

Postprint

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Open Peer Commentary

Communication and Communicable Disease Control: Lessons From Ebola Virus Disease

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In her article “Ebola, Team Communication, and Shame: But Shame on Whom?” Shannon (2015) describes communication failures that contributed to delayed diagnosis—and, arguably, to the death—of the first patient in the United States to present with Ebola virus disease (EVD) (Shannon 2015). Contrary to her belief that medical errors due to communication failure are a particular problem in the United States, the problem is probably universal, albeit to varying degrees in different countries and health care settings.

In this commentary we argue that communication failures and medical errors are especially significant when they cause infection. We use the extreme example of the current EVD outbreak in West Africa, and related cases in other countries, to illustrate our argument and ask whether lessons from this outbreak can be translated into sustainable systems for prevention and control of future infectious disease emergencies and HAIs.

CONSEQUENCES OF MEDICAL ERROR CAUSING INFECTION

Medical errors that contribute to infection not only affect individual patients, but also pose a risk to their contacts— other patients, health care workers (HCWs), and the general community. Therefore, hospitals play a critical role as sources and amplifiers of infection. Delayed diagnosis of EVD (medical error 1) in the patient described by Shannon meant that the stringent precautions necessary to prevent transmission of EVD were not fully implemented until several days after he was readmitted with severe symptoms (medical error 2), which contributed to two nurses developing EVD. Although they recovered without further spread, the psychosocial and political consequences and blame were far-reaching (Burrough 2015).

A similar communication failure had far more serious consequences in Toronto, Canada, in 2003, when a patient admitted to hospital with SARS was kept waiting in the emergency department

without diagnosis or isolation for 16 hours. This triggered a citywide outbreak eventually involving 375 cases, 45% in HCWs, and 44 deaths. By contrast, there was no transmission, in a Vancouver, Canada, hospital, from another patient with SARS, who was isolated within 15 minutes of admission (SARS Commission 2003).

According to the World Health Organization, HAIs are the commonest health-care-associated adverse events, affecting hundreds of millions of patients, worldwide, each year (World Health Organization n.d.). A significant proportion of health-care-associated infections (HAIs) can be prevented by a few simple, inexpensive measures, but HCWs fail to apply them consistently, with serious medical, societal, and economic consequences (Gilbert, Cheung, and Kerridge 2009). The problem is deeply entrenched and lasting solutions are elusive, in part because of communication failures between hospital managers, HCWs, patients, and the wider community, uncertain about their roles, responsibilities, and expectations.

One of the major barriers to prevention of HAIs is that the specific “errors” that cause them are hidden: Often there is an accumulation of apparently trivial or unnoticed acts or omissions, and usually neither the source (patient, visitor, HCW) nor the vector (often an HCW) is obviously affected. If any insight is to be gained from the current EVD outbreak, it could be that its unique characteristics will make such errors more visible, subject to critical scrutiny, and avoidable in the future.

WHAT IS DIFFERENT ABOUT EBOLA VIRUS DISEASE?

EVD is far more likely to be acquired in a health care setting than in the general community because patients are increasingly infectious as they become more ill. Thus, caregivers (at home or in a hospital) and anyone handling the bodies of victims are at greatest risk of infection. EVD is also far more likely than other HAIs to cause illness and death in an infected caregiver. Thus, the sources, vectors, and “errors” that lead to transmission are usually not hidden. Specific errors may not be identifiable, but in general they include delayed diagnosis; inadequate isolation facilities and supplies of personal protective equipment; and too few, inadequately trained staff. What is needed to control EVD is “staff, stuff, space, systems” (Farmer 2014).

There has been a plethora of articles, in medical and lay media, speculating on, or reporting results of investigations into, the socioeconomic, political, and environmental circumstances, communication failures, delays, cultural practices, resource limitations, and other factors contributing to the unprecedented size and duration of the outbreak. Some reports have been sensationalist or inaccurate; some have described, and sometimes blamed or stigmatized, affected individuals or communities, without respect for privacy. But many have been thoughtful, authoritative, and pivotal in raising public awareness and stimulating the belated international response to the crisis. Many have contained important lessons, which, if heeded, could have a major impact on future infection prevention strategies.

HOW HAS COMMUNICATION FAILURE CONTRIBUTED TO THE EVD OUTBREAK?

The current outbreak began in December 2013, but was not recognized as EVD until March 2014, when it had already spread widely. Despite warnings from Médecins sans Frontières¹ there was little international recognition until August, when the World Health Organization (WHO) declared the outbreak “a public health emergency of international concern,”² and even less real action until September, when the United Nations established its Mission for Ebola Emergency Response (UNMEER) and developed a coordinated plan to control it³ (Epstein 2014). By then, EVD had spread to several distant countries and the “outbreak narrative” took over; suddenly, EVD was a threat to international security (Wilkinson and Leach 2015).

Media scrutiny was intense as the world followed the fate of nurses, in Spain and the United States, with hospital-acquired EVD. The Centers for Disease Control and Prevention (CDC)—regarded as the most authoritative source of expertise—was censured, because of its advice that transmission was highly unlikely, in countries with robust health care systems. This advice was, and remains, correct—the risk is very low, but the CDC faced the classic dilemma of experts: how to communicate risk, frankly, in the face of fear and uncertainty. Although previous experience in Africa indicated that transmission usually can be prevented by isolation and appropriate use of personal protective equipment, there can be no guarantee against an HCW becoming infected, even in a modern hospital, especially one without previous experience or adequate preparation for EVD. The CDC failed to communicate this uncertainty, presumably hoping to allay public and professional anxiety and overreaction. Despite, appropriately, modifying its advice, the CDC was forced to bear the brunt of public disapprobation and media ridicule and, ironically, to watch while some state authorities imposed exactly the type of excessive restrictions they had hoped to avoid—quarantining asymptomatic HCWs who had been treating EVD patients but posed no risk to the public (Rosenbaum 2015).

Meanwhile, in West Africa different types of communication failure were occurring. In Liberia, when EVD “exploded” in Monrovia, authorities established a massive publicity campaign to warn people about the disease, asked them to report cases via a hotline, and hired hundreds of contact tracers. Similar measures had controlled community spread in Nigeria, but they failed in Liberia. Many people, suspicious of authority after years of civil unrest and government corruption, suspected officials of spreading the disease and refused to cooperate. Those who went to a hospital were often turned away because many of the pitifully few HCWs available when the outbreak started had died from EVD (Epstein 2014).

In the United States and other developed countries, news of HCW deaths focused the attention of hospital managements and staffs on infection control, like nothing had before. Many hospitals have spent “a fortune on preparing facilities and staff for the much-feared scenario of a local patient” (Drazen et al. 2015). While protocols for use of personal protective equipment and management of potential patients based on worse-case scenarios obey the “precautionary principle,” they may delay appropriate treatment of returning travelers with fever, who are far more likely to have common, treatable infection like malaria. It is ironic that these expensive preparations and excessive policy responses are often occurring after years of dwindling infection control budgets and poor compliance by staff with practices designed to protect patients from HAIs.

WHAT ARE THE LESSONS FOR THE FUTURE?

“The lesson of Ebola is clear: strong, resilient health systems are needed in Africa to curtail the outbreak at its source and in the United States (and elsewhere) to ameliorate risks and reassure the public” (Gostin, Waxman, and Foege 2015). At last, belated international aid to West Africa has contributed to slowing the spread of EVD; far more will be needed to rebuild the devastated health care systems, economies, and social structures of affected countries and to address the “structural violence”—“the way that institutions and practices inflict avoidable harm by impairing basic human needs”—at the root of the outbreak (Wilkinson and Leach 2015).

Criticism of WHO for its sluggish response must be seen in the context of restructuring and budget cuts after the global financial crisis (Wilkinson and Leach 2015). CDC has also suffered budget cuts (Gostin et al. 2015) and has limited capacity or authority to supervise or monitor infection control in individual hospitals (Burrough 2015). If these respected organizations are to meet public expectations, they must have adequate resources. President Obama has made an urgent request to Congress for US\$6 billion to contain and manage EVD and strengthen health systems against future emergencies (Gostin et al. 2015). It surely would be in the interests of all wealthy countries to do likewise, so that the next infectious disease emergency does not provoke similar levels of public fear,

blame, and scrambling by public health and hospital authorities to train and equip staff for what should be “business as usual.” Unless strong political and professional leadership determines otherwise, history suggests that once the crisis passes funds will be redeployed, lessons forgotten, and bad habits will return.

Notes

1. <http://www.msf.ca/en/article/ebola-west-africa-epidemic-outcontrol>
2. UN News Centre. UN declares Ebola outbreak global “international public health emergency,” August 6, 2014. http://www.un.org/apps/news/story.asp?NewsID48440#VLD_3yfFnOo
3. <http://ebolaresponse.un.org/un-mission-ebola-emergencyresponse>

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