HIMSS Analytics

HIMSS Analytics Stage 7 Case Study

Nebraska Medicine

Profile

Nebraska Medicine includes two acute care hospitals: Nebraska Medical Center, a 621 bed acute-care facility, the state's largest and highest-rated hospital, and Nebraska Medicine – Bellevue, a 55 bed full-service hospital. The hospitals serve patients from all 50 states and more than 50 countries internationally.

U.S. News & World Report has consistently named Nebraska Medicine the top hospital in the state and Becker's Hospital Review recognizes Nebraska Medicine as one of the 100 Best Hospitals in America. Nebraska Medicine has an international reputation for providing solid organ and bone marrow transplantation services and houses one of the nation's three biocontainment units that have successfully treated patients with Ebola and is capable of caring for anyone exposed to a contagious and dangerous disease. Nebraska Medicine is designated as a Magnet hospital for nursing excellence and in December 2015 achieved HIMSS Analytics EMR Adoption Model™ Stage 7 for both Nebraska Medicine hospital locations.

The Challenge

Nebraska Medicine has been a national and international leader in preparing for bioterrorism. Nebraska Medicine houses one of three of the nation's biocontainment units, which opened in 2005. When the most severe outbreak of Ebola in history erupted in Africa in 2014, Nebraska Medicine became a world leader in treating patients infected with the Ebola virus. A natural evolution of this extraordinary patient care, the world looked to Nebraska Medicine to lead the way in both screening and prevention of Ebola transmission in the U.S. Nebraska Medicine was faced with a challenge to not only determine the appropriate clinical care for acute Ebola patients, but to ensure the biocontainment unit patients received the same safety measures and standards of care as all other patients treated by the organization.

Implementation Overview

Nebraska Medicine leveraged tools within the electronic health record to provide comprehensive screening at all access points across the care continuum and to document patient care being provided to hospitalized Ebola patients within the biocontainment care area, including medication administration and barcode scanning. Despite care providers being clothed in protective gear from head to toe, processes were developed to ensure EMR and medication safety technology was integrated into the bedside care process. These tools and processes can now be applied to other contagious diseases, including the highly infectious Middle East Respiratory Syndrome virus (MERS).

Additionally, in August 2014, shortly after the Ebola epidemic became known, Nebraska Medicine quickly introduced a screening algorithm in its emergency department. Leaders also identified a need for screening and applying protective measures across all access points to clinical services, including scheduled inpatient admissions and ambulatory visits and procedures; by October 2014, an electronic version of the screening process was developed and implemented organization-wide. The electronic health record includes a "smartform" that is adaptable for screening in corresponding patient care areas and provides decision support, instructing caregivers which post-screening actions to take. Best practice advisories were developed to ensure appropriate providers are notified following the screening and to alert providers if travel risk factors were identified and isolation precautions should be immediately adopted.

This initiative required close coordination between information technology analysts; operational leaders across multiple patient care areas; laboratory experts; training resources; report writers; and infection control and infectious disease clinical experts.

As the Ebola epidemic continued, an additional need was identified: conducting surveillance for community members and/or professional caregivers who may have been exposed to the contagious Ebola virus. With collaboration from local health departments, Nebraska Medicine created a temperature monitoring application which allowed a care team to easily record and monitor temperature and symptoms for exposed individuals.

Resulting Value / ROI

The successful development of protocols and practices in providing care to Ebola patients and screening patients for Ebola led to national prominence and grant funding for Nebraska Medicine. The return on investment includes better preparedness for future events, for Nebraska Medicine and the nation.

- National Ebola Training & Education Center (1 of 3)
- Regional Ebola Treatment Center (1of 10)
- Partnership with CDC and Emory University beginning in December 2014 to train U.S. hospitals, health departments and health care providers
- Partnership with CDC to provide rapid Ebola treatment center site visits/assessments to various U.S. hospitals (55 as of January 2016)
- Creation of Nebraska's Bio-Safety Level-3 laboratory on campus
- Recognized as a global resource for information, training and research
- Development of The Nebraska Ebola Method, available on Apple iTunes U

Lessons Learned

- Develop standard process to ensure technology is utilized at the bedside for all patients, even when providers are clothed in protective gear
- Develop a robust travel screen and algorithm that can easily be modified and adapted for current disease profiles
- Ensure resources are available to be able to quickly modify the "smartform" when necessary
- Identify an individual to assume leadership and act as the liaison between operational leaders, clinical experts and the information technology analysts to ensure workflow and dataflow alignment
- Include system and infection control trainers as well as report writers in project planning