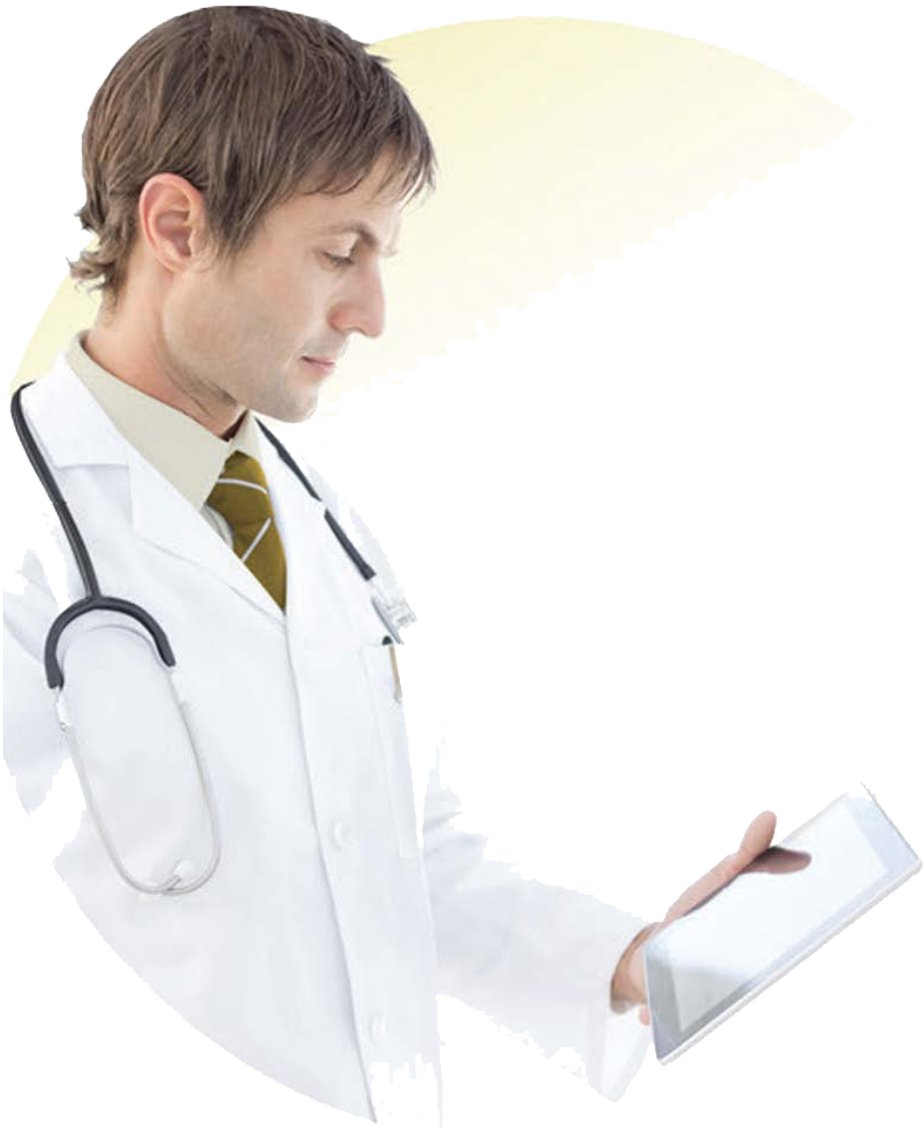

HIMSS Analytics

HIMSS Analytics Stage 7 Case Study

St. Elizabeth Healthcare

Profile

St. Elizabeth Healthcare operates six major facilities throughout Northern Kentucky and more than 110 primary care and specialty office locations in Kentucky, Indiana and Ohio. St. Elizabeth is sponsored by the Diocese of Covington and is a member of the Mayo Clinic Care Network. St. Elizabeth is a mission-based organization committed to improving the health of the communities it serves, providing more than $121 million in uncompensated care and benefit to the community in 2013. The organization employs 7,400 associates, has 1,200 licensed beds, and has an employed physician group with 314 physicians and 71 mid-level providers. For more information, visit www.stelizabeth.com. Stage 7 award was achieved on August 12, 2015.

The Challenge

Starting in 2005, the Chief Nursing Officer (CNO) decided that an electronic system was needed to streamline and standardize clinical documentation, and drive evidenced based practice through clinical decision support. During the search for an electronic health record (EHR), St. Elizabeth made the strategic decision to acquire two new hospitals and to start a hospital employed physician group. These decisions steered the EHR search from a clinical documentation system to an enterprise EHR. The search quickened when these decisions were made because the new hospitals being purchased needed to transition from their legacy systems to a St. Elizabeth provided EHR. The goal of the enterprise EHR was to standardize clinical, financial, and administrative processes across the expanding organization.

Implementation Overview

A multidisciplinary team consisting of clinicians and administrators was formed in 2007-2008 to review enterprise electronic health record vendors. After evaluating the prominent enterprise grade EHR's, the decision was made to move forward with Epic. In October of 2008, a contract was signed with Epic Systems to implement their EHR software. The EHR implementation kicked off in the fall of 2008 and Ambulatory sites began rolling out in January of 2010 with full practice management functionality. Hospital rollouts followed in April and October of 2010. The initial hospital rollouts included nursing clinical documentation via Optime, ASAP, and Stork, along with the implementation of ADT, clerk order entry, Willow, and Radiant. Device integration started at go live in one ICU and since has been rolled out to all ICU's, procedural areas, L&D and emergency rooms. CPOE was implemented in May of 2012 and advanced nursing documentation including BCMA and electronic care plans and patient education followed in November of 2013. Additional modules including Anesthesia, Beacon, Case Management, and Infection Control have been rolled out. Device integration has expanded to anesthesia machines, infusion pumps, and there are plans to integrate portable vital sign monitors, ventilators, and dialysis machines in 2016. The organization currently utilizes Cerner as its Laboratory Information System (LIS) and has plans to implement Epic Beaker in 2017.

Resulting Value / ROI

- Transcription has been reduced by approximately 69% since the implementation of computerized physician documentation. This reduction has decreased the costs affiliated with transcription services and the resource time to manage tracking of transcription signatures. Providers utilizing real time Epic documentation tools have provided more real time access to critical patient information for the entire healthcare team.
- A best practice alert (BPA) has been implemented to alert nurses if a patient has exceeded their 24 hour acetaminophen limit. This decision support has decreased the number of patients who have had their acetaminophen daily dose exceeded in half. The rates decreased from 0.85 events per 1,000 patient days prior to the alert to 0.4 events per 1,000 patient days post implementation.
- Decision support tools were utilized to decrease catheter associated urinary tract infections (CAUTI). These tools were utilized to guide appropriate ordering, promote regular assessment, prompt for timely removal, and guide aseptic techniques for insertion and continued use. Reporting tools were utilized to monitor compliance of staff utilizing documentation tools and to allow for monitoring. These tools have been instrumental in decreasing CAUTI rates from around 3.5 events per 1,000 catheter days prior to EHR implementation to approximately 0.8 events per 1,000 patient days.

- St. Elizabeth has been named a Top Performer on Key Quality Measures by the Joint Commission. The ability to achieve this distinction is largely due to utilization of the EHR. Decision support within the EHR promotes compliance with required documentation and evidenced based practice in support of required core measure requirements. Electronic documentation allows for concurrent reviews of charts instead of retrospective reviews, which allows the quality department to catch potential fall outs before they occur. The organization has moved from 70.37% compliance with VTE core measures in 2012 prior to CPOE to 99.4% compliance in 2015. This measures metrics have been advanced utilizing BPA's, order sets, concurrent reviews, and ongoing education.
- Utilizing an order set to encourage appropriate ordering of blood transfusions based on evidenced based guidelines, the average hemoglobin level transfused at decreased from approximately 8.1 g/dL to 7.3 g/dL in an 18 month time period after order set implementation and education. This resulted in an approximate 32% reduction in cost. Based on average adverse event data, this reduction resulted in 94 complications and 21 deaths avoided.
- Our patients are better connected to their healthcare providers and they have real time access to their health information through MyChart, Care Everywhere and electronic visits. St. Elizabeth has approximately 109,000 active MyChart users, which represents greater than 50% of patients served. The organization has performed 2,500 electronic visits. In July of 2015, the organization exchanged 14,000 records through Care Everywhere with 72 other health systems utilizing Epic.

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Lessons Learned

- Change Management- Developing a strong change management process with the various disciplines during go live and after is critical for success. During St. Elizabeth's implementation, many change management committees were developed that were influential in decision making during implementation and have continued as the ongoing decision making bodies as changes and enhancements are requested. These groups are also utilized to make decisions on and prioritize enhancements with upgrades. Example committees include the Nursing Informatics Committee, Medical Informatics Committee, Optime Workgroup, and Ambulatory EMR Committee.
- Retraining- End-users are only able to retain a certain amount of information during initial training, so only the most important information is trained initially. St. Elizabeth did not have a retraining initiative after go live and therefore many end-users and departments created their own workarounds. The organization would have benefited from a retraining to clarify workflows and documentation questions that came up during go live.
- On-going Communication- During go live, develop a communication strategy that is supported by all user groups. St. Elizabeth continuously struggles with how to deliver notifications, changes, and enhancements to the necessary user groups.
- Credentialed Training Program- A credential trainer or super-user program is critical for ongoing education. St. Elizabeth established a train the trainer credentialed trainer program with the initial go live and this program is relied on and a critical component for relaying information to nursing staff for upgrades, new applications, and continued technology implementations.