HiMSS *Analytics*

HIMSS Analytics Stage 7 Case Study

Mercy Health

Profile

Mercy Health is a large health care system in Ohio and Kentucky with 23 acute care facilities, 259 ambulatory practices, 32,172 employees and a heath insurance plan covering 272, 642 lives. Mercy Health's mission is to extend the healing ministry of Jesus by improving the health of our communities with an emphasis on people who are poor and underserved. Mercy Health provides over one million dollars per day in charity care and has implemented a comprehensive plan to utilize technology to improve the delivery and outcomes of clinical care. As a health care system, we are on a single instance of an integrated Electronic Health Record (EHR) - managed through a centrally located operational and clinical team including physicians, nurses and pharmacists. All 259 of Mercy Health's ambulatory sites and four of its hospitals: Mercy Health- West Hospital, The Jewish Hospital – Mercy Health, Mercy Memorial Hospital, and Mercy Defiance Hospital achieved HIMSS Analytics EMR Adoption Model^{sm} Stage 7 on October, 16, 2014.

The Implementation

As a large health care system, Mercy Health's strategic goals included standardizing clinical and IT workflows throughout the enterprise. CarePATH (Patient-centered Access to Team-based Healthcare) is Mercy Health's branding of its comprehensive, safety-oriented, patient-centered clinical information system.

Mercy Health identified multiple objectives for EHR implementation including:

- Integrate all providers and the communities we serve
- Actively navigate the community seamlessly through the continuum of care
- Create a culture of innovation that is human centered, focusing on care and wellness
- Deliver a system of care that is truly centered on the communities health, life and spiritual goals which empowers them to achieve their optimal health status
- Deliver a health system that enables the delivery of a comprehensive personal health record for those we serve where ever care is delivered

Eighteen of the 23 acute care facilities and approximately 1500 ambulatory providers are currently live on a single EHR instance. Clinical content including a medication formulary and order sets are standardized throughout the enterprise.

An Opportunity

Mercy's incident reporting system identified numerous cases of hypoglycemia for inpatients. While insulin was incorporated into order sets and a standard basal bolus insulin orderset was developed, monitoring and treatment for hypoglycemia varied.
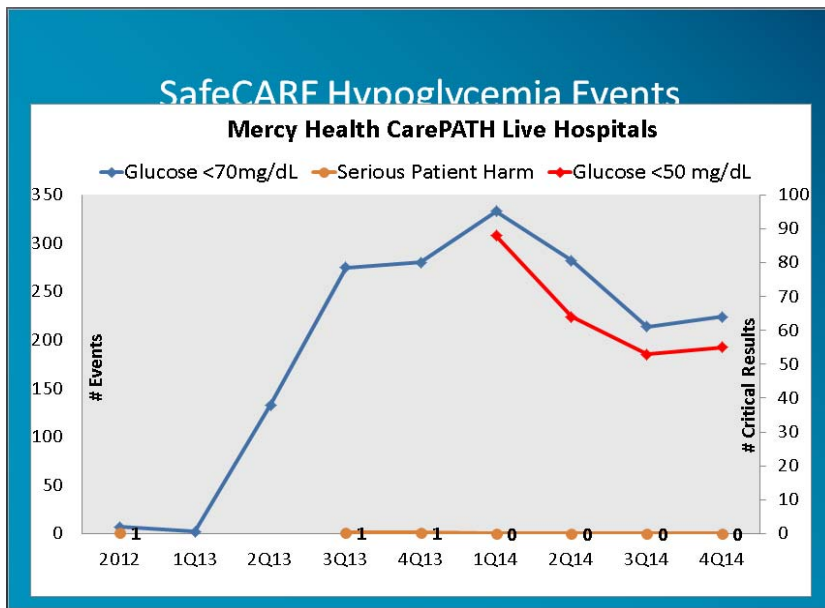
The Improvement Overview

As part of a continuous improvement process program, a multidisciplinary team was formed composed of physicians, nurses and pharmacists to standardize the monitoring of patients on insulin and the treatment and monitoring of patients after a hypoglycemic episode.

Disparate facility protocols for the management of hypoglycemia were standardized and incorporated into ordersets with insulin.   In addition, if insulin was ordered as a "one off" order without the appropriate monitoring and treatment parameters, a best practice alert was developed to ensure the hypoglycemic orders are placed on the patient.

This was just one of many examples of how Mercy Health's resources and expertise can be leveraged throughout the enterprise.   Clinical decision support is continuously monitored and modified by numerous feedback mechanisms to improve the care provided to patients.

Resulting Value / ROI

Mercy Health has seen a consistent reduction in hypoglycemia events across acute care facilities from the first quarter to the fourth quarter of 2014 including:

- A 10% reduction in hypoglycemia events (blood glucose level <70 mg/dl)
- A 14% reduction in critical hypoglycemia events (blood glucose level <50 mg/dl)
- A 31% reduction in multiple critical hypoglycemia events (≥ 3 blood glucose levels <70 mg/dl)
- A 34% reduction in multiple critical hypoglycemia events (≥ 3 blood glucose levels <50 mg/dl)
- A 5% increase in number of glucose results (due to increased compliance with monitoring)

% Patients w Multiple Blood Glucose < 70 mg/dL (Actual)
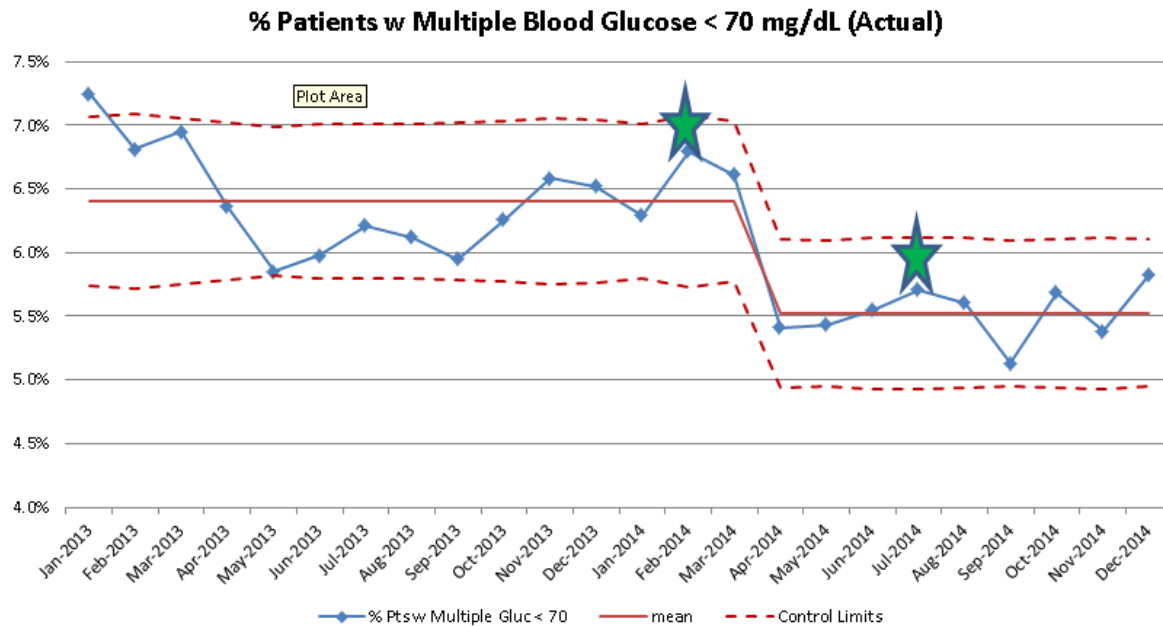
Additional Benefits

Overall, Mercy Health has documented significant cost reductions and efficiency savings with the implementation of its EHR.   In 2014 alone, over 62 million dollars in savings have been documented in the following areas:

- Government incentives
- Reduced transcription costs
- Standardized medication formulary management
- Revenue cycle improvements
- Reduced paper and postage costs
- Reduced medical records costs

In addition to costs, both satisfaction and quality of care have improved.   In reviewing HCAHPS overall rating of care for 13 acute care facilities one year prior to the EHR implementation and one year post go-live, significant improvements were seen.
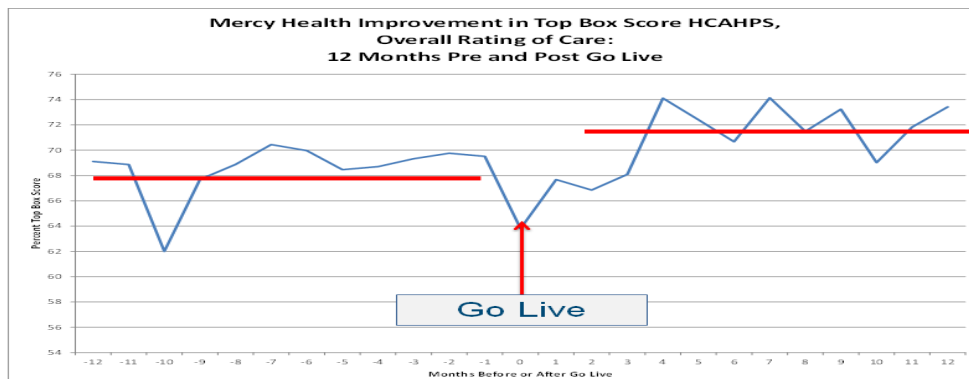
Mercy has leveraged communication with the patient as one of the first systems to implement Epic Bedside. Results from a pilot study demonstrated that Epic Bedside was associated with improvements in patient-reported satisfaction with nurse and physician communication, as well as with patients' understanding of their current medications. Interestingly, patients appreciated the opportunity to learn more about their clinical care team. Communication with patients is also enhanced with over 200,000 active MyChart accounts, growing at a rate of approximately 5,000 per month.

Lessons Learned

The governance structure supporting a standardized operations and clinical content team is critical for obtaining success with an EHR. Implementation of a continuous quality improvement process and streamlining communication between front line staff and the CarePATH team ensures that problems are addressed in a timely manner with improved quality and patient safety.

"A lot of great teamwork helped us achieve this important milestone. We have a dedicated, talented group of individuals who put a lot of energy into this effort."

      REBECCA SYKES
      CIO & Senior Vice President, Resource Management
      Mercy Health