

Planning Forms Automation

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by Cynthia S. Hyde, RHIA

A carefully crafted project plan is the first step in achieving expectations and lasting value from electronic forms management.

The intent of transitioning from paper-based processes to electronic, automated systems and solutions is to benefit the operations of healthcare facilities in increased efficiencies, automated workflows, and decreased costs. Importantly, health IT is a key driver of quality care by improving the accuracy of patient identification and communication among caregivers. The Joint Commission's National Patient Safety Goals state "hospitals should consider implementing a forms automation system early in the process."

While many hospital administrators will understand the importance of this drive to forms automation, the road map for achieving the optimal solution requires careful consideration and due diligence.

Whether the organization expects forms automation to meet the basic need for a forms repository or the more ambitious goal of a fully integrated enterprise-wide solution, there are a considerable number of technology and document management solutions. The analysis process can be daunting. Following are considerations for determining the organization's specific electronic forms management project plan.

Reduction in Printing and Storage Costs

At its basic level, forms automation reduces the need for printing and storage, cutting supply costs and saving the hospital valuable space. There are a multitude of success stories for cost savings, including Providence Hospital in Mobile, AL, which saved \$124,300 in the first year of a phased implementation. Determining the facility's expected cost savings helps support the budget approval process.

One of the main benefits of forms automation is the ability to distribute electronic forms data as needed to users across the enterprise via fax, e-mail, image portals, and other methods. This enhances the exchange of information and the delivery and quality of care.

Interoperability

A fully deployed electronic health record (EHR, intended here to encompass the record within the organization only) will encompass multiple applications, including the organization's health information system and document management or imaging system, which serve to document and channel patient data in support of clinical decisions and administrative functions. Forms automation is one of the most important components of an EHR.

Like the EHR, forms automation can involve multiple solutions working together to decrease printing and storage costs, elevating productivity and improving quality of care overall through standardization and streamlining. Interoperability of the forms management solution with legacy applications and future technology is important. As the organization graduates to the next EHR level, flexible integration with the ability to extract and send data should be a key attribute of the electronic forms management solution. Integration with existing technologies can extend hardware and software value already in place.

Forms Conversion

Without proper alignment and the right tools in place, the conversion of paper forms can be costly and time-consuming. The organization should evaluate the long-term, total cost of ownership when deciding whether the vendor or the organization should retain control of forms creation.

If the organization elects to put the vendor in total or partial charge of the process, it must pay attention to the turnaround time specified in the service-level agreement and the costs for both creating and revising forms. Ownership of the form design tool by the hospital provides unlimited forms design without additional vendor costs.

As part of vendor selection, the organization should perform critical analysis of the various methods of accepting documents into the automated system. Importing electronic forms directly into the health information system and document management system through an image portal without printing or scanning is an important consideration.

The use of bar-coded forms provides the ability to import electronic forms and data directly into the imaging system and index information automatically at both the document and encounter levels. This saves HIM staff significant time, and it eliminates the risk of mismatching forms with the wrong patient.

Privacy and Security Concerns

A typical electronic forms management system will have an ADT feed from the health information system. Other patient-specific feeds may apply. Compliance with Joint Commission, HIPAA, and other regulatory requirements requires security measures that restrict forms access and editing to authorized staff members via multilevel user settings. The organization must also ensure secure e-mail delivery protocols. Electronic signature capability needs to ensure that a patient or staff signature is secure and legally acceptable.

To best protect patient privacy, the selection team can request the IT department challenge a vendor's stated HIPAA compliance and Joint Commission requirements and ensure tamper-proof encryption, including authenticity of the digital signature and the associated source document (e.g., consent).

Additionally, the organization must determine how electronic signatures will be retained and cataloged. How will the facility actually retrieve an e-signature should it ever be required for legal purposes? If it is retrievable, will the electronic signature stand up to scrutiny that it cannot be altered in any way?

End User Adoption

Clinical and support staff come with an extreme range of IT skill levels. Adjusting to new technology is not always easy and may be quite stressful. Electronic forms automation applications that have a user-friendly interface are the most likely to be quickly adopted and require the least training.

System functionality and response time are important considerations. If, for example, a registration representative receives forms automatically generated with all appropriate data included, yet has to wait beyond seconds for the forms to print, that associate will not be happy with the solution implemented and adoption will be negatively affected. The organization must keep in mind that end user adoption has a direct impact on the success of any software or hardware project and consequently on the return on investment.

Automated Workflow

The ability to create electronic forms, manage them in a secure electronic repository, and route them throughout the hospital via automated workflow enables the hospital to achieve huge efficiencies. Not only can it save the caregiver time, automated workflows can also relieve the caregiver of manual tasks while improving patient safety initiatives and allowing more time to deliver quality patient care.

For example, based on data from the health information or clinical documentation system, the electronic forms system can automatically generate fall risk forms that contain accurate, current, patient-specific information. Patient information from the health information system can be automatically retrieved and populated on all necessary forms simultaneously.

Naturally, the more sophisticated and flexible the automated forms workflow solution, the more efficiencies and cost savings the organization can achieve. This opportunity extends beyond the clinical or EHR possibilities and into an enterprise-wide solution for finance, HR, risk management, and any other support area within the facility.

Consider the possibilities in which the automated forms solution can interact with multiple clinical, support, and financial application systems of the organization to drive the electronic routing of forms and their attachments to meet business needs. Electronic forms management is not simply electronic forms sitting in an electronic repository awaiting electronic distribution. It is this critical piece for automated workflows that enables much more than just a smooth transition to EHR.

Business Continuity

With the advent of the EHR comes the potential for downtime, both planned and unplanned. A versatile forms automation solution can fully support business continuity plans, allowing for almost seamless documentation management.

Electronic forms management solutions should be able to provide business continuity when the health information system is down for scheduled upgrades or unexpected downtime, allowing uninterrupted viewing of patient data and syncing back with the health information system once it is back online.

Output Management

System and application integration ability is a requirement for electronic forms management products. Unfortunately, it does not guarantee the ability to provide output management of data in the same presentation or format. This is especially significant as organizations make the transformation to the EHR. Responding to requests, whether for legal purposes or continued patient care at another facility, is getting more difficult as the components of the medical record are spread across multiple applications.

Even if the document management or imaging system is used as the central repository of the legal record, a standard format that organizes the information and eliminates the potential for redundant or even discrepancies in data elements is needed. When considering an automated forms solution, organizations should evaluate the long-range road map for how to best achieve output management.

Total Cost of Ownership

Components for all costs associated with the electronic forms automation solution may include hardware, software, professional services, implementation and training fees, annual support fees, upgrades, and internal resources. Some electronic forms vendors are beginning to provide their solutions in a variety of competitive payment methods, such as a hosted solution option. Others offer a more standard pay-by-the-form model. Organizations may realize cost reductions from the elimination of third-party or outside printing, distribution of forms, retention of storage of forms inventory, supplies such as patient labels, and card embossers.

Regardless, the total cost of ownership includes these initial and ongoing costs, coupled with the reduction of costs achieved through forms automation. Collectively, the costs and reductions help achieve the return on investment, as well as identify the total cost of ownership over a period of time. A full understanding of all associated costs and savings should be thoroughly reviewed and committed in writing prior to a final contract being awarded. The service-level agreement should provide adequate definition to provide the expected level of support beyond implementation.

Take for example a Joint Commission survey that reveals a need for the hospital to change a standing physician order. How quickly could the change be made and pushed out to the organization? If the organization is dependent on the vendor for forms revision, what is the expected turnaround time (minutes, hours, days) and what is the cost? Similarly, what is the acceptable response time for a form or set of forms to print?

A competitive initial price offering is important, but costly and time-consuming ongoing forms support may escalate the cost of ownership. Allowing the organization to completely own its forms automation solution can support a positive and lower total lifetime cost. The optimum electronic forms management solution is one that offers enterprise-wide scalability, application and

solution integration with existing systems, and quick and lasting return on investment, regardless of whether it is a small-scale or enterprise-wide project.

The ideal electronic forms management solution includes electronic forms and workflow with interfaces to accommodate fax, e-mail, document management or imaging and management solutions, electronic signature, and more. The organization's electronic forms management road map allows the enterprise to better evaluate its options and select a solution that best integrates with its overall EHR strategy while maximizing existing technology investments.

Cynthia S. Hyde (chyde@providencehospital.org) is CIO and assistant vice president of Providence Hospital/Ascension Health Information Services in Mobile, AL.

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