Curriculum Development
Centers Program

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

# Component 10 – Fundamentals of Health Workflow Process Analysis and Redesign

Unit 1-1 – The Concepts of Health Care Processes and Process Analysis

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## Procedure, like dance, resists description.

-- Tom DeMarco 1979[1]

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## Unit Objectives

Upon successful completion of this unit the student is able to:

- Describe the purpose for process analysis and redesign in the clinical setting
- Describe the role of a workflow process analyst and redesign specialist and contrast it with other roles such as technical support and implementation management
- Explain how health process analysis and redesign and meaningful use are related
- Analyze a healthcare scenario and identify the components of clinical workflow
- Given a scenario of a health care analysis and redesign, analyze the responsibilities of each participant in the process and how the roles complement or overlap with one another
- Describe how the workflow processes used by a healthcare facility might differ depending on the type of facility

## Topics – Unit 10.1

- Role of Health Care Workflow Analysis and Redesign Specialist
  - Definitions
  - Healthcare Roles and Responsibilities
- IOM 6 Quality Areas
- Importance of HIT to Health Care - Meaningful Use
- **Second Lecture starts here**
- The Clinical Setting
- Common Health Care Processes
- Clinical Workflow
- Summary: What a Process Analysis and Redesign Specialist Does

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## Definitions

Definitions:
- Process
- Process Analysis
- Process Redesign
- Workflow
- Workflow Analysis
- Data, Information, and Knowledge
- Data and Information Flow

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## Process

- Process[2]:
  - a **series** of **actions** or **operations** conducing to an end
  - a **continuous operation** or treatment

- **Procedure:** The steps in a process and <u>how these steps are to be performed</u>

## Process Analysis

- Understanding process elements and the relationships between them

- Identification of opportunities for improvement

## Process Redesign

The revision of a process to improve it in some way.[2]

## Workflow

- "The *flow* of *work*"

- The way in which work progresses, including order of steps and selection between alternative steps.

## What is Clinical Workflow?

- Workflow is an established business process describing how the tasks are done, by whom, in what order and how quickly
- Workflow is defined as the coordination of tasks, data, and people to make a business process more efficient, effective, and adaptable to change
- Thus Clinical Workflow is an established clinical business process describing how the tasks in the health care setting are done, by whom, in what order and how efficiently

## Workflow Analysis

- Understanding workflow elements and the relationships between them

- Identification of opportunities for improvement

## Data, Information, and Knowledge [2]

- Data:
  - Factual information
  - A difference
- Information: data + meaning
- Knowledge: justified true belief
  - Declarative knowledge
  - Procedural knowledge

## Data and Information Flow

The steps or path by which data are moved through a work process or a system or some combination of both, including the order of steps, and operations performed on the data (or information)

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## A Workflow Process Analyst and Redesign Specialist

Uses knowledge and understanding of
1. an organizations objectives, structure and procedures, and
2. how to use information technology

to analyze and make recommendation on how to improve an organization's operation to achieves its goals

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## Role of Health Care Workflow Analysis and Redesign Specialist

Workers in this role assist in reorganizing the work of a provider to take full advantage of the features of health IT in pursuit of meaningful use of health IT to improve health and care.

## Process Analyst Role

- Describe the Dance
- Overcome communications problems in analysis
  - Natural difficulty in describing procedure
  - Inappropriateness of narrative text for describing procedures
  - Lack of common language between the user and analyst

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## Process Analysis Skills

- Knowledge of data and data system concepts
- Knowledge of clinical workflow concepts
- Able to communicate such concepts
- Able to identify problem areas

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## Process Redesign

- Role
  - Choreographing a new dance between humans, information, and computers
- Skills
  - Ability to combine organizational knowledge and technology to create a better way

## Why is Health Care Process Analysis and Redesign Important?

- 98,000 or more people die annually in the US due to medical errors[6]
- Lack of information and care fragmentation called out as leading contributors[5,6,7]
- Meaningful use of Health IT will decrease this number [7]

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## Process Analysis Involves

- Understanding process elements and the relationships between them

- Identification of opportunities for improvement

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## IOM 6 Quality Areas

1. Safe
2. Effective
3. Efficient
4. Timely
5. Patient centered
6. Equitable

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## EHR Meaningful Use

- Term coined by the framers of the American Recovery and Reinvestment Act of 2009 (ARRA)
- Addresses five national health policy priorities

## Five National Health Priorities[7]

- Improve quality, safety and efficiency and reduce health disparities
- Engage patients and families
- Improve health care coordination
- Improve population and public health
- Ensure adequate privacy and security protections for personal health information (PHI)

## Meaningful Use Topics

- Data Capture
- Data Standards
  - ICD, SNOMED, RxForm, LOINC
- Effective Clinical Workflows
- Computer-Based Order Entry
- E-Prescribing
- Clinical Decision Support
- Patient Health Information Exchange
- Privacy and Security
- eMAR (Medication Administration Records)

## Meaningful Use Requirements Examples

- \>= 80% of all orders directly entered by authorizing provider
- \>= 75% of all permissible medication orders are electronically prescribed

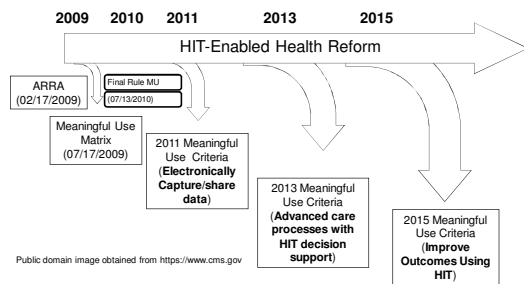## Meaningful Use Requirements Tougher Each Year

**2009   2010   2011    2013    2015**

HIT-Enabled Health Reform

ARRA (02/17/2009)

Final Rule MU (07/13/2010)

Meaningful Use Matrix (07/17/2009)

2011 Meaningful Use Criteria (**Electronically Capture/share data**)

2013 Meaningful Use Criteria (**Advanced care processes with HIT decision support**)

2015 Meaningful Use Criteria (**Improve Outcomes Using HIT**)

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## Meaningful Use

- Qualified EHR - an electronic record of health-related information that:
  - Includes patient demographic and clinical health information
  - Has the capacity to:
    - Provide clinical decision support
    - Support physician order entry
    - Capture and query information relevant to health care quality
    - Exchange electronic health information with, and integrate such information from, other sources

## Meaningful Use

Stage 1
- Lays the groundwork for a planned secure nationwide health information network
- Establishes minimal functionality for Certified EHR Technology

## Qualified EHR

- Includes patient demographic and clinical health information, such as medical history and problem lists
- Has the capacity to:
  - Provide clinical decision support
  - Support physician order entry
  - Capture and query information relevant to health care quality
  - Exchange electronic health

This concludes the first of two lectures for the Concepts of Health Care Processes and Process Analysis unit.

You may go on to the second lecture or stop and return to the second lecture at a later time.

# References

1. DeMarco, Tom. Structured Analysis and System Specification. Yourdon Press, Prentice-Hall, New Jersey 1979.
2. *Merriam-Webster Online Dictionary*, July 17, 2010, Available from http://www.merriam-webster.com/dictionary/process.
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5. Flondi, Luciano, "Semantic Conceptions of Information", *The Stanford Encyclopedia of Philosophy (Summer 2009 Edition)*, Edward N. Zalta (ed.), Available from: http://plato.stanford.edu/archives/sum2009/entries/information-semantic/.
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