

Connecting Physicians to Patient Data

Portal technology assimilates hospitals and physicians' offices for improved patient care.

By Bryant Bolden

Patient care in a hospital moves along a path among physicians, departments, labs and imaging, and eventually extends outward into the broader community to the patient's regular physician or a long-term or post-acute care facility.

Progress along the continuum is marked by transitions, and each transition point represents a potential risk of error through quality and information-transfer deficiencies.

The problem

Traditionally, during each transition, multiple physicians and staff create and recreate a patient's medical record and demographics. Each time a record is recreated it increases the possibility of data being lost or inadvertently altered and increases the likelihood of compromising a patient's health.

Incomplete information during patient transfers can result in critical errors, including medication interactions, a patient returning home without supplemental oxygen or other life-sustaining equipment, or simply inaccurate demographic data.

Inadequate or inefficient data transfers increase costs. Errors affect patient outcomes, and if the patient's health worsens, he or she could be transferred back to a high-intensity health care setting, extending recovery time.

Record re-creation causes redundant lab testing, diagnostic imaging and other procedures, while the increased potential for malpractice lawsuits adds costs to the health system.

What's more, simple claims administration and payment collection for services provided cannot be effected with inadequate or incorrect data.

Technology innovation

In 2002, Greene Memorial Hospital (GMH) in Xenia, Ohio, faced the problems of aging technologies, changing demographics, changes in local perceptions of GMH, competition from larger health care organizations outside of Greene County and increases in operating expenses.

GMH, where I am senior software engineer, is a 200-bed, private, non-profit community hospital that opened in 1951. It holds the distinction of being the only Level III trauma center serving Greene County and the eastern region of the Dayton market. GMH provides diagnostic, rehabilitative, behavioral and surgical services to residents throughout the Dayton area and surrounding communities.

The hospital's "Designed Future Vision" concentrates on three core areas affecting the entire delivery system: clinical excellence, magnetic culture and financial stability. The hospital's leadership created a measurable set of milestones and has tasked all GMH organizational elements to work on solutions for achieving those goals.

Improvements in core areas require the cooperation and participation of the entire organization, but it was obvious from the start that technology would play an important role in each area.

Our CIO, Ellen Predaina, and the MIS staff found the need to create a vision within the MIS department that coincided with the organization's goals. We crafted a mission statement to:

- 1) connect our health care facilities to physicians better than any hospital in the Dayton area;
- 2) build an architecture that supports the capture and sharing of real-time information (not on paper) at the point of care;
- 3) automate and perfect processes to enhance patient safety and convenience, deliver quality medical care, and enhance physician and patient relationships; and
- 4) provide customer support to end-users.

A winding path

By integrating disparate systems and providing a unified view of patient data with secure access, the technology team at GMH helps connect staff and the broader regional health care community. This helps ensure the efficiency and accuracy of data management and preserve the record to provide coordinated care during and after hospital visits.

Within the hospital, we have rapidly updated technology to be able to offer access to more complete patient data. The integration of disparate systems including radiology PACS, clinical ordering and labs into a Web-based portal has improved the efficiency and accuracy of data management and decision-making.

The portal, based on Orion Health's Concerto Medical Applications Portal, essentially represents the convergence of people, processes and technology. Through computerized physician order entry (CPOE) and the ability to see all data through an electronic whiteboard, our physicians obtain a comprehensive view of patient progress, make decisions and initiate treatments in a patient-focused environment.

The portal provides physicians with simplified, real-time access to a selected patient's clinical information, wherever it may reside, without having to search and sign onto individual applications.

Emergency room physicians use the whiteboard and physician lists to track patient locations. They receive results electronically and can view images, reports and patient histories from off-site locations, saving valuable time and expediting decision-making for the good of their patients, Predaina noted. Our physicians are more productive and have the data entered once then validated; each subsequent review means increased accuracy and better results.

In the future, we hope to integrate mobile devices such as tablet PCs, PDAs and smartphones into the physicians' workflow. With Orion Health's architecture and the ability to view applications in any browser, they won't have to create new systems for working with mobile devices and biometric access.

Another important initiative is a medication reconciliation system. The same software used to integrate systems tracks and reconciles the medication a patient was taking at the time of admission and any medication prescribed during the hospital stay.

The system specifically documents the medications a patient should continue taking and those he/she should discontinue, providing an improvement in patient safety during the care transition.

Regional health ecosystem portals

With patient safety and cost issues at stake, hospitals need to improve records transfer and communication during patient transition. Moving to an electronic health record (EHR) system could go a long way toward solving these problems, but the following challenges must be overcome to make an EHR a practical, real-world solution.

Cost. The costs associated with adopting and maintaining an EHR are a barrier for most physician offices. Many facilities run on thinner margins than hospitals — even not-for-profit centers such as GMH. Physician practices simply don't have the capital to purchase and support a large interoperable EHR system.

Training. Post-acute care/long-term care facilities experience high rates of staff turnover, which create a drain on their training budgets, especially if they must repeatedly teach caregivers to use a complicated EHR system.

Computer literacy. Increasingly, a significant proportion of staff at physicians' offices don't have advanced computer skills. By providing an intuitive Web-based interface, staff is encouraged to use the technology.

Integration of information across all caregivers involved in patient transitions helps achieve better patient care and reduce unnecessary costs. Hospitals and physicians' offices need cost-effective IT tools that facilitate this integration while maintaining high standards of security and compliance with data security protocols.

Looking at the portal

In order to avoid the difficulty and expense of installing a traditional EHR, and to shorten and simplify the implementation, it made sense to use the existing Web-based portal to extend functionality to physicians.

The system allows physicians and caregivers to assess a patient's record. Patient data can be pulled from several different sources, such as hospital records and laboratory results.

It minimizes the time spent looking for information and ensures that an electronic search will provide data at a faster rate than thumbing through a paper record or making phone calls to verify data.

Often achievable in months vs. years, a physician portal that presents a unified view is easier to implement and offers a quicker turnaround than a full-scale EHR implementation.

An EHR system, with its ability to reduce errors and consolidate patient records, offers the potential for improving patient care during transition. While traditional EHRs are complicated and expensive for most facilities, physician portals offer a simpler way to gain EHR benefits and overcome the current obstacles.

With a physician portal, patients in transition will have a better chance of getting the care they need for the best outcome. And physicians and caregivers throughout the organization will have the information they need to provide the best patient care possible.

Increased claims recovery

For physician offices, a challenge lies in obtaining accurate information for claims processing.

For example, as many as 40 percent of claims from physicians' offices are denied simply because of inaccurate addresses. Most physicians' offices can't afford the revenue-cycle tools that hospitals have in place. The same problem exists with eligibility software, which may be paid on a per-click basis, Predaina said. Using accurate insurance information and demographics means that a much higher percentage of claims can be recovered.

To validate information, physicians' offices call hospital-patient accounts to verify information over the phone. At GMH, we use the portal to create what we term "patient face sheets" or snapshots of a patient's stay.

The demographics from the face sheets are heavily used and help drive utilization by physician practices. As more staff use the portal, they are more likely to engage physicians and teach them the benefits of its features and functions.

By offering more practice functionality, physicians will be more likely to use the portal and integrate it into their clinical workflow, Predaina noted.

This data includes patient demographics, diagnoses and insurance information for use in communicating during transfers in patient care. Data is pulled from M2 and McKesson systems, queried, then displayed through a portal.

We validate data during the visit and finalize it upon discharge. It can be retrieved at any time, printed and made part of physician offices' records.

Providing patient demographics and insurance information helps with individual practice operations and drives increased utilization of the portal itself.

The larger community

The portal plays a vital role in connecting the hospital with other local health care facilities. Aligning physicians more closely with the hospital is by far the biggest benefit, Predaina said. Improved productivity, return on investment and cost efficiencies are all the end-results of closer relationships between physicians and hospitals. Making patient information available to non-hospital users is paramount. Through these patient face sheets, a computerized "handshake" ensures that pertinent information will be transferred and quality care will continue to occur.

GMH also plans to use Orion Health's technology infrastructure to create a foundation for an EMR/EHR that will accommodate the varied solutions used in physician offices, making the flow of information a two-way street for even better clinical decision-making.

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