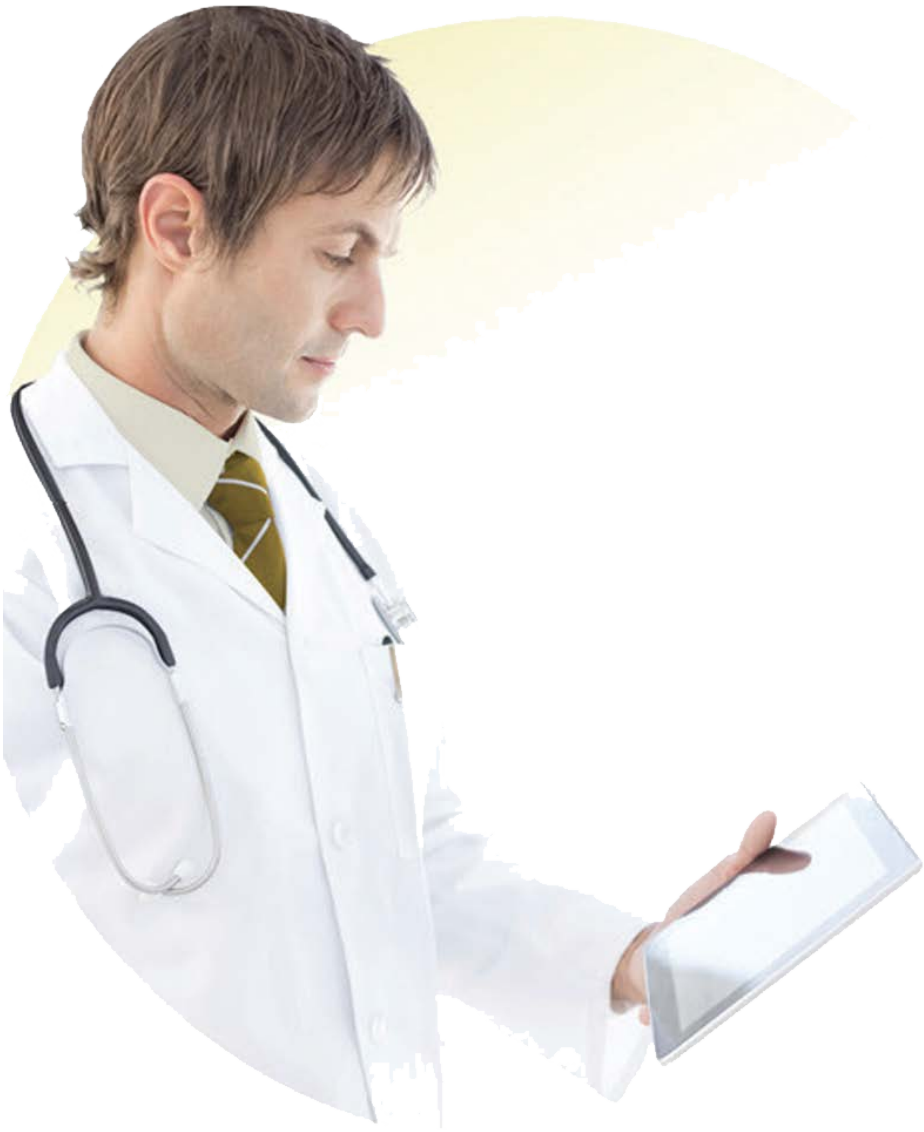

HIMSS Analytics

HIMSS Analytics Stage 7 Case Study

Community Healthcare System

Profile

Community Healthcare System (CHS) is comprised of three not-for-profit hospitals in Northwest Indiana: Community Hospital in Munster, St. Catherine Hospital in East Chicago and St. Mary Medical Center in Hobart employing 6582 healthcare providers. CHS is an 875-bed system with 40,477 annual discharges, 212,579 patient days, 556,821 outpatient visits and 131,582 ED visits making CHS the one of the busiest systems in Northwest Indiana. The CHS vast network of care locations includes Hartsfield Village, a Continuing Care Retirement Community in Munster, outpatient, physician practices, behavioral health, occupational health, home care, a medically-based fitness center, cancer research foundation, cancer support center surgical and rehabilitation centers. Community Healthcare System hospitals are regional leaders in orthopedics, cardiac cancer care, women's health services and bariatric medicine, and offers a broad range of healthcare services. Organizationally, CHS has been highly recognized for quality care and acknowledged for meeting the highest healthcare standards in the nation by The Joint Commission (TJC) and has been ranked among the top 1% in the nation for overall clinical excellence. CHS supports the area's largest cancer treatment and research programs, which is linked to the National Cancer Institute and major research cooperatives around the globe.

The Challenge

On April 28, 2014, a middle aged male walked into the Emergency Department of Community Hospital with typical symptoms of a respiratory infection including cough, fevers, and fatigue. He was evaluated and admitted to the hospital with respiratory isolation precautions and a presumptive diagnosis of bacterial pneumonia. The next day while being evaluated by an infectious disease specialist, there was a suspicion for Middle East Respiratory Syndrome (MERS), a new viral pathogen not yet seen in the United States. Within 48 hours, the Indiana State Department of Health (ISDH) had a possible positive diagnosis in lab testing and the Centers for Disease Control and Prevention (CDC) confirmed the positive finding the next afternoon. The CDC held a national news conference confirming their findings within an hour of their confirmatory testing.

In the 16 hours between the possible positive lab testing by the ISDH and the CDC confirmation, we had to identify every hospital staff member, clinician, visitor, patient and EMS personnel that might have been exposed to this highly contagious virus with a presumed mortality rate of roughly 30%. The patient had traveled throughout the hospital including ED registration, ED waiting room, ED treatment room, radiology, multiple elevators and onto an in-patient nursing unit. When we were informed of the positive lab confirmation, we had one hour to notify every individual on this list, pull them from active duty, immediately replace each one in a mission critical role and others within an acceptable time frame. We had to continue to deliver on our Mission to provide highest level of quality healthcare to our community. Through the utilization of multiple technologies, we were able to identify 53 employees that were exposed to the patient before additional CDC requested isolation protocols were initiated.

Great care was placed on crafting appropriate messages to our employees, physicians, patients, media and the community. Providing credible, timely information to reduce fear and misinformation to all audiences was critical. Immediate steps were taken to develop messages and provide access to information in a variety of ways. We quickly discovered that the amount of phone calls and inquiries from both internal and external sources was overwhelming. Hot lines to receive phone calls were set up in conjunction with the ISDH as the hospital's operators were unable to field the volume of calls received. During the first 48 hour period, our hospital operators processed more than 300 calls and inquiries. We had another 300 calls placed in the external media line that we set-up. This call volume does not include all the calls make to the ISDH.

The next couple of weeks of intense local, regional and national media attention, on-site CDC monitors and advisors, and resource management via our Incident Command Center created a high degree of distractions that could have led to an increased level of errors, delays in care and nosocomial spread of the virus. We also had to very carefully protect the confidentiality of the individual with the MERS virus while under a high level of public scrutiny and concern. Our ability to rely on the workflows and policies we built and solidified during our clinical transformation across the system with the implementation of EPIC, prevented us from wavering in our Mission.
CHS was able to safely provide care and fulfill the mission without any safety lapses or delays even with a large contingency of staff on leave for 14 days while they were monitored daily for signs of MERS. With the integrated use of technology, swift and quick action was taken to identify, contain and address the needs of the organization and the community. No other individuals contracted the MERS Virus from CHS.

Implementation Overview

In July of 2009, we started our journey towards an integrated EHR to tie together clinical, financial and operational objectives. We went live at each of our three hospitals in 2011 in a phased approach with full documentation and rolled out CPOE 12 months later. Various module implementation and system optimization have been ongoing with strong executive support. As we have become virtually paperless, the EHR functions across the continuum of clinical care provided with almost every clinical staff member entering information into the electronic patient record. This makes it easy to track who has been providing care to which patients and when.

During product selection for call-light/nurse-call system, we were specific in the requirements for clinical integration, enhanced patient safety and improved communication as goals. In addition to implementing a traditional nurse-call system, CHS's goal was to include enhanced technology integration which included hand held phones, staff tracking and integration with clinical documentation in Epic. Multiple vendors were evaluated, CHS chose Rauland Technologies for the nurse-call system, integrated with Ascom wireless phones and Versus GPS tracer tag technology. One of the benefits of the Rauland's call-light system was not solely to improve direct patient care, but to have supporting documentation through the electronic system to validate how much time was having to be spent in the patient's rooms. This advanced technology allowed us to "right-size" staffing measures to reduce waste and to make sure we had the correct amount of staffing mix.

Goals for the integration of these technologies are as follows: Call-light system integration
1. Provide immediate notification to the "mobile" nursing staff.
2. Provided concurrent and retrospective data to allow for utilization of statistics.
3. Long range plan for future integration with ongoing development and technology to enhance care for both immediate and future needs.
4. Allowed a stronger connection between current personal devices (ASCOM/pagers) and patient care.
5. Provided evidence in length of time that call-lights were on without being answered in effort to allow staff to see and improve their performance.
6. For improved security, we also installed video cameras in the public areas of the Emergency Department and many hallways on our inpatient floors. This allowed our security team to oversee the safety of staff and patients at all times.

Resulting Value / ROI

Once the employees were identified who were exposed to the MERS virus, management's primary focus was to insure the health and safety of the staff, patients, visitors and the community at large. It was imperative all individuals exposed were quickly and accurately identified and communicated with to elevate questions and mitigate fears. A comprehensive plan was provided to the exposed individuals and an initial plan for their safety was provided. Once the employees were communicated with, they had the initial set of blood work done to test for the virus and mandatory two week isolation period began to isolate those employees to decrease any exposure of the virus to others. Since this was the first case in the United States and limited data was available from the World Health Organization, the CDC was unsure of the risks of exposure. So the hospital acted with an abundance of caution in the approach to the MERS CO-V virus. Utilizing CHS's technology investments, CHS was able to identify all exposed employees and reduce fear of individuals who were concerned they had been exposed. CHS followed the CDC and ISDH guidelines for persons at highest risk of developing infections. Those with close contact of the case where defined as any person who provided care for the patient including a healthcare provider not wearing recommended personal protective equipment, family member or someone with similarly close physical contact, any person who stayed at the same place (e.g. lived, visited) with the patient while the patient was ill.

The following was how CHS leveraged these technologies:

1. EPIC – Utilizing our Electronic Medical Record, reports were utilized to determine who documented on the patient before the isolation protocol occurred.
2. Rauland/Versus/ASCOM – Utilizing the nurse call system and tracer logs, CHS was able to determine the staff who came in contact with the patient, the time of the exposure and the job classification of the employee.
3. Security Cameras – Utilizing the security cameras, CHS had the ability to identify staff who entered the room as well as visitors or other patients that had been exposed to the patient while waiting prior to treatment. Active surveillance determined no visitor or other patients were exposed to the virus while waiting.
4. CHS determined the no patients or visitors were exposed to the MERS Co-V virus. However, it was determined 53 employees were exposed prior to CDC enhanced isolation request. .
5. Testing for the employees and family of the patient was implemented as defined by the CDC and the ISDH.
6. No visitors or other patients were exposed during the patient's stay.

Lessons Learned

Top 3-5 things your organization learned over the course of the implementation process (from vendor selection through post implementation).

1. The CDC was able to get valuable information on exposure rates to document and learn the risks of transmitting MERS between patients. Since the World Health Organization had limited data, this one case through the technology tracking abilities implemented, provided data that may have taken 100s of cases to identify

2. Hospital staff want to do whatever they can to improve patient care and that includes using modern technology. Once staff overcame their initial fears, they have adopted to an EMR completely. This is evidenced by the fact that it took us only twenty-four (24) hours before we switched from an implementation process to an optimization one. Roughly three (3) years after transitioning to an EMR, staff went from a complete paper-based EMR to an electronic one and felt delayed when an unplanned downtime required a temporary switch back to paper.

3. It is important for staff to remain current on technological advances in healthcare so they could determine how best it can be used to enhance patient care. Staff adopt to new technology better when they are involved in the selection and implementation. They want to make sure that it will enhance patient care and not solely change it.

4. Communication – Integration of a communication system, i.e. telephones, is important and essential to handle large volumes of calls. Long range plan for integration of telephone services system-wide was implemented following this incident. Consistent feedback to stakeholders is necessary to reduce gossip and reduce fear

5. Vendor support is essential to managing a crisis especially with usage and optimization of technology available as well as rapid changes that need to occur especially in an EMR.

How an Indiana hospital got it right when MERS showed up at the door – Washington Post