

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

**1. Session Title and Presenter's Contact Information:**

Workshop title: **Donning and Doffing Personal Protective Equipment Using an Approved Low-Output Ebola Checklist: A Simulation Experience**

Presenter (s) Name: **Lisa McCormick, Andres Viles**

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

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**2. Workshop Summary:**

In 2015, six first responders in Birmingham, Alabama were exposed to an individual exhibiting signs and symptoms of the Ebola virus disease (EVD). Although the Centers for Disease Control and Prevention updated recommendations for hospitalized patients under investigation for EVD in July 2014, a need exists to extend recommendations to non-hospital workers and disseminate information to individuals with limited access to training.

The Deep South Biosafety Worker Training Program (WTP) partnered with the University of Alabama at Birmingham Summer Health Professions Education Program (SHPEP) to train future health professionals to safely respond to infectious disease threats in a simulated environment. SHPEP is a free summer enrichment program focused on improving access to information and resources for individuals interested in the health professions. Many SHPEP program participants come from racially/ethnically underrepresented group in health professions, disadvantaged backgrounds, or have a strong interest in working with an underserved population or community. Participants in the SHPEP program also intend to enter various health care professions including nursing, physician's assistant, dentistry, medicine, occupational therapy, and optometry. Through this experience, participants received hands-on experience donning and doffing low output personal protective equipment (PPE) using a UAB Hospital approved checklist while receiving coaching and feedback from experienced health care professionals. This simulation also allowed participants to work in interprofessional teams to develop effective teamwork and communication strategies. This presentation reviews how simulation was used to train future health care workers on proper PPE protocols and benefits of interprofessional training.

**3. Methods:**

Lecture and discussion were the methods employed in this workshop. The purpose of this workshop was to share how the Deep South Biosafety WTP partnered with a summer health professionals education program to provide training around biosafety and worker health and safety to future health professionals.

Discussion centered on the use of simulation as a tool to train a pipeline of future healthcare workers about the importance and benefits of the use of a checklist in high-stakes medical situations.

The advantage of this delivery method was to introduce the ideas and concepts to a wide audience and then elicit feedback from the participants to encourage them to think about how they can apply these tools 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**

- Simulation in a healthcare setting can be used as a technique that can be used to train both current health care professionals and future health professionals. Advantages of simulation include that it puts patient and learner safety first, optimizes learning conditions, provides valuable feedback, and integrates multiple skills.
- Simulation can be either immersive or procedural. Immersive simulation is a learning experience focused on specific learning objectives and typically includes participants being placed in a realistic situation where they must care for a patient and/or family member. Immersive simulations can vary in level of fidelity and realism. 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. Simulation can also occur either In Sim- in dedicated simulation labs and centers - or in situ- meaning on site or inside the healthcare system. In situ simulations can happen anywhere within the healthcare system to include patient care areas, non-patient care areas, ambulatory areas, parking decks, or crosswalks.
- Simulation should be viewed as a spectrum of varying modalities. One of the most basic forms of simulation is role play. Other modalities include task trainer, standardized patient, high fidelity manikin, hybrid simulation, and virtual simulation.
- Checklists can be used for many types of complex, high-risk procedures. Checklists can be used in various health care professions to improve communication and teamwork, reduce medical errors and improve patient outcomes.
- A task list is just one type of check list that is a step-by-step recital of standard operating procedures that must be followed in the correct order. Task lists work well when there is a widely accepted and agreed upon idea of what the task list should be. They are best suited for technical endeavors that involve too many details to remember. A checklist that outlines steps for donning and doffing personal protective equipment during an infectious disease response is one example of a task list that can be used for worker safety.

##### **Responses from the participants**

- There was a consensus that simulation provided these students with a unique learning experience where they could develop practical skills that would be useful throughout their careers.
- One trainer asked if immersive simulation is better suited for experienced learners while procedural simulation is more appropriate for novice learners. The instructor clarified that immersive simulation can be used for all levels of learners. In order to design a simulation, the instructor needs to know who the learners are and the objectives of the simulation. Depending on these factors, the instructor will use more “noise” or “signals”. For novice learners, the instructor will have to use more “signals” and prompt learners on next steps and how to carry out tasks. For experienced learners, the instructor will use less “signals” and use more “noise” to distract them from the task at hand to ensure they are confident in carrying out the tasks.
- A question came up around using signals instead of “Red Flag” words. These hand signals could be used during the donning and doffing of PPE to signal a potential breach in PPE. Instructor said there are now hands-free tools that they use in an actual response. However, for this group, the focus of the training was more on the use of communication and challenges in communicating while in PPE.
- A suggestion was made to videotape students while donning and doffing. This would allow them to see their mistakes and reflect upon what went well as they donned and doffed PPE and identify areas of improvement.

## 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

Gawande, A., & Lloyd, J. B. (2010). *The checklist manifesto: How to get things right* (Vol. 200). New York: Metropolitan Books.

Makary, M. A., & Daniel, M. (2016). Medical error-the third leading cause of death in the US. *BMJ: British Medical Journal (Online)*, 353.

Summer Health Professions Education Program: <http://www.shpep.org/>

## 6. Workshop Handouts/ Resources:

**Handouts:** Donning and Doffing Personal Protective Equipment Using an Approved Low-Output Ebola Checklist: A Simulation Experience - PPT