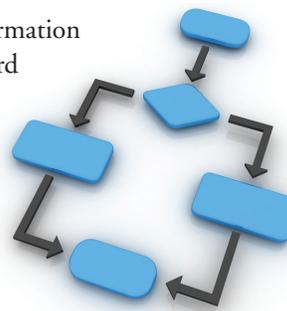


Toolkit Available for Assessing the Impact of Health Information Technology on Workflow in Provider Offices

Workflow is a concept that is often ignored when implementing health information technology (IT). What exactly is workflow? While there is not one standard definition, it is generally considered to be a sequence of connected steps necessary to accomplish something. Health IT is not always designed to fit the workflow of a given practice or patient population, making it difficult to truly assess its impact. Therefore, assessing and understanding workflow is essential when determining where and how to best integrate IT into a variety of health care systems. The effects of health IT systems on workflow can include changes to communication patterns, guideline adherence, consultation time, distribution of tasks, information flow, and more.



Health IT systems can impact workflow by changing how, when, and from whom a patient receives care.

How can information on workflow analysis and redesign be incorporated into an easy to use toolkit for ambulatory practices? The Agency for Healthcare Research and Quality sought to answer this question and awarded the University of Wisconsin-Madison a contract to develop the toolkit.

To develop a comprehensive toolkit, the project team developed a request for information (RFI) on (1) developed methods and tools or initiatives for ambulatory workflow analysis and redesign and (2) how health IT could support workflow redesign. The project team then systematically reviewed the existing research about how health IT impacts the workflow in ambulatory practices. They also conducted an environmental scan to learn what others were doing with regards to health IT implementation and workflow in small and medium-sized ambulatory care practices. The project team found that practices must have

a clear understanding of a) how clinical and administrative processes are performed and b) how these processes will change with the introduction of health IT to ensure successful implementation and the potential for how health IT can be used in process improvement.

The RFI responses (which can be found at <http://healthit.abrq.gov/workflowfireport>) and findings from the literature review and environmental scan (which can be found at <http://healthit.abrq.gov/workflowfinalreport> and <http://healthit.abrq.gov/workflowtoolcompendium>) were used to develop a toolkit to help small and medium-sized practices assess their workflows before, during, and after the implementation of a health IT system. The toolkit can be accessed at <http://www.healthit.abrq.gov/workflow> and includes resources and methods to understand and assess workflow, provides insight into workflow issues, and recognizes how workflow can be affected by implementation and use of health IT.

Medical practices that face the challenges concerning health IT implementation and practice improvement can benefit from assessing their workflow. This toolkit will help them understand the purpose of each assessment method, how they can be implemented, the resources needed to do so, and the advantages and disadvantages of each.

Principal Investigators: Pascale Carayon and Ben-Tzion Karsh, University of Wisconsin-Madison

Project Title: Incorporating Health Information Technology into Workflow Redesign. This project was supported by contract number 290-08-10036 from Jan. 1, 2009 - Dec. 31, 2010.

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TOOLS HELP PRACTICES ALONG THE CONTINUUM

The toolkit contains information about the impact of health IT on workflow.

Several basic tools were chosen based on relative ease of use, accuracy in assessing workflow, and frequency with which they were used in previous research or when talking with providers. Through examples and pertinent information, the tools are presented by stage in the implementation process:

- 1) Determining system requirements.
- 2) Selecting a vendor.
- 3) Preparing for implementation.
- 4) Using the system after implementation.

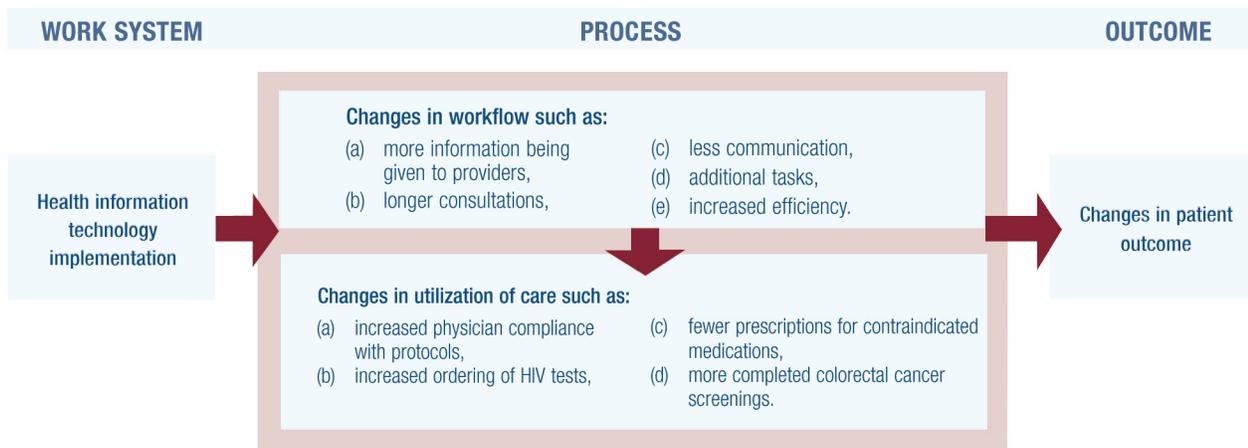
The toolkit includes the following types of methods:

- Data Collection
- Data Display & Organization
- Idea Generation
- Problem Solving
- Process Improvement
- Process Mapping
- Project Planning & Management
- Risk Assessment
- Statistical Analysis
- Task Analysis
- Usability

The toolkit explains the importance of analyzing workflow when implementing and using health IT applications, and outlines available resources for workflow assessment. It is expected to influence the success of health IT implementation in small and medium-sized practices that may not have IT support.

Throughout the project, the team grounded their work in the UW Systems Engineering Initiative for Patient Safety (SEIPS) Model of Work System and Patient Safety, illustrated in Figure 1. The SEIPS model conveys three main elements related to patient care: the work system, the processes, and the outcomes. The work system describes how someone performs a range of tasks using specific technology and tools within their organization or work environment. The system influences processes or workflows that often involve several workers and patients, which in turn impacts outcomes for the patient and the organization.

FIGURE 1. SEIPS Model of Work System and Patient Safety from Health IT Implementation



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