HiMSS *Analytics*

HIMSS Analytics Stage 7 Case Study

**Ochsner Medical Center-North Shore**

Profile

Ochsner Health System (OHS) is one of the largest independent academic health systems in the United States with 11 hospitals owned and managed, and 15 affiliated hospitals across the greater New Orleans, Baton Rouge, North Shore, Mississippi and Bayou Regions. In addition to this, OHS has 40+ health centers throughout south Louisiana and employs over 950+ physicians in over 80 medical specialties and subspecialties, as well as contracting with 1,600 active community physicians.

Ochsner Medical Center North Shore (OMC-NS) specifically is a 165 bed modern full-service regional medical center in Slidell, Louisiana with a network of over 300 physicians and specialists who deliver integrated care. It features North Shore's only Pediatric Intensive Care Unit (PICU), maternity care, open-heart surgery, 24-hour advanced emergency care and rehabilitation center equipped with Louisiana's only Lokomat robotic treadmill. OMC-NS received the HIMSS Analytics EMR Adoption Model[sm] Stage 7 on November 6, 2014 and at that time was the only hospital to receive this designation across Louisiana, Mississippi, Alabama, Arkansas and Tennessee.

The Challenge

Ochsner Health Systems was founded in 1942 and has a long, rich history embedded around its mission and vision to serve, heal, lead, educate and innovate. It is one of the largest independent academic health systems in the United States. OHS has vowed through its vision to be a global medical and academic leader who will save and change lives, as well as shape the future of healthcare through their integrated health system, fueled by the passion and strength of our diversified team of physicians and employees. We realized that none of this could be done without continuously growing our information services and technology departments as the technology world advanced. We had no standardized or best practice content across OHS, and recognized that what software and applications we did have needed to be updated and advanced. OHS needed one highly integrated, standardized EMR across the entire system to support and meet the rapidly evolving needs in healthcare. That being said, we also needed an EMR that supported the unique workflows of our many specialties, and one that could be enhanced as needed for different specialties and departments. In addition, we needed an EMR to assist us in more efficiently integrating with community and affiliated physicians to manage entire patient populations. All of this needed to be done not only to support our mission and vision, and standardize care across our system, but also to improve end-user and patient experience, quality of patient care, and help meet meaningful use incentives.
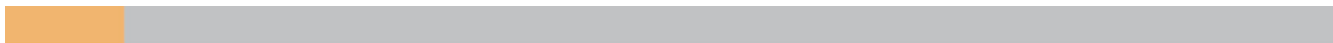
Implementation Overview

Ochsner Health System brought together a multidisciplinary team of information services and technology staff in 2008 to begin the review and selection process of electronic medical record vendors. In 2010, the decision was to contract with and implement Epic as our EMR system. OHS decided to phase out implementation based on hospital regions in order to enable sufficient and proper support during go live and implementation periods. We took a big bang approach during each facility implementation, and formal kick-off for the overall project began in October 2010. The North shore region went live first and and formalized training began in October 2011. All North shore clinics went live in December 2011, followed by the entire OMC-NS hospital one month later in January 2012. This included device integration in all critical care areas including ED, ICU, PACU, and OR, as well as CPOE and clinical documentation. We also pushed out Afga PACS, Pyxis, and CVIS, a home grown cardiology procedure documentation system, at go live. OMC-NS is interfaced with numerous other applications including RALS, Soft lab, Progeny, Links, GE Viewpoint, Magview mammography, and multiple procedural area interfaces. Our institution is also live with multiple health information exchange applications including Epic Care Everywhere, Ochsner Community Connect, Surescripts HISP, EpicCare Link, and My Chart Patient Portal.

Resulting Value / ROI

- Bar Code Medication Administration for medications, blood products, and breast milk:
    - Through the closed loop bar code scanning process that Epic ensures, OMC-NS has been able to achieve BCMA percentages over 95 % for medications and patients. This greatly increases patient safety by decreasing human errors and medication administration errors. In addition, we are now better able to track and run reports daily if needed on key metrics such as overrides, medications that are not scanning, narcotics pulled and associated discrepancies.

- Medical Device Integration:
    - We have greatly reduced the amount of time nursing and other clinical staff such as patient care techs and respiratory therapists spend on manually entering in data by having data from many o f our bedside medical devices directly interface into the EMR. This includes all hemodynamic monitors in our critical care areas, ventilators , as well as glucometer and ISTAT data. This interfacing not only improves the accuracy of the data in the EMR by eliminating manual transcription errors, but also ensures quicker clinical decision support by having real-time data available.

- Increased patient access to their medical information as well as richer, more advanced information sharing via My Ochsner patient portal :
  - My Ochsner patient portal not only provides patient's access to pertinent diagnostic studies, notes, and visits, but also enhances and promotes communication between patients, doctors, and other clinicians.
  - OHS has even further enhanced the patient portal by becoming the first Epic System client to successfully integrate the new Apple HealthKit into its EMR. Now it is easier than ever for patient's clinical data such as heart rate and blood pressure to be uploaded and integrated into their patient record at the physicians recommendations. This ultimately drives a dramatic and positive impact on patient care and satisfaction by enhancing provider and patient access, which increases adoption by patients and then in turn, providers.

- Integration and use of the EMR to impact quality outcomes:
  - Effectively using Epic tremendously helped OMC-NS to promote the elimination of Catheter Acquired Urinary Tract Infections (CAUTI). OMC-NS had a CAUTI Rate of 0.92 for 2013 and wanted to focus on streamlining workflows to improve the rate. New processes were implemented, and new workflows created in our EMR to systematically review orders for insertion, duration, and necessity of indwelling catheters. Order sets were enhanced in EPIC for placement and removal of catheters with stipulations for physicians to monitor, cancel, or alter orders. In addition to this, our Infection Control Preventionist (ICP) rounds daily, monitors daily labs, and collects data for monthly reporting. Flow sheets for documentation also allow staff and physicians to accurately monitor patient's intake and output, need for continuing foley catheter, and the patient's overall progress. Finally, best practice alerts remind physicians of timeliness of catheter removal. The outcome of all of these interventions, along with end user education resulted in a decrease in our CAUTI rates in the second half of 2013, and **zero** CAUTIs in 2014.

  - Integration and effective use of the EMR has improved our ability to more rapidly identify the early stages of patient deterioration, intervene, and ultimately decrease our number of codes. Clinical staff needed more queues to recognize early stages of patient deterioration. Nurses received targeted education on how to best use Epic to identify these early changes in patient conditions. By teaching Epic system navigation, the activation of the Rapid Response Team (RRT) happened faster, which can ultimately improve patient outcomes. Education focused primarily on how to view real time data such as vital signs and abnormal labs. Report education helped the staff recognize trends in patient data via graphs and lists to recognize changes quickly. Additionally, nurses received additional focused training on critical value and abnormal icon identification. As an outcome of these interventions, OMC-NS showed an overall decrease in the number of codes outside of the ICU. In 2013, 48 codes were completed outside of the ICU compared to 38 codes in 2014, yielding a 21% decrease in codes outside of the ICU.

- After deterioration is recognized and the patient is transferred to ICU, our eICU program has a tremendous impact on quality outcomes and the patient experience. Not only does the eICU program provide patients with state of the art monitoring and care 24 hours a day 7 days a week, it gives our patients and their families peace of mind and virtual face time with their doctors at the touch of a button. eICU at OMC-NS is powered by Phillips eICU technology and is staffed with certified critical care nurses and intensivists. The eICU staff assists the onsite staff with an "extra set of eyes" and availability with the touch of a button. The EICU staff also assists ICU staff with real time code documentation in Epic and reminds the code staff what medications and interventions are due during the stressful code event.

  The outcomes of using the eICU at OMC-NS directly assisted in saving lives, over 150 at OMC-NS alone. It was also instrumental in avoiding 7,455 ICU days at OMC-NS and helped to eliminate Ventilator Acquired Pneumonia system wide. This was achieved through enhanced communication between providers, patients and families; as well as usage of analytics and best practice warnings.

- Achieving Meaningful Use Stage 2:
  - Epic helped OMC-NS to become the first OHS system hospital to achieve Meaningful Use Stage 2 by streamlining processes and allowing us to meet all of the required measures. Transitions of care created a struggle for OMC-NS as it did for most of the country.
    Aware of end user struggles with this measure, as well as the technical aspect of sending summaries of care electronically, a multi-disciplinary team was created to focus on this area. The follow up activity in Epic was moved to its own section in the physician discharge navigator, and physicians were educated on the requirement and new workflow. Nurses and clinical staff received education on the correct transition of care workflow and how they could help complete the necessary requirements. OMC-NS facility was able to achieve the percentage required for transitions of care, and ultimately achieve Meaningful Use Stage 2 status.

Lessons Learned

- OHS provider and administrative leader buy-in was very important throughout the course of the project. These were key players in helping set the tone for the very large change that we were undergoing. Our change management methodology was followed rigorously, which helped gain buy-in from everyone from the executive leadership teams to the front-line staff.

- Super user utilization at go live and ongoing is both instrumental and required for successful implementation and ongoing support. Super Users as OMC-NS are trained in advanced nursing functions as well as physician workflows to be that first line of support for our clinical users. Super users should always have a clear role, and are instrumental in educating their staff on continual updates, changes, and Epic Upgrades. Super User participation from every department is key to the success of Epic utilization at OMC-NS.

- Mandatory system training was critical to our success. All users had to attend in person training prior to gaining Epic access. This was strictly enforced by leadership and administration.

"Receiving the HIMSS Stage 7 Designation is an incredible accomplishment and one that showcases our dedication to creating a seamless patient experience here at Ochsner. This recognition speaks directly to three core components of our mission: to lead, educate, and innovate. Through the hard work and dedication of our team, we have reached a level of data continuity and accessibility that continues to transform the healthcare industry."
Michael Hulefeld

Executive Vice President/COO

Ochsner Health System