HIMSS Analytics

HIMSS Analytics Stage 7 Case Study

Beaumont Health System

Profile

General Beaumont Health System (BHS) is a three-hospital regional health system located in south eastern Michigan with 1,778 licensed beds, more than 20,200 employees and 3,100 physicians, including 553 employed physicians in the Beaumont Medical Group and more than 2,500 private-practice physicians. In addition to its hospitals in Royal Oak, Troy and Grosse Pointe, Beaumont has 54 community-based sites of care in the metropolitan Detroit area including multi-specialty medical centers, family practice and internal medicine practices, five nursing centers, home care services and hospice.

Beaumont Health System realized the importance of an Electronic Health Record during the mid-1980's, resulting in the implementation of Health Data System's Misys product. The transition from Misys to Epic began with Beaumont's 2006 rollout of Revenue Cycle. This was quickly followed in 2007 with the implementation of the first Ambulatory offices, the ASAP trackboard and the IP Willow Pharmacy module. In 2009 the rollout of Epic continued with the EC, Nursing Clinical Documentation, Radiant and IP Clinical Documentation, this also marks the end of Beaumont's transition away from Misys. Since 2010, Beaumont has continued to implement Epic modules and improve functionality including: CPOE, myBeaumont Chart, OpTime, Meaningful Use, Physician Documentation, Stork, BCMA, Dialysis, Care Everywhere, Anesthesia, Breast Milk Barcoding and Blood Product Matching. In 2011, Soft Lab Suite was also implemented and interfaced with Epic.

HIMSS Analytics EMR Adoption Model[SM] Stage 7 was awarded to Troy Beaumont Hospital and 144 Ambulatory clinics on November 11, 2014.

The Challenge

A corporate-wide initiative focused on providing more direct patient care while decreasing the amount of non-direct patient care. The hypothesis for the project was based on the premise that with a reduction in the physical therapists non-value added time, that BHS could create a new service for the patients called "mobility units." This service would provide patients with more intense therapy more frequently, and in a timelier manner; thereby creating high quality, high-value focused care to improve patient outcomes. The goal was to eliminate wasted time by the therapists and provide more direct patient care. The team realized that this goal could only be accomplished by driving clinical behavior with the EHR.

Implementation Overview

Physical and Occupational Therapy initially utilized a Kaizen approach for this project. Multi-disciplinary teams were formed to observe workflows of physicians, nurses, physical and occupational therapists associated with PT/OT patient care. The Kaizen process challenged these teams to look at what was currently in place and make improvements. As observed by the team, a number of online tools were already available to patient caregivers through the use of the EHR documentation flowsheets, notes, consult orders and a summary page, as well as discharge recommendations.

One of the programs implemented as a result of the Kaizen process was a hospital-wide mobility program which is a multi-disciplinary approach designed to assess the function of each patient and develop an individualized mobility plan leveraging the entire care team. The mobility program includes all of the adult ICUs and many of the specialty units. While the program is a collaborative multi-disciplinary approach, each unit must integrate unit specific needs and disciplines, focusing on how to link various workflow processes together. The entire process is enabled by the integrated EHR, as each of the disciplines documents electronically and communicates via a shared patient plan of care.

As part of implementing this program, the PT/OT team created a number of new online tools and processes aimed at improving communication, saving time and improving patient care. These include:

- Multi-disciplinary rounding tools developed and customized for specific patient populations to help determine appropriate care plans and better enable the documentation of patient progress
- Unit specific mobility templates built to facilitate multi-disciplinary communication
- Customized PT/OT Summary Report to reduce the time necessary to review patient's online charts before treatment.

In addition to new online tools, the following improvements were made to facilitate using the EHR to improve the mobility program and PT/OT staff productivity:

- Order and Order Set Revisions
- New Clinical documentation for assessments in documentation flowsheets and Smart Text
- Customized System Lists to better align the right therapist to the right treatment
- Clinical Decision Support including Best Practice Advisories and use of standing order inclusion/exclusion criteria
- Dashboard for rehabilitation residents to prioritize patients to treat and complete follow-up

Resulting Value / ROI

A number of metrics were chosen to monitor the effectiveness of the mobility program. These include the following:

- Time spent reviewing charts – There was a measured reduction of 5-15 minutes per chart reviewed, thus saving approximately 30 minutes of chart review time per therapist per day increasing the number of patients that can be seen each day.

- Missed treatments – Over a two year period, the percentage of missed treatments dropped steadily from 75% to 13%.

- PT/OT productivity – There has been up to a 20% increase in the number of patients seen per day which translates to an increase in the billed units per therapist per 8 hour day resulting in increased revenue generated by the PT/OT department

- LOS – There has been a reduction in the average ICU LOS of 0.8 days/month per patient, average total LOS for the ICUs has decreased by 3.2 days/month per patient. In the MPCU there has been a decrease of .5 days/month per patient with the overall LOS decreasing by almost 2 days/month per patient.

Lessons Learned

- Include IT Technical team members in Kaizen observations so the right team members are available to work with the team when planning changes and improvements.

- Include all potential stakeholders when making changes so the downstream effect of the changes is known in advance. A robust communication plan must be initiated when making changes to the HER.

- Pilot changes with a multi-disciplinary group. This allows for revisions to occur without impacting a large number of staff.

- When a multi-faceted solution is required, incorporate all changes at the same time. This allows for better scope and requirements documentation to better define the request and EHR solution.

- After a successful pilot, implement using a big bang approach. At times the team allowed for a slow roll-out of changes to occur which resulted in inconsistent workflows. A more defined implementation, incorporating multiple changes would have resolved this issue.