Small Hospital Uses Data for Big Improvements

By Kelly Cinquegrani, RHIA

In order to take full advantage of health information technology, data, and analysis, an organization needs a standardization of protocols and its health IT systems must be built to support specific processes. FirstLight Health System (FLHS) has learned this first-hand over the last several years through the enactment of federal mandates such as the American Recovery and Reinvestment Act (ARRA), the "meaningful use" EHR Incentive Program, the latest modification to HIPAA, and the introduction of state and federal quality measures.

There are many challenges in creating an electronic health record (EHR) system to accommodate all the regulations an organization like FLHS, a 25-bed critical access hospital located in rural Minnesota, must meet. Major challenges for a system this size include limited financial resources and inadequate staffing to facilitate EHR set up and training. The following offers best practices on how rural and critical access hospitals can make the most out of their data and EHR systems, and improve patient care in the process.

Suggested 'Best Practice' Not Always Best

FLHS takes advantage of multidisciplinary teams including representatives from across the facility to discuss processes and solutions to overcome the challenges of building and maintaining their EHR. FLHS's vendor also provides best practice solutions to help the organization meet state and federal requirements. However, these solutions consistently have to be evaluated by FLHS staff to ensure they work with current workflows and can be integrated with the least amount of disturbance. The best practices often do not align with FLHS's own best practices. Meeting as a diverse team gives FLHS the opportunity to find new ways of standardization that better fits the organization while still meeting federal and state requirements.

Working with the federal government's meaningful use incentive program has familiarized FLHS more intimately with structured data capture, which is required to meet the program's measures. Often structured data is easier to build as well as abstract for end users. Structured data limits the areas where data is entered as well as what is entered. Unstructured data, on the other hand, may be easier on clinicians as they have more options for data entry, but it makes pulling the data into reports more difficult. The varying data formats between organizations make data that are submitted for state and federal mandates inconsistent at times. Data may not necessarily mean the same thing from each organization as it is entered, stored, and used in different ways. By utilizing an EHR, FLHS can access data much more quickly and easily. The trick now is to figure out where to look in the system for the data. The EHR has become a one-stop shop for all data in the organization. It has the ability to run reports directly from the EHR system for ease of abstracting charts for chart review or compliance purposes. It also is common to use interfaces to link the EHR to a vendor or web-based solution. If using a vendor for support, a facility can download reports from their EHR system and upload them to a vendor, who can create reports for analysis.

FLHS's vendor for reporting patient satisfaction data directly interfaces with their EHR, allowing the vendor to download and upload data without any human interaction. This is possible by having data fields, such as patient demographics, standardized and structured. The vendor can then put the data they receive into surveys to send out to the patients. After this data is returned it is put into a web-based solution where FLHS can access the data to run and download reports. These reports can generate analysis for the organization or raw data. Analysis functionalities like this one, provided by vendors, allow FLHS and other organizations the ability to move away from manually entering data into spreadsheets and creating visual graphs to display results.

How Health IT Can Improve Patient Safety

Ongoing clinical support has improved patient safety and quality at FLHS. For example, with help from their pharmacy team, FLHS has been able to create electronic order sets with the approved and appropriate antibiotics set forth by the Centers for

Medicare and Medicaid Services (CMS) and the Joint Commission. For example, if a patient is admitted with pneumonia, physicians can use their data to find an appropriate order set that reflects current antibiotic recommendations.

A benefit of being a smaller organization means a smaller patient population. This enables FLHS to conduct exception analyses every quarter. This process involves a multidisciplinary team investigating why the facility failed a measure required by CMS and the Joint Commission. Again, the pneumonia measure is a good example. If a patient did not receive the recommended antibiotics, this would result in a measure failure. Given the relatively small population, FLHS can study the situation more closely. It's easier for staff from the pharmacy and quality team to review the patient chart together to discover whether this was a human or system error. Pinpointing the type of error could jump-start re-education programs for physicians and pharmacists or inspire a fix to an order set to accommodate future measures.

CMS and the Joint Commission also have found that one patient safety issue is the documentation of immunizations. They found that often documentation is being completed differently by pharmacists, nursing staff, and physicians. For example, pharmacists might not have appropriate access to document in a patient's chart to update immunization status, and would implement their own system of checking for immunizations. Then, nursing staff or physicians would be either double documenting this information or not documenting it at all. This caused some compliance issues when CMS and the Joint Commission required influenza and pneumococcal immunization documentation within the EHR. As a result, FLHS decided to update the pharmacists' access to enter immunization data into the EHR. This process fostered a team approach that ensured all patients are assessed for immunizations.

A big milestone for FLHS, met in 2012, was reaching a goal of zero patient falls. Reporting patient falls was something FLHS chose as a CMS and Joint Commission non-core reporting measure for a number of years. A multidisciplinary team met regularly and analyzed how and when these falls took place, and then determined they had the ability to process changes. As a result of the analysis, a fall risk assessment was built into the EHR, which nurses completed for each patient. This new process included a point system based on a variety of factors, including: age, level of mobility impairment, mental status, sensory deficit, and neurological impairment. Every shift patients are re-evaluated, and additional interventions based on nursing assessments are suggested based on their score. Once falls decreased to an acceptable number, the charts were abstracted. An analysis found that the majority of the falls happened to patients who had just undergone total knee replacements. Falls also were more likely to occur on the second day of a patient's stay, when protocol dictates that pain medication is stopped in preparation for physical therapy.

Subsequently, the team conducting the analysis re-evaluated the process for dispensing pain medications and installed alarms on patient beds to alert the nursing call center when a patient attempted to leave their bed. Staff found these alerts helped prevent patient falls. By the end of 2012 the interventions worked so well that the quality team decided to stop reporting falls since they had consistently maintained zero patient falls, and picked a different measure to report. In 2012, the health system's longest fall-free stretch was 201 days. In 2013, they currently are at 126 days and counting as of press time.

Through the implementation of health IT, organizations like FLHS have the data to not only recognize problems like falls, but analyze why they happened.

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Article citation:
Cinquegrani, Kelly. "Small Hospital Uses Data for Big Improvements" *Journal of AHIMA* 84, no.9 (September 2013): 58-59.