Health Information Technology (HIT) Guide for the Delta Rural Hospital Performance Improvement (RHPI) Program

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Effective Electronic Health Record (EHR) Workflow

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Table of Contents

Effective Electronic Health Record Workflow

Introduction: What is Workflow and Why is it Important?

According to the Agency for Healthcare Research and Quality (AHRQ), "Workflow is the sequence of physical and mental tasks performed by various people within and between work environments. It can occur at several levels (one person, between people, across organizations) and can occur sequentially or simultaneously.

For example, the workflow of ordering a medication includes communication between the provider and the patient, the provider's thought process, the physical action by the provider of writing a paper prescription or entering an electronic prescription into an electronic health record and transmitting the order electronically or having the patient take the prescription to the pharmacy to have the prescription filled." (Agency for Healthhcare Research and Quality, 2012)

An organization will go under considerable change when implementing an electronic health record (EHR). This change needs to be managed in order to help individual staff adopt the new technology. Workflow analysis and future workflow redesign are often cited as key factors of successful implementations of EHRs.

Unfortunately, workflow analysis, if performed at all, is typically not done until an EHR has been selected and the implementation process has begun. Although it can be easy to understand the value of good workflow in the office, how workflow analysis helps in the process of choosing an EHR is not as obvious.

When done correctly, workflow analysis will provide insight on what to look for in an EHR product if it is done early in the selection process. Some important reasons for initiating work flow analysis before selecting an EHR are to:

- Identify current hospital department inefficiencies
- Initiate critical thinking about desired future workflows
- Develop a prioritized list of desired future workflows (what are the most important ways an EHR is expected to help the hospital?)
- Develop a prioritized list of the most important EHR functionalities that are needed in order to realize these desired future workflows
- Set realistic expectations on how the EHR is expected to help achieve goals and attain better workflows

With any change, there is bound to be resistance from staff. One of the best ways to help staff overcome this resistance is to demonstrate the efficiencies and safety of the new system and to engage users in making their own changes. The clinical users must understand how and why certain processes are performed and that the data and information surrounding the processes are evidence-based. When staff take a close look at their current processes, the bottlenecks, delays, duplication of effort and other issues become clear. These are powerful motivators for change. (Stratis Health, 2010)

A workflow analysis will initially result in written descriptions of the key processes that the hospital thrives on each day. When a workflow analysis is completed the hospital should expect to see:

- Detailed descriptions of current department workflow
- Detailed work flow maps of key department processes
- An analysis that identifies current inefficiencies, bottlenecks and opportunities for improvements
- A high-level outline of desired future workflow redesigns (how the hospital will work when a EHR is operational)
- A list of changes that could be made before selecting an EHR

While implementing an EHR, workflow and process changes should be able to take advantage of the new health information technology (HIT) and to ensure that the control points in present workflows and processes exist for optimal results. (Stratis Health, 2010)

EHRs can create practice workflow efficiency by enhancing the following:

- Office communication
- Improving patient flow
- Increasing and improving provider-patient interaction
- Making patient information available to providers in real time (PMC, 2012)

Workflow redesign can improve quality and reduce costs by eliminating waste, focusing on value and reducing cycle time. When doing a workflow redesign, focus on five questions for the design guideline:

1. What is our current state and process?
2. What do we want our future state to look like and why?
3. How are we going to achieve this future state?
4. Who will be involved in planning for this future state?
5. How will we maintain, implement, measure and improve?

While implementing an EHR, an analysis of your workflow can help to identify ways to streamline a process; improve the efficiency of a practice's clinical workflow; provide an understanding of the complexity in completing a specific task; and, gain knowledge of how complex tasks are accomplished which will result in better results. (PMC, 2012)

What is Process Mapping?

Process mapping is a workflow diagram used to bring forth a clearer understanding of a process or a series or processes. A process map can visually describe the flow of activities of a process. It helps to understand a process, to generate ideas for process improvement, to stimulate discussion, build stronger communication among staff as well as to document a process. Often times a process map will highlight problems and identify bottlenecks, duplication, delays, or gaps. Process maps can help to clarify process boundaries, process ownership, process responsibilities, and effectiveness measures or process metrics. Process maps can be very effective at increasing process understanding during training.

It is important to map processes and workflows to encourage improvement initiatives early on in the implementation process. There are several reasons for this:

- Understanding how current processes can be improved by implementing an EHR before the EHR is selected will help staff contribute ideas about what functions they would like to see in the EHR and in turn, help with the vendor selection process.
- By correcting processes that are currently broken before implementing the EHR, those broken processes will not be replicated after implementation.
- Process maps can enhance the implementation activities by identifying opportunities for improvement.

Developing process improvements early on helps staff from feeling as though they are being forced to accept another person's changes. (Stratis Health, 2010)

Steps to Map Current Workflow and Processes

1. Identify processes to be mapped, specifically those that will be impacted by the HIT being acquired.
2. Use individuals who actually perform the process. They know it best and they need to own the impending change. You may need to hold a retreat or some virtual meetings with field personnel to ensure they become engaged in the activity.
3. Instruct persons on process mapping, why it is being done, and how it is done. Ensure that people know the purpose is to get automation right. Then, be sure no one insinuates blame for current issues. Encourage staff to identify all problem areas so they can be addressed through automation.
4. Map current processes. Avoid identifying opportunities for improvement now because critical controls built into current processes may be overlooked.
5. Validate maps to ensure they reflect current processes, all variations, all data collected (the information payload), and all decision making.
6. Collect all forms and reports that are part of processes to be automated through the EHR.
7. Obtain benchmark data to define expectations for change and for use in benefits realization studies. (Stratis Health, 2010)

Steps to Map How Workflow and Processes will be Performed with an EHR

1. Identify potential problems in current workflows and processes and determine their root cause Study the following areas:
    - Bottlenecks
    - Sources of delay
    - Rework due to errors

- Role ambiguity
- Unnecessary duplications
- Unnecessary steps
- Long cycle time
- Lack of adherence to standards
- Lack of information
- Lack of quality controls

2. Identify changes that may be able to resolve problems today. Implement these and revise maps to reflect the changes.

3. Educate staff about the EHR and identify further changes that will be possible and are desirable.

4. Document new processes in a new map that will reflect desired improvements.

5. Use maps reflecting new processes to create case scenarios identifying EHR functional specifications for vendor selection, and later to build out the EHR application during implementation to achieve the desired improvements.

6. Test new workflows and processes once incorporated into the EHR.

7. Train all staff on new workflows and processes, using the maps as guides.

8. Incorporate changes from the maps into policy and procedure. Some organizations use the maps themselves to construct their policies and procedures.

9. Conduct benefits realization and celebrate successful change/correct course as necessary. (Stratis Health, 2010)

Workflow and Process Mapping Resources

EHR Selection & Implementation: EHR Readiness Assessment & Workflow Analysis – Health Insight

EHR Workflow Toolkit for Physician Practices – Kansas Medical Society and Kansas Foundation for Medical Care

Health Information Technology Toolkit for Critical Access and Small Hospitals – Includes a Flow Process Chart Template and a Systems Flowchart Template– Stratis Health

Redesigning Workflow: A Crucial Component of EHRs – Regional Extension Assistance Center for HIT

The Road to Meaningful Use of EHRs: Redesigning Practice Workflows – HITEC LA

Workflow Assessment for Health IT Toolkit – Includes sample workflow tools and flowcharts - Agency for Healthcare Research and Quality

[Workflow and EHR – an Oxymoron?](#) – Illinois Health Information Technology Regional Extension Center

[Workflow Tool Examples](#) – Agency for Healthcare Research and Quality

Bibliography

Agency for Healthhcare Research and Quality. (2012). *Workflow Assessment for Health IT Toolkit*. Retrieved Janaury 10, 2012, from Agency for Healthcare Research and Quality: http://healthit.ahrq.gov/portal/server.pt/community/health_it_tools_and_resources/919/workflow_ass essment_for_health_it_toolkit/27865

Health Resources and Services Administration. (2010). *Health Resources and Services Administration.* Retrieved November 8, 2011, from HRSA Health IT Adoption Toolkit: http://www.hrsa.gov/healthit/toolbox/HealthITAdoptiontoolbox/

PMC. (2012, January 25). Workflow: Effective EHR Project Management Webinar. *Presented by Ravi Lote, PMC, for the Delta Rural Hospital Performance Improvement Program* . PMC.

Stratis Health. (2010). *Health Information Technology Toolkit for Critical Access and Small Hospitals*. Retrieved January 10, 2012, from Stratis Health: http://www.stratishealth.org/expertise/healthit/hospitals/adopt.html