sentara nurse

Nurse-Driven Evidence Based Practice in Action:

Creating an Ebola Hemorrhagic Fever Screening Tool

An Emergency Response to Emerging Pathogens

Andrea L. Helmbach, MSN, RN and Kevin M. Bussiere, RN, AS, CIC

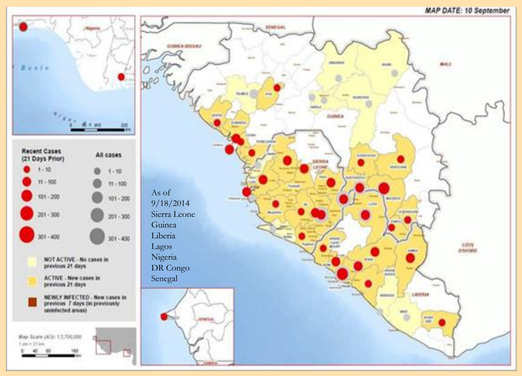
SENTARA®

BACKGROUND

Ebola virus disease (EVD), undiagnosed, has a high mortality rate. The emerging Ebola crisis in Western African countries beginning in March 2014 became a global reality for Northern Virginia as local residents freely traveled between the United States and affected countries, heightening the potential for exposure to the population at-large.

In response to this potential risk, how we prepare staff to safely screen, detect, and initiate a medical response while dealing with the fear and chaos associated with encountering this disease became a reality in July 2014 at Sentara Lake Ridge Emergency Department.

This poster documents the nurse-led response by Andrea Helmbach, MSN, RN in close collaboration with her colleague, Kevin Bussiere, RN, as they created and implemented an EVD screening algorithm, which was validated by the Centers for Disease Control and Prevention (CDC) and ultimately endorsed and adopted system wide.



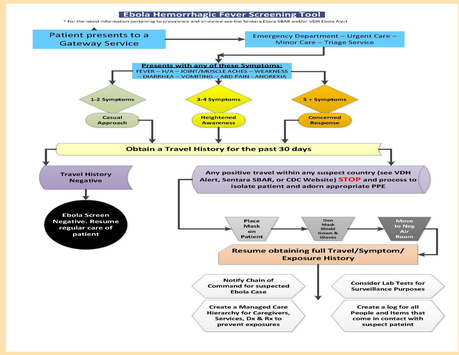
PROBLEM

Andrea received an inquiry from the Administrator on-call when staff encountered a symptomatic patient with a differential diagnosis of Ebola who had recently traveled to a Western African nation experiencing active Ebola. The request for support and direction from Infection Control and Prevention caused Andrea to quickly realize there were no real protocols or guidelines from the CDC or from professional organizations such as Association for Professionals in Infection Control (APIC) to follow regarding screening, identification, and management of these patients.

METHODOLOGY

- Risk-stratification of patients based on presenting phase of illness
- Significant concepts:
  - Identification of gateway services as possible portals for entry
  - Establish triage process including escalation for suspected and confirmed EVD patients
  - Development of Travel History Question in electronic medical record (EMR) for all gateway services.
  - Development of "buddy system" for delivery and management of healthcare
  - Creation of exposure log for monitoring by Virginia Health Department
  - Development of flow diagram to prevent direct and indirect exposures.

INITIAL SCREENING TOOL



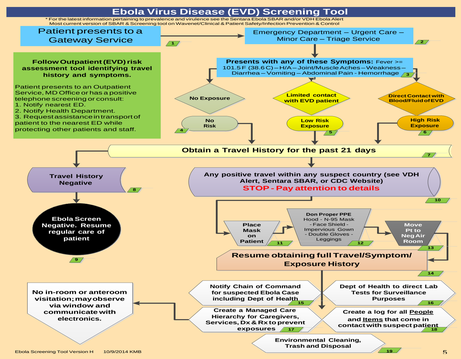
It was believed the ability to risk-stratify patients based on the presenting phase of their illness would assist clinicians to more effectively manage the care of these patients and to improve their outcomes. This three level approach was adopted for management of this and future potential cases:

- Casual approach: 1-2 symptoms
- Heightened awareness: 3-4 symptoms
- Concerned response: 4+ symptoms

This intentional approach would also prove effective in the rule-out process for any emerging infectious pathogen in the future.

CURRENT SCREENING TOOL

Direction and protocols from the CDC lagged for 1-2 months. When their response was released, the Sentara team aligned their practices with the government agency with few changes necessary to the existing algorithm. Sentara Healthcare assumed control of this project to standardize care and minimize variation in practice within a short period after the algorithm was activated. Sentara set up a multidisciplinary system wide Ebola Taskforce and identified two facilities for focused care of the Ebola patient. Teams from each facility received intensive training in the management of the Ebola patient.

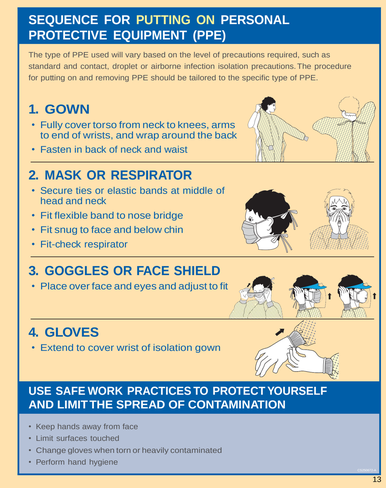


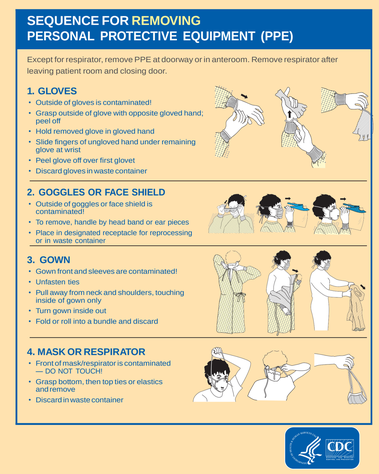
RESULTS

The algorithm is a living document regarding the unfolding knowledge that was gleaned over time. Recognition of unintentional exposure due to processes caused continuous revision of the algorithm. This tool remains essentially unchanged with only minor changes in terminology regarding protective equipment and countries involved in the outbreak.

RESULT KEY CONCEPTS

- Information from Division of Consolidated Laboratory Services (DCLS) regional lab/Virginia Department of Health/CDC website updates.
- Development of toolbox for accessing information
- Waste management and disposition of expired remains
- Close collaboration with local Department of Health
- Collaboration with Emergency Response Teams from Prince William County/fire, police, VDH, local military facilities-County preparing for coordinated efforts with all local hospitals
- Presented to SHIP-C (governing body for Sentara for Infection control) for review and approved for system.
- Developed education plan based on algorithm and implemented out of need to reduce risk and fear of staff, best practice, due to lack of guidance. Adopted as system wide approach on the spot.
- As a recognized regional leader in stemming the risk associated with EVD, participated in first regional drill designed to address preparedness of in our county in conjunction with VA Health Department
- Changed the way we prepare and treat
- New awareness of the importance of practicing at the top of your practice.





CONCLUSION

This experience is best identified as a nurse-driven, evidence-based emergency response to a deadly pathogen and the many lessons learned and now shared. From adoption of a risk-stratifying approach, to design and implementation of a screening and care algorithm, to initiation of massive staff education and training, this event has changed the way we perceive, prepare for, and treat infectious disease. There now exists a new awareness of the importance of practicing at the top your license.

CONTACT INFORMATION

Andrea L. Helmbach, MSN, RN
ACS Division Director
Sentara Northern Virginia Medical Center
ALYOCHEM@sentara.com

Kevin M. Bussiere, RN, AS, CIC
Infection Preventionist
Sentara Leigh Hospital
KMBUSSIE@sentara.com

Date Crafted: April 2015