Curriculum Development Centers Program

Awardee of The Office of the National Coordinator for Health Information Technology

Safe Workflow Design

Unit 7b: Work Process Flow Chart

This material was developed by Johns Hopkins University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number IU24OC000013.

Objectives

At the end of this segment, the student will be able to:

- Construct a work process flow chart.

Work Process Flow

Work Process Flow Chart

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Start  →  Bedside      ←  Delay
          Alarm Rings      ↑
             ↓
          Ready     No!  Hit snooze
          to Get   →     button
          Up?
             ↓ Yes.
          Get out  →  End
          of bed
```
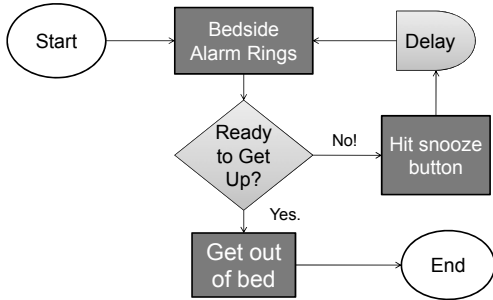
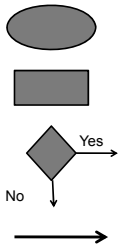
Work Process Flow Chart

- Simple diagrams
- Used to define and analyze processes
- Clarifies understanding of a process
- Communicates how a process works
- Illustrates a step-by-step picture of a process
- Identifies areas for standardization or improvement in a process

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Work Process Flow Chart

- Elongated circle = start or stop point
- Rectangle = actions or instructions
- Diamond = decision-point
- Arrow = connector that shows the flow

Work Process Flow Chart
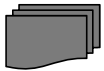
Document

Documents

Connector

Database

Cloud
(Note)

Delay

Work Process Flow Chart

High Level
- Shows 6 -12 steps
- Presents a panoramic view of a process
- Shows the major blocks of activity
- Useful in early phases of a project

Detailed
- Close-up view
- Presents a detailed view of process steps
- Shows complexity
- Useful once issues have been defined and changes are to be made

Work Process Flow Chart

- Get the right clinicians in the room
- Define the start and end points of the process
- Complete a high level picture
- Decide on the level of detail required
- Brainstorm tasks and decisions made
- Describe the process as it really exists

Work Process Flow Chart

- Clearly define each step in sequence
- Include problems
- Identify delays or non-value added steps
- Make notes about unfamiliar steps
- Go back and fill in the branches
- Assign action items to fill in unfamiliar steps and verify accuracy

Clinical Workflow Analysis Rehabilitation Medicine Example

Nurses in a 3-person rehabilitation office worried that processing admissions and case management had become cumbersome and redundant. When they analyzed the existing paper system, they found over 300 data items used more than once throughout the departmental processes. They used a simple timing trial, based on selected segments of a workflow diagram, to improve workflow.

Clinical Workflow Analysis Rehabilitation Medicine Example

Referral   Admission   Coding   Discharge
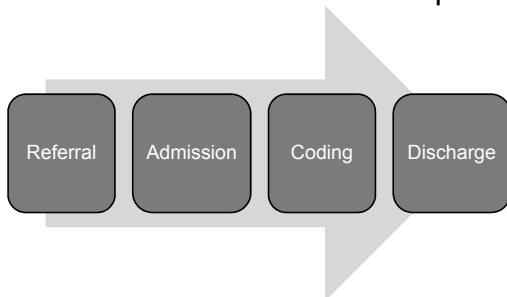
Clinical Workflow Analysis
Emergency Department Example

A group of researchers examined the role of workflow redesign in improving medication reconciliation at 4 Washington State community hospital emergency departments. They used Lean redesign methods for workflow process mapping and redesign workshops.

Clinical Workflow Analysis
Lean Thinking

- Core Idea of *Lean Thinking*
  - Determine the value of a process by distinguishing value-added steps from non-value-added steps and eliminate waste
- Process according to *Lean*
  - Set of actions, each of which must be done properly in the correct sequence at the appropriate time to create value for a patient

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Clinical Workflow Analysis
Lean Thinking

Primary Processes
- Serve the external customer (the patient and family)
- Easier to see

Internal Processes
- Serve internal customers (staff, providers, payers)
- Need to create value

The perfect process is defined by the patient (patient-centered approach to health care quality).

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Clinical Workflow Analysis
Lean Thinking

Valuable	Capable	Available
Adequate	Flexible	Linked by Continuous Flow
	Failure Leads to Waste	

Institute for Healthcare Improvement

Clinical Workflow Analysis
Emergency Department Example

Current Medication Reconciliation Workflow	Future Medication Reconciliation Workflow	Enhancement Ideas

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Clinical Workflow Analysis:
Chronic Disease Clinic Example

Understanding workflow, information flow, and provider needs in chronic disease care environments can enable providers to take full advantage of the capabilities of HIT systems. Researchers stationed observers in unobtrusive locations in 3 chronic care clinics to observe interactions among people, processes, and technology.
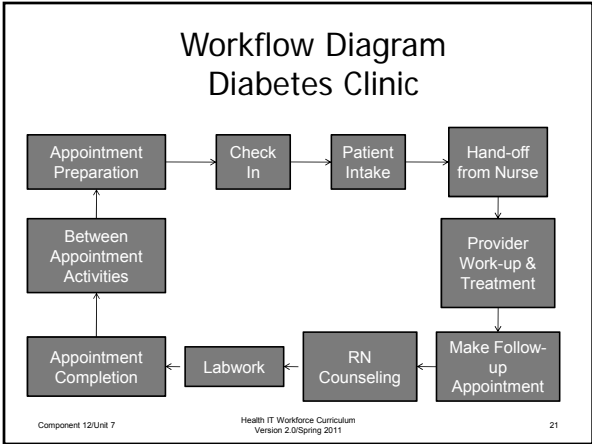
Clinical Workflow Analysis: Observations

Who
- Clinical receptionists
- Dieticians
- Social workers
- Nurses
- Nurse practitioners
- Resident physicians
- Fellows
- Attending physicians

What
- Use of EHR functions
- Comments about EHR
- How information collected/recorded
- Information transfer among roles
- Hand-offs
- Patient-provider interaction

Clinical Workflow Analysis: Observations

Where
- Clinic work areas
- Private offices
- Hallways
- Examination rooms
- Nurse practitioners
- Resident physicians
- Fellows
- Attending physicians

When
- Patient check-in
- Patient intake
- Patient examination
- Diagnostic tests
- Prescribing
- Patient education
- Patient check-out
- Patient emergencies

Workflow Diagram Diabetes Clinic

Appointment Preparation → Check In → Patient Intake → Hand-off from Nurse

Hand-off from Nurse → Provider Work-up & Treatment → Make Follow-up Appointment → RN Counseling → Labwork → Appointment Completion → Between Appointment Activities → Appointment Preparation

Summary

- Work process flow charts are useful in defining and analyzing processes
- Understanding workflow and information flow is required to maximize HIT use
- Lean thinking is helpful in maintaining a patient-centered approach
- The key to success is to involve those who know the process best

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