

Emerging Infections: The Cauldron of Medicine, Mobility, and Media

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Infectious diseases are again front page news. We are in the midst of a global health crisis with the rapid spread of Ebola virus disease, an illness so horrible that it strikes at the fabric of humanity: our ability to touch each other. The outbreak has devastated West African nations, which were already struggling from poor infrastructure and limited resources. Health care workers in these nations have been disproportionately impacted, leading to less access to care for those with any health care needs. In the United States, the media has stirred up anxiety and fear among the public. Ebola experts have appeared in the media either sowing doubts into the minds of the public about our health care system's ability to manage this disease or overreassuring the public that all is under control. No one wants to admit that the lethality and uncertainty of Ebola is terrifying to health care workers and that many infectious diseases are only an airplane flight away.

Although Ebola has captured our attention, several other outbreaks of importance that should not be overlooked are occurring simultaneously. Travelers from Caribbean destinations are returning with chikungunya and dengue infections, which have the potential to become endemic within the United States. West Nile virus infection continues to impact us; more than 1300 cases have been reported this year, with more than 50% of infections causing significant neurologic illness.¹

Children are being affected by enterovirus D68, a virulent strain causing respiratory failure and possibly polio-like illness. Between January 1 and September 29, 2014, the United States had 18 outbreaks of measles—a disease thought to be eliminated in 2000—affecting 594 people in 22 states, the largest number of cases in decades.² And all of these outbreaks are occurring before we enter our annual influenza season.

What can we, as osteopathic physicians, do? We have always been advocates of prevention, and virtually all of these illnesses can be prevented with tools we already have.

Our first simple tool is communication. Many of these diseases are associated with travel to areas where the illness is endemic. We need to take a travel and exposure history from each of our patients. Patients often enjoy sharing their adventures and travels, and we have much to learn from where they have been and what they have done. Early detection has always been a tool of prevention. We recommend lipid panels, mammograms, and colorectal cancer screening for early detection of cardiovascular, breast, and colon cancer. Think of patients' travel history as a means for early detection of these epidemic diseases.

Our second tool is vaccination. Most physicians practicing today have not seen the devastation of measles and polio, but these diseases are re-emerging. Physicians can prevent these diseases by educating patients and providing vaccinations, which have been successful in the past at eliminating these scourges. Influenza vaccinations are also important; influenza kills many more people each year than Ebola has thus far, yet immunization rates lag.³

Our third tool is personal protection. Chikungunya, dengue, West Nile, and other mosquito-borne illnesses do more than ruin vacations—they cause significant morbidity. If you go out during dusk or dawn or whenever mosquitoes are active, apply insect repellent. Eliminate mosquito vectors by cleaning up standing water.

All of these tools are key to the prevention of Ebola virus transmission. In addition to communication with patients, communication from the front line to colleagues and public health authorities can help identify and interrupt transmission. Although no Ebola vaccine yet exists, clinical trials to determine the effectiveness of such a vaccine are needed. Personal protection is key. Health care workers need to strictly adhere to infection prevention guidelines. Being a B or C student in contact precautions will cause you to fail Ebola virus protection. Review guidelines of the Centers for Disease Control and

Prevention and your health care facility on donning and doffing protective equipment. Practice and use a buddy system to ensure you do it right every time.

It is likely that each of us on the front lines of health care will face 1 or more of these emerging threats, so be prepared and educate your patients and staff. The Centers for Disease Control and Prevention has created valuable resources for managing all of these diseases and can be accessed at <http://www.cdc.gov>. (doi:10.7556/jaoa.2014.176)

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