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Faculty

Kay Davis

Ms. Davis has worked for the Siemens Healthcare, Health Services Division for 20 years. She has worked in a variety of positions and roles including managing, developing, training and supporting clinical applications. She has provided Electronic Health Record and Legal Health Record planning and training assistance. Kay has utilized workflow methodologies and has leveraged them to map out product direction for EHR applications and to gain buy-in from customer stakeholders. She has participated in customer advisory teams for the HIM products and continues to support development and direction of the HIM products.

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Mr. Miller has worked for the Siemens Healthcare, Global Services-Professional Service Division for 11 years in a variety of positions and roles including consulting, managing, developing and selling HIM implementation, business process optimization and data integrity services. He has assisted customer develop Electronic Health Record and Legal Health Record planning road maps. He has facilitated customer advisory teams for the EHR products and continues to support development and direction of HIM consulting services. Prior to Siemens, Mr. Miller worked for twelve years in a variety of department management roles in the acute care setting overseeing Health Information Management, Business Office, Collections, Patient Access and Quality Management departments.
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AHIMA 2009 HIM Webinar Series
Objectives

- Understand the need to frame the process
- Develop an understanding of the current or as-is state
- Develop an understanding of the future or to-be state
- Understand how workflow analysis principles can be utilized to develop electronic health record systems

Workflow Analysis Principles

- The concepts and techniques we will work with today are applicable across all care settings
Challenges of Federated, Distributed Systems and e-HIM

- Availability and accessibility of health information across multiple organizations and environments
- Unique identification of each person
- Integration of data across the disparate systems
- Accurate health data to support many diverse purposes
- Confidentiality and security of health data

Workflow Analysis: Foundation for e-HIM

“e-HIM is collaborative, practical, and applied, with an increasing emphasis on knowledge generation, knowledge management, and process engineering.”

"Further Defining e-HIM." *Journal of AHIMA* 75, no.2 (February 2004): 54-56.
e-HIM and the EHR

- e-HIM supports EHR evolution
- HIM workflows need to adapt to EHR
- e-HIM is process focused
- The way we get there is Workflow

Workflow and Process Framing
Tying Workflow to Business Needs

- What is it?
- Why use it?
- Who needs it?
- Where do you use it?
- When do you use it?
- How do you use it?

What Is It?

- Workflow = “Who Does What When”
  - Software that manages the flow of work, AKA workflow automation
  - Process = a complete end to end set of activities that crosses functional boundaries and creates value
**Why Use It?**

- Troubled or Failed IT Projects
- It’s not about technology, it’s about PEOPLE and PROCESS
- Complexity in health care delivery
- Often fragmented resulting in handoffs that are delayed, error prone, expense prone, and redundant
- One large process is better than several small poorly integrated sub processes
- Often hidden by a focus on functions and specialty areas, e.g. clinical work flow
- Few, if any, have the entire or big picture

**Who Needs It?**

- Stakeholders - Include the right people
  - All levels need to be considered
    - Senior management
    - Management
    - End users
    - Internal and external to your organization depending on workflow
Where Do You Use It?

- Anywhere that it’s needed based on your priorities
- Applicable across all care settings

When Do You Use It?

- To meet a specific business objective or need
- Any time “work flows”
- Any time work involves multiple titles/ functions/ work units or team
- Prior to identifying IT solution
  - To ID system features and functions, RFP
- When integrating new IT with legacy systems
How Do You Use It?

- Workflow tools and techniques
- Use case analysis
- Applicable across all care settings

4 Steps in Workflow Analysis

1. Frame the Process
2. Understand the current (as-is) process
3. Design the new (to-be) process
4. Develop use cases

Design Information System User Interface
**4 Steps in Workflow Analysis**

1. Frame the Process
2. Design the new (to-be) process
3. Understand the current (as-is) process
4. Develop use cases

---

**Business Process**

“A collection of interrelated work tasks initiated in response to an event, achieving a specific result for a customer or other stakeholder of the process.”

EVENT ➔ TASKS ➔ RESULTS
A Framework for Process

- A context for managing complexity
- A structure for organizing work and maintaining focus
- Necessary for avoiding confusion and ambiguity

Steps for Process Framing - “Mapping It Out”

- Trigger Event
- Milestone Steps
- Results
- Case for Action
- Vision
- Customers/ Stakeholders
- Mechanisms
- Metrics
**TRIGGER EVENT** → **MILESTONE**
**STEPS** → **RESULTS**

- Event (s) that **kicks off the process**
  - Actor - step
  - Transaction/ system event

---

**TRIGGER EVENT** → **MILESTONE**
**STEPS** → **RESULTS**

- **High Level Steps In Process**
- Usually Limited to 4 to 7 steps
- If you have more than 7 steps your process might be too big
TRIGGER EVENT → MILESTONE → STEPS → RESULTS

- Results
  - Most important part
  - Goods, products or services
  - Must be concrete, countable, measurable
  - Will frame scope of project

TRIGGER EVENT → MILESTONE → STEPS → RESULTS

- High Level
- Static
- Foundation for the To-Be
- Exists today and will exist tomorrow
Case for Action

- Identify Problem
- Define Baseline – Quantifying the problem
- Breaking into measurable units
- Motivation can be derived from
  - Financial
  - Customer Satisfaction
  - Other Corporate Objectives

Vision

- Identifying where you want to be
- “Won’t it be nice when...”
- Keep it simple
- Incremental steps
- Think outside the box
**Customers/ Stakeholders**

- Identify individuals/ roles that are a part of the process
- Important to make certain that you include everyone impacted
- Actors a subset of this group

---

**Mechanism**

- How is process accomplished today
- **Current tools**
  - Paper
  - Equipment
  - Phones
  - Fax machines
  - Scanning equipment
  - Interfaces
**Metrics**

- **Measurable**
- **Obtainable**
- **May be incremental over time**
- **Need base line data**
- **Metrics should align with vision**

---

**Sample Process Frame**

<table>
<thead>
<tr>
<th>Process</th>
<th>Centralized Radiology Scheduling</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Trigger Event</strong></td>
<td><strong>Milestone Steps</strong></td>
</tr>
<tr>
<td>Patient Needs Radiology Exam</td>
<td>Physician Office Submits Radiology Order to Hospital</td>
</tr>
</tbody>
</table>

---

**Case for Action**

The Centralized Radiology Scheduling Department coordinates incoming physician orders via 400 faxismiles per day. The logistical effort to handle incoming orders requires 4 fax machines; paper based routing, tracking/follow-up and filing. The paper based creates significant delays due to lost prescriptions and requires a large contingency of staff to handle the manual processes.

---

**Vision**

Centralized Radiology Scheduling will be improved by:

- Optimize workflow and eliminate re-work
- Significantly reducing paper processes and lost prescriptions
- Prioritize scheduling - patient criticality & high dollar value exams
- Provide access to on-line tools to enable remote scheduling

---

**Customers/Stakeholders**

Patient, Physician Office Staff, Centralized Scheduling Staff, Modalities Scheduler, Intake Clerk

**Mechanisms**

Scheduling system/appointment book, fax machine, dictation/transcription systems,

**Metrics**

- Improve Requisition Availability to 95%
- Reduce scheduling turnaround and follow-up by 2 days
- Provide on-line order tracking of requisition dates, site location, modality & patient demographics
- Reduce use of facsimile equipment from 4 machines to 1
Examples of Processes - Name the Result

- Patient registration
- Referrals
- Documentation of patient encounter
- E-prescribing

4 Steps in Workflow Analysis

1. Frame the Process
2. Understand the As-Is (current) process
3. Design the new (to-be) process
4. Develop use cases
‘As-Is’ Process

- Purpose - understand and document the “as-is” process
- Focus on facts, not opinions about potential improvements
- Document all
  - Actors
  - Interfaces
  - Dependencies
  - Handoffs

Purpose of Analysis

Understand “as-is” processes to identify
- Bottlenecks
- Sources of delay
- Rework due to errors
- Role ambiguity
- Duplicate efforts
- Unnecessary steps
- Cycle time
- Handoffs
Understanding the As-Is Process

- What is it?
- Why use it?
- Who needs it?
- Where do you use it?
- When do you use it?
- How do you use it?

What to Include?

- Start with process frame
- Narrow focus, look at result
- Build in some detail, drill down
**Why It Is Important?**

- Understand the as-is state in order to improve
- Identifies actors, hand-offs, bottlenecks
- Further solidify the case for action
- Sets the foundation for the “to-be” process

**Who Needs to Understand?**

- All actors
- Senior management
- Department Heads
- Other customers
When and Where Do You Map the As-Is Process?

- Builds on process frame
- Before the “to-be” process
- Before you brainstorm

As-Is Common Workflow Tools

- Flowcharts
  - Swimlane diagrams
- Process diagrams and maps
  - Top down process maps
Swimlane Diagrams

- Highlight relevant variables (who, what, when)
- Require little or no training to use and to understand
- Show an entire business process from beginning to end
- Used to document the ‘as-is’ workflow,
- Helps design, and depict the ‘to-be’ workflow
**Swimlane Actors and Roles**

- ‘Swimmers’ do the work in each lane
- Swimlanes may differ in size based on complex, branching or parallel tasks
- Keep it as simple as possible
- Use text comments rather than symbols to illustrate or describe complexity

**Swimlanes: What to Include**

- Only steps in the process, not every duty the actor may be responsible for
- Use verb-noun format for process steps (e.g., submit application, receive charts, sort loose sheets, etc.)
Top Down Process Map

- High level flow milestones - similar to Process Framing
- Detail process steps included below each milestone
- Actors are not emphasized in mapping

Sample Top Down Process Map

1. Clarify purpose of the report
2. Identify elements of the report
3. Identify roles in creating report
4. Decide on production schedule

1.1 Identify sections of report
1.2 Determine order of topics
1.3 Collect information

2.1 Identify purpose of the report
2.2 Determine order of topics
2.3 Collect information

3.1 Write report
3.2 Edit for flow and clarity
3.3 Incorporate charts and graphs
3.4 Review and correct

4.1 Lay out text and graphics
4.2 Review and correct layout
4.3 Proofread and correct
4.4 Publish and distribute report
**Process Mapping**

- **Process definition**
  - work completed to achieve a particular result

- **A process map depicts**
  - the nature and activities of the process
  - sequence and the flow of the work

**As-Is - Challenges**
**Challenges with ‘As-Is’**

- Securing involvement
- Scheduling meetings
- Using the ‘right’ tool
- Sticking to the process
- Overwhelming processes
- Facilitation
- Obtaining validation of current process

**Challenges**

- Managing Detail
  - Jumping into low-level the detail
  - Adding too much detail
- Avoiding Jumping to the To-Be state
**Managing the Detail**

1. **Level I - Handoff Level Diagram**
2. **Level II - Flow Level Diagram**
3. **Level III - Logic or Task Level Diagram**

**As-Is - Transition Points**

- Confirm initial stakeholder assessment & process goals
- Capture first impressions of process
- Process Evaluation - leave it alone, change or abandon?
- Identify leverage points
- Decide on approach/ tools
Go With the Flow

- Document flow of work using lines with arrowheads, including returns or loops
- Note handoffs so they can be evaluated for delays, errors, and added expense
- Generally ‘in’ comes from the left, ‘out’ to the right
- Show sequence, dependency and time where possible
Sequencing Tasks

- Do all departments perform the tasks the same way?
- Is there some decision point at which there is a legitimate difference that needs to be accommodated?

Can We Stop Now?

- Five Key Questions
  - What makes it go?
  - Is anyone else involved?
  - Does the name of the step accurately convey the result?
  - Are all outcomes shown?
  - Is there a handoff?
**4 Steps in Workflow Analysis**

1. Frame the Process
2. Understand the As-Is (current) process
3. Design the To-Be (new) process
4. Develop use cases

**Designing the New Process**

- What is it?
- Why use it?
- Who needs it?
- Where do you use it?
- When do you use it?
- How do you use it?
Who Should Be Involved?

- Team Members
- Is it time to add new members
- Process Enablers

What Should Take Place?

- Post and Review key materials
- Collect new ideas
- Bring forward performance improvement ideas
- Review best practices
- Brainstorming
When and Where Should It Be Done?

- Only after the Process Frame and Understanding the As-Is is completed
- When consensus has occurred

Why Is It Important to Complete?

- Identify the new process
- Identify improvement opportunities
- Identify the Ideal State
- Incorporates best practices
How Can You Achieve Optimal Results?

- Generate ideas for the new process
- Assess those ideas and select the ones that will work
- Develop the to-be workflow, one level at a time
- Generate enabler-specific ideas for each leverage point
- Generate process improvement suggestions by challenging assumptions
- Assess suggestions by defining its impact on each enabler
Five Common Mistakes in WFA

- Wrong set of activities is identified as the business process
- Analysis Paralysis
- Incorrect assumptions about what needs to be improved
- The whole process is not considered when making improvements
- Automating the wrong activities
Outside the Methodology

- Design of organizational structures
- Reward systems/compensation schemes and plans
- Change management requirements

Process vs. Function

Process = “a collection of interrelated work tasks in response to an event that achieves a specific result for a customer”

Function = an occupation or department that concentrates related activities and similar skills
**Process vs. Function**

**Coding: The Process**
(interdepartmental, multiple skill sets; cross functional)
Includes:
- Register patient
- Generate clinical documentation about patient assessment and services rendered
- Enter charges
- Process medical record for completeness and accuracy
- Generate codes for billing and clinical databases
- Analyze remittance advice and denials

**Coding: The Function**
(organizational structure; intradepartmental, one skill set)
Includes:
- Go to work list and select case
- Obtain clinical documentation and charges
- Review and determine adequacy of information
- Apply coding rules and select codes
- Enter codes into databases for billing and clinical systems

**Data and information capture as a critical component of process and work flow**
True or False?

Electronic records are always easier to read than paper based records

4 Steps in Workflow Analysis

1. Frame the Process
2. Understand the as-is (current) process
3. Design the to-be (new) process
4. Develop use cases

Design Information System User Interface
Use Case Analysis

- Who?
- What?
- When?
- Where?
- Why?
- How?

What Is a Use Case?

- Uses output from ‘TO-BE’ process to guide design of a new system
- Describes how an user (actor) will interact with the system to complete the new process steps and how the system will behave from the user perspective
- There may be different use cases for the same service delivered to different actors
- Use case happens at a single place and time
- Includes all the steps to accomplish a particular task
- Defined actor by actor
**Who Should Be Involved In Use Case Design?**

- **Stakeholders** provide key input on process workflow to IT department
- IT department typically develops use cases
- Stakeholders validate the use cases for accuracy
- Changes are made to use cases based on feedback from stakeholders

**When Should Use Case Analysis and Design Be Done?**

- After completing the **To Be** process
- Ideally before selecting a vendor or developing a new system in-house
**Why Do Use Cases?**

To bridge the gap between user needs and system functionality

To identify system requirements as input to RFPs or in-house developers

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**How to Perform Use Case Analysis and Design**

State the user intention and system response for each step of a process

Steps for Use Case Analysis

- Identify actors (users) and their needs
- Discover use cases from process models
- Develop list of potential use cases
- Write description and steps for selected cases
- Validate

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Use Case: Be Sure to Include

- Purpose and Scope
- Intent
- Triggers
  - Triggering Actor
  - Triggering Use Case
- Pre-Conditions
- Post-Conditions
- Flow of Events
  - Main Sequence (Primary Flow of Events)
  - Alternate Flow of Events

Validate the Use Case

Use mock ups and cognitive walkthrough’s with users to validate accuracy and completeness
Should be written at a level where anyone can read and understand them.
If this has not been achieved, re-write for clarity
Software tools can be helpful
4 Steps in Workflow Analysis

1. Frame the Process
2. Understand the current (as-is) process
3. Design the new (to-be) process
4. Develop use cases

Design Information System User Interface

Workflow Analysis – Tying It All Together

* eHI M and the EHR
  * Look at your organization’s business objectives
  * Remember it’s evolution not revolution
  * Must have a roadmap
    * Coordinate your plan
    * Involve stakeholders
    * Understand your vision
  * Use workflow modeling to document the process
Workflow Analysis – Tying It All Together

• Frame the process
  • What do I want to improve?
  • Most important step
  • Understand your case for action
  • Understand your vision and how to get there incrementally
  • Don’t forget stakeholders
  • Measure!

Workflow Analysis – Tying It All Together

• As Is
  • What are the detailed process steps we follow today?

• To Be
  • Don’t just automate paper
  • Don’t keep inefficient processes
  • Incremental steps
  • Always keep vision in sight

• Use Cases
  • Document the detailed user/system interaction
**Workflow Modeling**

- “Tools for Process Improvement and Application Development” by Alec Sharp and Patrick McDermott

> "Clear, current, and concise guidance on creating highly effective workflow systems for your organization. … Providing proven techniques for identifying, modeling, and redesigning business processes, and explaining how to implement workflow improvement, this book helps you define requirements for systems development or systems acquisition. By showing you how to build visual models for illustrating workflow, the authors help you to assess your current business processes and see where process improvement and systems development can take place."

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**WFMC Workflow Handbook 2007**

- “Workflow Opportunities and Challenges in Healthcare”

> "The Workflow Management Coalition provides an important forum for the adoption of standards throughout the industry. Standards provide an infrastructure for inter-organizational business process automation and management. In this book, industry experts and thought leaders present significant new ideas and concepts to help you plan a successful future for your organization."

[http://www.futstrat.com/books/handbook06.php](http://www.futstrat.com/books/handbook06.php)
Resource/Reference List


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