

Ideal nursing workflows to support the development of information technology solutions

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Abstract

An understanding of workflows is fundamental to designing information technology solutions to advance patient care, as these solutions must integrate into the workflow. As a precursor to developing a clinical documentation system, our large healthcare system undertook the task of defining important workflows. We began in 2007 with the formation of a Clinical Workflow Action Team to oversee the defining of workflows and the clinical processes and data flows that would support safe, effective and efficient patient care. The action team and various sub-teams invited clinicians from across the enterprise to discuss ideal workflows. Clinicians were invited to imagine the most ideal workflow and the goals they wanted to see achieved by 2025, irrespective of current technology limitations. With this vision for the future in mind, groups of 20 to 30 practicing clinicians were assembled to discuss important workflows and determine the ideal workflow by consensus. The Clinical Workflow Action Team guided these collaborative review and discussion sessions towards the objectives of safe, effective and efficient workflows, but all components were agreed upon by the clinical experts before inclusion. The proposed ideal workflows were shared via open conference call with clinicians across the enterprise. In total, more than 700 clinicians provided input into the creation and validation of the ideal workflows across the spectrum of nursing care. Consensus was reached quickly due to the overall focus on the workflow processes that were considered ideal rather than the current processes at an individual unit/facility or the limits of current technology. These ideal workflows have persisted with few changes in the ten years since their inception and have become the foundational roadmap for information technology solutions such as clinical documentation systems, medication management systems, order management systems, and nurse call system upgrades.

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Introduction

As a precursor to developing information technology solutions to support patient care, such as clinical documentation systems, our large healthcare system first worked to define the ideal workflows for important clinical processes. The goal of this project was to provide meaningful clinical data from information technology solutions while assuring that each clinical area was supported by safe, effective, efficient and satisfying workflows.

The process for developing the ideal workflows was conducted under the guiding principles of structured, rational decision-making. All participants were empowered to take responsibility for ensuring that the final workflows met the needs of the organization and users. Consensus and collaborative review was conducted for all components before inclusion in the ideal workflow, and all participants had to agree on what would be included. Through this process, these workflows have been assessed subjectively as safe, effective and efficient in alignment with organizational core values and the guiding principles of the workgroup charter.

The collaborative, consensus-based development process of developing ensured that the resulting ideal workflows included all important components with no extraneous elements, which could support the elimination of duplication and segmentation in documentation. These ideal workflows have changed little in the decade since they were first developed and have served as a framework for the development of clinical documentation, medication management, order management, and upgraded nurse call systems.

Methods

The ideal workflows were defined by groups of practicing clinicians from each clinical area with guidance from a Clinical Workflow Action Team. Approximately 20 to 30 clinicians gathered via conference call to discuss each workflow. The Clinical Workflow Action Team conducted these calls, providing guidance and facilitating feedback sessions. Clinical experts were asked to consider the important processes, rather than the constraints of current technology or specific EHR screens. Consensus was reached in two to four conference calls per workflow.

Draft ideal workflows were presented in open conference calls for review and validation. Over 700 clinical experts participated in the development process. The data flow to support each workflow were designed in order to support the development of clinical documentation systems and other information technology solutions. Governance strategies were implemented for these information technology systems; requested changes must show support for the ideal workflow.

Results

The resulting workflows are presented in the attached figures. In the workflow diagrams, circles represent a function or activity. The number of each activity is for identification purposes only and does not indicate order of execution. The process name and job role that executes the process are within the circles. Solid arrows represent data and material flow and illustrate the information transmitted

between process, systems or people. Dotted arrows represent trigger events that initiate another event. Open boxes represent a data store where data may be stored between transactions or executions of the system. Closed boxes represent a data source or sink; these can be both suppliers and users of the data.

Workflows

1. History and Physician Assessment
2. ReAssessment
3. Ordering
4. Monitoring and Notification
5. Bedside Procedure
6. Patient Education
7. Handoff/Communication

Conclusion

These ideal workflows have provided value for project planning and tracking of progress over the last decade. These ideal workflows have persisted with few changes since their inception and have become the foundational roadmap for information technology solutions such as clinical documentation systems, medication management systems, order management systems, and nurse call system upgrades. The creation of these ideal workflows has allowed for the design of information technology solutions that reduce documentation burden while retaining and improving access to clinical data. We share these nursing workflows here to aid others in the development of clinical information technology initiatives.