

WORKSHOP SESSION SUMMARY
POST-CONFERENCE PROCEEDINGS
2018 National Trainers' Exchange

1. Session Title and Presenter's Contact Information:

Workshop title: **Using Procedural Simulation for Infectious Disease Response Training for Healthcare Workers**

Presenter (s) Name: **Andres Viles, Elena Kidd**

Presenter Organization: **Deep South Consortium/University of Alabama at Birmingham**

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2. Workshop Summary:

The 2014 Ebola Virus Disease (EVD) outbreak brought the topic of biosafety and infection control practices for healthcare workers to the forefront. As the EVD outbreak evolved, the Centers for Disease Control and Prevention (CDC) updated their guidance on personal protective equipment (PPE) used by healthcare workers when caring for confirmed or suspected Ebola patients.

The University of Alabama at Birmingham (UAB) Hospital uses simulation as a tool to provide opportunities for healthcare workers to receive hands-on practice and safety training in donning and doffing PPE with a trained observer to ensure proper protocol adherence during an EVD or other infectious disease response. The purpose of this presentation is to highlight key elements used in biosafety and infectious disease response awareness and operations level trainings sponsored by the UAB Office of Interprofessional Simulation for Innovative Clinical Practice. Various infectious disease resources will be introduced and a demonstration of the recommended process for donning and doffing PPE for a suspected EVD patient will be provided. Other resources will be made available to participants including the rubric and checklists used by the doffing expert and observers in evaluating adherence to the donning/doffing procedures. At the end of the demonstration, participants will be encouraged to ask questions and review the PPE kits used in the demonstration. Additional kits will be available for viewing.

3. Methods:

Lecture and a demonstration of the recommended process for donning and doffing PPE for a suspected EVD patient were used in this workshop. The purpose of this workshop was to highlight key elements used by the Deep South Consortium during their biosafety and infectious disease response operations and train-the-trainer level courses.

The instructor demonstration centered on the use of simulation as a tool to create a risk-free environment for healthcare workers and first response to practice donning and doffing PPE while receiving feedback and coaching on their techniques.

The advantage of the demonstration was that it allowed the audience an opportunity to visualize how procedural simulation was used in trainings and allowed the instructor to share “best practices”.

Following the demonstration, the instructor elicited feedback from the participants to encourage them to think about how they can use procedural simulation at their institution. This also served as an evaluation tool to determine if participants accepted the ideas presented.

4. Main Points/ Key Points Raised from Participants:

Key Lessons

- The 2014 Ebola Virus Disease (EVD) outbreak brought the topic of biosafety and infection control practices for healthcare workers to the forefront.
- Following the outbreak, the CDC updated their guidance on personal protective equipment (PPE) used by healthcare workers when caring for confirmed or suspected Ebola patients. These guidelines include three principles: rigorous and repeated training, no skin exposure, and a trained observer to supervise each step of the PPE donning/doffing procedures to ensure established PPE protocols are completed correctly.
- The presentation reviewed the operations course agenda used by the Deep South Consortium and described how their operations course utilizes procedural-based simulation.
- Procedural simulation allows for deliberate practice and mastery learning related to a specific procedure. Procedural simulations involve task trainers to assist in the process of learning.
- Before participants practice donning and doffing PPE, the instructor demonstrates the correct process and procedures for donning and doffing PPE using the checklist. An instructor demonstration has been very helpful in allowing participants to conceptualize what they were about to do and it also gives the instructor a chance to share best practices in donning and doffing. It also allows participants the opportunity to ask any questions before they get started. Participants follow along the checklist as observers and alert the instructor if he does anything out of step or if they see any signs of a breach.
- Participants simulate having to care for a potential EVD patient and have the ability to play the role of the health care worker, donning/doffing expert, and trained observer in a no-risk environment.
- Simulation provides learners with an experience that allows them to reflect on the actions they made. That reflection typically occurs in debriefing. Simulation debriefings also encourage learners to generalize or conceptualize what they learned to other settings. After generalizing, learners are asked to apply their lessons learned to another situation, either inside or outside the simulated environment.

Responses from the participants

- Several attendees in the session thought more time was needed as the demonstration was rushed and the audience did not have much time to reflect on the demonstration.
- Several attendees indicated they would like copies of the training material used. A link to the training material was provided to them and is on the Deep South Biosafety WTP Materials website below.
- There was a question on how the cycle of donning and doffing ended, as it was stated that the doffing expert should always be donned in the same level of PPE as the healthcare worker. It was explained that the last person who doffed is likely to have the least chance of exposure/risk and would don and doff themselves with someone, outside the doffing area, observing for any chance of contamination. The person outside the doffing area, the observer, would only need minimal protection (i.e. gloves and mask) and doff themselves.

5. References:

Agency for Healthcare Research and Quality, AHRQ Issue Brief: Health Care Simulation To Advance Safety: Responding to Ebola and Other Threats, February 2015

CDC's Guidance on Personal Protective Equipment (PPE) To Be Used By Healthcare Workers during Management of Patients with Confirmed Ebola or Persons under Investigation (PUIs) for Ebola who are Clinically Unstable or Have Bleeding, Vomiting, or Diarrhea in U.S. Hospitals, Including Procedures for Donning and Doffing PPE -

<https://www.cdc.gov/vhf/ebola/healthcare-us/ppe/guidance.html>

Deep South Biosafety WTP Website: <https://www.soph.uab.edu/dsb>

Deep South Biosafety WTP Materials: <https://www.soph.uab.edu/dsb/materials>

6. Workshop Handouts/ Resources:

Handouts: Using Procedural Simulation for Infectious Disease Response Training for Healthcare Workers - PPT