The largest outbreak of Ebola virus disease (EVD) ever reported – both in number of infections and geographical scope – has been sweeping through West Africa since February, causing over 720 deaths, including a senior Ugandan doctor and Sierra Leone’s top virologist, and at least 1,000 more infections. This Ebola outbreak, the first in West Africa, likely began near Guéckédou, in Guinea’s heavily forested southeast, where a sizable percentage of the deaths have occurred.

According to the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID), the virus may have been “smoldering” for years under conditions inhospitable for a true outbreak, with victims thinking they were infected with Lassa fever, a far more common regional ailment with similar symptoms.

Liberia and Sierra Leone declared public health emergencies on July 30 and 31, respectively. The U.S. Centers for Disease Control & Prevention (CDC) have issued an Outbreak Posting for Guinea, Sierra Leone, and Liberia, to include their capitals for the first time in history. Two U.S. humanitarian aid volunteers from the only provider of medical treatment for Ebola in Monrovia have contracted Ebola, and cannot be evacuated safely. Additionally, a dual U.S.-Liberian citizen has been confirmed to have died from EVD in Nigeria, where he collapsed and was allegedly quarantined at the Lagos Airport; the Nigerian government placed 59 of his contacts in Lagos under close surveillance, but emphasized there was “no cause for alarm.” No secondary cases have yet been found. Nigerian health authorities are on high alert, as this was the first known case of Ebola in that country. U.S. Mission Nigeria released a Security Message for U.S. Citizens in response.

On July 30, the Peace Corps announced that it would be “temporarily removing its [340] volunteers from Liberia, Sierra Leone, and Guinea.” Two volunteers have been quarantined due to possible exposure. The U.S. Embassy in Liberia issued a Message to U.S. Citizens on July 31, addressing the departure and the EVD outbreak.

WHO has announced a $100 million response plan to help contain the outbreak. The French government and the European Union have also allocated financial, medical, and expert emergency aid.

Epidemiology of Ebola

The first-ever EVD outbreak was reported in 1976. EVD virus circulates naturally in the wild, with fruit bats believed to be the primary transmitter-- although rats, primates, porcupines, and duikers (small antelope)
EVD is a fairly rare disease that causes multiple organ failure (liver, kidney, and central nervous system) and, in some cases massive internal and external hemorrhaging. There is no cure or vaccine. The incubation period is two to 21 days, and initial symptoms include fever, headache, diarrhea, and vomiting. Although many cases experience severe bleeding, others have no hemorrhagic manifestations, but may still die. The lack of bleeding in many patients is why the old term, “Ebola Hemorrhagic Fever,” has been replaced with the name “Ebola Virus Disease.” The fatality rate for this outbreak, the Zaire ebolavirus strain, is about 60%; however, rates can reach 90%. Outbreaks are generally relatively short, especially when quarantines can be imposed, as the virus kills its host and cannot self-perpetuate; however, in this case, a less aggressive strain allows for wider transmission. Death generally occurs between six and 16 days after symptoms appear.

EVD is transferred either by direct contact with the blood or body fluids of infected people or animals or indirect contact of fluids due to unsterile conditions/equipment. Ebola is not transmitted via airborne contact, making it more difficult to acquire than respiratory viruses like measles or the flu. The primary preventative technique is avoidance of contact with bodily secretions of those who are ill or have recently died as well as isolation of those infected and those in contact with infected patients.

Violence

Underscoring the deadly disease, pockets of civil violence have erupted; much of the recent violence has revolved around public dissatisfaction with government response, both in terms of lack of public-health education and outreach, and in terms of treatment and quarantine abilities. One rumor that is gaining traction is that EVD was brought to Africa by Caucasians; a resultant rise in targeted attacks on foreigners is possible. There are also reports of government employees and those associated with medical establishments having been threatened by those infected or impacted by EVD. Some U.S. humanitarian aid agencies have withdrawn non-essential staff from Liberia due to the surge in infection cases and constant security concerns. Some specific incidents include:

In April, a treatment clinic in Conakry, Guinea, came under attack when a mob claimed that health workers associated with Doctors Without Borders (MSF) brought EVD to the town; injuries resulted. MSF staff was evacuated, and its facility was temporarily closed.

Also in April, residents -- mostly children -- in New Kru Town, Liberia, protested the construction of a facility near a hospital that they believed would be an EVD hospice center. Police were brought in, but no violence was reported.
In early July, Sierra Leone’s President Ernest Bai Koroma attempted to allay public concern: “We are increasing police presence around health facilities, to uphold the law and prevent incidents of violence against health workers and vandalization of health facilities.” On July 17, a mob assaulted an EVD burial team in Kingtom; police intervened, and the burial went forward. Similar incidents have been reported in Kailahun, Kenema, and Bo districts since March.

In Liberia, on July 24, the brother of a teenaged victim set fire to the Health Ministry in an expression of frustration. Open-source media also reported an arson attack on a health clinic in Sierra Leone thought to be infecting people with EVD rather than treating them.

On July 27, residents of Kalahun district in Lofa, Liberia, prevented a U.S. humanitarian aid group accompanied with Ministry of Health employees from burying an Ebola victim. One of the team’s vehicles was set on fire.

A police protective detail has been assigned to the Elwa hospital, home to the Ebola isolation ward, in Monrovia, Liberia, as residents have threatened to burn down the facility if expansion construction moves forward.

Cote d’Ivoire has turned away 400 Ivorian IDPs who had been in Liberia since the 2010-11 civil war, despite a UN offer to screen the refugees for EVD, fearing perpetuating the outbreak.

Public Health Crisis Coupled with Socio-Cultural Factors

There are also cultural issues to contend with.

While governments are issuing guidance, including a ban on fruit-bat meat, many in rural West Africa practice traditional medicine, are skeptical of the central government, distrust modern technology (including personal protective gear), outright deny EVD’s existence, and perpetuate misinformation, all of which makes disease control very difficult. Yet, due to their familiarity with their environment, rural populations remain key to identifying changes in local ecosystems to enable public health officers to mobilize quickly.

Many patients, severely stigmatized by an Ebola infection, escape into the bush, shunned by their families and villages, not only sealing their own fate but perpetuating the disease. For this reason, or because some victims believe health workers may have sinister motives, many victims hide -- or refuse care -- from healthcare workers. Survivors may touch a victim’s body that may still have the active virus at a funeral and burial ceremonies. There is also a concern that West Africans travel more than Central Africans, either as part of nomadic tribes, through better transit infrastructure, condensed geographic proximity, or for commerce and/or work.

Medical practitioners are attempting to educate rural populations on wildlife consumption and interaction, as this is the first outbreak in West Africa, and the region’s healthcare system had no experience with protective measures or care for those infected. At greatest risk are medical workers trying to curtail the disease’s spread. So far, nearly 100 health workers have been infected -- with about half dying -- in this outbreak. The public health systems in the three hardest-hit nations, among the poorest in Africa, are weak without this health crisis; hospitals are poorly equipped; and staff, if present, are poorly trained. In Monrovia, Elwa Hospital is overburdened, and John F Kennedy Hospital – used by many expatriates -- is closed for decontamination. Other medical facilities have either closed or turned patients away due to understaffing and/or fear. As a result of a regional health ministerial in early July, regional medical workers and the WHO have agreed to “an integrated action plan,” and are sending relief teams. Cote d’Ivoire and Nigeria are also discussing implementing anti-EVD and containment protocols.

Constituent Guidance

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The United Nations Food and Agriculture Organization (FAO) warns against all contact with, including consumption of, fruit bats, which are a delicacy in West Africa and do not show symptoms when infected. Do not touch dead animals or sell or eat the meat of animals found dead. Do not hunt sickly animals. Bush meat is banned officially, but rural populations disregard the ban. Further, the FAO is undertaking an education campaign to improve information exposure on Ebola; to establish wildlife monitoring programs to identify infections more rapidly; and to identify alternative protein sources.

There are no WHO travel or trade restrictions in place for any of the impacted countries. Most Liberian land borders have been closed; roadblocks throughout the affected region and at border crossings have been established to take motorists' temperatures—something that may only be likely minimally effective and hugely risky, given that transmission is accomplished through bodily fluids and hygiene is questionable. Should OSAC constituents be stopped at a checkpoint, they should comply with requests but use personal thermometers or other medical instruments known to be sterile.

Regional airlines — Asky and Arik — have suspended service temporarily to and from Monrovia and Freetown; no other airlines with regularly scheduled service into those two airports have announced any changes. Both airports remain open, and procedures similar to those ongoing at roadblocks and land borders may occur. Some OSAC constituents have reported that airline tickets out of Liberia are difficult to obtain. However, the International Air Transport Association (IATA) and WHO are not recommending travel restrictions.

Liberian President Ellen Johnson Sirleaf addressed the nation on July 30 (full text), announcing the outbreak to be a Level 3 Emergency, the highest level used by WHO that allows for additional staff deployment. All non-essential government ministry staff was put on immediate compulsory leave for 30 days; all government agencies will be closed on August 1 for decontamination; public schools are closed until further notice; certain villages will be quarantined; and Ebola victims must be cremated immediately.

Sierra Leone’s President Ernest Bai Koroma announced on July 31 that health workers would have police and military aid; homes of infected patients would be quarantined; and house-to-house searches would begin to identify possible spread. Further, Koroma declared August 4 “National Stay Home Day” to thwart the spread. He also included 60-90-day quarantines for areas where Ebola was found, and a ban on public gatherings.

As of July 31, the Department of State has made no recommendations to restrict travel or work activities; U.S. embassies are operating normally, and all have released Security Messages. Similarly, the British Foreign and Commonwealth Office has advised Britons traveling to West Africa to “maintain strict standards of hygiene and avoid eating bush meat.”

As of July 31, OSAC constituents in Liberia are reporting long lines at banks for cash withdrawal, and expatriates have also been advised to stock up on basic food commodities in case shops close or run out of supplies.

The CDC advises the following preventative barrier nursing techniques:

- wearing of protective clothing (such as masks, gloves, gowns, and goggles)
- the use of infection-control measures (such as complete equipment sterilization and routine use of disinfectant)
- isolation of Ebola HF patients from contact with unprotected persons.

For more information on EVD, please visit the CDC’s Ebola Hemorrhagic Fever home page or view the latest CDC Health Advisory along with the July 31 Press Release issuing a Level 3 Travel Warning.

OSAC constituents in affected areas and throughout the region in the region who are not healthcare workers remain at a very low risk of contracting Ebola. Preventative measures that constituents have reported implementing include:

- restricting/deferring travel of non-essential staff to affected areas;

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• postponing meetings/training programming for large numbers of unvetted attendees;
• educating staff on prevention, detection, and general hygiene;
• tracking travel of personnel;
• increasing supplies of medical barrier equipment, including gloves, and establishing sanitation stations at office entrances and throughout offices;
• routine diagnostic testing;
• increasing communication with local contacts prior to conducting business;
• avoiding physical contact, to include handshakes, with strangers;
• adjusting contingency planning, to include land-based evacuation routes and preparation for visa acquisition; and
• avoiding host nation medical and government buildings.

Long-term Outlook

Because this outbreak is so geographically large, it may become a regional public health crisis, as isolation efforts are not supported by local populations and population density is high. Once the situation stabilizes, normalization could still take up to six months. It is unlikely, however, that Ebola would become a continental or global pandemic.

This outbreak could have a lasting effect on food security in the region. Many farmers are afraid to work their fields, and many markets have closed. Wild fruits, which many locals consume, may be contaminated by infected fruit bats. Unregulated burials of EVD victims could contaminate both soil and water systems.

Liberia may also postpone the Special Senatorial Elections, slated for October 14.

Virologists are confident the EVD virus is in the Guinean forest ecosystem and will likely return naturally, regardless of planned containment measures.

For Further Information

Please direct any questions regarding this report or the general security situation in West Africa to OSAC’s Regional Analyst for West Africa.