



August 8, 2014

Ebola: 2014 Outbreak in West Africa

Overview

An ongoing outbreak of Ebola Virus Disease (EVD), the largest, most persistent ever documented, and the first in West Africa, began in March 2014 in Guinea, Sierra Leone, and Liberia (the “affected countries”) and has spread to Nigeria. More people have contracted and died from EVD in this outbreak than in any single prior outbreak. In the current outbreak, the case fatality rate (the estimated percentage of infected persons dying) is about 55%; past outbreak rates have ranged between 41% and 88%.

Prior human EVD outbreaks had occurred in the Democratic Republic of Congo, Gabon, Sudan, and Uganda, primarily in rural and forested areas (Figure 2). The current outbreak is more geographically extensive and cases are emerging in both urban and rural settings. Health experts are accelerating efforts to contain the outbreak, as transmission in densely populated urban areas may be far more difficult to control and lead to higher death tolls. According to the World Health Organization (WHO), from March through August 6, Ebola was known or suspected to have infected 1,779 persons and caused 961 deaths; of these, 1,134 cases had been confirmed in laboratories.

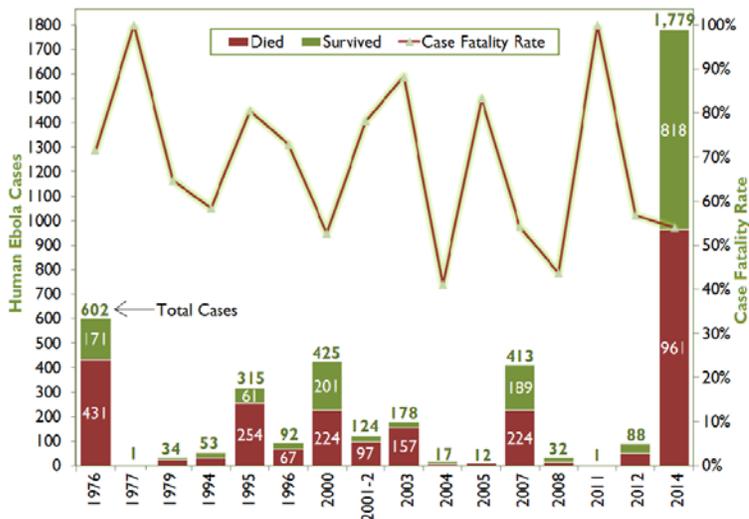
persons face a high risk of infection, as do health care and funeral workers. Asymptomatic patients are not contagious.

Symptoms. Symptoms typically include fever; weakness; head, joint, muscle, throat, and stomach aches; and then vomiting and diarrhea, rashes, and bleeding, often via the skin and from internal organs. Kidney and liver function may be impaired; white blood cell and platelet counts may drop; and shock and death may occur. Early symptoms are akin to many common illnesses. This may cause some infected persons not to seek treatment and may increase rates of EVD transmission. The incubation period (the time between viral infection and the onset of symptoms) ranges from 2 to 21 days, and is usually 8 to 10 days.

Treatment. There is no cure for EVD, but EVD treatments and vaccines are being developed. Treatment focuses on balancing fluids and electrolytes; maintaining blood pressure and access to oxygen; and treating attendant complicating infections. Prompt treatment extends survival and recovery prospects.

“The current outbreak is bad. It’s the biggest, most complex and the first time it’s been present in this region of the world. CDC Director, July 31, 2014

Figure 1. Global Ebola Outbreaks: 1976-2014



Source: Created by CRS based on 2014 WHO data.

Ebola Viral Disease

Transmission. Fruit bats are the suspected natural reservoir of EVD in West Africa, where some people consume bats and other potentially infected forest animals. Humans can contract EVD through exposure to bodily fluids of EVD-infected animals and persons, or through contact with contaminated surfaces or items (e.g., needles). Inter-human transmission is the suspected primary source of infection in West Africa. During outbreaks, close associates of infected

Prevention. In clinical settings, suspected EVD cases are isolated, and health workers wear personal protective equipment (PPE) and sterilize and avoid contact with contaminated objects, but some health centers in the affected are unable to undertake such responses. Lack of knowledge of EVD in the region has hindered efforts to avert person-to-person transmission (see below), but public education campaigns focusing on EVD prevention and non-stigmatization of known or suspected EVD patients are under way. Health workers are working with community leaders to develop alternatives to cultural practices (e.g., funeral rites and visiting the ill) that might spread EVD.

Responses

International Response. The WHO, which on August 8 declared EVD a Public Health Emergency of International Concern, is coordinating the international response to the outbreak. Through its Global Alert and Response Network (GOARN), WHO is coordinating with the U.S. Centers for Disease Control and Prevention (CDC), the U.S. Agency for International Development (USAID), United Nations agencies, and others to support affected countries’ responses. On July 31, WHO announced that it was launching a \$100 million Ebola response plan, which will channel resources through the newly established Ebola Outbreak Coordination Center, in Conakry, Guinea. On August 4, 2014, the World Bank Group pledged up to \$200 million in emergency funding to help the affected countries contain EVD. Such international support is critical; the

affected countries lack adequate numbers of nurses, epidemiologists, social mobilization experts, logisticians, and data managers. These experts detect, trace, and contain cases; treat EVD patients; train local health practitioners how to use PPE; and conduct EVD awareness campaigns.

U.S. Response. U.S. agencies, primarily the CDC and USAID, are partnering with international agencies and local health authorities to counter the outbreak. USAID has provided financial support to WHO and donated PPE. CDC is deploying more technical and medical specialists to the affected region, where it began operations in March. These experts are helping with case tracing, EVD testing, national plan responses, and other work. The State Department is coordinating U.S. responses with affected country host governments and helping to provide public EVD prevention and awareness messaging. A small Department of Defense (DOD) medical unit in Liberia is aiding efforts to counter EVD there. DOD is considering how it may further respond.

Challenges

Low Country Capacity. The technical and institutional capacities of affected country health sector and other public institutions are weak. This is especially true in rural areas, where most EVD cases have occurred, in addition to a smaller number of urban ones. Clinics are often ill-equipped to contain highly infectious agents like Ebola, and the few that are face overwhelming case loads. This, together with the breadth of the outbreak area, has hindered control efforts. Limited access to training and equipment has also increased EVD infection risks among healthcare workers, who account for about a tenth of EVD cases.

Local Responses. Affected countries are responding by, for instance, closing schools and borders (Liberia) and controlling internal movements in EVD hotspots (Sierra Leone), and undertaking the types of actions noted above. Responses have faced multiple deterrents. As West Africa has never experienced an Ebola outbreak, public awareness of EVD and how to effectively respond to it is low. Social practices (e.g., familial care, visitation of patients, and local funeral practices) and strongly held local beliefs have also hindered efforts to halt the spread of EVD. Misinformation about EVD and mistrust of health workers have led some communities to resist external EVD tracking and treatment efforts, including by national authorities. Attacks on health workers have occurred. Such factors, and fear of EVD-linked stigma, have prompted some ill persons to avoid health centers or to flee clinics while being treated, increasing EVD transmission risks.

Containment. CDC views the risk of EVD entry into the United States as low, but is monitoring U.S. traveler arrivals. The cross-border spread of EVD has been highlighted by cases in which persons with suspected EVD have traveled from the affected region to Saudi Arabia and Nigeria. In July, Nigerian officials quarantined a hospital where a U.S. EVD-symptomatic citizen traveling from Liberia died after arriving in Nigeria by air. On August 8, 2014, WHO reported that suspected or probable EVD had caused two deaths and infected 13 persons in Nigeria. Two U.S. health workers infected with EVD in Liberia are being treated, with CDC help, at an Atlanta, Georgia, hospital.

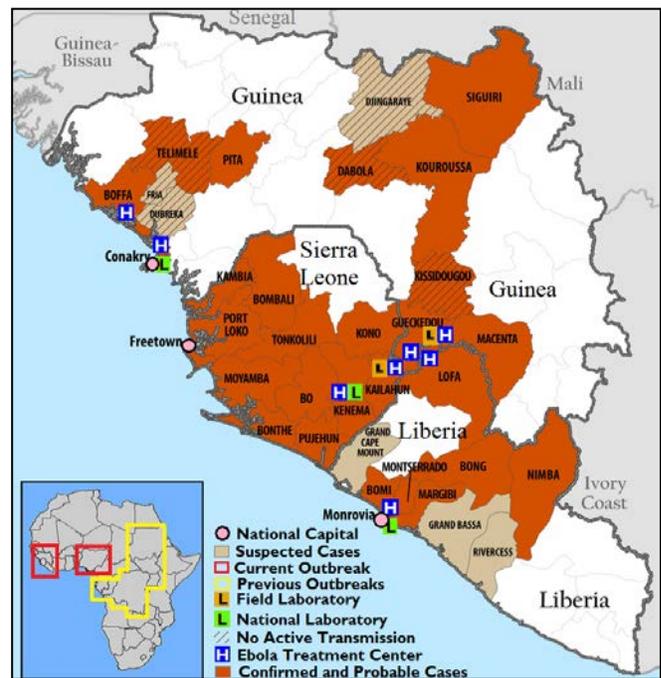


Figure 2. Map of Affected Countries and Areas

Source: CRS adaptation of CDC map at <http://go.usa.gov/NKCw>

U.S. Policy and Congressional Actions

In late July, the Peace Corps removed its volunteers from the affected region due to the threat of EVD. Ebola was discussed at the August U.S. Africa Leaders Summit (see CRS Report R43655, *U.S.-Africa Leaders Summit: Frequently Asked Questions and Background*). Attendees from the affected region were screened. The leaders of Liberia and Sierra Leone did not attend as planned, as they are leading their countries' counter EVD efforts. U.S. embassy dependents in Monrovia, Liberia are being evacuated from the country out of an abundance of caution.

On August 7, a House Foreign Affairs Committee Subcommittee held a hearing on EVD, at which the CDC director said that the most crucial means of containing the outbreak are efforts to identify cases; treat them appropriately; and prevent further transmission. On July 31, Representative Karen Bass, with 57 original co-sponsors, introduced H.Res.701, a resolution acknowledging the historical severity of the West African EVD outbreak. Multiple Members have called for effective U.S. EVD surveillance efforts and contingency planning, should any EVD cases occur in the United States; and for continuing or expanded and effective U.S. collaboration with multilateral agencies and West African governments to counter EVD. Other possible issues for Congress may include whether the U.S. and international response in West Africa is technically appropriate and is adequately funded.

Nicolas Cook, ncook@crs.loc.gov, 7-0429

Tiaji Salaam-Blyther, tsalaam@crs.loc.gov, 7-7677

IF00044