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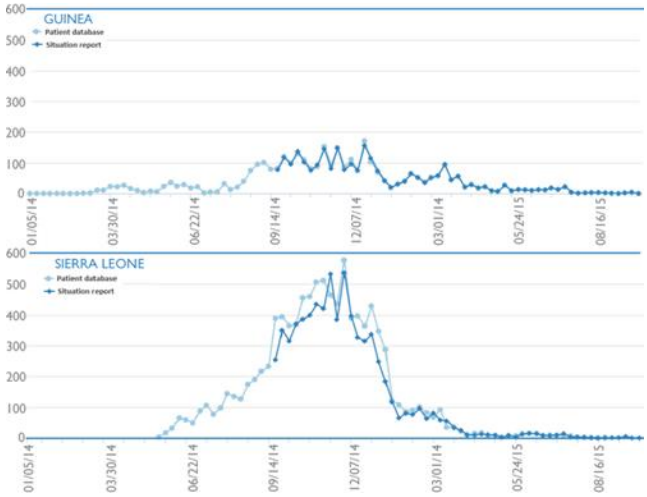
October 6, 2015

Ebola in West Africa: Issues with Elimination

Introduction

In January 2014, an Ebola outbreak began in Guinea, West Africa. As of September 20, 2015, more than 28,000 people have been sickened by the disease, including over 11,000 deaths. Nearly all of those cases and deaths have occurred in Guinea, Liberia, and Sierra Leone. Cases have also been discovered and contained in Mali, Nigeria, Senegal, as well as Britain, Italy, Spain, and the United States. The outbreak is ongoing, but at a significantly decelerated pace (**Error! Reference source not found.**). Since July 2015, weekly incidence has remained below 10 cases and in the week ending on October 4, 2015, no new cases were detected for the first time since March 2014. The World Health Organization (WHO) announced that the outbreak had ended in Liberia on September 3, 2015, and that no new cases had been detected in Sierra Leone since September 13, 2015.

Figure 1. Weekly Ebola Cases: 01/2014-10/2015
(Guinea and Sierra Leone)



Source: WHO, *Ebola Situation Report*, April 29, 2015 and October 7, 2015.

Notes: The April 29, 2015, Ebola Situation Report was the last one that included a graphic of weekly Ebola cases in Liberia, so Liberia is not included in Figure 1.

Ending the West Africa Ebola Outbreak

WHO considers an Ebola outbreak to have ended after 42 days have passed since the last confirmed case has tested negative twice. After an outbreak ends, WHO advises countries to maintain a system of heightened surveillance for a further 90 days to detect reemergence of the virus or undiagnosed cases. The West Africa Ebola outbreak will have ended after the 42-day period has elapsed in the last affected country.

Issues Complicating Elimination

An "Ebola-Free" declaration does not necessarily remain permanent. For example, WHO announced that the Ebola outbreak had ended in Liberia in May 2015 and again in September 2015 after health workers detected the disease in a 17-year-old male who died on June 28, 2015. According to WHO, successive outbreaks can occur due to human contact with infected animals, sexual transmission, or a missed transmission chain. Four (Congo, Democratic Republic of Congo, Gabon, and Sudan) out of six countries (the aforementioned four and Uganda and Cote d'Ivoire) that had previously had an Ebola outbreak experienced a second one within three years.

Although no new Ebola cases were detected in the week ending on October 4, 2015, new cases may emerge because over 500 people known to have had contact with an Ebola patient have been lost to follow-up in Guinea. Several other high-risk contacts in Sierra Leone have also been lost to follow-up. A number of other key factors raise prospects that Ebola may emerge again in the region, including:

- **Persistence of Ebola virus in survivors.** Health experts do not yet know how long the virus can survive in the body, and one of the cases that occurred in Sierra Leone in mid-September appears to have resulted from contact with a survivor (though epidemiologists are still investigating the source of that case). Due to possible sexual transmission of Ebola, WHO warns that Ebola reemergence can occur beyond the 42 days. WHO advises health workers in the three affected countries to test semen samples of all male Ebola survivors monthly until two negative results are obtained, and to advise Ebola survivors either to abstain from sex or to use condoms while engaging in sex until two negative results are obtained. Pregnant women are also advised to be tested for Ebola. It is unclear, however, whether these tests are being conducted, as Sierra Leone and Guinea both use post-mortem testing as the primary method of diagnosis.

- **Heavy reliance on post-mortem diagnoses.** In Sierra Leone and Guinea, 77% and 87% of diagnostic tests, respectively, are conducted on corpses. This means that cases are detected after death, requiring field workers to identify all previous contacts of the deceased. Heavy reliance on post-mortem diagnosis and inadequate access to rapid diagnostic tests heightens the likelihood that Ebola cases are being missed and that transmission chains may be forming without notice.

- **Inadequate access to rapid diagnostic tests (RDTs).** Heavy reliance on post-mortem diagnosis is linked, in part, to inadequate access to rapid diagnostic tests, particularly in private facilities. One of the cases that

emerged in Guinea in September 2015 went to a clinic and was discharged without being tested for Ebola. The 10-year-old girl was diagnosed with Ebola after she died. Efforts are underway to expand access to RDTs.

U.S. Efforts to End the Outbreak

The 2015 Consolidated Appropriations Act (P.L. 113-235) provided roughly $5.4 billion in emergency funds for fighting Ebola outbreaks domestically and globally. Of those funds, roughly $3.7 billion was designated for international efforts, and Congress permitted the Administration to spend an additional $532 million domestically or globally. This section focuses on international efforts.

The Inspectors General (IG) from the U.S. Agency for International Development (USAID), Department of Defense (DOD), Department of State (DOS), and Department of Health and Human Services (HHS) released a report that detailed the amount of appropriated funds that had been obligated and disbursed through June 30, 2015, for international Ebola responses. According to the report, the above agencies and departments had obligated more than $1.7 billion on related efforts, of which roughly 40% ($672.8 million) had been expended.

Although the number of U.S. officials based in the three countries has declined, U.S. agencies continued to support 11 Ebola treatment units (ETUs) and seven laboratories in the region as of June 30, 2015. At the peak of the outbreak, U.S. agencies were supporting 20 ETUs in Liberia alone. According to the IG report, U.S. assistance has also supported

- establishment of a national Emergency Operation Center (EOC) in Liberia and Sierra Leone, as well as provincial EOCs in Guinea;
- safe burial activities by teams in Liberia (53), Sierra Leone (55), and Guinea (104);
- provision of food and nutrition support to some 3 million people in the region;
- training of nearly 6,000 health workers in Sierra Leone and Guinea through partnerships with the International Organization for Migration (IOM), Catholic Relief Services (CRS), and other partners;
- training of more than 1,000 community mobilizers and religious leaders who had reached 3,000 villages to raise awareness about Ebola and reduce stigma;
- provision of approximately 435 metric tons of personal protective equipment (PPE), water, sanitation, and hygiene (WASH) supplies, and medicine;
- distribution of 40 metric tons of disinfectant to Ebola responders;
- provision of a daily meal to 245,000 children in Liberia and Guinea, and nutritional support for more than 1 million people in Sierra Leone; and
- distribution of 700,000 learning and teaching kits to more than 4,450 schools in Liberia.

Issues for Congress

As noted, Congress has provided significant resources toward ending the West Africa Ebola outbreak. Nearly half of these resources have been obligated, and the outbreak appears to be nearly contained. Congress is closely monitoring how the remaining resources are being obligated, as some Members would like to use any unobligated balance for other health purposes.

When Congress first provided emergency funding for containing the Ebola outbreak, some groups argued for a portion of the resources to be used to strengthen the health systems that were too weak to detect, respond to, or control the outbreak. Supporters of this idea advocate for using any unobligated amounts toward strengthening the health systems in the affected countries. In the health sector, for example, utilization of health services declined in all three countries due to clinic closures and clinic avoidance. As a result, all three countries reported declines in childhood immunizations and increases in measles cases. In Guinea, for example, an estimated 74,000 malaria cases were untreated in 2014; in Liberia, only 37% of women gave birth in a health facility between May and August of 2014, down from 52% during the same time period in the previous year; and in Sierra Leone, 80% of clinics offering services for pregnant women with HIV closed. In all three countries, health workers were among those who died during the outbreak. As of October 4, 2015, WHO reported that 513 health workers had died of Ebola in the three countries, including 100 in Guinea, 192 in Liberia, and 221 in Sierra Leone.

Other supporters have argued for applying any unobligated amounts toward addressing other neglected global health issues. Other observers have drawn attention to the setbacks that the countries experienced in their educational and economic sectors and are arguing for any unobligated funds to go to these areas.

Although this Ebola outbreak is waning, the disease can, and probably will, reemerge in the region. The three affected countries have gained experience on containing the outbreak, but their capacity to handle a future outbreak has been severely hampered by Ebola deaths among health workers, economic losses, and health systems that have been further weakened by the outbreak. Debates surrounding the best approach for containing the outbreak reflected long-standing arguments about whether to focus on a particular disease or on strengthening a health system. Such debates may recur, especially if the disease reemerges. For additional background information on the 2014 Ebola outbreak, see CRS Report R43697, *U.S. and International Health Responses to the Ebola Outbreak in West Africa*.

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