Analyzing Workflow for a Health IT Implementation: an Often Short-shrifted Step is Essential in Successful IT Deployments

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The inability to integrate electronic health records (EHRs) into clinician workflow is a well-documented barrier to implementing EHR systems. To address this problem, organizations must analyze their workflow processes before implementing an EHR system.

HIM professionals are well positioned to perform workflow analysis because they can see how individuals and organizational units work together. They also understand the flow and uses of information in their organization. A 2005 AHIMA study found that successful EHR system implementations are closely correlated with HIM participation in workflow analysis and process improvement in the clinical care setting and the HIM department.

Getting to Optimal

Optimal workflow requires having the right information at the right time so that the individual performing a step or task can advance the process toward completion. To achieve optimal workflow, organizations must take a step back and analyze the flow of work.

Workflow analysis, also known as process analysis, involves identifying, prioritizing, and ordering the tasks and information needed to achieve the intended result of a clinical or business process. Workflow analysis and process redesign are frequently omitted or overlooked when identifying and selecting new information technology. However, they are absolutely critical because of the inherent complexity in most healthcare clinical and administrative processes.

People and processes are core considerations that often do not receive the attention they need in order to make an IT project successful. It is an old truism that even the worst technology can be made to work in an environment where people understand and are committed to making it work, while a technologically superior product can languish on a shelf because environmental factors, such as people and process issues, prohibit it from being successful. Workflow analysis mitigates these risks and increases the chances for success in an IT implementation.

Techniques and Tools

Workflow analysis involves applying a set of techniques that identify and address environmental factors and information needs in the early stages of system selection and implementation. These techniques are used to:

- Identify the boundaries of a process
- Establish a common understanding of its triggers, steps, and results among stakeholders
- Analyze how the current process functions
- Understand where it can be streamlined and otherwise improved
- Develop use cases that will guide the design, development, and support of the new system that automates the process

The methods employed to understand current and future state processes usually include brainstorming with process stakeholders, simple observation, and the use of tools such as checklists and activity logs. Information about the process is captured through a wide variety of tools such as process flow charts, workflow movement diagrams, swim lane charts, and fish bone diagrams.

Workflow documentation methods may range from those as simple as arranging sticky notes on a wall or drawing on a flipchart to capturing all nuances of a process with sophisticated software that facilitates continual refinement of the information within the team.

Equally as important as documenting current process is understanding the enablers or environmental factors that collectively determine how well or how poorly the process works.

Process Enablers

Key process enablers include:

- Policies and procedures that reflect the values and biases of the organization. These are part of and reflect the organizational culture in which work must be performed.
- Facilities or the physical environment that affect how tasks are accomplished, including factors such as amount and location of space, seating, work surfaces, lighting, equipment, and storage.
- Human resources, including the work force's current skill sets, workload, and the performance standards to which staff are expected to adhere.
- Motivation and commitment—the dynamics of what motivates the actors in the process to perform in a certain way and how they are rewarded or punished. This is arguably the single most important process enabler. Lack of motivation and commitment more than any other single factor affects the degree of success of a work process.
- Workflow design—rework, redundancies, bottlenecks, data loss, and other things that contribute to a poor process and create potential for errors, delays, additional cost, and safety and quality of care issues.
- Information technology and its usability—unintelligible error messages, confusing screen layouts, navigational dead ends, and lack of tech support are examples of how IT can adversely affect work processes.

All process enablers must be considered individually for solid process redesign. In addition, in healthcare, there are often unseen parts of a process that involve application of clinical knowledge. Failing to consider the unseen parts of a process can pose significant risks to obtaining a thorough and complete understanding of how a clinical process needs to work.

Clinical IT users are really knowledge workers, and their work frequently involves integrating knowledge and information from a variety of sources, including their own personal experiences. This must be factored into clinical process workflow.

Data Capture

If a key goal of workflow analysis is the design of new and improved processes that optimize workflow by delivering the right information at the appropriate point, then data capture is a prime consideration. As an integral part of workflow, data capture is the point of human-computer interface, and as such it provides the greatest opportunity to improve clinical and business processes. It also presents the greatest risk of the system and process not working as desired or the point of greatest user dissatisfaction.

Capture of health information usually includes inputs such as dictation and speech processing, use of templates, imaging of handwritten documents, and keyboard or point-and-click data entry. The choice of data capture technology affects how information will be structured—as discrete data or as unstructured text—and how the captured information can be used in the future. Workflow analysis will help determine whether structured or unstructured data are most appropriate for a given scenario.

For example, entry of structured data into a documentation template may be appropriate for a routine wellness exam in a clinic, but it may be insufficient to document a complex treatment or procedure with complications where it would be easier and faster for the clinician to dictate. Each process should be carefully evaluated to determine the most preferable methods. It is usually necessary to provide a range of data capture options that accommodate multiple preferences, purposes, and needs.

No Perfect System

The introduction of any new technology makes it impossible to continue doing business as usual. There are no perfect information systems, and in order to realize optimal benefit and minimize disruptions to the care and business processes, it is

essential to conduct workflow analysis and process redesign. Obtaining a thorough understanding of business and clinical processes, their drivers and desired outcomes, is absolutely essential in the successful implementation of health IT.

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