other FETPs, etc. *DWB, Bilateral agreement w/ other countries*
- 2. Receive Request** *National Programs Local requests*
 - The request is received by the FETP
 - The FETP can receive this request in multiple formats based on the requestor
- 3. Review Request**
 - The request is reviewed to determine how many resources are needed, if there are special skills needed, etc.

4. Complete Initial List

- An initial list of resources is compiled based on the needs of the request

5. Send Mobilization Request

- The request is sent to the identified resources
- The resources could be fellows and/or alumni
- These requests can be sent via email, phone call, etc. based on the FETP

6. Receive Mobilization Request

- The fellows/alumni receive the request to mobilize with the appropriate details

7. Accept Request?

- The fellows/alumni make a decision on whether or not to respond to the request

8. Compile Resource List

- The resource list is developed based on the responses from the fellows/alumni

4. Respond - doesn't benefit program/fellow/alumni unclear request/funding

Collaboration is the key...



Questions

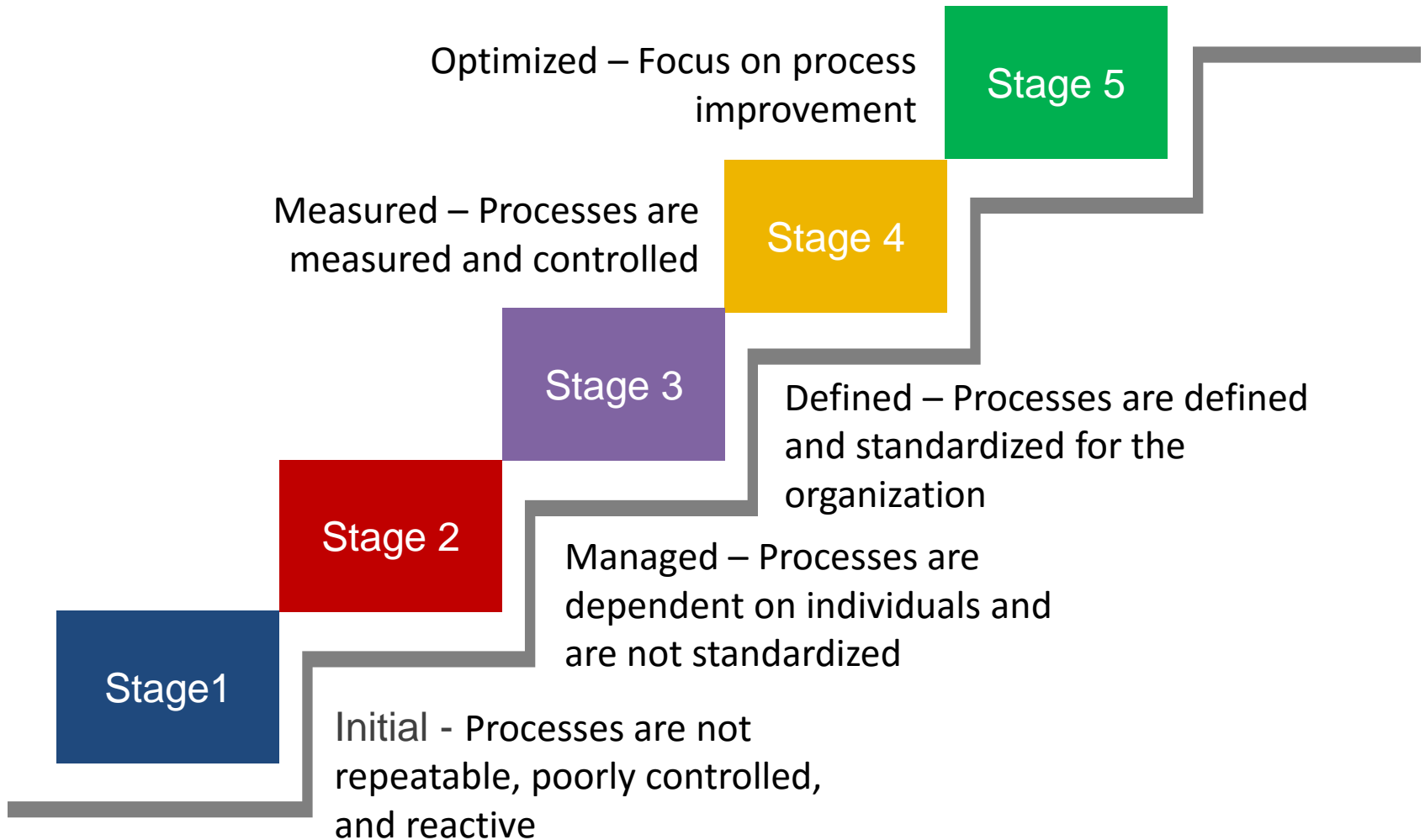


Capability Maturity Model

Capability Maturity Model

- Developed by Carnegie-Mellon University Software Engineering Institute (1987)
- Introduced a process for assessing software capability through a structured, sequential manner
- Described the maturation of each function according to a linear scale of increasing capability
- Can be adapted to evaluate an organization (or regional initiative) capability

CMM Stages



Organizational Assessment with CMM

- Establish core functions in which capability is required
 - Based on the organizational goals, identify the essential functions
- Describe sequential stages of maturity of each function
 - Progression is step-wise and linear
 - Characteristics that define each maturational stage
 - Progress from one stage to the next reflects a meaningful improvement in a key function
 - Sets a clear path of achieving maturational goals

The Viral Load Cascade



**Demand
Creation for
Testing**

**Specimen
Collection &
Processing**

**Sample
Transport**

**Laboratory
Testing**

**Result
Reporting &
Interpretation
by Clinician**

**Patient
Management**

Demand Creation for Testing

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p>Clinicians unaware of access to viral load testing and have not been educated on its role in ART monitoring</p> <p>Community leaders/CSOs unaware of access to viral load testing and have not been educated on its role in ART monitoring</p>	<p>Increased awareness of VL testing in clinicians and CSOs, however minimal information is shared with patients and community</p> <p>Clinicians occasionally order viral load testing for patients</p>	<p>Viral load testing and education polices and procedures are established</p> <p>Clinician routinely educates patients about viral load testing and its benefits</p> <p>Clinician routinely orders viral load testing in-line with national guidelines</p>	<p>Established policies and procedures for ordering viral load tests and educating patients about viral load testing and its benefits are implemented and measured throughout the organization</p> <p>CSOs play an active role in educating community and patients about knowing their viral load status</p>	<p>Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness of demand creation</p> <p>All stakeholders (e.g., clinicians, patient groups, community leaders, etc.) play active role in community education about VL testing and promote campaigns for all patients to know their VL</p>

Specimen Collection and Processing

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p>No patient access to viral load testing</p> <p>No standard supply chain system for specimen collection commodities (e.g., DBS bundles, syringes) so supplies limit ability to collect specimens</p> <p>Clinicians not trained to complete specimen requisition forms</p>	<p>Viral load specimens are collected occasionally and only on certain days, limiting patient access to testing and increasing burden for patients to return for VL sample collection</p> <p>Standard supply chain system for specimen collection commodities</p> <p>Increased awareness for properly completing requisition forms</p>	<p>Viral load specimens are collected routinely with few barriers for patients</p> <p>Viral load specimen collection policies and procedures are established</p> <p>Clinicians complete specimen requisition forms accurately and completely</p>	<p>Established policies and procedures for specimen collection and processing based on standard guidelines are implemented and measured throughout the organization</p>	<p>Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness of specimen collection and processing</p>

Laboratory Testing

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p>Inadequate lab infrastructure for viral load testing (i.e. storage/equipment/reagents/kits for viral load testing)</p> <p>Laboratory staff are not properly trained nor competent to test viral load specimens</p>	<p>Improved laboratory infrastructure, however, laboratory is only able to receive and test viral load specimens occasionally or must refer to another laboratory</p> <p>Laboratory staff are trained, however, competencies are minimal</p>	<p>Laboratory is able to regularly receive and test viral load specimens in timely manner</p> <p>Laboratory has appropriately trained and competent staff</p>	<p>Established policies and procedures for viral load specimen testing are based on standard guidelines implemented and measured throughout the organization</p>	<p>Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness of specimen testing</p>

Results Reporting

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p>Results are not received in a timely manner at the clinic from the laboratory</p> <p>No process in place for ensuring results are documented in patient chart and conveyed to the patients so results often not received by clinician</p>	<p>Results received by the clinic and occasionally documented in chart but often not returned to patients</p>	<p>Results are regularly received by the clinic and documented in the patient's chart in a timely manner</p> <p>Results reporting policies and procedures are established</p>	<p>Established clinic procedures that ensure a facility-based person is accountable for timely documentation of VL results in patient charts and notification of patients with VL>1000 to return to clinic prior to scheduled appointment</p>	<p>Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness for results reporting</p>

Results Interpretation and Patient Management

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<p>Viral load results are difficult to read and interpret – requires laboratory assistance</p> <p>Clinicians are not properly trained to interpret viral load results</p> <p>Clinicians are uncomfortable integrating viral load results into ART care</p> <p>Clinicians have no backup person to call to discuss difficult cases or patients who require 2nd line treatment</p>	<p>Viral load results are readable and interpretable</p> <p>Increased awareness of result interpretation</p> <p>Few clinicians are comfortable integrating viral load results into ART care</p> <p>Intermittent availability of consultation for 2nd line treatment</p>	<p>Clinicians are adequately trained in viral load result interpretation</p> <p>Clinicians regularly discuss VL results with patients</p> <p>Standardized system in which all providers have a designated POC/referral system in place to consult for management of VL results and switch to 2nd line</p>	<p>Established policies and procedures for managing patients are based on standard guidelines implemented and measured throughout the organization</p>	<p>Organization uses rigorous evaluation procedures and findings to demonstrate effectiveness in patient management</p> <p>Ability to identify missed opportunities for ensuring VL results are integrated with patient management</p>

Questions

