

Training to Respond to the Ebola Outbreak of 2014¹

On September 30, 2014, the Centers for Disease Control and Prevention (CDC) announced that Thomas Eric Duncan, a 45-year-old Liberian national visiting the United States, was diagnosed with Ebola in Dallas, Texas. Duncan, who had been visiting his family in Dallas, was treated at Texas Health Presbyterian Hospital Dallas. By October 4, Duncan's condition had deteriorated from "serious but stable" to "critical." On October 8, Duncan died of Ebola. In the wake of this, there was a great deal of public fear and political demands for public safety.

As early as August 1, 2014, the CDC released *Infection Prevention and Control Recommendations for Hospitalized Patients Under Investigation (PUIs) for Ebola Virus Disease (EVD) in U.S. Hospitals*. The CDC recommendations indicated, among other things, the need for a comprehensive approach to training all those employed or otherwise associated with health-care facilities. The following is typical of how health systems' responded and illustrates the significant role of training in getting hospitals throughout the country prepared to deal with this deadly disease.

WakeMed in North Carolina

WakeMed Health & Hospitals is a private, not-for-profit health-care system based in Raleigh, North Carolina. In September 2014, WakeMed's education team, led by Amar Patel, director of the WakeMed Center for Innovative Learning, had to quickly prepare all 8,500 of WakeMed's employees to respond to an Ebola incident safely, while continuing to provide its usual excellent care and service to its patients. The training had to be robust enough to address not only employees at WakeMed's main campus, but also the needs of the smaller hospitals, physician's offices, outpatient clinics, stand-alone emergency departments, and rehabilitation centers. The majority of WakeMed's staff had never encountered a disease like Ebola and did not have a clear understanding of the virus or its transmission.

In spite of the urgency, it still took three hard working months to develop the training that would provide the levels of understanding needed by various groups affiliated with WakeMed. Knowing how easily Ebola can spread without proper precautions, the training emphasized the importance and proper use of personal protective equipment (PPE)—that guards the wearer's body from infection through the air or from touch. The team researched the various types of PPE available to identify the best ones for protecting WakeMed staff from Ebola.

With all of this in mind, the team identified WakeMed's overall training needs:

- Provide staff with an understanding of the Ebola virus.
- Show staff how they should respond to an Ebola outbreak.
- Educate staff on the proper use of PPE.

The level and type of knowledge needed in terms of understanding the Ebola virus and the correct steps for responding to a potential outbreak varied across groups. Four educational tracks were designed to offer training that was appropriate for each job function. Those tracks were:

1. Awareness
2. Awareness++
3. Epidemiological Operations
4. Just-in-Time Training

The Learning Programs

Awareness: *All staff*

This 30-minute online training was required of all employees. It provided an understanding of Ebola and WakeMed's plan to contain a potential outbreak.

Awareness++: *Frontline employees at risk of coming in contact with a patient with undiagnosed Ebola*

This was a four-hour training session that included online and face-to-face sessions. The online training session covered the threats associated with Ebola, and how to use PPE when treating an infected person. The in-person training session allowed employees to demonstrate their knowledge of PPE use by putting on and removing the PPE properly. Patel emphasized the importance of this practice, because taking PPE off improperly could result in infection.

Epidemiological Operations: *Infectious disease response team called in to care for patients diagnosed with Ebola*

This was a 40-hour blended training program that focused on equipping bedside-care providers with the knowledge they needed to manage various types of infectious diseases, particularly Ebola. The different knowledge components were completed online and in live classroom sessions. In addition, participants participated in infectious disease simulations. This activity was designed to give medical responders the experience, flexibility, and agility to handle an Ebola outbreak seamlessly. However, simulations require intensive resources, such as medical equipment, and securing them was a challenge.

Just-in-Time Training: *Just-in-time education for staff members on the unit caring for patients with suspected Ebola*

This was a rapid training program. Should the Ebola virus make an appearance at one of WakeMed's locations, this in-person training would be deployed. It gives all responders the immediate knowledge they need to care for the person with Ebola and ensure the staff and other patients remain safe.

The Results

The Awareness program was successfully rolled out to all employees. Although WakeMed has never had a suspected Ebola patient, a nearby hospital affiliated with Duke University did. The training that was developed at WakeMed provided reassurance to the community and the employees as well as preparing them for an outbreak of other infectious diseases. By the end of 2015, WakeMed delivered Awareness++ to more than 640 people. WakeMed employees continue to receive this type of training to ensure that they are prepared to respond to any infectious disease outbreaks.
