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Lead Inspector General Quarterly Progress Report on U.S. Government Activities

INTERNATIONAL EBOLA RESPONSE AND PREPAREDNESS

June 30, 2015



Mural to promote Ebola awareness in Monrovia, Liberia. (Photo by Jill Randall, USAID OIG, June 26, 2015)

Lead Inspector General
Quarterly Progress Report
on
U.S. Government
International Ebola Response &
Preparedness

June 30, 2015

FOREWORD

As of June 30, 2015, the Ebola virus disease epidemic in West Africa had sickened 27,550 people, resulting in the deaths of over 11,235 people worldwide, according to public health officials. The countries of Guinea, Liberia, and Sierra Leone have accounted for the overwhelming share of these cases and fatalities. In addition to immediate social and economic disruption from the Ebola virus disease outbreak, these countries also face other long-term socioeconomic effects. Several U.S. Government departments and agencies have been involved in the whole-of-government response for reducing Ebola transmission in West Africa, as well as efforts to address second-order effects and better prepare international health systems for future outbreaks. U.S. Government agencies have reported more than \$1.7 billion in obligations toward Ebola response, recovery, and preparedness efforts with an international nexus.

The Offices of Inspector General (OIGs) for the Department of Defense (DoD), the U.S. Agency for International Development (USAID), the Department of Health and Human Services (HHS), and Department of State (DOS) collaborate to provide independent and comprehensive oversight of related U.S. Government funds, activities, and programs. This coordinated approach helps reduce the risks to taxpayer dollars inherent in complex, international crisis response and recovery efforts. The Inspector General (IG) community is committed to deterring waste, fraud, and abuse and promoting effective use of U.S. Government resources, and is pleased to be able to exercise this commitment through the implementation of a lead IG framework and partnership for the oversight of overseas contingency operations.

This report describes U.S. Government activities related to international Ebola response and preparedness efforts, and the

FOREWORD

oversight of the federal departments and agencies primarily responsible for this effort. This report meets quarterly and biannual reporting requirements to Congress required under §8L of the IG Act of 1978, as amended (5 U.S.C. App.), and covers the period from April 1, 2015, to June 30, 2015.

/s/

Jon T. Rymer, Inspector General, DoD
Lead IG for Operation United Assistance

/s/

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Steve A. Linick, Inspector General, DOS

INTRODUCTORY MESSAGE

MESSAGE FROM THE LEAD AND ASSOCIATE INSPECTORS GENERAL

We are pleased to provide our second report to Congress describing the U.S. Government's response to the 2014-2015 West African outbreak of the Ebola virus disease. This report addresses a range of U.S. Government activities, including those associated with Operation United Assistance, the DoD mission to help combat Ebola virus disease in West Africa. This report describes related developments and activities from April 1, 2015, to June 30, 2015.

This report provides background information on the Ebola virus and the progression of the West Africa outbreak during this period as well as its effects on children, education, health systems, and the economies in the three countries primarily affected—Guinea, Liberia, and Sierra Leone. It also provides information on the U.S. Government's strategy for addressing the outbreak, as well as related funding, staffing, and activities. In addition, it describes oversight, coordination, and planning undertaken by the respective OIGs.

The U.S. Government has applied a whole-of-government approach to respond to the Ebola virus disease outbreak. These efforts initially focused on controlling the outbreak but now also include activities intended to address the second-order effects of the outbreak, build coherent leadership and operations, and strengthen global health security. During the quarter, these activities took place against a backdrop of declining Ebola virus disease cases which enabled agencies to shift their focus from response to recovery efforts.

Pursuant to section 8L of the IG Act of 1978, as amended, the OIGs for DoD, DOS, and USAID formed a collaborative partnership under

INTRODUCTORY MESSAGE

the auspices of a lead IG designated from among the three OIGs to provide oversight of the overseas contingency operation, Operation United Assistance. This arrangement offers a comprehensive and synchronized oversight and reporting framework. As Associate Inspector General, USAID OIG has assumed primary responsibility for developing this report and its content. However, the report reflects input from all three OIGs mentioned above, as well as from the OIG for HHS, which has been a primary participant in U.S. Government efforts to combat Ebola.

In leading this interagency effort, we remain dedicated to the principles of high-quality oversight with the goal of promoting efficiency and effectiveness. We are committed to continue to work with our interagency partners to provide independent and comprehensive oversight of U.S. Government efforts to combat the Ebola outbreak in West Africa and aid in related preparedness and recovery activities.

Lead Inspector General for Operation United Assistance
Jon T. Rymer
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/s/

Associate Inspector General for Operation United Assistance
Catherine M. Trujillo
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U.S. Agency for International Development

/s/



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USAID youth program participant waits for her school to reopen in Liberia (Photo by Adam Parr for USAID, Monrovia, Liberia, February 6, 2015)

EXECUTIVE SUMMARY

The Ebola virus causes one of the most highly fatal infectious diseases known, transmissible between people through contact with the bodily fluids of an infected person. The 2014-15 Ebola virus disease (EVD) outbreak in West Africa has been the largest EVD epidemic recorded to date with 27,550 cases resulting in 11,235 deaths worldwide as of June 28, 2015. Although the outbreak ultimately reached seven other countries, the three West African nations to face the disease first—Guinea, Liberia, and Sierra Leone—have accounted for the overwhelming majority of related cases and fatalities.

During this quarter, national health authorities reported a total of 1,999 new confirmed, probable, and suspected EVD cases, and 648 EVD deaths in Guinea, Liberia, and Sierra Leone. However, the number of new cases and resulting fatalities declined over the period. While there were 30 new confirmed cases per week across the three countries at the start of April 2015, this number had dropped to 20 by the end of June 2015. The number of confirmed EVD deaths per week followed a similar downward trajectory from 51 to 13 over the period.

Although the overall intensity of the epidemic has declined, it has followed different trajectories in each of the three most heavily affected countries. Guinea has seen more fluctuations, with periods of increased EVD incidence, followed by reduced evidence of the disease, and then a rise in cases once more. Liberia and Sierra Leone faced peak EVD cases in September and November 2014 with steadily declining numbers of cases ever since.

While Liberia experienced the highest number of EVD fatalities, accounting for 43 percent of deaths, it was also the first to be declared free of the disease in May 2015. Although another EVD

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case emerged in Liberia at the end of the reporting period, the country's experience of weeks without any new cases contrasted with the progress of the outbreak in neighboring nations where cases continue to emerge from previously unidentified chains of transmission.

Factors that have reportedly contributed to Liberia's success include government ownership and prioritization of the EVD response, a surge in resources from the international community, aggressive coordination of health and humanitarian efforts, and behavioral changes to reduce EVD exposure and mitigate consequences. In Guinea and Sierra Leone, community resistance to EVD prevention and mitigation protocols, the concealment of sick family members, and a return to unsafe burial practices have been identified as factors that have enabled the outbreak to continue. In June 2015, the Governments of Guinea and Sierra Leone launched intensified efforts to eliminate EVD in districts with active EVD transmission in coordination with local organizations and international donors.

All three countries have suffered serious economic consequences from the EVD outbreak as prior years' development and socioeconomic gains were reversed. These countries have experienced job losses, market disruption, reduced agricultural production, decreased household purchasing power, and increased food insecurity in association with the outbreak. Gross Domestic Product growth for each country has fallen below pre-outbreak projections and the World Bank estimates that economic losses for the three countries will amount to \$2.2 billion through 2015.

The EVD outbreak caused significant disruption to the three countries' health systems. Healthcare resources in these countries were diverted to EVD response efforts at the expense of existing

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health programs, healthcare workers succumbed to EVD, and some patients and healthcare workers avoided health facilities out of fear of contracting the disease. As a result, the citizens of these countries faced increased risks of other diseases and preventable deaths.

Children have accounted for 1 in 5 EVD infections and more than 18,200 children have reportedly lost a primary caregiver to EVD.

The EVD outbreak is also expected to have long-term, secondary effects on children. Children have accounted for 1 in 5 EVD infections and more than 18,200 children have reportedly lost a primary caregiver to EVD. After coping with EVD, many child survivors have reportedly been shunned by their relatives and communities. In addition, the EVD outbreak disrupted the education of millions of children as schools were closed at the start of the school year in September/October 2014 and did not reopen until the first half of 2015.

The severity of the EVD outbreak and potential consequences if unchecked prompted a significant response from the international community. The United States has been the largest international financial contributor to this effort, with U.S. Government agencies reporting \$1.7 billion in obligations associated with international Ebola response, recovery, and preparedness efforts, and \$672.8 million in corresponding disbursements.

The U.S. Government applied a whole-of-government approach to this work, drawing on the resources and expertise of USAID, HHS, DoD, and DOS. These efforts have been organized around a four-pillar U.S. Government strategy:

- I. Controlling the Outbreak
- II. Mitigating Second-Order Impacts of the Crisis
- III. Building Coherent Leadership and Operations
- IV. Strengthening Global Health Security

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CONTACT TRACING

Contact tracing is the process healthcare professionals use to map the network of individuals who may have had contact with a known EVD victim. By tracing the links between a patient, their family, their community, and beyond, healthcare workers can spread awareness of the danger of potential infection and isolate and observe those who may have been infected for the 21-day incubation period. By tracing contacts, healthcare workers can provide early treatment for any additional EVD victims.

The U.S. Government's Pillar I efforts to control the EVD outbreak initially focused on reducing EVD transmission in the affected countries. As the number of new EVD cases decreased in the first half of 2015, response efforts were redirected toward achieving and maintaining the goal of eliminating all cases of the disease. Through the end of June 30, 2015, Pillar I activities were associated with the largest share of U.S. Government international Ebola spending. More than 75 percent of USAID's Ebola preparedness and response obligations and 94 percent of disbursements were tied to Pillar I activities.

Although the intensity of the EVD outbreak declined during the quarter, responders remained vigilant and U.S. Government agencies sustained their activities. During the reporting period, USAID and the Centers for Disease Control and Prevention (CDC) aided in the effective operation of emergency operation centers at the national and sub-national levels in all three countries. As of June 30, 2015, the U.S. Government continued to support 11 Ebola treatment units that isolate and care for suspected, probable, and confirmed EVD patients. In addition, the U.S. Government worked to support diagnostic capacity by maintaining seven laboratories in the region. Meanwhile, CDC and USAID increased efforts to improve disease surveillance and contact tracing in high-risk areas through the training of healthcare workers and implementation of contact tracing programs.

While the U.S. Government maintained a focus on eradicating the disease in West Africa, it also engaged in Pillar II efforts to mitigate the second-order effects of the outbreak. With the underlying aim of helping maintain regional stability, U.S. Government efforts in this area have concentrated on increasing food security, restoring health systems and critical non-EVD health services, promoting effective

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governance and crisis mitigation, and advancing communication technology and other innovations.

During the reporting period, food security conditions remained stressed across the region with Sierra Leone experiencing higher levels of food insecurity than its neighbors. To address these conditions, USAID funded the delivery of food aid as well as food security monitoring and market research activities and began assessments of key food and agriculture production and supply chains.

To return non-EVD health services to pre-outbreak levels, USAID has focused on reestablishing and strengthening service delivery and providing technical assistance. USAID targeted several specific areas of intervention, including maternal and child health, immunization, newborn delivery and care, and social and behavior change communication.

To promote effective governance and economic crisis mitigation, USAID supported rehabilitation efforts related to the education system in Liberia and began developing projects to promote legislative reform related to public health and civil society in Sierra Leone and Guinea. USAID also advanced efforts to stimulate the economy by fostering private investment.

In the areas of innovation, technology, and partnerships, USAID is providing financial and technical support to facilitate the development, testing, and adoption of new approaches and



Sharing information via cell phone in Liberia. (Photo by Neil Brandvold for USAID, February 6, 2015)

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technologies in the fight against EVD. USAID works with local governments and other partners to improve the capacity of health information systems in West Africa and develop plans to strengthen communications infrastructure. These efforts are designed to enable more rapid two-way communication to support prevention, detection, and response to future public health crises.

Pillar III focuses on building coherent leadership and operations across the response effort, including the promotion of effective U.S. Government response and preparedness coordination. HHS, USAID, and DoD have committed significant numbers of personnel to support the implementation of the U.S. Government strategy for the Ebola outbreak in West Africa. HHS contributions included thousands of CDC personnel working in the United States and more than 1,000 CDC personnel deployed to West Africa, including some serving on multiple deployments. The equivalent of more than 300 full-time Food and Drug Administration (FDA) personnel also supported Ebola response efforts. USAID reported that it had mobilized a total of 465 personnel to support efforts to address the EVD outbreak. While Operation United Assistance (OUA) formally ended on June 30, 2015, at its peak DoD had deployed nearly 3,000 troops in Liberia.

The EVD outbreak in West Africa revealed vulnerabilities in local health authorities' capacity to rapidly detect and respond effectively to health threats and highlighted weaknesses in international health institutions' ability to help prevent an avoidable disease outbreak. To address these vulnerabilities, activities under Pillar IV of the U.S. Ebola response and preparedness strategy aim to strengthen global health security capacity in Africa. Under this pillar, the U.S. Government is assisting countries achieve global health security standards by supporting the enhancement of disease surveillance

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systems, laboratory and diagnostic facility biosafety and biosecurity, emergency planning and management, and medical and non-medical countermeasures.

The oversight community has an important role in helping ensure that these and other activities are implemented as intended and addressing related risks. The OIGs of DoD, USAID, HHS, DOS, and the Department of Homeland Security have planned and executed oversight efforts related to international Ebola response and preparedness programs. The Government Accountability Office also has oversight functions that extend to these efforts. These oversight bodies have issued two reports related to Ebola response and preparedness, while work is in progress or planned on 13 others. In addition, USAID OIG has established a dedicated Ebola Hotline to receive complaints of fraud, waste, or abuse and has started to receive information that has informed oversight efforts. During this period, OIGs opened three and closed two international Ebola-response related investigations, resulting in two debarment actions.

These efforts help provide assurance that U.S. Government funds dedicated to EVD response, recovery, and preparedness efforts are spent as intended and that related activities are implemented as effectively and efficiently as possible.

THE OUTBREAK

THE WEST AFRICA EBOLA OUTBREAK

The 2014-15 EVD epidemic in West Africa is the largest recorded in the history of the disease, and was associated with 27,550 suspected, probable, and confirmed cases of the disease and 11,235 deaths worldwide at the end of the reporting period.¹ Weak healthcare systems, delays in diagnosing the disease, and national governments that lacked experience identifying EVD or containing its transmission contributed to the disease's spread in the region.² As of June 28, 2015, the three most affected countries—Guinea, Liberia, and Sierra Leone—accounted for the overwhelming majority of recorded cases and fatalities with 99.9 percent of victims in both categories.³

Research has identified an 18-month-old boy from Meliandou, Guinea, as the first victim of the outbreak. Although he died on December 28, 2013, investigators did not conclude that he died of EVD until several months later.⁴ The first alert of an emerging outbreak was raised on January 24, 2014, when local health officials traveled to Meliandou, Guinea, to investigate cases of severe diarrhea with a rapidly fatal outcome. They suspected the unknown disease was cholera.⁵ Later studies have shown that the virus reached the Guinean capital, Conakry, on February 1, 2014, and that cases began to spread to other prefectures in the country.⁶ The Guinean Ministry of Health (MOH) issued an alert about the spread of an unidentified disease on March 13, 2014, and initiated an investigation into the source of the outbreak with the World Health Organization (WHO) and Médecins Sans Frontières (MSF).⁷ On March 22, 2014, the Institut Pasteur in France confirmed that the causative agent was the Ebola virus and the Guinean Government alerted WHO. The next day, WHO publicly announced the outbreak.⁸

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By April 1, 2014, Guinea reported 24 confirmed cases of EVD while Liberia had 2 confirmed cases to report and Sierra Leone was monitoring 2 probable cases of EVD infection.⁹ Newly reported EVD cases in Guinea and Liberia declined in April and May 2014, but the virus continued to spread.¹⁰ Sierra Leone reported its first EVD case on May 24, 2014.¹¹ On June 17, 2014, the Liberian government announced that Ebola was present in its capital, Monrovia.¹²

THE EBOLA VIRUS

First recorded in 1976, the Ebola virus takes its name from a river near the village in the Democratic Republic of Congo (then Zaire) where the Ebola virus was first identified.¹³ The Ebola virus is a zoonotic pathogen, meaning that it normally resides in animals and can be transmitted to humans. Outbreaks in humans originate from contact with wildlife, though the specific mechanism whereby this cross-species transmission occurs has not been identified. While the trade in bushmeat (the hunting of wildlife or use of an animal carcass for food) may be the most likely cause of Ebola transmission to human populations, any contact with Ebola-carrying species carries a risk of transmission.¹⁴ Once the virus finds a human host, it spreads from person to person through contact with bodily fluids.

EVD is classified as a viral hemorrhagic fever and has a severe impact on multiple organ systems.¹⁵ The Ebola virus infects many types of cells in the human body, especially those of the immune system, the liver, and the lining of blood vessels. Patients typically experience sudden onset of fever, chills, and body aches. Later symptoms may include vomiting, diarrhea,

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and bruising from blood vessels leaking. Both internal and external bleeding can occur.¹⁶

The Ebola virus is highly infectious, as a low dose of the virus is sufficient to cause the disease.¹⁷ The virus is present in many bodily fluids, including blood, saliva, breast milk, urine, semen, and sweat. Any contact with EVD patients' bodily fluids poses a risk for transmission of the disease.¹⁸ The virus continues to be shed in the blood and bodily fluids of a corpse and can remain infectious in the environment for several days.¹⁹

The Ebola strain causing the epidemic in West Africa was identified as the Zaire strain, the most lethal strain in the Ebola family.²⁰ According to an October 2014 study, when mortality rates for the West Africa EVD outbreak were calculated using only confirmed cases and deaths, the EVD fatality rate was 70.8 percent.²¹ In this EVD outbreak, the average incubation period has been about 11 days, with 95 percent of patients presenting symptoms within 21 days.²²

Guinea, Liberia, and Sierra Leone faced several challenges in addressing the epidemic, including community resistance, the presence of EVD in urban settings, inadequate treatment facilities, lack of personal protective equipment (PPE) and training on infection prevention and control, and insufficient human resources in certain affected areas.²³ Public health officials had difficulty collecting accurate data due to insufficient testing capacity to confirm cases of EVD and underreporting of illness or death where symptomatic individuals hid due to mistrust of government or healthcare institutions, or their fear of being ostracized by their communities.²⁴ As a result of these and other factors, the outbreak continued to grow.

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By June 23, 2014, WHO reported a cumulative total of 618 EVD cases and 357 deaths across the three countries.²⁵ In July 2014, EVD cases surged in the three countries and an EVD case was publicly confirmed in Nigeria on July 23. By July 30, 2014, the total number of EVD cases WHO reported in the four countries reached 1,440, with 826 deaths.²⁶

As the EVD outbreak became more severe, WHO declared it a “public health emergency of international concern” on August 8, 2014.²⁷ By August 31, 2014, WHO reported 3,685 probable, confirmed, or suspected EVD cases, and 1,841 deaths in Guinea, Liberia, and Sierra Leone.²⁸

On September 18, 2014, the United Nations (UN) Security Council declared the EVD outbreak in West Africa a “threat to international security and peace” and called for assistance from nations across the world to respond to the EVD outbreak.²⁹ That day, the UN also announced the establishment of the UN Mission for Ebola Emergency Response (UNMEER), the first-ever UN emergency health mission, to improve coordination of response activities.³⁰ UNMEER was established as a temporary body tasked with coordinating planning and response activities and addressing the larger socioeconomic effects of the EVD outbreak.³¹

In late September 2014, a CDC model predicted that, provided there were no additional interventions or changes in social behavior in Liberia and Sierra Leone, between 550,000 and 1.4 million people in West Africa could be infected by January 2015.³²

The number of new EVD cases reported per week in Liberia, Sierra Leone, and Guinea peaked in September, November, and December 2014, respectively. The figures began to decline at the start of 2015, from more than 300 new confirmed EVD cases

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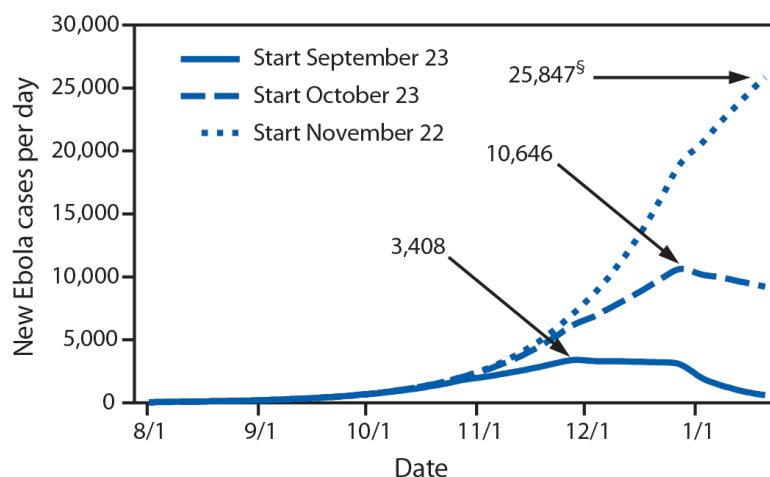


Figure 1: The figure above shows the estimated impact of intensified response efforts to control the EVD outbreak applied at different points in time based on models used by CDC in September 2014. The different trajectories correspond to different prospective start dates for increased interventions and their estimated impact on the number of new Ebola cases. The figures identified in the above graphic reflect peak projections of new Ebola cases for each of the different start date scenarios.

(Source: CDC, September 26, 2014)

per week at the beginning of the year to under 150 new confirmed cases per week in February and March 2015.³³ From April to the end of June 2015, the number of new confirmed EVD cases per week declined further to 20 cases.³⁴ From the end of March until June 2015, Liberia reported no new EVD cases.³⁵

THE PROGRESS OF THE OUTBREAK

National health authorities reported a total of 1,999 new confirmed, probable, and suspected EVD cases, and 648 new deaths in Guinea, Liberia, and Sierra Leone between April 5, 2015, and June 28, 2015.³⁶ The cumulative total since the outbreak started in the three countries stood at 27,514 confirmed, probable and suspected EVD cases, and 11,220 deaths through June 28, 2015.³⁷

During this quarter, the number of new confirmed cases per week in the three countries declined from 30 at the beginning of

THE OUTBREAK

April 2015, to 20 by the end of June 2015.

The number of confirmed EVD deaths per week followed a similar downward trajectory from 51 to 13 over the period.³⁸

Table 1 details reported EVD cases and deaths through June 28, 2015.

These broader trends disguise country-specific developments that have helped shape the progress of the outbreak. Each of the three countries most affected by the EVD outbreak has seen a unique pattern in the progression of the disease. Appendix B provides a detailed timeline of events associated with the West African EVD outbreak.

GUINEA

The EVD outbreak in West Africa traces its origins to Guinea, which experienced the first suspected EVD death in December 2013 in an area near its border with Liberia.³⁹ Since March 23, 2014, when WHO publicly announced the presence of EVD in the country, the outbreak has followed a cyclical pattern, with periods of intense transmission, declines in incidence, and subsequent increases in EVD cases.⁴⁰ The number of newly reported cases per week was under 10 in May and July 2014, peaked at 156 cases in December 2014, and declined again to less than 10 cases in May 2015.⁴¹ In comparison with neighboring Liberia and Sierra Leone, Guinea has had the fewest EVD cases and deaths, with 3,729 and 2,482, respectively, as of June 28, 2015.⁴²

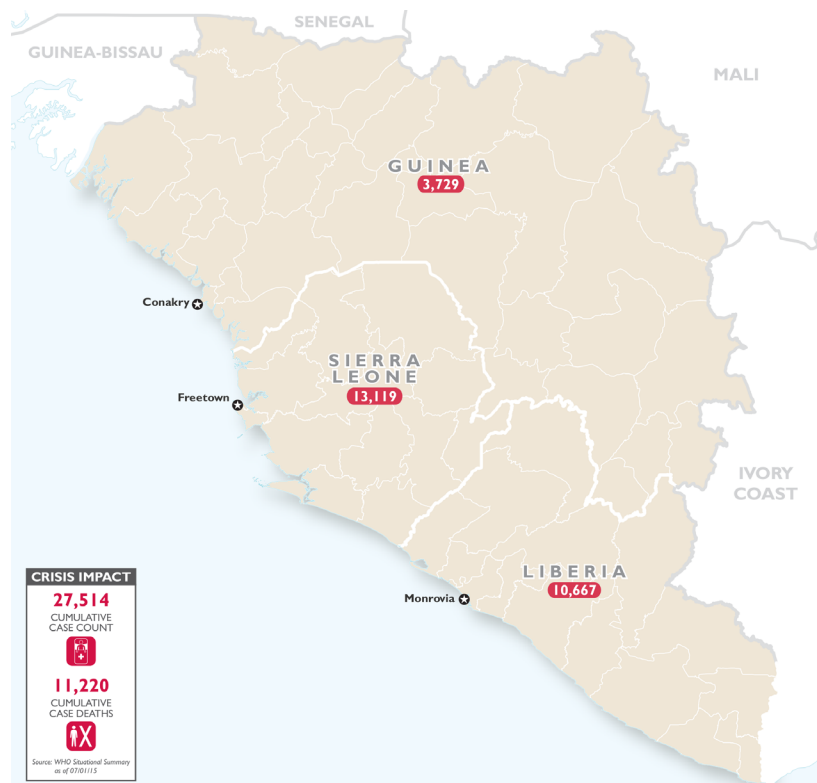


Figure 2: Cumulative EVD Case Counts by Country as of June 30, 2015.
(Source: USAID, June 30, 2015)

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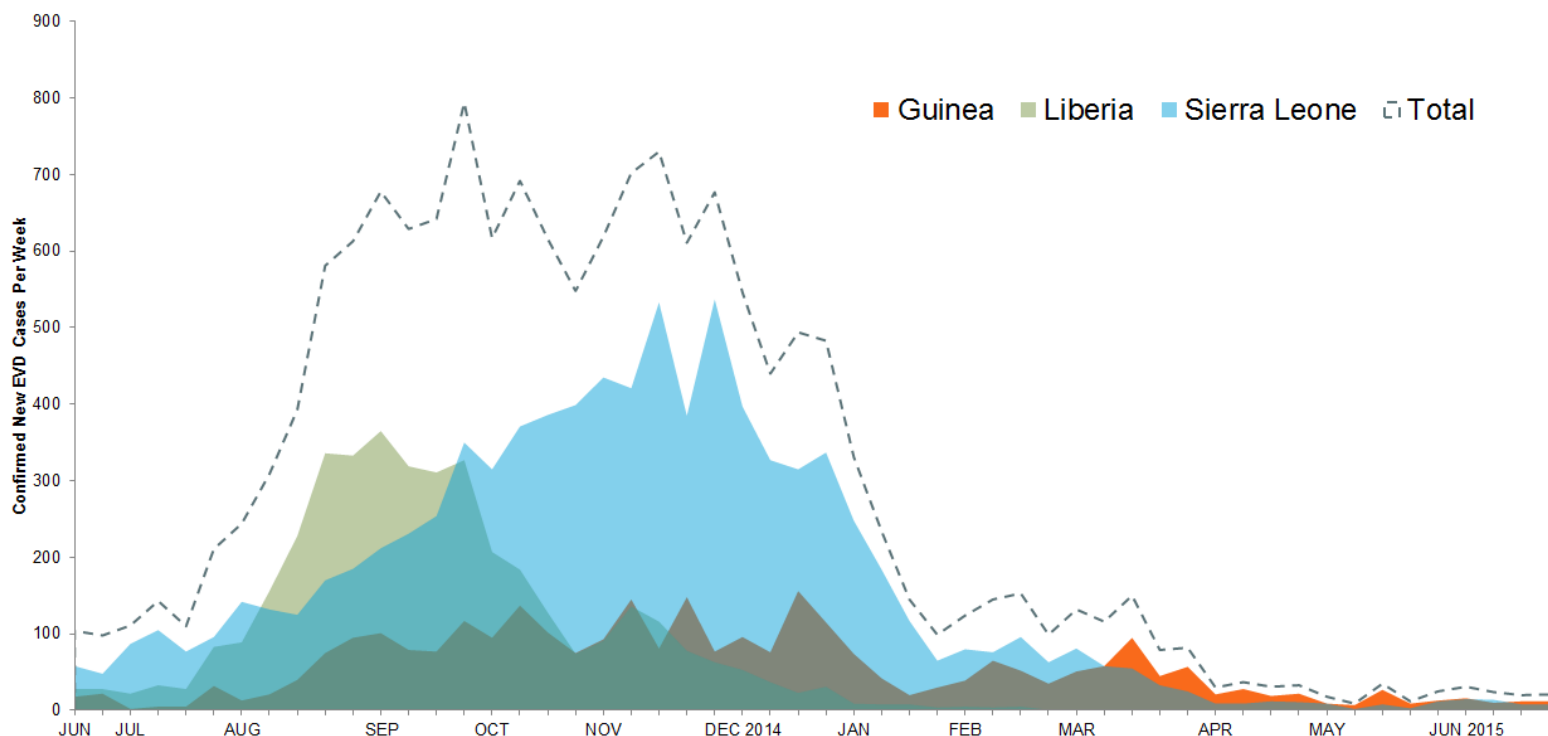


Figure 3: Reported new cases of Ebola per week, June 2014 – June 2015 (Source: CDC/WHO, July 2015)

| TABLE 1. REPORTED EVD CASES AND DEATHS THROUGH JUNE 28, 2015 | | |
|--|--|------------|
| Country | Confirmed, Probable, and Suspected EVD Cases | EVD Deaths |
| Guinea | 3,729 | 2,482 |
| Liberia | 10,666 | 4,806 |
| Sierra Leone | 13,119 | 3,932 |

Source: WHO, Ebola Situation Report, July 1, 2015.

During this reporting period, the number of new confirmed cases per week declined from 21 (April 5, 2015) to 12 (June 28, 2015).⁴³ The number of new EVD deaths per week also dropped over this period, from 19 to 9.⁴⁴ By the end of the reporting period, EVD cases were reported in three prefectures, including the capital, Conakry.⁴⁵ Responders have expressed particular concern about EVD cases in Guinean prefectures near neighboring Guinea-

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Bissau, and have scaled up cross-border surveillance and contact tracing in the area to reduce cross-border transmission risk.⁴⁶

Responders face ongoing challenges, including undetected chains of transmission, community resistance, and the continuing use of unsafe burial practices.⁴⁷ Early in the outbreak, gaps in the surveillance system occurred when families hid sick individuals and buried the dead in secret, and communities resisted cooperation with foreign medical staff.⁴⁸ Some communities in Guinea responded with hostility, fearing that foreign health responders were spreading the disease.⁴⁹

Community resistance has reportedly been more pronounced in Guinea than in neighboring countries grappling with EVD.⁵⁰ On September 18, 2014, an eight-member response team was found murdered in a Guinean village, and WHO has reported vandalism against facilities, equipment, and vehicles at multiple points during the outbreak.⁵¹ In April 2015, community members in Boffa attacked Guinean Red Cross staff and damaged the only operable ambulance in the prefecture.⁵² In May 2015, growing unrest in EVD-affected prefectures resulted in damaged infrastructure and attacks on responders. In one sub-prefecture, response staff temporarily withdrew and suspended operations as a result.⁵³

In April 2015, the Government imposed a 45-day reinforcement of emergency measures in five prefectures and in Conakry. Measures included restricting travel, closing private health facilities where EVD had been detected, and limiting burial participation to close relatives.⁵⁴ On June 5, 2015, the Guinean President extended the nationwide health emergency—which was initially declared in August 2014 and renewed in March 2015—until the end of June 2015.⁵⁵ At the end of June, international media reported

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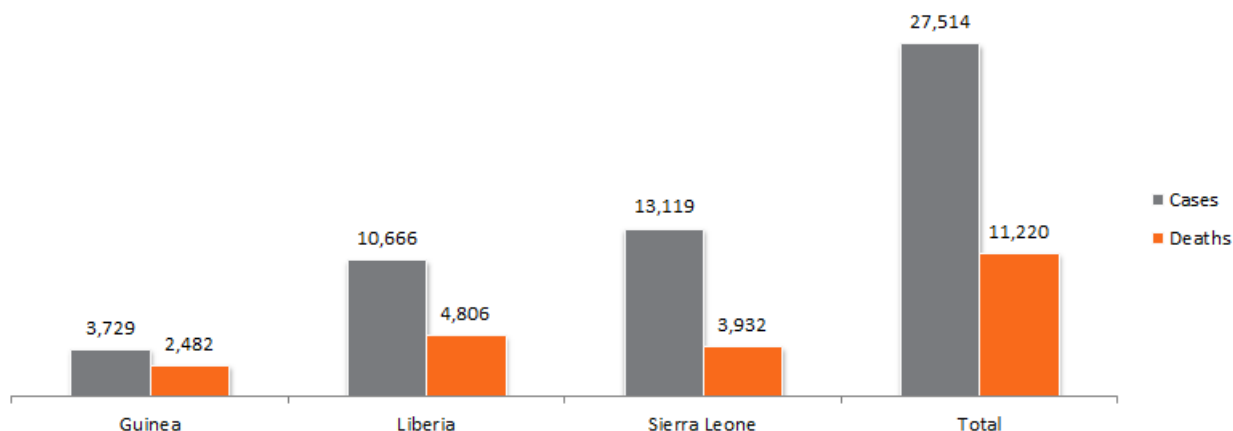


Figure 4: Number of suspected, probable, and confirmed cases of EVD and deaths as of June 30, 2015. The reported deaths are a subset of the number of cases. (Source: WHO, July 1, 2015)

that the government had imposed a 21-day quarantine on coastal villages, where the government and responders agreed to supply food and medicine.⁵⁶

LIBERIA

The peak of EVD transmission in Liberia occurred in September 2014, when public health officials reported 300–400 new suspected cases each week.⁵⁷ At that time, treatment centers had more patients than beds, medical facilities locked their gates, and patients died on hospital grounds.⁵⁸

As part of the broader international response effort, the U.S. Government took a lead role in supporting the Government of Liberia's EVD outbreak response.⁵⁹ In October 2014, as national and international responders mobilized, the number of new confirmed cases reported each week started to decline. By the end of November 2014, the number of new cases was under 100.⁶⁰ The incidence of new cases dropped to less than ten cases per week

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in January 2015, and continued to decrease until there were no confirmed cases on March 28, 2015.⁶¹

In a major watershed moment, 15 months after the first EVD case appeared in the country, WHO declared an end to the outbreak in Liberia on May 9, 2015.⁶² This turnaround is significant considering that Liberia had the highest number of EVD fatalities among the three countries hardest hit by the disease, with 4,806 deaths at the end of the reporting period.⁶³

Notwithstanding this success, health authorities maintained a vigilant watch for new EVD cases and focused on the risk of cross-border transmission as the outbreak persisted in neighboring Sierra Leone and Guinea.⁶⁴ Seven weeks later, a new EVD-positive case emerged in Liberia. That case was identified on June 29, 2015, through a post-mortem swab of a 17-year-old boy.⁶⁵

Several factors contributed to Liberia's dramatic reduction of cases after such a high incidence of the disease in 2014. The following have all been identified as positive contributing factors:

- The national government leading and prioritizing the EVD response;
- Community members being engaged and changing behaviors to reduce EVD exposure and mitigate consequences;
- The international community providing generous support and resources to control the EVD outbreak; and
- Responders closely coordinating health and humanitarian efforts.⁶⁶

Responders in Liberia have also received larger donor pledges than their counterparts in the other two affected countries, receiving

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\$1.680 billion in pledges from the international community as of July 1, 2015, according to the World Bank.⁶⁷

One indication of the state of Liberian EVD preparedness and response conditions is how the country coped with a new case after weeks without one. In late June 2015, when the first EVD case was identified in Liberia since WHO declared an end to the outbreak, the victim's father contacted a burial team, swabs of the body were sent to a laboratory for further confirmation, and responders quickly initiated contact tracing and quarantined individuals.⁶⁸

SIERRA LEONE

Sierra Leone was the last of the three most affected countries to report a laboratory-confirmed EVD case, a development that did not take place until May 24, 2014, more than 2 months after WHO declared an EVD outbreak in neighboring Guinea.⁶⁹ The outbreak peaked in Sierra Leone in November 2014, when 375–550 cases were reported a week.⁷⁰ These figures declined over the following 2 months with the number of new cases a week dropping below 100 by February 2015.⁷¹ The epicenter of the outbreak also shifted, as cases declined in the initial area of highest incidence in Kenema and Kailuhan Districts. The Western region of Sierra Leone has since seen the largest number of cases.⁷² By the end of June 2015, EVD transmissions were concentrated in Kambia and Port Loko Districts, as well as in a single neighborhood in Freetown, the capital.⁷³

During the quarter, the weekly number of new confirmed cases in Sierra Leone declined from 9 (at the beginning of April 2015) to 8 (by the end of June 2015).⁷⁴ The number of confirmed EVD fatalities per week also dropped over the period from 32 to 4.⁷⁵ The number of new cases reached a low of two cases per week

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in Sierra Leone in May, but has fluctuated since with disease surveillance and contact tracing proving challenging in communities along the porous border with Guinea.⁷⁶ As of June 28, 2015, Sierra Leone had experienced the highest number of EVD cases among the three most affected countries, with 13,119 confirmed, probable, and suspected EVD cases reported to WHO.⁷⁷

After Liberia, organizations responding to the outbreak in Sierra Leone were the next largest recipients of donor pledges, with \$1.133 billion pledged as of July 1, 2015.⁷⁸ As part of the international response effort, the United Kingdom served in a lead donor role in supporting the Government of Sierra Leone's EVD response.⁷⁹

In Sierra Leone, challenges in eliminating the disease have included undetected chains of transmission, community resistance, the concealment of sick family members, and a return to unsafe burial practices.⁸⁰ According to media reports, fear, fatigue, and denial have allowed EVD to persist, and parts of the population remain hesitant to change behaviors that increase transmission risk.⁸¹ Chains of transmission from unknown sources persisted during the quarter. Only half of the newly reported cases in the week of June 21, 2015, were associated with known contacts of previous victims.⁸² In addition, media reports indicated that some Ebola burial teams in Sierra Leone had been extorting money from families to conduct safe burials, leading to an increase in secret burials conducted outside of safety protocols that undermined anti-EVD measures.⁸³

A curfew to halt the spread of EVD in affected chiefdoms started on June 15, 2015, but people reportedly continued to travel, trade, and hold meetings after the 6:00 p.m. curfew.⁸⁴ On June 16, 2015,

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the Government of Sierra Leone worked with local communities and responders to launch Operation Northern Push in the country's northern districts, a 21-day surge to get to zero EVD cases by ending behaviors that perpetuate EVD transmission.⁸⁵ Responders also renewed anti-EVD efforts in the Western Area Urban District, which includes Freetown.⁸⁶ Sierra Leonean authorities have relaxed curfew restrictions in districts that have not recently seen cases with the aim of increasing business activity and promoting economic recovery.⁸⁷

CRITICISMS OF INTERNATIONAL RESPONSE

International health authorities initially thought that the West African EVD outbreak could be brought under control as quickly as previous outbreaks. However, the epidemic progressed differently than expected and response delays contributed to the spread of the disease.⁸⁸ Early warnings and concerns about the severity of the outbreak articulated on the ground from May to July 2014, particularly by MSF, were reportedly met with skepticism by WHO officials.⁸⁹

WHO serves as the leading authority for health within the UN system and is charged with shaping global health policy and research, setting global health standards, providing health sector support to countries, and examining global health situations and developments.⁹⁰ In addition, WHO is responsible for providing aid and technical assistance to countries during emergencies upon the request of host governments.⁹¹

On June 23, 2014, MSF warned that the epidemic was out of control and that available human resources and equipment had reached their limit in containing the disease. The organization

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asked governments and aid organizations to deploy resources on a large scale to control the epidemic.⁹²

A number of observers have concluded that the international community's response to the outbreak was slow, and delays in funding response efforts may have contributed to EVD spread and increased future financial requirements.⁹³ As the EVD outbreak worsened and the number of EVD cases increased to approximately 1,000 new cases per week in September 2014, public criticism of the speed and scale of international community's response intensified.⁹⁴ Six months passed after WHO first declared the Guinean EVD outbreak before substantial donor support reached the affected countries. According to the UN Development Program, these resources were not deployed rapidly enough to respond to the swift spread of the disease.⁹⁵

An independent panel reviewed WHO's response and concluded that the affected countries, WHO, and the wider global community "were all 'behind the curve' of the rapid spread of the Ebola virus."⁹⁶ The panel was critical of WHO for failing to accurately identify the severity and spread of the disease, being slow to mobilize other international partners, and for lacking needed emergency response management capacity.⁹⁷

At the 68th World Health Assembly in May 2015, WHO member states approved deep structural reforms to WHO's emergency response program, including the establishment of a \$100 million emergency contingency fund, the institution of an all-hazards emergency program, and the development of clear and effective command and control mechanisms within headquarters, regional, and country offices.⁹⁸ These reforms were designed to

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address identified shortcomings in WHO's response to the 2014 outbreak, and enable WHO and the international community to better prepare for and respond to future emergencies and disease outbreaks.⁹⁹

SECONDARY EFFECTS

In addition to the direct effects of increased morbidity and mortality, and immediate social and economic disruption that the EVD outbreak has caused in West Africa, it has also had other long-term effects. These effects can be seen in relation to children, educational and health systems, and the broader economy. See Table 2 for information on development indicators for Guinea, Liberia, and Sierra Leone.

| Table 2. Development Indicators for Guinea, Liberia, and Sierra Leone | | | |
|---|-----------------|-----------------|-----------------|
| Indicators | Guinea | Liberia | Sierra Leone |
| Population (2014) | 12.04 million | 4.397 million | 6.205 million |
| Gross Domestic Product (GDP)(2014) | \$6.624 billion | \$2.027 billion | \$4.892 billion |
| Gross National Income per capita (2014) | \$480 | \$400 | \$720 |
| Life Expectancy (2013) | 56 years | 61 years | 46 years |

Source: World Bank Group

THE OUTBREAK

EFFECTS ON CHILDREN AND EDUCATION

Approximately 9 million children live in the affected areas of the three countries. The EVD outbreak has had a devastating impact on many, as thousands of children have been infected, killed, or orphaned by the disease.¹⁰⁰ Children have accounted for about 20 percent of EVD infections in Guinea, Liberia, and Sierra Leone, and the mortality rate for children under the age of 5 has been

80 percent.¹⁰¹ More than 18,200 children have reportedly lost one or both parents or primary caregivers to EVD.¹⁰² Child survivors of EVD have also been stigmatized, and there have been reports of children shunned by their relatives and communities as a result.¹⁰³ Additional information on the long-term effects of EVD on its survivors is discussed in the next section.

The three countries most heavily affected by the outbreak had poor education indicators prior to the EVD epidemic, as only 58 percent, 34 percent, and 74 percent of children attended primary school in Guinea, Liberia, and Sierra Leone, respectively.¹⁰⁴ The outbreak further disrupted the education of millions of children, as schools in all three countries were closed at the start of the school year in September/October 2014.¹⁰⁵ As the outbreak waned in early 2015, schools began to reopen but the epidemic had left many parents without a steady income to pay for school fees and supplies.¹⁰⁶



Empty classroom in Liberia (Photo courtesy of USAID, February 6, 2015)

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Nearly all of Guinea's 12,000 schools reopened in January 2015, and more than 1.3 million children returned to schools.¹⁰⁷ Schools in Liberia reopened in phases in February and March 2015, and Sierra Leone reopened schools in April 2015.¹⁰⁸

EFFECTS ON THE HEALTH SYSTEM

Prior to the EVD outbreak, health systems in Guinea, Liberia, and Sierra Leone had limited capacity and were supported by weak infrastructure.¹⁰⁹ In 2013, Guinea, Liberia, and Sierra Leone spent \$7, \$14, and \$11 per person on health services, respectively.¹¹⁰ When EVD spread, the health institutions in these countries were quickly overwhelmed and the quality and availability of care deteriorated.¹¹¹

As the EVD outbreak intensified across the three countries, important health services unrelated to EVD response were also affected. Health resources were diverted from basic health services to the EVD response, significant numbers of healthcare workers succumbed to EVD, and some patients and healthcare workers avoided health facilities out of a fear of contracting the disease.¹¹² In Liberia, the utilization of primary health care services in 2014 decreased by 39 percent in comparison with 2013.¹¹³ Sixty percent of HIV/AIDS care centers in the country reportedly closed after the onset of the outbreak.¹¹⁴ In Guinea, an estimated 74,000 cases of malaria went untreated in 2014.¹¹⁵

At the height of the outbreak, observers expressed concern that the outbreak's effects on the health system could lead to increased numbers of maternal deaths from preventable causes because ambulances for obstetric emergencies were diverted to the EVD response, and some pregnant women were reportedly afraid to visit healthcare facilities or were turned away from an overstretched

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health system.¹¹⁶ At the time, the UN Population Fund estimated that more than 120,000 women could die of complications from pregnancy and childbirth.¹¹⁷ In Liberia, only 37 percent of women gave birth in a health facility between May and August 2014, down from 52 percent in the previous year.¹¹⁸ Meanwhile, in Sierra Leone, 80 percent of clinics offering services for pregnant women with HIV closed.¹¹⁹ Another report indicated that, as of October 2014, overall levels of health service delivery in Sierra Leone had declined by 23 percent in local health units.¹²⁰

Healthcare workers were among the first to contract EVD due to their close proximity to EVD victims and the application of ineffective infection prevention and control practices.

The EVD outbreak also contributed to a drop in vaccination coverage. As a result, significant numbers of children have been exposed to risks of contracting vaccine-preventable diseases. The United Nations Children's Fund (UNICEF) reported that the number of children in Sierra Leone receiving basic immunization declined by 21 percent in 2014.¹²¹ All three countries reported an increased number of measles cases in 2014 compared with 2013. Sierra Leone and Guinea reported an increase of 26 and 156 cases, respectively, while Liberia reported 22 new cases compared to zero the previous year.¹²²

At the beginning of the outbreak, WHO estimated that there were only 1 or 2 doctors per 100,000 people in the three countries, and only around 50 doctors in Liberia as a whole.¹²³ Years of civil war and disruption limited opportunities for formal education and reduced local workforce capacity to address health challenges of this kind.¹²⁴

Healthcare workers were among the first to contract EVD due to their close proximity to EVD victims and the application of ineffective infection prevention and control practices. International health officials signaled alarm at the high levels of healthcare

THE OUTBREAK

worker infections during this outbreak; something that had not been as prominent a feature of past EVD outbreaks.¹²⁵ As of June 28, 2015, international health officials reported that a total of 874 healthcare workers had been confirmed as having been infected with EVD in Guinea, Liberia, and Sierra Leone, with a total of 509 fatalities.¹²⁶ According to the World Bank, the loss of health workers due to EVD could increase maternal mortality by an additional 4,022 deaths across the three countries, an increase of 38 percent in Guinea, 74 percent in Sierra Leone, and 111 percent in Liberia.¹²⁷

EFFECTS ON THE ECONOMY

Guinea, Liberia, and Sierra Leone suffered serious economic consequences as a result of the EVD outbreak, as prior years' development and socioeconomic gains were reversed. Before the outbreak, the three countries ranked in the bottom decile in the world in per capita income, and more than 7 in 10 people in each country lived on the equivalent of less than \$2 per day.¹²⁸ These conditions have worsened since the outbreak. Socioeconomic effects from the EVD outbreak have included job losses, market disruption, reduced agricultural production, decreased household purchasing power, and increased food insecurity.¹²⁹ The UN Development Group reported that between 2014 and 2015, poverty could increase, on average, between 7 and 16 percent in the three countries.¹³⁰

GDP growth for each country in 2014 fell below pre-outbreak expectations. In Liberia, projected GDP growth of 5.9 percent fell to an estimated 0.7 percent in 2014. In Sierra Leone the drop was from 11.3 to 7.1 percent, and, in Guinea, from 4.5 to 1.1 percent.¹³¹ The World Bank estimated that, through 2015, GDP losses for the three countries would amount to \$2.2 billion.¹³² Liberia's GDP

THE OUTBREAK

growth in 2015 is now expected to amount to 0.5 percent, well below pre-Ebola growth estimates of 6.8 percent.¹³³ Guinea is projected to experience no GDP growth in 2015, compared to the pre-EVD estimates of 4.3 percent.¹³⁴ In April, the World Bank estimated that Sierra Leone's economy would contract by 23.5 percent in 2015, losing \$1.4 billion in value.¹³⁵

The EVD outbreak has reduced economic activity, which in turn undercut employment and household income.¹³⁶ The road blocks and closed borders that helped contain the spread of EVD also hampered economic activity by limiting trade and restricting the movement of people, goods, and services.¹³⁷ A decline in key commodity prices in 2014, such as for exports like iron ore, formed the basis for additional external shocks to the economies.¹³⁸ In Liberia, mining and service sector activities decreased as companies scaled down or suspended their operations in the country.¹³⁹ In Sierra Leone, formal employment declined by 50 percent in the private sector.¹⁴⁰ In Guinea, manufacturing and agricultural production declined, mining companies decreased operations and delayed projects, and exports to neighboring countries stalled.¹⁴¹

The EVD crisis reached its peak at the start of the planting season in 2014 and conditions surrounding the outbreak affected food supplies, agricultural markets, and sales.¹⁴² In Liberia, an EVD-related decline in agricultural production contributed to lower agricultural output, as the 2014 harvest was reported to be smaller than the previous year.¹⁴³ Guinea reported a 10 percent reduction in rice production in 2014.¹⁴⁴ Agricultural activities and land preparation for the upcoming 2015-16 cropping season were underway during this quarter and will shape future yields.¹⁴⁵

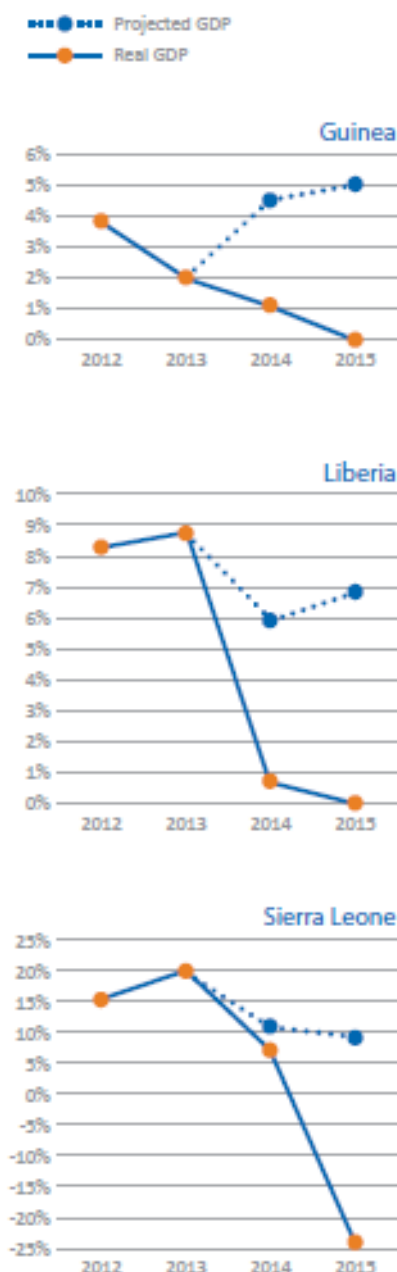


Figure 5: Economic Trends Due to the EVD Crisis in Guinea, Liberia, and Sierra Leone. (Source: Manu River Union, July 2015)

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As Liberia recovers from the EVD outbreak, the World Bank reported signs that its agricultural sector had rebounded, its mining sector has remained resilient, and its level of employment is slowly improving.¹⁴⁶ In Sierra Leone, economic activities in the country improved as many restrictions were lifted and the border with Liberia was reopened in February 2015.¹⁴⁷ According to a June 2015 survey conducted by the Government of Sierra Leone, employment levels in the country had returned to pre-crisis levels, but earnings and work hours remained low and food insecurity high.¹⁴⁸ The agriculture sector also reportedly showed signs of improvement as rural commodity markets returned to normal and the 2014 rice harvest was comparable with previous harvests.¹⁴⁹ However, the Famine Early Warning System Network (FEWS Net) reported in May 2015 that rice planting activities in some communities, particularly in Sierra Leone, were below average.¹⁵⁰

RECOVERY PLANS

As Liberia, Sierra Leone, and Guinea continue efforts to get to and maintain zero EVD cases, the countries must also address the social, economic, and health consequences of the outbreak. In April 2015, Liberia, Sierra Leone, and Guinea released country recovery plans.¹⁵¹

Liberia's Economic Stabilization and Recovery Plan includes initiatives for restoring GDP growth to pre-crisis levels by creating jobs and developing key sectors; strengthening resilience and reducing vulnerability among the poor and at-risk groups; and rebuilding and strengthening the delivery of core social services, particularly in rural areas.¹⁵² The plan focuses on achieving these objectives by stimulating private-sector growth and diversifying exports; improving infrastructure; increasing access to and

utilization of quality health and social welfare services; and supporting public finances and governance.¹⁵³ Liberia's recovery plan is expected to cost \$1.3 billion over 3 years.¹⁵⁴

Sierra Leone's National Ebola Recovery Strategy Plan, which is estimated to cost \$1.3 billion, covers a 24-month period and focuses on:

- Achieving and maintaining zero EVD cases;
- Restoring socioeconomic services, including healthcare, education, water and sanitation; and
- Restoring economic growth and output.¹⁵⁵

Immediate priorities identified by Sierra Leonean authorities include restoring health services and the healthcare system; reopening educational facilities; enhancing food security; expanding water, sanitation, and hygiene services; increasing private sector participation in the economy; expanding social protection services to vulnerable populations; and closing the fiscal gap.¹⁵⁶

The Government of Guinea is focused on achieving zero EVD cases before tackling broader recovery efforts. With an estimated cost of \$2.577 billion, Guinea's Post-Ebola Priority Action Plan identifies priority programs and support measures to promote socioeconomic recovery and resilience over a 3-year period.¹⁵⁷ Identified priorities include upgrading and developing the health system; strengthening access to water, sanitation and hygiene; accelerating the spread of literacy; strengthening the advancement of women; and improving child protection.¹⁵⁸ In addition, the Plan emphasizes the need for steps to improve the business climate; re-launch industry and diversify economic activities; develop infrastructure; support the agricultural sector; and revitalize trade.¹⁵⁹

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A member of the Disco Hill Cemetery burial team prepares to conduct a safe and dignified burial. (Photo by Adam Parr for USAID, February 5, 2015)

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The Ministries of Health for Guinea, Liberia, and Sierra Leone also presented draft health sector recovery plans to the international community in April 2015 to get to and sustain zero EVD cases, restart critical health services, and create a more resilient health system.¹⁶⁰ The initial estimated cost of implementing these health sector recovery plans, as part of overall national recovery plans, over the next 2 to 3 years is \$2.117 billion for the three countries combined.¹⁶¹

The UN planned a pledging conference in July 2015 to help raise funds from the international community to address the funding gap the three countries face in financing the rebuilding of their economic and health systems.¹⁶²

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U.S. GOVERNMENT RESPONSE TO THE OUTBREAK

The U.S. Government has been an important contributor to international Ebola response efforts. This engagement started in March 2014, when CDC deployed personnel to help with initial response efforts.¹⁶³ Following the August 2014 disaster declarations in Guinea, Liberia, and Sierra Leone, USAID deployed a Disaster Assistance Response Team (DART) to the region to assess conditions, coordinate the interagency response, and identify gaps in the EVD response effort.¹⁶⁴ In September 2014, DoD began providing support under OUA.¹⁶⁵

On September 16, 2014, the President announced the U.S. Government's strategy for EVD outbreak response and preparedness.¹⁶⁶ The strategy is organized around four pillars of activity:

- I. Controlling the Outbreak
- II. Mitigating Second-Order Impacts of the Crisis
- III. Building Coherent Leadership and Operations
- IV. Strengthening Global Health Security¹⁶⁷

The U.S. Government has applied a whole-of-government approach to these efforts. USAID was designated as the lead federal agency to manage and coordinate the U.S. effort to fight the Ebola outbreak overseas, and has worked through partner organizations to advance related objectives.¹⁶⁸ CDC led the medical and public health component of U.S. Government response efforts, DOS had responsibility for advancing related diplomatic efforts, and DoD supported civilian-led response efforts with military response efforts. The U.S. Public Health Service (USPHS) provided personnel support to treat infected healthcare workers and other

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front line responders. Other federal agencies also made significant contributions to the overall U.S. response.

FUNDING RESPONSE AND PREPAREDNESS EFFORTS

Initial U.S. Government response efforts were supported by funds appropriated under existing accounts. As the response effort grew in intensity, the President transmitted an emergency appropriations request to Congress. Congress later provided more than \$5.370 billion in emergency funds for Ebola prevention and response as part of the Fiscal Year (FY) 2015 omnibus appropriation (P.L. 113-235, December 16, 2014). Of the total amount provided, \$3.726 billion was specifically designated for international efforts, with an additional \$532 million for use in either domestic or international settings.¹⁶⁹ Congress appropriated these funds to several federal agencies. Whereas appropriations to USAID and DOS have a clear tie to international activities, funds appropriated to HHS and DoD were approved to support domestic or international work.¹⁷⁰ Funding that supports vaccine and therapeutic drug development, for example, may be used in the United States or abroad.

Congress made funds that it provided for Ebola preparedness and response available over different periods and subject to different use and reporting requirements. Congress limited funding for DOS diplomatic and consular programs, Ebola funding for the National Institutes of Health (NIH), and USAID operating expenses for use through FY 2016,¹⁷¹ designated the period of availability for CDC and HHS' Public Health and Social Services Emergency Fund Ebola funding through FY 2019,¹⁷² and provided that USAID Global Health, International Disaster Assistance (IDA), and FDA funding

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would be available until expended.¹⁷³ Congress also provided that funds available to DOS and USAID could be used to reimburse other agency accounts for obligations made prior to the enactment of the appropriation measure.¹⁷⁴ Whereas Congress required HHS to provide notification of uses of funding on a quarterly basis, it mandated that USAID and DOS provide monthly reports on the use of appropriated Ebola preparedness and response funds through at least September 30, 2016.¹⁷⁵ In addition, in some cases USAID spending on Ebola-related activities has been delayed pending congressional action. USAID reported that, as of June 30, 2015, it was awaiting the release of congressional holds on a total of \$20.6 million in Ebola-related funding, about half of which dated to a congressional notification from January 12, 2015.¹⁷⁶

Overall, as shown in Table 3, available financial reporting on interagency Ebola preparedness and response activities indicates that U.S. Government agencies had obligated \$1.727 billion toward these efforts by June 30, 2015. Available information on U.S. Government Ebola-related spending indicates that \$672.8 million had been disbursed as of June 30, 2015. As a share of total obligations, these disbursements accounted for 39 percent.

As DOS was unable to provide updated financial information on Ebola-related spending this quarter, the DOS figures shown in Table 3 are based on information provided by DOS as of May 1, 2015, or obtained from other sources.

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Healthcare worker wearing PPE. (Photo by USAID OIG Audit Team, June 25, 2015)

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**TABLE 3. U.S. GOVERNMENT INTERNATIONAL EBOLA-RELATED APPROPRIATIONS, OBLIGATIONS, AND DISBURSEMENTS AS OF JUNE 30, 2015
(UNAUDITED, IN MILLIONS OF DOLLARS)**

| Department / Agency Account | Appropriated [†] | | | Total | Obligated | Disbursed |
|---|---------------------------|--------------------|------------------------|-----------------------|--------------------|--------------|
| | FY 2013 | FY 2014 | FY 2015 | | FY 2014-15 | FY 2014-15 |
| DoD[‡] | 18.9 | 838.3 | 181.8 | 1,039.0 | 506.1 | 287.2 |
| Overseas Humanitarian, Disaster Assistance, and Civic Aid | - | 750 | - | 750 | 330.2 | 204 |
| Cooperative Threat Reduction | 15.5 | 74.3 | - | 89.9 | 49.3 | 30.5 |
| Research, Development, Training & Education | 3.4 | 13.9 | 164.8 | 182.1 | 112.6 | 51 |
| Procurement | - | - | 17 | 17 | 14 | 1.7 |
| Operations & Maintenance | - | <0.1 | | <0.1 | <0.1 | <0.1 |
| DOS[§] | - | - | 46.7 | 46.7 | 27.1 | 9 |
| Diplomatic & Consular Programs | - | - | 36.4 | 36.4 | 22.1 | 9 |
| Nonproliferation, Anti- Terrorism, Demining, and Related Programs | - | - | 5.3 | 5.3 | 5 | - |
| Economic Support Fund | - | - | 5 | 5 | - | - |
| HHS | - | 33.2 | 1,621.4 | 1,654.60 | 225.3 | 54.9 |
| CDC | - | - | 1,200.0 ^{††} | 1,200.0 ^{††} | 71.2 ^{††} | 39.5 |
| NIH | - | 33.2 ^{††} | 238.0 ^{††} | 271.2 ^{††} | 100.9 | 11.3 |
| Public Health & Social Services Emergency Fund | - | - | 157.0 ^{††} | 157.0 ^{††} | 51.2 | 2.2 |
| FDA | - | - | 26.4 ^{††} | 26.4 ^{††} | 2 | 1.9 |
| USAID^{§§} | - | - | 2,479.6 | 2,479.6 | 968.9 | 321.7 |
| IDA | - | - | 1,436.3 ^{†††} | 1,436.3 | 816.4 | 318.3 |
| Economic Support Fund | | | 706.7 ^{†††} | 706.7 | 85.2 | 3.3 |
| Global Health Programs | - | - | 312 | 312 | 65.2 | - |
| Operating Expenses | - | - | 19 | 19 | 1.7 | <0.1 |
| OIG | - | - | 5.6 | 5.6 | 0.3 | 0.1 |
| TOTAL | 18.9 | 871.5 | 4,329.5 | 5,219.9 | 1,727.4 | 672.8 |

Sources: DoD OIG, DOS OIG, HHS OIG, USAID Office of Budget and Resource Management, Congressional Research Service, and P.L. 113-235.

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TABLE NOTES

† Appropriations figures include funding that was originally appropriated to other accounts or for other purposes and was realigned or reprogrammed to support Ebola response activities, such as funding appropriated in FYs 2013 and 2014. These figures do not include funds specifically appropriated for *domestic* Ebola preparedness and response.

‡ DoD management asserted to DoD OIG that the DoD FY 2014 and FY 2013 Basic Financial Statements would not substantially conform to U.S. generally accepted accounting principles and that DoD financial management and feeder systems were unable to adequately support material amounts on the basic financial statements as of September 30, 2014. Because of the significance of this and other scope limitation matters, DoD OIG could not obtain sufficient appropriate evidence to provide a basis for an audit opinion. Accordingly, DoD OIG did not express an opinion on the DoD FY 2014 and FY 2013 Basic Financial Statements. Thus, the basic financial statements may have undetected misstatements that are both material and pervasive.

Amounts reported for DoD Research, Development, Training & Education include estimates for ongoing work.

§ DOS appropriation, obligation, and disbursement figures are based on information provided by DOS as of May 31, 2015, or obtained from other sources.

†† CDC received \$1.77 billion in appropriations for Ebola activities inside and outside the United States in the December 2014 Consolidated and Further Continuing Appropriations Act, \$1.2 billion of which was designated for international use. In addition to the \$71.2 million that CDC had obligated toward international Ebola response and preparedness activities as of June 30, 2015, CDC reported that it had obligated \$340.9 million for activities inside the United States.

‡‡ Includes funding for possible domestic or international use.

§§ Reported appropriations, obligations, and disbursements for USAID do not reflect spending on pre-existing programs and activities in countries affected by the EVD outbreak that were substantially modified in response to the outbreak. Reported amounts for USAID are based on information in agency financial systems. Past USAID financial management practices have led USAID OIG to issue a disclaimer on the agency's financial statements. OIG could not render an opinion on USAID's most recent financial statements because of material unsupported adjustments USAID made to reconcile its general and subsidiary ledgers.

††† These totals include past reimbursements to FY 2014 accounts against which obligations were made prior to the enactment of the FY 2015 omnibus appropriation. USAID used \$376.8 million in Ebola emergency IDA funds to reimburse FY 2014 and FY 2015 IDA accounts for pre-enactment obligations. USAID used \$29.7 million in Ebola emergency Economic Support Funds to reimburse FY 2014 and 2015 Economic Support Fund accounts for pre-enactment obligations.

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USAID tracks its project spending in line with the U.S. Government strategy for Ebola preparedness and response. As of June 30, 2015, USAID reported \$968.9 million in Ebola preparedness and response related obligations. Of this total, about \$740 million or approximately 76 percent was associated with project activities under Pillar I of the strategy, which is geared toward controlling the outbreak and was thus the initial focus of USAID programming. As Figure 6 illustrates, USAID activities under Pillars II and IV accounted for 13 and 9 percent, respectively, of obligations. Pillar III activities were associated with less than 1 percent of total USAID obligations through the end of the reporting period.

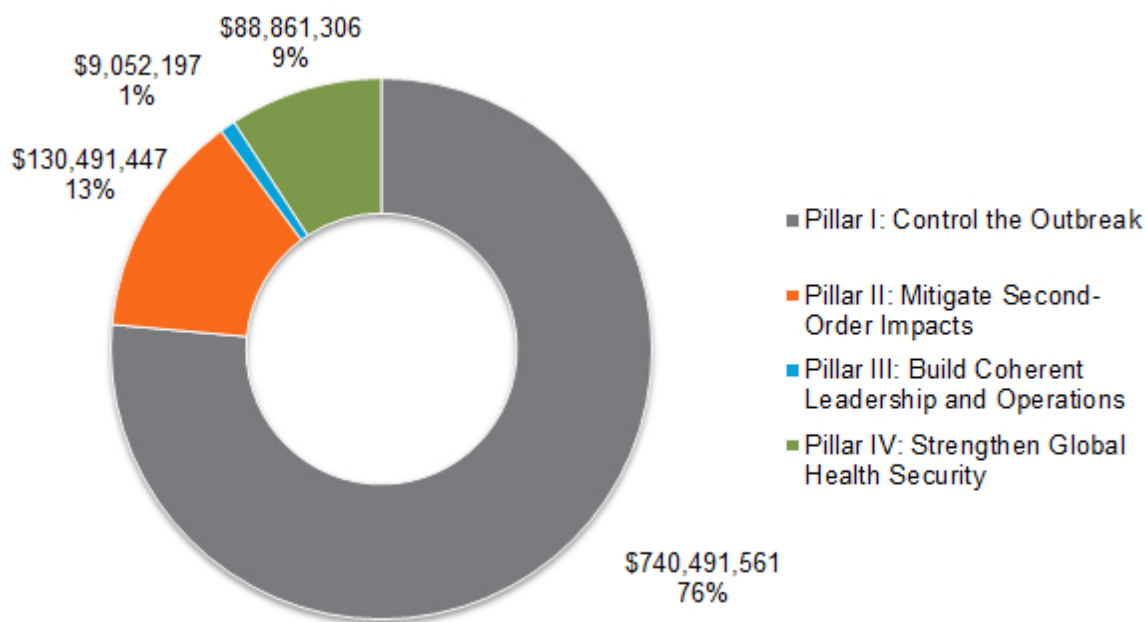


Figure 6: USAID Obligations by Pillar as of June 30, 2015 (USAID, unaudited). Percentages do not add up to 100 percent due to a rounding error.

Pillar I activities account for an even larger share of USAID disbursements. Funding for USAID Pillar I activities accounted for 94 percent of USAID's Ebola-related disbursements through June 30, 2015.¹⁷⁷

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Data on disbursements can provide valuable information about how much money has been spent on activities as well as the amounts of funding that remain available for expenditure. However, this information is subject to a noteworthy limitation. Provided a letter of credit from USAID, its humanitarian assistance implementing partners may accrue significant expenses before drawing down on agency funds. As a result, disbursement data on these efforts does not always fully reflect the progress of humanitarian assistance efforts in financial terms. As of June 30, 2015, for example, the Office of Foreign Disaster Assistance (OFDA) reported Ebola-related disbursements totaling \$280.3 million. When combined with accrued expenditures through that date, however, OFDA's total expenditures amount to 70 percent more, or \$476.6 million.

USAID also tracks its spending by geographic focus. Following the temporary end of the outbreak in Liberia last quarter, the U.S. Government increased its Pillar I focus in Sierra Leone and Guinea to try to replicate success there. As Figure 7 illustrates, USAID obligations for Sierra Leone- and Guinea-based Pillar I activities increased by 53 and 88 percent, respectively, over the previous quarter.¹⁷⁸ During this quarter, USAID obligated an additional \$80.4 million for Pillar I activities in Sierra Leone and Guinea, amounting to 69 percent of all new Pillar I obligations over the period.¹⁷⁹

PILLAR I: CONTROLLING THE OUTBREAK

Large-scale responses on the part of the U.S. Government and other elements of the international community to control the EVD outbreak in West Africa contributed to a marked decline in the incidence of the disease by the end of June 2015. WHO declared an end to the outbreak in Liberia on May 9, 2015, and no new EVD

THE RESPONSE

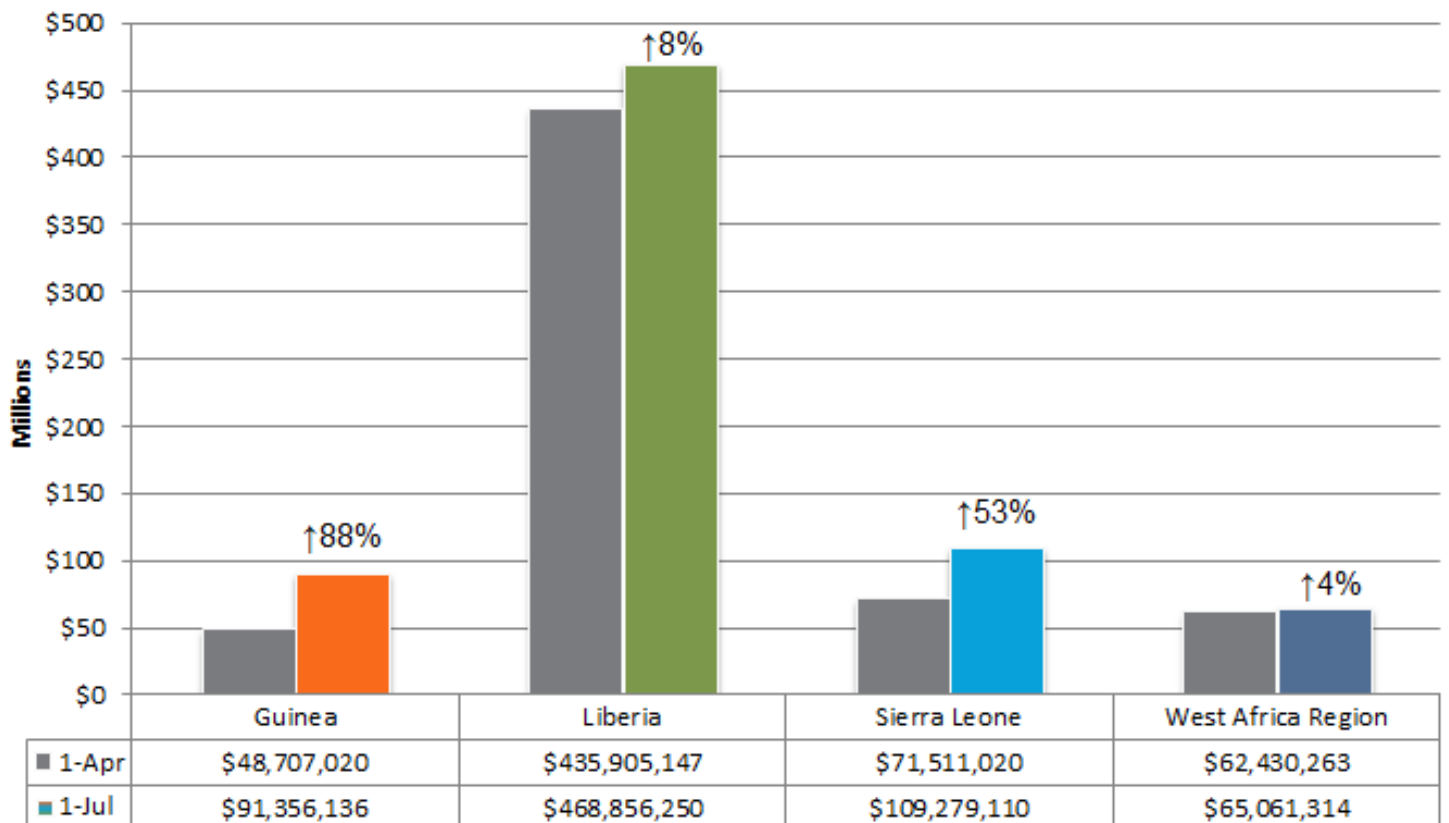


Figure 7: USAID Pillar I Obligations Through the End of the 2nd and 3rd Quarters of FY 2015 (USAID, unaudited)

cases were reported in that country until the end of June 2015. Meanwhile, in Guinea and Sierra Leone, the number of new EVD cases per week declined significantly from its peak in November and December 2014.¹⁸⁰

Overall, as of June 30, 2015, the United States was the largest international financial contributor to EVD outbreak response efforts, according to information from USAID and the UN Office for the Coordination of Humanitarian Affairs.¹⁸¹ At the time, U.S. Government commitments exceeded the levels provided by the other top nine donors combined.¹⁸²

Improved EVD surveillance, contact tracing, and additional isolation and treatment capacity, as well as efforts to increase awareness and promote behavioral changes, have reportedly been important

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in helping responders halt EVD transmission.¹⁸³ Despite reductions in the number of new EVD cases, challenges still remained in eliminating all cases of the disease, including community-level resistance to public health efforts, threats to response activities and infrastructure, and individuals unwilling to seek treatment.¹⁸⁴ In June 2015, Sierra Leone and Guinea launched intensified efforts to eliminate EVD in districts with active EVD transmission.¹⁸⁵

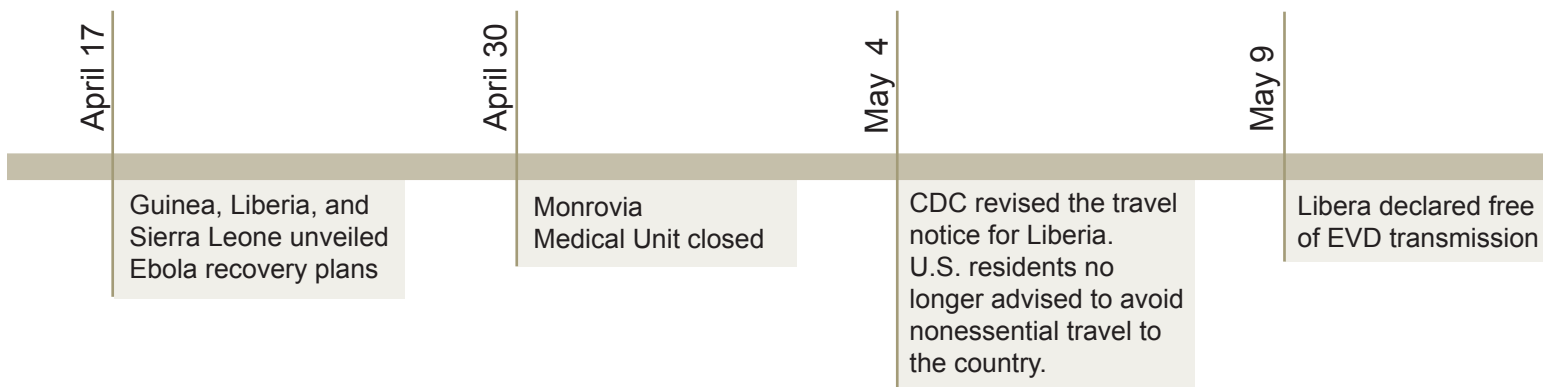
The U.S. Government's efforts to control the EVD outbreak initially focused on reducing EVD transmission in the affected countries. As the number of new EVD cases decreased in the first half of 2015, response efforts transitioned to achieving and maintaining no new cases ("getting to zero").¹⁸⁶ The U.S. Government's related activity during the reporting period focused on supporting:

- Command and control of the response by strengthening and supporting health and humanitarian coordination at the national and sub-national level;
- Case management of suspected, probable, and confirmed cases through isolation and treatment of patients at Ebola treatment units (ETUs), community care centers, and holding centers;
- Surveillance and epidemiology to investigate chains of transmission and coordinate contact tracing;
- Restoration of essential health services by training healthcare workers, distributing PPE, and improving infection prevention and control in healthcare facilities;
- Social mobilization and communications to inform the public and healthcare workers on EVD risks, promote safe behaviors, and combat stigma; and
- Logistics to procure and distribute essential supplies and medicines to the region.¹⁸⁷

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With an influx of international actors and resources, coordination of health and humanitarian response efforts is important for providing rapid and effective response to new EVD cases. The U.S. Government has aided in this effort by building emergency operation centers (EOCs) and supporting the establishment of emergency management programs at the national and sub-national levels. EOCs support effective incident management and coordination by integrating facilities, equipment, personnel, procedures, and communications command efforts within a common organizational structure. In Liberia, a permanent national EOC was completed on June 16, 2015, and is being supported by the U.S. Government and partner personnel.¹⁸⁸ In Sierra Leone, the U.S. Government provided technical assistance to establish and operate the National Ebola Response Centre, and a permanent national EOC is being constructed.¹⁸⁹ In Guinea, USAID personnel continued visiting sub-national EOCs to support coordination and management at the sites during the quarter.¹⁹⁰

When a new EVD case was identified in Margibi County, Liberia in late June, responders, including CDC and USAID partners, quickly traced all contacts and reinforced healthcare capacity in the affected areas.¹⁹¹ USAID partner International Medical Corps (IMC) activated and mobilized rapid response teams to the affected



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areas with infection prevention and control (IPC) supplies and PPE equipment to provide temporary isolation and safe transport to ETUs.¹⁹² USAID funded similar rapid response teams through IMC in Guinea that could be quickly deployed to affected areas to identify and isolate possible EVD patients.¹⁹³

ETUs were constructed to provide safe and effective management of EVD cases by isolating and treating suspected, probable, and confirmed EVD patients. The U.S. Government supported a total of 20 ETUs in Liberia to provide safe and effective management of EVD cases when response efforts were at peak capacity.¹⁹⁴

As the outbreak waned, the U.S. Government assisted the Government of Liberia in developing ETU decommissioning guidelines while helping ensure that each county retained the ability to manage suspected EVD cases.¹⁹⁵ Plans developed by the Government of Liberia during this quarter call for all but five of the U.S. Government-supported ETUs in the country to be decommissioned.¹⁹⁶ In April 2015, the U.S. Government closed the Monrovia Medical Unit, an ETU constructed by DoD and staffed by USPHS to care for EVD-infected health personnel and responders.¹⁹⁷ By the end of June 2015, six ETUs remained operational in Liberia.¹⁹⁸ At that time, nine ETUs were operational in Sierra Leone, including three supported by the U.S. Government.¹⁹⁹

The U.S. Government supported a total of 20 ETUs in Liberia to provide safe and effective management of EVD cases when response efforts were at peak capacity.

June 16

Sierra Leone launches Operation Northern Push, a surge effort to address EVD cases in the country's northern districts.

June 29

Libera confirmed a new EVD case

June 30

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In Guinea, six ETUs were operational, three of which had U.S. Government support.²⁰⁰

Burying deceased EVD victims presents a point of significant risk to the population, as transmission risk continues after death because the virus continues to be shed in the blood and bodily fluids of a deceased victim and can remain infectious in the environment for several days.²⁰¹ In Liberia, USAID supported the construction of a cemetery outside of the capital of Monrovia to provide safe and dignified burials, and worked through the nongovernmental organization (NGO) Global Communities to support 53 burial teams that operated in all Liberian counties.²⁰² In Sierra Leone and Guinea, USAID partner International Federation of Red Cross and Red Crescent Societies supported 55 and 104 burial teams, respectively.²⁰³

rapidly.²⁰³

Rapid EVD diagnosis is critical to early identification of infected patients and contact tracing for individuals to be quarantined. In support of this effort, the U.S. Government provided mobile laboratories and opened laboratory testing facilities in the region to increase diagnostic capacity. As of June 30, 2015, three U.S. Government-supported laboratories remained active in Liberia, three in Sierra Leone, and one in Guinea.²⁰⁴

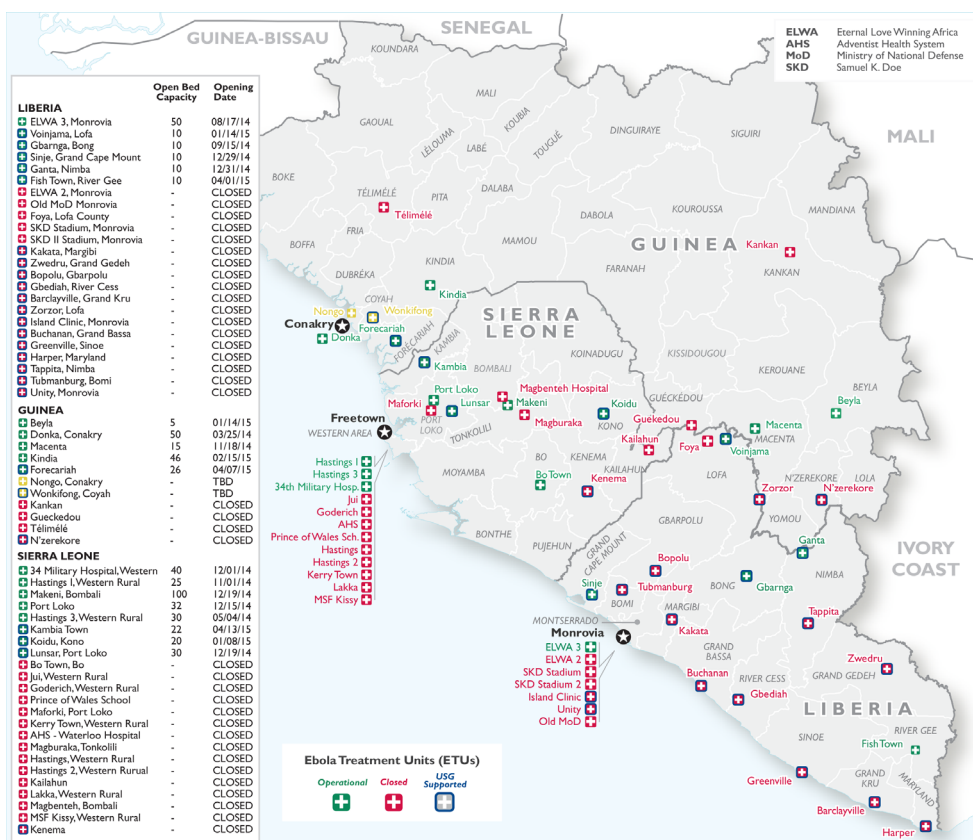


Figure 8: Location of ETUs in Guinea, Liberia, and Sierra Leone as of July 1, 2015 (WHO, 2015)

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In addition, U.S. Government agencies supported the research and development of rapid EVD diagnostic tools to aid in surveillance and control efforts. HHS's Biomedical Advanced Research and Development Authority (BARDA) is supporting OraSure Technologies in the development, manufacture, and clinical evaluation of a rapid diagnostic device for detection of EVD proteins in blood and bodily fluid samples from persons and cadavers.²⁰⁵ Researchers also validated a rapid diagnostic test supported by NIH, the ReEBOV Antigen Rapid Test, as accurate in identifying patients with EVD within minutes, thereby reducing delays in laboratory diagnosis and accelerating treatment and contact tracing opportunities.²⁰⁶

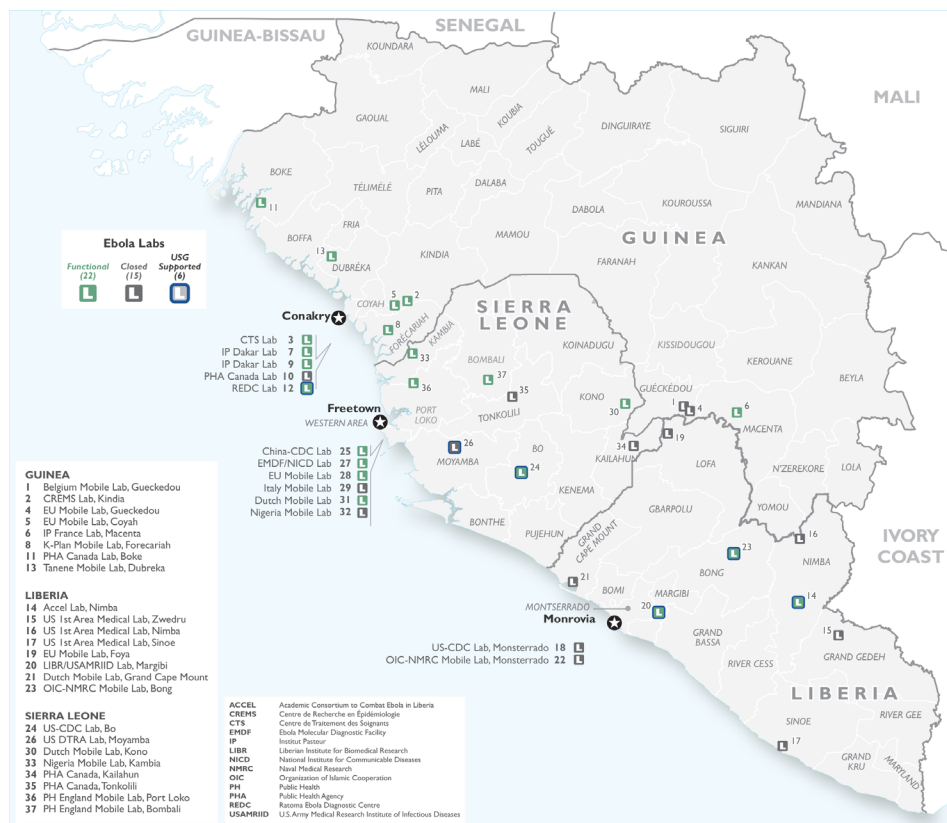


Figure 9: Location of Laboratories in Guinea, Liberia, and Sierra Leone as of July 1, 2015 (WHO, 2015)

EVD VACCINES AND THERAPEUTIC CANDIDATES

Since the start of the EVD outbreak, the international research community has worked to develop vaccines and therapeutic medicines for EVD patients. The U.S. Government is aiding in the development of vaccines and therapies that may help control the disease and mitigate its first- and second-order effects on patients. As a result, BARDA has been able to expand its portfolio of EVD medical countermeasures from

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zero candidates in mid-2014 to 11 vaccine, therapeutic, and diagnostic candidates in June 2015.²⁰⁷

BARDA, NIH's National Institute of Allergy and Infectious Diseases (NIAID), and DoD are all supporting the development, manufacture, and evaluation of Ebola vaccine candidates.²⁰⁸

BARDA and NIAID collaborated with GlaxoSmithKline in the development of an experimental vaccine, cAd3-EBOZ, which expresses an Ebola virus protein with the aim of stimulating immune responses against Ebola.²⁰⁹ Meanwhile, BARDA, NIAID, and DoD collaborated with NewLink Genetics/Merck on a recombinant vesicular stomatitis virus (VSV)-based vaccine candidate.²¹⁰ A study conducted by NIAID and DoD found that the VSV-vaccine candidate was safe and elicited strong antibody responses in healthy volunteers.²¹¹ Multiple phase 2 and 3 clinical studies of the cAd3-EBOZ and VSV vaccines were underway in West Africa, including in Liberia as part of the Partnership for Research on Ebola Vaccines in Liberia (PREVAIL) study.²¹² March 2015 interim findings from the PREVAIL trial indicated that the two experimental Ebola vaccines appeared to be safe, and the trial was expanded to enroll 1,500 participants through May 2015.²¹³ The efficacy segment of the PREVAIL trial could not be carried out in Liberia because the number of EVD cases in Liberia had fallen. As a result, the Partnership was exploring expansion to other countries in West Africa to complete the trial.²¹⁴

Meanwhile, Mapp Biopharmaceuticals is working with BARDA, NIAID, and DoD's Defense Threat Reduction Agency (DTRA) to develop ZMapp, a therapeutic drug produced from antibodies grown in tobacco plants. BARDA reportedly assisted with efforts

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to improve ZMapp production yields by providing expertise in the manufacturing process and recruiting other tobacco biopharmaceutical companies to aid in increasing production.²¹⁵ Under the Liberia-U.S. Clinical Research Partnership, NIAID launched clinical safety and efficacy studies of ZMapp in Liberia and the United States (PREVAIL II) in February 2015. The trial was later expanded to Sierra Leone in April 2015 and there are plans to expand it further to Guinea in July 2015.²¹⁶

To address the challenge of producing EVD antibodies on a commercial scale, BARDA partnered with pharmaceutical companies to develop a commercial-scale manufacturing process for monoclonal antibodies targeting Ebola virus using specialized Chinese hamster ovary cells. Partners Genentech and Regeneron developed new therapeutic candidates using this process. Preliminary results indicated that these therapeutic candidates were as effective in protecting Ebola-infected primates as ZMapp, thereby opening up the possibility of more countermeasures against EVD.²¹⁷

The U.S. Government has also worked to ensure the safety and efficacy of EVD countermeasures being deployed as part of the coordinated Ebola response. FDA engaged with WHO and foreign public health regulatory authorities to discuss related investigational medical product use and clinical trials.²¹⁸ In addition, FDA provided scientific and regulatory advice to product sponsors, international counterparts, and other U.S. agencies on data needed to examine the safety and efficacy of investigational EVD countermeasures.²¹⁹ For example, FDA worked with companies to implement emergency use authorizations for EVD antigen and molecular assays as part of the response effort to detect EVD.²²⁰ In May 2015, the FDA's

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Vaccines and Related Biological Products Advisory Committee met to discuss challenges related to the development and licensing of Ebola vaccines.²²¹ FDA conducted private sector outreach through participation in meetings and conferences and on advisory panels such as the Presidential Commission for the Study of Bioethical Issues to advance knowledge and awareness of Ebola-related regulatory considerations. In addition, at the end of the reporting period, FDA issued draft guidance on requirements for claims on the liquid barrier properties of gowns used in healthcare settings.²²²

The availability of adequate food is an important component of case management efforts, as it enables patients to remain in treatment and others who may have been exposed to the disease to maintain household quarantine, thereby mitigating EVD transmission risk to the community. To address these needs as well as reported food shortages, USAID worked through the World Food Programme (WFP) to provide food and nutrition support to approximately 3 million people across the three countries through June 16, 2015.²²³

The U.S. Government also increased efforts to improve disease surveillance and contact tracing in high-risk areas. CDC and USAID-funded partners trained healthcare workers on screening individuals for potential EVD signs and symptoms and implementing contact tracing programs. USPHS deployed officers to support CDC with response activities related to outbreak investigations, as well as case management and incident management activities.²²⁴ During this quarter in Liberia, USAID's partner Global Communities incorporated disease surveillance activities into its case management efforts to help monitor and screen for suspected EVD cases in community settings with a special focus on border areas.²²⁵

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Meanwhile, the International Organization for Migration (IOM), another USAID partner, worked to improve surveillance near the Guinea-Sierra Leone border to prevent cross-border transmission of the disease.²²⁶ In Guinea, CDC and USAID worked with prefecture-level authorities and WHO to assist with epidemiological investigation, contact tracing, and data management activities.²²⁷ Improvements to case investigations and contact tracing along with enhanced incentives to report cases and comply with quarantine measures have allowed responders to better understand and trace chains of transmissions from known sources of infection.²²⁸

To restore the safety and functionality of essential health services, the U.S. Government distributed essential medical supplies to healthcare facilities and trained healthcare workers on IPC techniques. With USAID support, the Ebola Response Consortium in Sierra Leone worked to strengthen IPC in hospitals and more than 1,100 health facilities countrywide through training and supportive supervision visits during this quarter.²²⁹ USAID also provided more than 40 metric tons of EVD disinfectant to responders in the country through WFP.²³⁰ According to USAID, as of mid-June, its partner IOM had trained 1,024 healthcare workers through 29 mobile training sessions.²³¹ In Guinea, USAID partner Catholic Relief Services (CRS) provided PPE to health facilities, and reported that it trained more than 3,700 healthcare workers on IPC.²³²

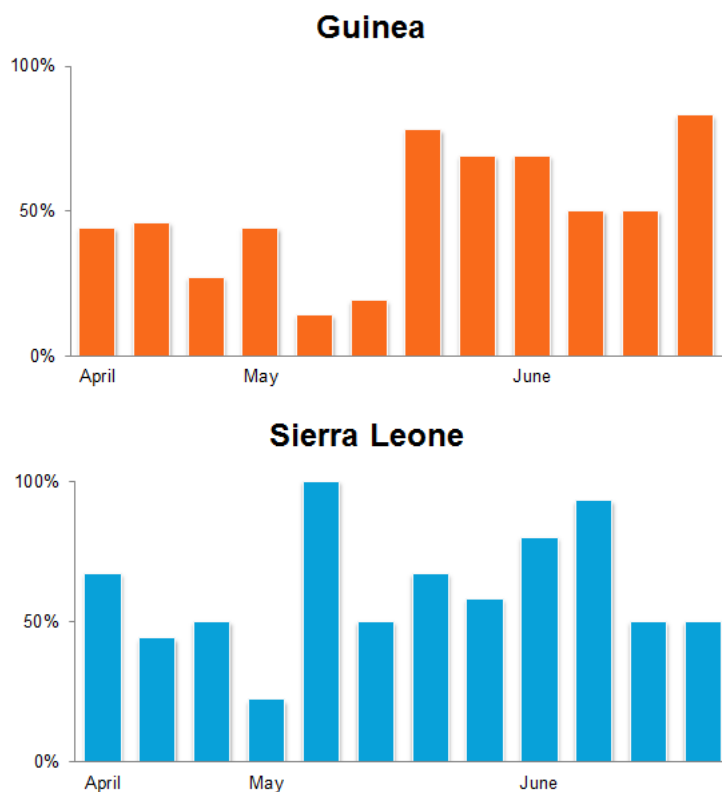


Figure 10: Contact Tracing: percentage of new confirmed cases from registered contacts in Guinea and Sierra Leone, April 20 - June 28, 2015 (WHO, June 28, 2015)

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During this reporting period, U.S. Government efforts to restore essential health services in Liberia included strengthening IPC measures in non-EVD healthcare facilities, distributing IPC supplies, and assisting the Government of Liberia in developing post-EVD standard precaution guidelines and national IPC policy.²³³ In Liberia's Montserrado County, USAID supported efforts by NGO International Rescue Committee to restore healthcare services in EVD-affected facilities, to encourage effective sanitation and hygiene practices at EVD-affected health facilities and schools, and to provide psychosocial support services to EVD-affected communities and healthcare workers.²³⁴

GETTING TO ZERO IN LIBERIA

While Liberia has suffered the highest number of EVD fatalities, the country was able to control the outbreak, reached zero known EVD cases for several weeks, and established control measures that prevented further transmission.²³⁵ Although the number of EVD cases has declined in Guinea and Sierra Leone, the two countries have been unable to get to zero EVD cases. Several factors reportedly contributed to Liberia's successful effort to manage the outbreak:

- The national government leading and prioritizing the EVD response;
- Community members being engaged and changing behaviors to reduce EVD exposure and mitigate consequences;
- The international community providing generous support and resources to control the EVD outbreak; and
- Responders aggressively coordinating health and humanitarian efforts.²³⁶

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There were also notable distinctions between the structure of response efforts in the three countries. One difference related to which national agencies had leadership roles. In Liberia, the country's efforts were spearheaded by health authorities from the beginning. In contrast, the Ministries of Health for Guinea and Sierra Leone reportedly played "a nominal role" at different times in the EVD response effort.²³⁷ In Sierra Leone, initial command and control of the international response effort was not under civilian leadership.²³⁸

Another distinction between response efforts in Liberia and its neighboring countries has been the extent of U.S. Government engagement. The U.S. Government has devoted substantial resources to response efforts in Liberia, assuming a leading role among international donors in the effort there. The U.S. Government has had a less prominent role in Guinea and Sierra Leone.²³⁹ As of June 30, 2015, approximately 55 percent of USAID Ebola-related obligations had supported Liberia-based activities.²⁴⁰

Following the declared end of the outbreak in Liberia last quarter, the U.S. Government increased its focus on work in Sierra Leone and Guinea to try to replicate success there. During this quarter, USAID obligated an additional \$136.5 million toward agreements with existing partners in Sierra Leone and Guinea, and funded three new partners in Guinea.²⁴¹ Meanwhile, CDC expanded its field presence in those countries to assist in contact tracing, case management, and community engagement activities.²⁴²

Effective community engagement can help increase the likelihood that at-risk individuals will seek proper medical care and isolation.

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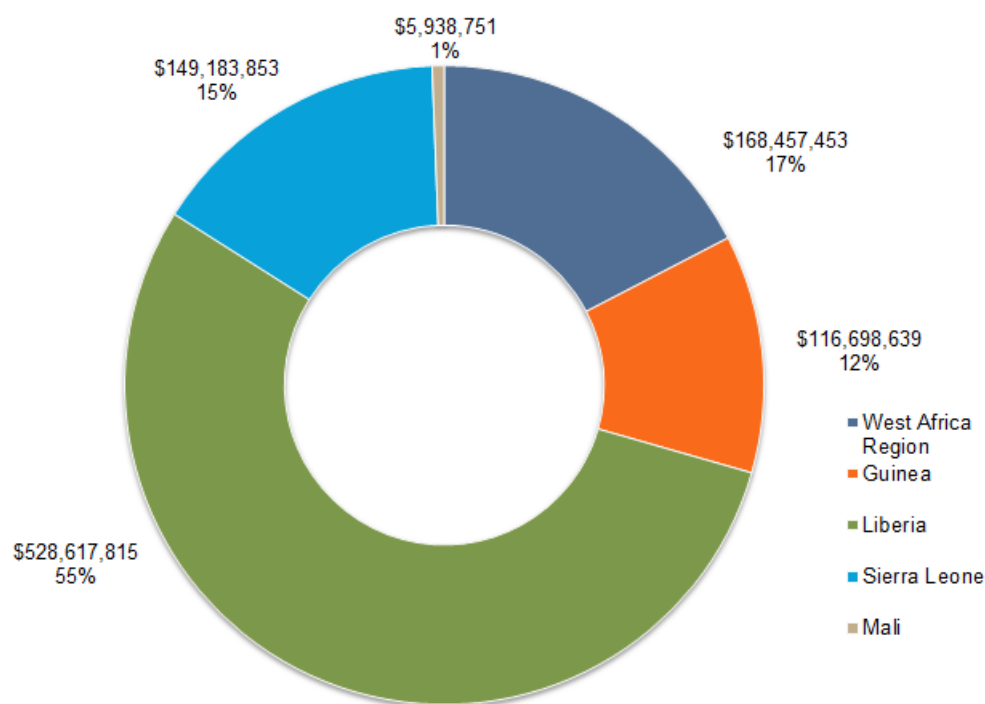


Figure 11: USAID Obligations for Ebola Emergency Response (all Pillars), by Country and West African Region as of June 30, 2015 (USAID, unaudited)

This type of engagement also has potential to improve community cooperation with contact tracing efforts, increase the application of safe burial practices, and promote adoption of EVD prevention practices. The U.S. Government supported communication and community outreach efforts to raise public awareness of Ebola symptoms, modes of

transmission, and effective prevention practices.²⁴³

As part of the Ebola Community Action Platform in Liberia, USAID partner Mercy Corps reported that it had trained 1,000 community mobilizers to address EVD stigma and increase Ebola awareness in their communities, and that these outreach efforts had reached 3,000 villages by the end of May 2015.²⁴⁴ Through Samaritan's Purse, USAID supported EVD awareness messaging and distribution of more than 47,000 IPC kits in six Liberian districts.²⁴⁵ In Sierra Leone, USAID supported partners IOM, World Hope International, and Wellbody Alliance with social mobilization efforts to educate communities on basic IPC measures, culturally sensitive safe burial practices, and identifying EVD.²⁴⁶ USAID also supported IOM's community-centered intervention to train 100 community and religious leaders and EVD survivors to educate their communities

on the outbreak.²⁴⁷ In addition, USAID continued community outreach efforts in Guinea, including work with partner Internews to produce a radio program to deliver Ebola-related information.²⁴⁸

SURVIVING EBOLA

Survivors of EVD may face stigma, income loss, and social isolation when they return to their communities. Survivors have reportedly encountered rejection by family, eviction by landlords, and exclusion from social institutions.²⁴⁹ With USAID support, ChildFund, IMC, Save the Children, and UNICEF provided psychosocial support to EVD-affected communities.²⁵⁰ As of June 16, 2015, UNICEF reported that it had provided psychosocial support to more than 93,000 children across Guinea.²⁵¹

Not much is known about the long-term health consequences of EVD. The Liberia-U.S. Clinical Research Partnership—a collaboration between the Government of Liberia, NIAID, and CDC—launched a study (PREVAIL III) of people in Liberia who have survived EVD within the past 2 years.²⁵² Investigators, who began the study in June 2015, hope to understand the long-term health consequences of EVD. In addition, the study is intended to determine whether survivors develop immunity that will protect them from future Ebola infection and assess whether previously Ebola-infected individuals can transmit infection to close contacts and sexual partners.²⁵³

Reports on Ebola survivors from previous outbreaks have shown that the Ebola virus can remain in certain parts of survivors' bodies for a period of time, and that there may be a risk of transmission from bodily fluids of survivors.²⁵⁴ For

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instance, the Ebola virus has been isolated from semen 82 days after symptom onset and investigations into several EVD cases from the current outbreak have suggested, but not confirmed, sexual transmission from survivors.²⁵⁵ WHO has recommended that male survivors abstain or use condoms indefinitely until semen has tested negative at least two times for EVD, and that others avoid contact with semen.²⁵⁶

Since August 2014, USAID reported that it had provided approximately 435 metric tons of essential PPE, water, sanitation, and hygiene (WASH) supplies, and medicines to the region, and funded ten partners to assist with logistics operations.²⁵⁷ A logistical hub set up by the U.S. military in Senegal to speed the flow of personnel, equipment, and supplies into West Africa at the height of the outbreak in 2014 has since transitioned to support a range of other missions.²⁵⁸

In addition to humanitarian and health assistance, the U.S. Government provided military support for civilian efforts. Under OUA, which began on September 16, 2014, DoD personnel built and maintained the Monrovia Medical Unit, mobile laboratories, and ETUs, and trained local personnel to operate them.²⁵⁹ Military personnel from the 101st Airborne Division were deployed, followed by the 48th Chemical, Biological, Radiological, and Nuclear Brigade with support from engineers from the 4th Infantry Division, a Forward Surgical Team from the 14th Combat Support Hospital, and an epidemiologist from the Uniformed Services University of Health Sciences.²⁶⁰ The President directed the termination of OUA effective June 30, 2015.²⁶¹ In the lead up to OUA's conclusion, DoD transferred related property and consumable products to the Government of Liberia, redeployed mobile laboratories and other

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property and equipment, and transferred DoD equipment out of the country.²⁶²

The U.S. Government tracks several indicators (see Table 4) to assess progress in efforts to end the EVD outbreak in West Africa. The following table presents reported results for these indicators at the start and end of the reporting period for Guinea, Liberia, and Sierra Leone.

| Table 4. CDC and USAID track the progress of efforts to control the EVD outbreak using the indicators below | | | | | | |
|---|------------------------|----------------------|------------------------|----------------------|------------------------|----------------------|
| INDICATOR | Guinea | | Liberia | | Sierra Leone | |
| Total new confirmed cases over past 21 days and (average daily count of new confirmed cases over past 7 days), as of... | April 4, 2015 | July 4, 2015 | April 4, 2015 | July 4, 2015 | April 1, 2015 | July 4, 2015 |
| | 129 (4) | 42 (3) | 1 (0) | 3 (0) | 71 (2) | 24 (1) |
| Number of new lab tests and (percent positive) | March 29-April 4, 2015 | June 28-July 4, 2015 | March 29-April 4, 2015 | June 28-July 4, 2015 | March 29-April 4, 2015 | June 28-July 4, 2015 |
| | 367 (5.7%) | 477 (4.0%) | 331 (0.0%) | 290 (1.0%) | 1,635 (0.9%) | 2,035 (0.4%) |
| Number of ETU beds in use daily average and (average occupancy %) | March 29-April 4, 2015 | June 28-July 4, 2015 | March 29-April 4, 2015 | June 28-July 4, 2015 | March 29-April 4, 2015 | June 28-July 4, 2015 |
| | 40 (13.3%) | 34.5 (21.8%) | 12 (1.7%) | 6.3 (4.8%) | 8 (1.9%) | 7.7 (2.5%) |

Source: USAID, April 15, 2015, and July 15, 2015.

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PILLAR II: ADDRESSING SECOND-ORDER EFFECTS

During the height of the outbreak, healthcare systems, governments, and other public institutions were overwhelmed by the scope and severity of the outbreak. Schools closed and government agencies struggled to operate.²⁶³ Economic activity declined and unemployment increased.²⁶⁴ Healthcare systems were strained as hundreds of healthcare workers fell ill with EVD or left their posts out of fear of the effects of the disease.²⁶⁵ Pillar II efforts are focused on addressing the second-order effects of the EVD epidemic in West Africa.

While USAID maintained its focus on ending the EVD outbreak, it concurrently undertook efforts to mitigate its second-order effects. With the underlying aim of helping maintain regional stability, U.S. Government Pillar II efforts focused on four areas:

- Food security
- Health systems and critical non-Ebola health services²⁶⁶
- Governance and crisis mitigation
- Innovation and communication technology²⁶⁷

USAID's Office of Food for Peace (FFP), Bureau for Food Security, Global Health Bureau, and U.S. Global Development Lab were active in advancing Pillar II objectives throughout the reporting period in collaboration with CDC and USPHS. Within USAID, the Africa Ebola Unit is responsible for coordinating these efforts.²⁶⁸

FOOD SECURITY

As EVD spread in West Africa in 2014 and early 2015, food security became a major concern in the nations most severely affected by the outbreak. In Guinea, Liberia, and Sierra Leone, EVD-

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related fears and travel bans created market disruptions, shortfalls in agricultural production, and a general decline in economic activity.²⁶⁹ Food prices increased while household incomes and purchasing power decreased, stressing the food security of millions and exposing others to crisis conditions.²⁷⁰

The USAID-funded FEWS Net identifies different levels of food insecurity using an integrated phase classification system. Under this framework, “stressed” conditions are defined as those in which at least 1 in 5 households face reduced, minimally adequate food consumption without having to engage in unsustainable coping strategies, but for which these households are unable to afford some essential non-food expenditures. “Crisis” conditions reflect a situation in which at least 1 in 5 households face significant food consumption gaps with high or above normal acute malnutrition, or are marginally able to meet minimum food needs by resorting to unsustainable coping strategies such as liquidating livelihood assets.²⁷¹

Food security conditions varied among the three most EVD-affected countries. FEWS Net monitoring reports for June 2015 indicated that overall food security conditions in Guinea remained stressed, especially for households directly or indirectly affected by EVD. In Liberia, conditions were also stressed due to an early start of the lean season (the period of time between harvests when food supplies from the previous harvest have been exhausted and the next harvest has not begun) and the economic slowdown resulting from the EVD outbreak.²⁷² Sierra Leone fared worse than its neighbors and faced crisis conditions as the Ebola-related economic downturn depressed income levels and weakened household purchasing power. EVD-related restrictions on gatherings, which had the effect of limiting agricultural activity,

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also reduced access to food for Sierra Leoneans.²⁷³ By the end of the reporting period, these issues continued to persist and food insecurity in the country worsened.²⁷⁴

U.S. Government efforts to promote food security in the region are managed by USAID's FFP and Bureau for Food Security. During the reporting period, these efforts were concentrated on increasing:

- Access to food among vulnerable groups directly and indirectly affected by EVD, and
- Availability of food through the recovery of local food production and restoration of proper market function.²⁷⁵

FFP interventions are designed to “restore pre-crisis food consumption levels, livelihoods, and productive assets by stimulating the local production and marketing of staple foods.”²⁷⁶



A man unloads food aid provided by USAID for communities affected by Ebola in Liberia (Photo by Morgana Wingard for USAID, September 19, 2014)

To advance these aims, FFP worked with UN organizations, as well as international non- and for-profit entities.²⁷⁷

FFP supported regional and country-specific activities during the reporting period. It funded food security monitoring and market research on a regional basis, as well as the distribution of high-nutrient

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therapeutic foods.²⁷⁸ In Liberia and Guinea, FFP sponsored school meal programs designed to provide about 245,000 children with hot meals once a day.²⁷⁹ In Liberia and Sierra Leone, FFP reported that targeted cash transfers, agricultural input vouchers, and market recovery support activities helped more than 1 million people meet basic food needs, recover pre-outbreak agricultural production levels, and return to livelihood supporting activities.²⁸⁰ Meanwhile, in southeastern Guinea, FFP worked with CRS to provide food vouchers to approximately 10,000 people to help maintain healthy food consumption levels during lean times. In addition to these efforts, FFP continued to work through WFP to provide food aid to Ivorian refugees in Liberia through the provision of foodstuffs originating in the United States.²⁸¹

FFP's geographic engagement reportedly shifted during the quarter, as the Office placed greater emphasis on activities in Sierra Leone and Guinea.²⁸² This shift followed the release of March 2015 FFP guidance to prospective partners on supporting program interventions to mitigate second-order effects of EVD in each of the three countries that experienced widespread EVD incidence.²⁸³

USAID's Bureau for Food Security plans to help mitigate the outbreak's second-order effects through the Feed the Future initiative.²⁸⁴ Feed the Future is the U.S. Government's global hunger and food security initiative to work with partner countries to develop and improve their agricultural sectors.²⁸⁵ Liberia, which was selected as a Feed the Future focus country prior to the outbreak, has received agricultural and private sector assistance from Feed the Future that reportedly resulted in more than 41,000 farmers and other producers applying new technologies and land management practices and the sale of more than \$737,000 worth of agricultural products in Liberia.²⁸⁶ During the reporting period,

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the Bureau described plans to assess food and agricultural systems in Guinea and Sierra Leone to determine what long-term food and agricultural development strategies it may be able to support in the future.²⁸⁷ In the meantime, USAID issued a solicitation for Feed the Future public-private partnership ideas for rejuvenating agricultural industries and livelihoods affected by the Ebola outbreak in West Africa.²⁸⁸ USAID anticipates providing at least \$1 million in funding for two or more partnerships to support work in areas such as employment and entrepreneurial training, access to new agricultural technologies and private sector financing.²⁸⁹

HEALTH SYSTEMS AND CRITICAL NON-EBOLA HEALTH SERVICES

During the height of the EVD epidemic in West Africa, the local health systems' capacity to provide conventional healthcare services all but disappeared, leading to a decline in health services.²⁹⁰ Compounding the crisis, fear of contracting EVD at healthcare facilities prevented many from seeking care for non-EVD related health issues.²⁹¹ Health systems could not cope with routine issues such as infant delivery, maternal care, and the treatment of diseases like malaria.²⁹² Recent reports indicate that as many as 74,000 cases of malaria went untreated in Guinea in 2014 due to the closure of healthcare facilities and patients' fear of visiting facilities where EVD was present.²⁹³

To return non-Ebola health services to pre-outbreak levels, the U.S. Government, in conjunction with other members of the international community, has focused on reestablishing and strengthening service delivery and providing technical assistance.²⁹⁴ In the process, USAID hopes to capitalize on the knowledge and skills that healthcare workers and institutions developed during the outbreak,

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such as knowledge of how to apply appropriate IPC measures.²⁹⁵

USAID also aims to revive demand for health services within communities across the three countries by increasing trust in the health system and promoting healthy behaviors.²⁹⁶

USAID has targeted several specific areas of intervention, including maternal and child health, immunization, newborn delivery and care, and social and behavior change communication.²⁹⁷ In Liberia, USAID aided the restoration of primary care facilities intended to provide immunizations, maternal and child health services, IPC, and other types of care.²⁹⁸ During the reporting period, USAID supported a CRS-managed clinic in Monrovia that is providing pre- and post-natal care and routine vaccination to mothers and children.²⁹⁹ In Guinea and Sierra Leone, USAID is working to support social mobilization campaigns to rebuild trust in the healthcare system, strengthen the quality of individual care, and improve basic service delivery in areas like maternal and child health.³⁰⁰ At the end of the reporting period, USAID was preparing to send personnel to all three countries to finalize non-Ebola healthcare work plans and undertake assessments for social and behavior change communication, community service delivery, and WASH.³⁰¹

U.S. Government health system recovery efforts in West Africa are also focused on improving health system preparedness and response capacity.³⁰² To advance these aims, USAID has worked to train healthcare



A doctor working to provide basic healthcare services in Liberia following the EVD outbreak (Photo courtesy of OFDA, April 20, 2015)

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workers, improve health logistics and governance, and standardize use of effective IPC protocols.³⁰³ Some USAID activities focused on preparing healthcare workers for future crises, improving retention rates, and enabling healthcare workers to integrate their new skills into local systems and share their knowledge in community settings.³⁰⁴ During the reporting period, USAID worked through implementing partners to improve training and accreditation programs for primary care and community health workers by procuring medical equipment and supplies for training programs and incorporating new IPC guidelines into training curricula.³⁰⁵

USAID has also identified supply chain and information management as essential components in strengthening West African healthcare systems. The procurement, storage, and delivery of medicines and medical supplies, and ability to obtain current information about on-the-ground conditions and needs were serious challenges at the height of the EVD outbreak.³⁰⁶ Poor supply chain management by public healthcare facilities across the region reportedly contributed to shortages in supplies of protective equipment, water, and other important commodities, which in turn jeopardized patient care and healthcare worker safety.³⁰⁷ To address these issues, USAID started assessments of related supply chains and health management information systems across the three countries.³⁰⁸

Another aspect of USAID's effort to rebuild health systems in the region is support for effective government engagement in the sector. Related priorities for future programming include building local MOH capacity in the areas of management, oversight, and healthcare financing. During the reporting period, USAID worked directly and through partners to help address health financing and administration system gaps within Liberia's MOH by providing surge

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staffing in areas like procurement, administration, and information management.³⁰⁹

HHS has also assisted in this area. CDC coordinated repairs to the central public health institute in Sierra Leone, and supported increased measles immunization.³¹⁰ USPHS collaborated with Liberia's MOH and WHO to transition operational control of the Monrovia Medical Unit over to the Government of Liberia in April 2015.³¹¹

GOVERNANCE AND ECONOMIC CRISIS MITIGATION

During the peak of the outbreak, the governments of the three most affected countries struggled to manage response efforts while continuing to provide core public services. Some government services were suspended and, in the effort to stem the outbreak, borders, markets, and schools were closed, leaving thousands without access to basic services.³¹² Mining industry activity declined and major segments of the economy suffered significant setbacks.³¹³ In 2014, GDP growth rates in Guinea, Liberia, and Sierra Leone fell short of previous projections, declining by between 3.4-5.2 percent across the three countries, with Sierra Leone experiencing the greatest overall GDP loss of \$1.4 billion.³¹⁴

The U.S. Government aims to assist host governments in the provision of basic services such as social protection, sanitation, and education; and to strengthen civil society and communities ability to promote public sector accountability and increase trust in public sector institutions.³¹⁵ In addition, the U.S. Government aims to help promote private sector investments and contributions in these areas.³¹⁶

DIGITAL PAYMENT SYSTEMS AND FUNDING RESPONSE & RECOVERY IN SIERRA LEONE

In June 2015, Sierra Leone announced its commitment to join the Better Than Cash Alliance, a UN partnership of governments, private companies, and development organizations co-founded by USAID that is working to implement or expand digital payment systems in developing countries to help drive economic growth.³¹⁷ In Sierra Leone, digital payment systems have reportedly aided in EVD response efforts as the Better Than Cash Alliance, UN agencies, and the Sierra Leonean government were able to help end healthcare worker strikes by facilitating the payment of more than 16,000 healthcare workers and responders through digital mobile money transfers in December 2014.³¹⁸ USAID's related plans center on expanding access to and use of digital payment systems as a means of increasing transparency and accountability of Ebola response and recovery funds in a way that builds longer-term capacity.³¹⁹ By focusing on the expansion of existing digital banking systems, the Better than Cash Alliance and USAID seek to capitalize on past successes by increasing payment efficiency for other types of workers such as social workers and government employees.³²⁰

USAID, which is leading efforts in this area, initiated related programming during the quarter. In Liberia, USAID began working with UNICEF to begin to rehabilitate the education system through the delivery of kits designed to improve school safety and curricula. In early June 2015, UNICEF began distributing 700,000 learning and teaching kits to more than 4,450 schools across Liberia. The kits include IPC materials as well as basic education supplies

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for both teachers and students.³²¹

In Sierra Leone and Guinea, USAID began developing projects designed to promote legislative reform related to public health and civil society with the aim of increasing safety net access, promoting women's roles in making health decisions, and reducing EVD survivor stigmatization.³²² In an effort to bolster accountability and good governance in Liberia, USAID initiated a program aimed at holding the

government and other actors responsible for their EVD response and recovery efforts by empowering civil society and the media.³²³ To achieve these aims, USAID is working with partners to provide technical assistance to radio stations and to support media monitoring activities.³²⁴

USAID also advanced efforts to stimulate the economy and increase service sustainability by fostering private sector investment during the reporting period.³²⁵ To help engender private sector investment and partnerships in Ebola recovery efforts, USAID called for proposals for public-private sector partnerships in June 2015. Specifically, USAID continues to seek partnerships to accelerate social protection programs, improve basic education and workforce development, strengthen trade, investment, and



A girl participates in an outdoor classroom that has received education kits and IPC training from USAID, UNICEF, and other education partners (Photo by Neil Brandvoid for USAID, February 2015)

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infrastructure, and increase electricity access in West African communities impacted by the EVD epidemic.³²⁶ USAID's Global Development Alliance program plans to provide up to \$10 million to support 10-20 partnerships in these and other areas.³²⁷

INNOVATION, TECHNOLOGY, AND PARTNERSHIPS

Efforts to respond to the EVD outbreak in West Africa were complicated by limited communications and technology infrastructure.³²⁸ Healthcare facilities and workers suffered from the inability to share information quickly, as emails took hours to transmit and health information systems continued to use paper reporting, which delayed the exchange of information by days or weeks.³²⁹ A lack of electronic and mobile payment systems inhibited the timely payment of healthcare workers across the three countries, contributing to work stoppages and other interruptions in the response effort.³³⁰

In order to prevent problems and enable more effective responses to potential health emergencies in the future, USAID worked to advance the development of several logistics and communication systems, including short message service (commonly known as SMS) disease surveillance, logistics management systems for health commodities, and real-time communication for healthcare reporting.³³¹ In this effort, USAID is partnering with local governments, the private sector, and civil society to facilitate compatibility among platforms and systems with the aim of enabling the global health community to better share information.³³²

A number of USAID innovation technology and partnership efforts have been led by the U.S. Global Development Lab.³³³ Related activities include the development and implementation of data and health information systems, improvement of information

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communications technology, and collaboration and coordination with the private sector on related initiatives.³³⁴

In 2014, USAID, in partnership with the White House Office of Science and Technology Policy, CDC, and DoD, launched the Fighting Ebola Grand Challenge for Development to facilitate the development, testing, and adoption of new approaches and technologies in the fight against EVD.³³⁶ The Grand Challenge is an effort to stimulate innovation in the development of new tools and methods for combating EVD.³³⁷ USAID continues to provide financial and technical support to 14 innovations across an array of sectors including innovations designed to increase the safety and comfort of healthcare workers, and improve patient care and response management.³³⁸ According to USAID, by the end of the reporting period, all of the Grand Challenge winners were in either the development, testing, or deployment stage of their innovations.³³⁹ USAID also issued an invitation to the private sector to submit concepts for partnerships in support of recovery efforts during the quarter.³⁴⁰

During the reporting period, USAID provided technical assistance to Liberia's MOH through its Measure Evaluation program.³⁴¹ This assistance was designed to help MOH use health information systems more effectively to conduct disease outbreak surveillance and response and manage routine healthcare services.³⁴² USAID also worked with MOH to strengthen the collection, analysis, and use of health data and improvement of country-level management of health information systems, resources, and staff.³⁴³ During the quarter, USAID supported health information systems planning in Guinea and advanced a lessons learned study for future use of technology in crisis response efforts.³⁴⁴

The U.S. Global Development Lab is an organization within USAID designed to bring together and coordinate the efforts of different partner organizations to find new and innovative solutions to development challenges.³³⁵

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In May 2015, USAID hosted a meeting of national health information systems and disease surveillance and response managers from the Economic Community of West African States in conjunction with the West African Health Organization.³⁴⁵ With more than 160 stakeholders in attendance, the 4-day gathering concentrated on developing ways to improve the operational capacity of health information systems in West Africa following the EVD outbreak.³⁴⁶

USAID also established project plans to improve the regulatory environment surrounding communications and technology in Liberia and supported efforts to expand broadband telecommunications systems during the quarter. USAID seeks to expand real-time two-way communications between governments, donors, and health centers to provide for more rapid detection and response, and improve future public health threat prevention capacity.³⁴⁷ In May 2015, USAID collaborated with Liberia's Ministry of Post and Telecommunications to host a roundtable workshop with senior officials from the Government of Liberia, civil society, and the telecommunications industry on information, communications, and technology policy; and possible reforms to increase the reach of telecommunications, broadband, and other digital infrastructure in the country.³⁴⁸ In addition, USAID worked with the Government of Liberia, the World Bank, and private sector partners on initial planning to improve Monrovia's broadband network to extend it to key public institutions such as government ministries, health facilities, universities, and schools. The objective of this ongoing effort was enabling these institutions to more efficiently support prevention and response to EVD and other public health threats.³⁴⁹

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PILLAR III: BUILDING COHERENT LEADERSHIP AND OPERATIONS

The severity and pace of the EVD outbreak in West Africa surpassed all previous occurrences of the disease, pushing national governments, economies, and infrastructure in West Africa to their limits.³⁵⁰ In response, the international community mobilized personnel and supplies to support efforts to contain the outbreak.³⁵¹ The U.S. Government was a major contributor in this effort as DoD, DOS, HHS, and USAID provided staff and supplies to help coordinate response efforts and stem the outbreak.³⁵² For more information about the Federal agencies and offices supporting the U.S. Government's Ebola response, see Appendix C.

Within the U.S. Government's four pillar Ebola response and preparedness strategy, Pillar III focuses on building coherent leadership and operations across the response effort. In particular, Pillar III activities are intended to promote effective U.S. Government response and preparedness coordination, leadership, and operations by increasing staff levels across multiple organizations involved in the response.³⁵³

DOS reported that it closed its Ebola coordination office and returned component personnel to their original places in the Department. DOS also noted that it did not provide any medical evacuations of U.S. Government personnel during the quarter. DOS did not provide any further information regarding its program activities or staffing during the quarter.

In support of OUA, DoD's peak deployment of personnel to Liberia occurred during December 2014, with nearly 3,000 troops on the ground. Authority for OUA transferred from the 101st Airborne Division to the 48th Chemical Biological Radiological Nuclear

USAID represents USAID OIG oversight activities as supporting Pillar III objectives in its reports to Congress on Ebola response and preparedness funding. In this report, information regarding USAID OIG's oversight activities is described in the final chapter on Oversight Coordination, Plans, and Activities.³⁸³

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Brigade, which assumed responsibility for managing close-out logistics in advance of the formal conclusion of OUA at the end of the reporting period.³⁵⁴

While OUA formally concluded on June 30, 2015, DoD continues to support Ebola surveillance and response efforts through the work of DoD's Armed Forces Health Surveillance Center (AFHSC), Defense Advanced Research Projects Agency (DARPA), and DTRA, including focus on new drugs and approaches for treating EVD.

Several HHS components played a role in responding to the EVD outbreak in West Africa. Within HHS, CDC's involvement was particularly extensive. Since CDC initially responded to the outbreak in Guinea in the spring of 2014, the Centers have reported that thousands of CDC personnel have worked domestically from the CDC Emergency Operations Center to respond to EVD and more than 1,000 personnel have deployed to West Africa; many have deployed more than once.³⁵⁵ As of June 30, 2015, CDC reported that more than 300 of its personnel participated in the EVD response effort each day.³⁵⁶ At the end of the reporting period, CDC reported that it had 100 full-time equivalent personnel (FTE) in Sierra Leone, 52 in Guinea, and 31 in Liberia.³⁵⁷ In addition, CDC reported that it had 97 FTEs staffing quarantine stations in the United States as part of the system to prevent the introduction of infectious diseases into the United States.³⁵⁸

FDA, which continues to facilitate the development and availability of vaccines, therapeutics, and diagnostics, reported that Ebola funding supported 11 FTEs for these efforts as of June 30, 2015.³⁵⁹ In addition, FDA reported that, since the start of the outbreak, it had provided approximately 300 additional FTEs for Ebola response efforts using FDA base funds.

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HHS reported plans to use Ebola preparedness and response funding to support 269.5 positions in CDC and FDA.³⁶⁰ Of these positions, 128 were on board as of June 30, 2015.³⁶¹ HHS reportedly used Ebola funds to reimburse some portion of the salaries of 1,175 CDC personnel.³⁶²

USAID responded to the EVD outbreak by supporting a wide array of Ebola-related activities in the region.³⁶³ To coordinate and support these efforts, USAID placed staff from multiple bureaus and offices at domestic and international locations, including USAID headquarters in Washington, D.C., and at USAID missions in Liberia and Guinea.³⁶⁴

USAID operating units reported that 465 agency personnel have had substantial involvement in West Africa EVD outbreak response, recovery, or preparedness efforts as of June 30, 2015.³⁶⁵ Of this total, 262 were based abroad in West African countries, mostly in Liberia.³⁶⁶ From an organizational standpoint, the largest number of personnel came from OFDA and the USAID mission to Liberia, with 78 and 88, respectively.³⁶⁷

USAID relies on many different types of personnel to fulfill its mission, including U.S. Government direct hires, U.S. personal service contractors, Foreign Service Nationals, and third country nationals.³⁶⁸ Of the 465 USAID personnel who had substantial engagement in EVD-related matters, the largest proportion (27 percent) have been U.S. personal service contractors. U.S. direct hires and Foreign Service National personnel have also accounted for a significant share of related USAID staffing, representing 22 and 12 percent, respectively.³⁶⁹ An additional 39 percent of participating USAID staff were categorized as



USAID DART personnel with Ebola survivors in Liberia (Photo courtesy of OFDA, May 23, 2015)

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“other,” a group that includes third country nationals, personnel on participating agency service agreements, resources support services agreements, and institutional contracts, as well as other personnel arrangements.³⁷⁰

During the reporting period, USAID reallocated staff to ensure adequate management of and response to the EVD outbreak. The Africa Ebola Unit (AEU), which was established in March 2015, assumed the coordination role of the Ebola Secretariat after it was dissolved in May 2015.³⁷¹ In order to support these efforts, AEU brought on 11 personnel, including representatives (e.g., detailees) from other USAID bureaus and offices with a role in response and recovery efforts.³⁷²

During the reporting period, USAID also took steps to advance hiring-related efforts. USAID has plans to use Ebola response, recovery, and preparedness funds to retain a total of 44 additional staff, the majority of whom are to support the work of the Africa Bureau, OFDA, and FFP.³⁷³ Of these positions, USAID reported that it had filled seven by June 30, 2015.³⁷⁴

While USAID worked to meet EVD staffing requirements, these efforts were reportedly complicated by several factors. The allocation and swift hiring of staff to support these efforts faced challenges related to hiring and organizational procedures and competing demands for human resources. This resulted in more limited staffing in some areas than might otherwise have been expected. Although the EVD outbreak has been and continues to be a public health emergency, USAID’s Global Health Bureau had relied on the involvement of a core group of 19 personnel since the start of the outbreak, which is far fewer than other major USAID operating units and less than the Global Development Lab.

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This dynamic was also reflected in field deployments of USAID personnel. Whereas the USAID mission in Liberia had 88 staff, the mission in Guinea, which is also responsible for managing activities in Sierra Leone, had 36 personnel.³⁷⁵

The severity and duration of other humanitarian crises around the world have also reportedly had an effect on USAID staffing around EVD response efforts. When the EVD outbreak struck West Africa, crises in countries such as Syria and Sudan were already imposing significant demands on OFDA.³⁷⁶ Since August 2014, OFDA has maintained the deployment of three to four DARTs and corresponding Response Management Teams (RMTs)³⁷⁷ to plan and coordinate response activities around the world.³⁷⁸ According to OFDA, the combined demands of these crises have forced the office to sustain the largest and longest staffing increase in its history, straining core functions and prompting it to increase its reliance on other units in USAID and other agencies to meet staffing requirements.³⁷⁹

During the reporting period, OFDA sought to increase its personnel base to enable it to sustain at least three DART/RMT structures and obtain access to sufficient surge staff to enable it to respond to at least two disasters at once.³⁸⁰ However, according to OFDA, the need for highly skilled personnel with specific expertise within many of these crises and EVD in particular, as well as long federal hiring processes, have constrained its ability to sustain or quickly meet staffing needs.³⁸¹ By the end of the reporting period, OFDA reported that it had fewer personnel than required but was in the process of hiring additional U.S. personnel service contractors to staff the growing number of response positions needed to address the multiple ongoing crises.³⁸²



A USAID DART deployed to Nepal in late April 2015 to assist with earthquake relief efforts. Above, a DART member works with the Nepali Army. (Photo by Natalie Hawwa for USAID, April 29, 2015)

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PILLAR IV: STRENGTHENING GLOBAL HEALTH SECURITY

The EVD outbreak in West Africa revealed vulnerabilities in local health authorities' capacity to rapidly detect and respond effectively to biological threats, and highlighted weaknesses in international health institutions' ability to help prevent an avoidable disease outbreak. The EVD outbreak also demonstrated how disease outbreaks can be difficult to predict and can quickly spread across national borders and continental boundaries. In addition to outbreaks of known diseases like EVD, health security threats include the possible emergence and spread of new microbes and drug-resistant pathogens; risks of inadvertent or intentional release of pathogens from research facilities; and the potential acquisition, development, and use of biological agents by malevolent actors.³⁸⁴ Since 2007, CDC has reported more than 1,300 discrete outbreaks in over 150 countries.³⁸⁵

In order to quickly identify and contain global health threats of this kind, countries need effective health institutions and personnel, emergency management response capacity, and surveillance and laboratory systems.³⁸⁶ Global health security efforts are geared toward reinforcing these and other health system capabilities with the aim of strengthening prevention, detection, and response measures to address future health threats.³⁸⁷ At the 2011 UN General Assembly, the President called upon "countries to work together to prevent, detect, and respond to outbreaks before they become epidemics."³⁸⁸ In February 2014, the U.S. Government along with 28 countries, WHO, the UN Food and Agriculture Organization, and the World Organization for Animal Health (OIE), launched the Global Health Security Agenda (GHSA) with a 5-year

commitment goal “to advance a world safe and secure from infectious disease threats”.³⁸⁹

The fourth pillar of the U.S. Ebola response and preparedness strategy, which aligns closely with GHSA, is to strengthen global health security infrastructure in West Africa and other regions. U.S. Government objectives under Pillar IV are to prevent avoidable outbreaks and enable countries to detect threats and respond rapidly and effectively to future outbreaks.³⁹⁰

INTERNATIONAL HEALTH REGULATIONS

The International Health Regulations (IHR) provide a framework for strengthening global health security. Designed to enable countries to work with one another to deal with public health risks, a revised IHR was approved by the World Health Assembly in 2005 and came into effect in June 2007. Under IHR, member states are required to report to WHO any health-related events that may pose a risk to the international community, respond to related WHO information requests, and improve and bring their public health surveillance and response systems in line with IHR standards and criteria.³⁹¹

Member states are also responsible for achieving certain core IHR public health capacities. As of January 2015, 64 member states had met these core capacity requirements and 81 others had requested additional time to do so, while the core capacity status of 48 others was unknown.³⁹² CDC serves as an IHR collaborating center and, along with USAID and DoD, supports countries in implementing IHR guidelines for prevention, detection, assessment, notification, reporting, and response to public health threats.³⁹³

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Significantly, IHR also provides the basis for a notification system for WHO to declare public health emergencies of international concern. After an emergency committee convened by the WHO Director-General advised that the EVD outbreak in West Africa met associated criteria, WHO declared the outbreak a public health emergency of international concern on August 8, 2014.³⁹⁴ At its July 7, 2015, meeting, the WHO emergency committee advised that the EVD outbreak remained a public health emergency of international concern.³⁹⁵

The U.S. Government has been actively engaged in global health security for many years.³⁹⁶ Through the Cooperative Biological Threat Reduction program, DoD has helped mitigate risks of biological threat release by improving the physical protection, safety, and security of facilities that house dangerous biological agents.³⁹⁷ CDC personnel routinely identify and frequently help respond to infectious disease outbreaks abroad, and CDC has supported EVD preparedness efforts in East Africa in the past.³⁹⁸ For its part, USAID supported efforts to address emerging pandemic threats through a recently concluded 5-year program to detect new disease threats early, enhance national preparedness and response capacities, and reduce risky practices and behaviors that can trigger the emergence of new diseases.³⁹⁹ Meanwhile, CDC, DOS, USAID, and DTRA collaborated on the Field Epidemiology Training Program (FETP), which was designed to develop local health system capacity to detect and respond to health threats, and has been implemented in a number of African nations.⁴⁰⁰

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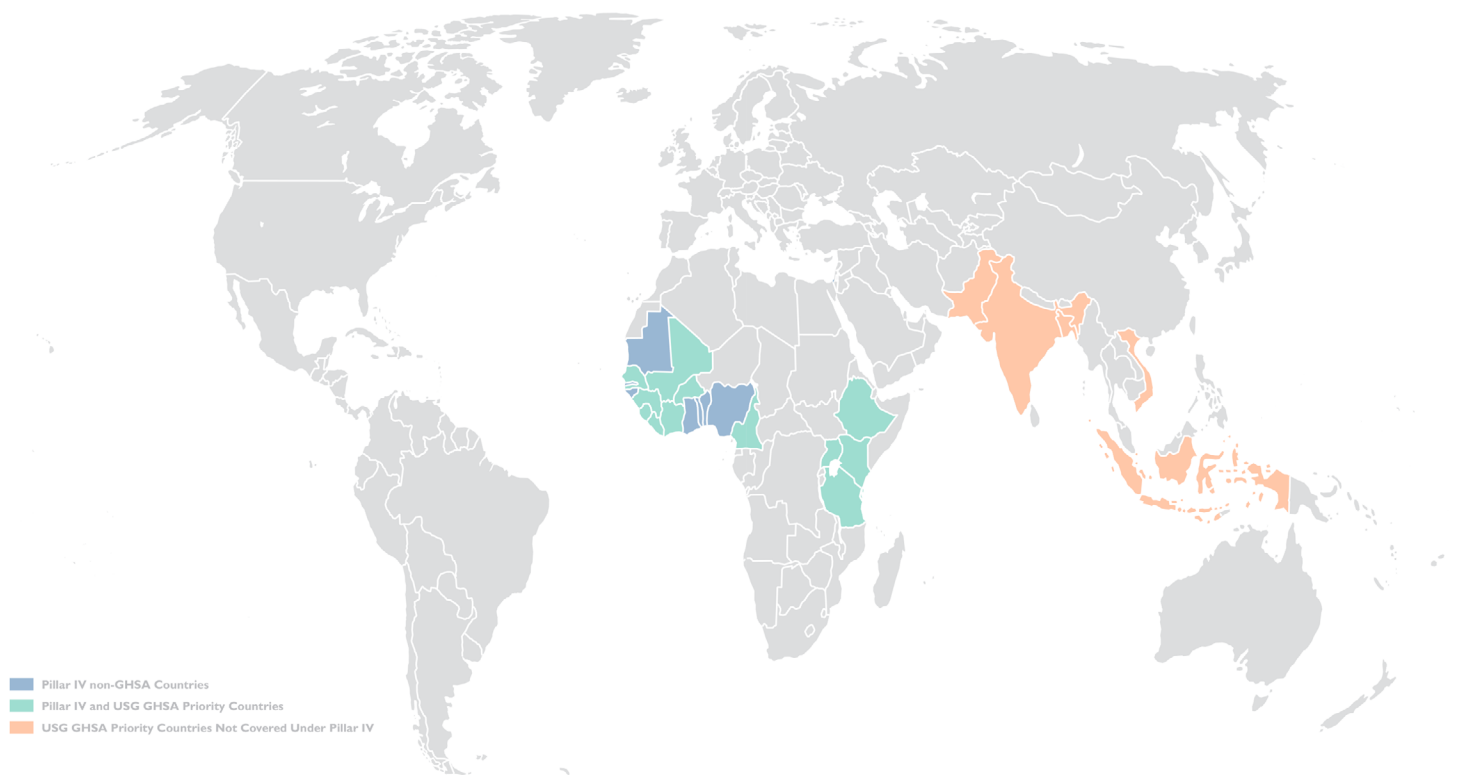


Figure 12: U.S. Government support for Pillar IV and GHSA focus countries.

GLOBAL HEALTH SECURITY AGENDA

Global health security has implications for all countries, as infectious disease threats can appear and spread anywhere in the world. GHSA launched in February 2014—just as the EVD outbreak was emerging in Guinea—with a 5-year goal “to advance a world safe and secure from infectious disease threats”.⁴⁰¹ In working toward this goal, GHSA’s focus is on strengthening countries’ capacity to prevent, detect, and respond to infectious disease threats.⁴⁰² In June 2014, GHSA was endorsed by the Group of 7 (G-7)⁴⁰³ and a year later, the Group made a commitment to assist at least 60 countries achieve GHSA and IHR targets over the ensuing 5 years.⁴⁰⁴

The U.S. Government has committed to assist at least 30 countries achieve GHSA objectives.⁴⁰⁵ During the initial phase of this effort, USAID, CDC, DoD, and other U.S. agencies are coordinating activities in 17 GHSA focus countries. These initial efforts—which include a focus on Guinea, Liberia, and Sierra Leone—involve assistance in developing 5-year country-specific roadmaps and working plans to implement GHSA activities.⁴⁰⁶

To help drive progress toward GHSA objectives, countries at the GHSA Commitment Development meetings in Helsinki and Jakarta identified 11 focus areas for action.⁴⁰⁷ To help prevent avoidable epidemics, GHSA targets activities to address antimicrobial resistance, zoonotic disease, biosafety and security, and immunization.⁴⁰⁸ To aid in the early detection of threats, GHSA efforts focus on building national laboratory systems, real-time surveillance capacity, global health security reporting, and developing the needed health security

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workforce.⁴⁰⁹ To support rapid and effective response, GHSA targets the establishment and networking of EOCs, building capacity for rapid multisectoral response, and creating frameworks for leveraging partners' medical personnel and countermeasures when needed.⁴¹⁰

The GHSA Steering Group—comprised of 10 countries, including the United States—tracks the progress, identifies challenges, and oversees implementation of GHSA objectives.⁴¹¹ The U.S. Government is co-leading GHSA efforts to build national laboratory systems, and is a major contributor in addressing antimicrobial resistance and zoonotic diseases, and promoting biosafety and biosecurity, real-time surveillance, and workforce development.⁴¹²

Pillar IV activities and GHSA activities align insofar as strengthening preparedness and response against EVD can also strengthen global health security against other health threats. The EVD outbreak brought additional focus on the need to bolster global health security in Africa. Accordingly, Pillar IV activities target 12 GHSA-priority countries in Africa in addition to 7 other non-GHSA countries in Africa that are at high-risk for EVD and have been identified as needing EVD preparedness capacity building support.

Pillar IV efforts are closely tied to previously described work to restore health system capabilities in the countries most heavily impacted by EVD. In Liberia, the U.S. Government has tied some plans to restore health systems to GHSA aims. In Guinea and Sierra Leone, where GHSA-related plans are in an earlier stage of development, these links between Pillar II efforts to help restore the functioning of health systems and GHSA promotion efforts will emerge over time.⁴¹³ Meanwhile, CDC has established country

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offices in Guinea, Liberia, and Sierra Leone to reinforce health systems and support global health security.⁴¹⁴

USAID launched the second phase of its Emerging Pandemic Threats program (EPT 2) in 2014 to assist focus countries to improve their capacity to prevent, detect, and respond to infectious disease threats, and meet key GHSA and IHR objectives.⁴¹⁵ An important component is work to prevent the emergence and spread of zoonotic pathogens, as pathogens from animal reservoirs, such as H5N1 avian influenza and EVD, can spill over and spread among human populations. USAID's PREDICT 2 project under the EPT 2 program promotes surveillance of major pandemic risk pathways and areas where zoonotic diseases continue to take a significant toll.⁴¹⁶ PREDICT 2 is intended to:

- Investigate biological and human behavioral risk factors and drivers that increase the risk of disease emergence and spread, and
- Characterize the conditions and circumstances driving zoonotic viral evolution, amplification, and spread.⁴¹⁷

Primary PREDICT 2 activities focus on enhancing human and animal surveillance capacity to improve data collection and identification of critical pathways that contribute to disease emergence and spread.⁴¹⁸ PREDICT 2 activities also seek to understand the dynamics of zoonotic virus and human-animal contact in order to forecast risk and inform measures, policies, and practices that reduce disease transmission risk.⁴¹⁹

TRACING SOURCES OF EBOLA: RESEARCH INTO BUSHMEAT

Researchers have estimated that 60 percent of emerging human pathogens are zoonotic, meaning that the pathogen normally resides in animals and can be transmitted to humans. Recent zoonotic outbreaks have included EVD, Nipah virus, and SARS.⁴²⁰ The encroachment of human populations into natural habitats increases opportunities for human exposure to, and the transmission and spread of such diseases.⁴²¹ Improving our understanding of the intersection between human and wildlife populations can reduce zoonotic risks.

Scientists believe that bats serve as the reservoir population for the Ebola virus and carry the virus without showing symptoms.⁴²² Any contact with Ebola-carrying species creates a risk of transmission, and the trade in bushmeat (the hunting of wildlife or use of an animal carcass for food) may be a source for EVD transmission to human populations.⁴²³ To better understand the source of EVD and zoonotic risks from bushmeat, USAID has been supporting Center for International Forestry Research studies on bushmeat, forests, and food security to develop an Ebola risk mapping model. This model may, in turn, be used to understand the conditions associated with EVD outbreak and spread.⁴²⁴

Laboratory and diagnostic facilities are an important part of the biosurveillance system to detect diseases, including dangerous pathogens like the Ebola virus. Ensuring that proper equipment, procedures, and precautions are in place in laboratories and diagnostic facilities can help ensure proper diagnosis, reduce risks of accidental exposure by personnel, and strengthen the security

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of dangerous pathogens.⁴²⁵ DoD DTRA's Cooperative Biological Engagement Program (CBEP) provides education and training in clinical, laboratory, and epidemiological safety and security to partner countries with regard to dangerous pathogens.⁴²⁶ At the height of the EVD outbreak in West Africa, CBEP funded and supplied nine EVD laboratories in Guinea, Liberia, and Sierra Leone and provided medical sample transportation to reduce sample processing times.⁴²⁷

During the last quarter, DoD developed plans to train technicians at the National Reference Laboratory in Liberia, fund a Navy laboratory, and, in conjunction with CDC and USAID, implement Liberia threat reduction program improvements in the areas of biosafety, biosurveillance, and biosecurity.⁴²⁸ Meanwhile, DOS's Biosecurity Engagement Program has been engaging life scientists and providing assistance to improve biosecurity, biosafety, pathogen surveillance, and infectious disease surveillance and response capabilities around the world, including in sub-Saharan Africa.⁴²⁹ These efforts help strengthen laboratory and diagnostic capabilities in West Africa.

By detecting emerging biological threats early on, health officials are better able to respond rapidly and effectively before threats spread. Early detection of health threats can be aided by linked global biosurveillance networks, rapid sharing and reporting of information, sufficient diagnostic and laboratory capacity for accurate and timely information, and an effective biosurveillance workforce.⁴³⁰ CDC's efforts to promote international capacity to detect emerging diseases have included building laboratory, surveillance, and informatics management capacity.⁴³¹ In addition, CDC plans to expand FETP to include additional countries,

particularly in West Africa, to ensure that disease detectives are available to rapidly identify and control EVD and other diseases.⁴³²

Meanwhile, USAID's One Health Workforce project under the EPT 2 program is supporting African university networks in equipping current and future members of the health workforce with the practical skills and knowledge needed to address emerging infectious disease threats.⁴³³ This network now includes 14 public health and veterinary medicine institutions in Central and Eastern Africa.⁴³⁴

DoD's AFHSC provides comprehensive health surveillance as part of its efforts to safeguard the health of military and military-associated populations. AFHSC provides continued monitoring of the EVD outbreak in West Africa and publishes a "West Africa Ebola Surveillance Summary" with EVD resources and epidemiological information.⁴³⁵ AFHSC also works with host nations and partners to improve diagnostic and reporting capacity in accordance with IHR guidelines.⁴³⁶ In Liberia, AFHSC has supported collaboration between the Armed Forces of Liberia, the Liberia Institute for Biomedical Research (LIBR), and the U.S. Naval and Medical Research Unit since 2010. At the peak of the outbreak, LIBR served as a central hub for EVD diagnostic testing with assistance from other AFHSC-supported laboratories as well as U.S. military research facilities.⁴³⁷

Rapid and effective response to biological incidents also depends on operational coordination of multisectoral teams, real-time information sharing, and capacity to investigate the source of the incident. This requires access to medical and non-medical countermeasures as well as personnel. In support of this end, during the reporting period, CDC assisted countries in developing

AFRICAN CENTRES FOR DISEASE CONTROL AND PREVENTION

The EVD outbreak accelerated the establishment of the African Centres for Disease Control and Prevention (African CDC). The U.S. Government's CDC collaborates with the African CDC in improving capacity to prevent, detect, and respond to disease outbreaks in Africa and will help build the capacity of African Union member states' ability to meet IHR requirements.⁴³⁸ CDC's engagement with the African CDC involves technical assistance to launch the agency, including the establishment of a surveillance unit and EOC, and staff support through the work of two long-term U.S. Government advisors and ten African epidemiologists.⁴³⁹

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emergency management capacity and EOCs to aid in EVD response and preparedness.⁴⁴⁰ Meanwhile, USPHS officers provided public health and incident management training in partner nations in West Africa.⁴⁴¹

To assist countries in building capacity to respond rapidly and effectively to EVD and other diseases, USAID partners conducted assessments of emergency preparedness and response capacity in West African countries. In partnership with CDC and WHO, these partners helped 13 West African countries develop National Ebola Preparedness and Response Plans.⁴⁴² USAID also designed and facilitated regional EVD workshops in Ivory Coast, Ghana, and Cameroon.⁴⁴³ In addition, USAID's Preparedness and Response project under the EPT 2 program is assisting African countries in the development and implementation of National Preparedness and Response Plans to public health events of unknown etiology.⁴⁴⁴

THE EVD OUTBREAK IN NIGERIA

Public health officials have credited the prompt establishment of an EOC in Nigeria and effective application of incident management system techniques to coordinate EVD response efforts as having played a significant role in containing the EVD outbreak in Nigeria.⁴⁴⁵ EVD was first introduced to Nigeria when a traveler with EVD arrived by commercial airline from Liberia on July 20, 2014.⁴⁴⁶ The patient was immediately admitted to a hospital and initially treated for malaria.⁴⁴⁷ When he failed to respond to malaria treatment, the patient was tested for EVD and local public health authorities were alerted.⁴⁴⁸ Public health officials were concerned about the spread of EVD in Africa's most populous country and in Lagos, a city with a population as

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large as that of Guinea, Liberia, and Sierra Leone combined.⁴⁴⁹

The Federal MOH along with the Lagos State Government and international partners—including CDC—activated an Ebola Incident Management Center on July 23, 2014. The Center subsequently became the national EOC.⁴⁵⁰ The EOC coordinated EVD response efforts in Nigeria and consolidated decision making.⁴⁵¹ Under EOC direction, more than 150 contact tracers quickly identified and followed up on 894 contacts.⁴⁵² These contact tracers were able to rely on preexisting disease surveillance software to track cases and transmit information immediately to the EOC.⁴⁵³ After seven EVD fatalities, Nigeria was declared EVD-free on October 20, 2014.⁴⁵⁴ Nigeria's rapid response to and containment of EVD reflects the kind of public health system effort that the U.S. Government's Pillar IV initiatives are trying to promote in focus countries.

To support new countermeasures against health threats, DoD, through DARPA, is developing unconventional biological approaches to reduce infectious disease threats, including EVD. For example, DARPA supported efforts to use antibodies from EVD survivors that may provide immediate temporary immunity.⁴⁵⁵ DARPA's goals include developing genetic and immunological techniques for detecting, diagnosing, and treating infectious diseases with speed and precision, and developing platforms to explore viral evolution, predict mutational pathways, and develop drugs and vaccines in advance of need.⁴⁵⁶

OVERSIGHT



Supplies for treating EVD in West Africa. (Photo by USAID OIG Audit Team, June 22, 2015)

OVERSIGHT COORDINATION, PLANS, AND ACTIVITIES

OVERSIGHT FRAMEWORK AND COORDINATION

Congress prescribed a new oversight framework for overseas contingency operations (OCOs) in the 2013 National Defense Authorization Act (P.L. 112-239, January 2, 2013). This law amended the IG Act of 1978, adding Section 8L to provide for increased coordination, reporting, and oversight relating to OCOs. Under this arrangement, existing agency-specific OIGs for DoD, DOS, and USAID are to provide more intensive coordination of oversight efforts and additional reporting regarding the progress of OCOs and corresponding oversight efforts. Section 8L (see Appendix A) requires the Chair of the Council of the Inspectors General on Integrity and Efficiency (CIGIE) to designate a lead IG to coordinate these efforts within 30 days after a designated OCO has exceeded 60 days in duration.

On October 16, 2014, the President issued an Executive Order invoking his authority under Title 10, U.S.C. §12304 to authorize the Secretary of Defense to order reserve units and individuals to active duty to support OUA, the fight against the EVD outbreak in West Africa.⁴⁵⁷ The Secretary exercised this authority on November 13, 2014, and the U.S. Army issued mobilization orders for reservists on November 25, 2014.⁴⁵⁸ These actions, in turn, triggered requirements under Section 8L of the IG Act. Pursuant to these requirements, on February 24, 2015, the CIGIE Chair designated Jon T. Rymer, the DoD Inspector General, as the Lead IG for OUA.⁴⁵⁹ Mr. Rymer subsequently appointed Catherine M. Trujillo, the USAID Acting Deputy Inspector General, as the Associate

IG to lead OUA oversight planning, coordinating, and reporting activities.⁴⁶⁰

Since October 2014, representatives from the OIGs with an international Ebola preparedness and response oversight mandate have met on a number of occasions to share oversight and reporting plans and activities and explore opportunities for coordination. To ensure comprehensive coverage of the U.S. Government's Ebola response and preparedness efforts, oversight coordination and planning has been extended beyond the three aforementioned OIGs to include the HHS OIG. In addition, this report describes related work on the part of the Department of Homeland Security (DHS) OIG and the Government Accountability Office (GAO).

Initial oversight activities have focused primarily on the first pillar of the U.S. Government response to Ebola relating to the effort to control the outbreak. As U.S. Government programming in the responding federal departments and agencies shifts to address second-order effects of the epidemic, building coherent leadership and operations, and strengthening global health security, the oversight community will adjust the focus its work to provide needed coverage.

Section 8L of the IG Act of 1978, as amended, requires that the Lead IG submit a biannual report to Congress on the activities of the Lead IG and the other OIGs, including the status and results of investigations, inspections, audits, and referrals to the Department of Justice as well as overall plans for oversight of the OCO. This section of the report addresses this requirement.

Current plans are for quarterly reporting to Congress, as required by Section 8L of the IG Act, on the progress of Ebola response and

preparedness activities to conclude with a report covering U.S. Government activities through the end of FY 2015.

Section 8L authorities and requirements under the IG Act terminate at the end of the first fiscal year in which the total amount appropriated for the pertinent OCO is less than \$100 million.⁴⁶¹ Although Congress appropriated substantial funding for Ebola response and preparedness in December 2014, it designated the funds as “emergency,” and not “overseas contingency operation” funds, and did not link them to OUA. Given the June 30, 2015, termination of OUA and barring a subsequent appropriation for an Ebola overseas contingency operation, Section 8L authorities and responsibilities relating to Ebola response and preparedness activities will conclude on September 30, 2015, the end of this fiscal year.⁴⁶²

Section 8L of the IG Act of 1978, as amended, requires that the Lead IG review and ascertain the accuracy of information provided by Federal agencies relating to obligations and expenditures, costs of programs and projects, accountability of funds, and the award and execution of major contracts, grants, and agreements in support of the OCO. Each OIG has identified its own specialized approach for addressing this requirement.

- DoD OIG will perform work to ascertain the accuracy of OCO obligations, disbursements, and accountability of amounts reported in the DoD Cost of War report, as applicable, and other relevant OCO reports. As part of this work, steps will be added to test the accuracy of sampled OCO transactions from the accounting system to the supporting documentation. The results will be included in a product that reports on that body of work.⁴⁶³

- DOS OIG will take steps to verify financial data provided by DOS to determine whether the information is accurate, using standard auditing processes and sampling, consistent with auditing plans.⁴⁶⁴
- HHS OIG performs data analytics to identify high-risk areas and reviews other relevant factors to determine how to focus its oversight resources. HHS OIG is applying a similar analysis to Ebola response, recovery, and prevention efforts and plans to perform oversight work accordingly.⁴⁶⁵
- USAID OIG will add discrete steps to its future Government Management Reform Act (GMRA) work to test financial data from a sample of Ebola response, recovery, and preparedness awards. The results of this work will be folded into overall GMRA report results and will also be reported in a separate product with a specific focus on the testing of awards related to Ebola response, recovery, and preparedness efforts.

AUDIT AND INSPECTION PLANS AND ACTIVITIES

DoD, HHS, DOS, and USAID OIGs all have oversight roles relating to U.S. Government Ebola response and preparedness programs and operations. GAO also has oversight functions that extend to U.S. Government international Ebola response, recovery, and preparedness efforts. These oversight bodies have issued 2 reports related to Ebola response and preparedness, while work is in progress or planned on 13 others.

DEPARTMENT OF DEFENSE OIG

Two DoD OIG components are engaged in Ebola-related oversight activities: the Office of Auditing and the Office of Special Plans and Operations.

Ongoing Work

Three DoD OIG audits and evaluations of Ebola-related activities are currently under way.

Audit of Contract Oversight for the Logistics Civil

Augmentation Program Task Orders Supporting Operation

United Assistance. This audit will determine whether the U.S. Army is providing sufficient contract oversight for Logistics Civil Augmentation Program task orders issued to support OUA. In particular, the audit will determine whether the Army has adequate contracting officer's representatives (CORs); whether CORs are appropriately trained and appointed; and whether they have sufficient quality assurance plans to ensure that DoD receives the goods and services under the terms of the contract.⁴⁶⁶

Evaluation of DoD Force Health Protection Measures

During Operation United Assistance. This evaluation will examine OUA health protection policies, programs, and logistical requirements for all personnel for whom DoD may be responsible with the aim of identifying possible gaps between force health protection requirements and implementation, and to recommend improvements to force health protection measures, if appropriate.⁴⁶⁷

Audit of Army's Administration of Contracts for Operation

United Assistance. This audit will determine whether Army controls for monitoring contractor performance are adequate for supporting OUA contracts.⁴⁶⁸

DEPARTMENT OF HEALTH AND HUMAN SERVICES OIG

HHS OIG has an ongoing Office of Evaluations and Inspections review that may have international implications, and one planned audit with an international focus to be performed by the Office of Audit Services.

Ongoing Work

Review of Hospital Preparedness and Response to High-Risk Infectious Diseases. Hospitals serve an important community role in preparing for and responding to public health threats from high-risk infectious diseases. Several HHS operating divisions provide guidance, oversight, and technical assistance to hospitals in fulfilling this role, including CDC, the Centers for Medicare and Medicaid Services, and the Office of the Assistant Secretary for Preparedness and Response (ASPR). The objectives of this evaluation are to examine HHS guidance, assistance, and oversight of hospital preparedness and response to high-risk infectious diseases, as well as to determine the current status of and barriers to hospital preparedness at a nationally-projectable sample of hospitals.⁴⁶⁹

Planned Work

Review of the Centers for Disease Control and Prevention's Ebola-Related Awards. The Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235) provided \$2.7 billion in emergency funding to HHS for Ebola preparedness and response activities. Of this total, \$1.771 billion was allocated to CDC “for ‘CDC-Wide Activities and Program Support,’ ...to remain available until September 30, 2019, to prevent, prepare for, and respond to Ebola domestically and internationally.”

CDC specifically identified \$1.2 billion for its international response efforts as follows:

- \$603 million for international Ebola response and preparedness activities in the current three epidemic and high-priority countries, including neighboring countries.
- \$597 million to support the National Public Health Institutes and implementation of the GHSA.

Additional Global Health Security countries will be prioritized based on urgently needed investments in vulnerable nations, transport hubs, and states without the capacity to prevent global spread of Ebola or stem the tide of future threats.

The objective of this audit is to determine whether CDC awarded Ebola-related funds in FY 2015 in compliance with federal and departmental regulations.⁴⁷⁰

DEPARTMENT OF HOMELAND SECURITY OIG

Completed Work

DHS OIG completed one audit of DHS relevant to Ebola preparedness and response activities in light of its focus on PPE management.

DHS Has Not Effectively Managed Pandemic Personal Protective Equipment and Antiviral Medical Countermeasures
(Report No. [OIG-14-149](#), August 26, 2014).

DHS OIG audited DHS's pandemic preparedness efforts to determine whether DHS had effectively managed its pandemic preparedness supply of PPE and antiviral medical countermeasures. DHS OIG determined that DHS did not adequately conduct a needs assessment, and did not effectively manage its pandemic preparedness supply of pandemic PPE

and antiviral medical countermeasures as part of pandemic preparations. As a result, DHS could not ensure it had sufficient PPE and antiviral medical countermeasures for a pandemic response. In addition, DHS OIG identified concerns related to oversight of antibiotic medical countermeasures.

DHS OIG made 11 recommendations to strengthen program management, performance, and oversight. DHS concurred with all of them. Six of these recommendations have been resolved and closed, while the remaining five are resolved but are pending implementation of DHS corrective actions.⁴⁷¹

Ongoing Work

DHS OIG is currently conducting an audit that includes a focus on Ebola response and DHS pandemic planning. In relation to this ongoing work, DHS OIG has reviewed DHS's past and current pandemic planning, including the 2009 H1N1 Implementation Plan and the Pandemic Workforce Protection Plan; met with personnel from the Office of Health Affairs, Office of Operations Coordination and Planning, and the Directorate for Management; and interviewed emergency preparedness staff at the Transportation Security Administration (TSA), U.S. Immigration and Customs Enforcement, U.S. Secret Service, National Protection and Programs Directorate, U.S. Citizenship and Immigration Service, U.S. Coast Guard (USCG), U.S. Customs and Border Protection (CBP), and Federal Emergency Management Agency headquarters offices. DHS OIG has also visited TSA, CBP, and USCG field offices to understand their local pandemic planning and response to Ebola, and interviewed CDC personnel to understand their collaboration with DHS on the implementation of the screening procedures.

Audit of DHS Ebola Response. This audit will determine if DHS has effectively implemented enhanced screening measures for a response to an Ebola outbreak.⁴⁷²

Audit of DHS Pandemic Planning and Response. This audit will determine if DHS has implemented adequate preparedness plans to continue mission essential functions during a pandemic.⁴⁷³

DEPARTMENT OF STATE OIG

Planned Work

DOS OIG has one planned audit that will be performed by the Office of Audit Services.

Audit of Aeromedical Biological Containment Evacuation Services Contract Provided to Phoenix Air Group. DOS OIG developed a proposal for an audit of an air evacuation contract and plans to audit the aeromedical biological containment evacuation services contract provided to the Phoenix Air Group.⁴⁷⁴

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT OIG

USAID OIG has an array of completed, ongoing, and planned oversight efforts relating to Ebola activities. These efforts are managed by OIG units in Washington, D.C., and Dakar, Senegal.

Completed Work

While USAID OIG developed plans for the below audit prior to the Ebola outbreak, the audit reinforces systems that will promote accountability in the expenditure of USAID funds related to Ebola.

Audit of USAID/Guinea's Systems for Ensuring Appropriate Oversight of Funded Programs (Report No. [7-675-15-003-P](#), November 6, 2014).

Contracts, grants, and cooperative agreements are the main tools USAID uses to provide its foreign assistance programs. Agency rules and regulations state that foreign NGOs spending more than \$300,000 in USAID funds during the fiscal year are required to have an annual financial audit, and those that spend more than \$500,000 throughout the award must have a close-out audit. To make sure the financial audits are monitored properly, USAID missions must maintain a list of all awards. USAID/Guinea's FY 2013 award list had 48 awards worth about \$135 million. Ten of them, worth \$6 million, were made to foreign organizations or the Guinean Government.

USAID OIG determined that USAID/Guinea did not manage its audit program effectively. For instance, a review of the mission's award list showed that 22 expired awards dating back to 1999 still appeared in the financial systems with an open status, which mission officials attributed, in part, to high staff turnover. They said that certain close-out procedures, like negotiated indirect cost rate agreement audits, are the responsibility of USAID in Washington, D.C., and that employees there had not completed them on time.

In addition, the mission did not verify whether some audits were performed in accordance with Agency policies and submitted on time. In one example, an audit on an implementer was scheduled for completion in September 2013, but was actually finished in June 2014, 9 months later. In this case, mission officials said they believed that the prime recipient was responsible for verifying that audits of sub-recipients were conducted. They also said they did not know they needed to review the statement of work for a sub-recipient that spent more than \$300,000 of USAID funds within its fiscal year.

USAID OIG made four recommendations to improve the management of USAID/Guinea's systems for ensuring appropriate oversight of funded programs. USAID made management decisions on each of USAID OIG's four recommendations. However, USAID had not yet taken corrective action to address any of these recommendations by the end of the reporting period.

Ongoing Work

As of June 30, 2015, USAID OIG had four audits underway that relate to USAID's management of commodities during the response; its decisions regarding acquisition and assistance instruments used; the effectiveness of social mobilization, case detection, and case management efforts under a particular program; and FFP programs that address food insecurity stemming from the EVD outbreak. This work is being conducted by the Regional IG Office in Dakar, and the Performance Audits Division based in Washington, D.C.

Audit of Selected Activities From OFDA's Response to the Ebola Crisis in Liberia. The Assisting Liberians with Education to Reduce Transmission program is intended to address several EVD Pillar I response needs in Liberia, which had received the highest level of humanitarian assistance provided by USAID for EVD response activities. Global Communities, the implementer for this program, is one of a small number of awardees to receive an award valued in excess of \$20 million to implement EVD response Pillar I activities. The organization operates in all 15 counties in Liberia and is responsive to emerging hotspots. The program's community outreach and prevention messaging, along with support for safe burial teams and contact tracing activities are significant elements in reducing the probability of a more rapid rate of EVD infection.



USAID OIG auditor disinfecting her feet while visiting an ETU in Margibi County, Liberia in June 2015 (Photo by USAID OIG Audit Team)

The objective of this audit is to determine whether the program is achieving its goal of assuring a maximum level of community preparedness for and responsiveness to exposure to Ebola through effective social mobilization, case detection, and case management.

Audit of USAID's Use of Acquisition and Assistance Implementing Instruments in Responding to Ebola.

This audit will provide an overview of how USAID brought implementing partners on board in response to a rapidly moving crisis. The audit will determine whether the acquisition and assistance instruments USAID used, as well as selected statements of work for those instruments, were appropriate for implementing USAID's Ebola response strategy.

Audit of USAID's Management of Medical Commodities

Provided in Response to the Ebola Outbreak. The provision of protective equipment, medical supplies, medical equipment, and pharmaceuticals has been a crucial part of international community and U.S. Government response efforts. To address limitations in the availability of needed equipment, supplies, and commodities, USAID provided funds to purchase and distribute a large volume of material in various parts of West Africa. Commodity supply chains can be subject to mismanagement and waste during a crisis. This audit will identify areas of vulnerability and help USAID design and implement controls to mitigate these vulnerabilities during future crises.

USAID OIG is conducting this audit to determine whether USAID made informed decisions in purchasing, distributing, and managing medical commodities to effectively respond to the Ebola outbreak.

Audit of Selected Activities From FFP’s Response to the Ebola Crisis in West Africa. According to the UN, as of December 2014, approximately 500,000 people in Guinea, Liberia, and Sierra Leone were experiencing severe food insecurity as a result of the EVD outbreak. To address the increased food insecurity resulting from disrupted agricultural production and trade, market and border closures, and price increases in food and transportation, USAID funded emergency interventions that provided cash, food vouchers, and agricultural inputs to households impacted by the secondary effects of Ebola—Pillar II activities. This activity is intended to allow households to sustain their food consumption through the lean season, allowing them to resume agricultural and other livelihood activities without losing previous development gains.

To address several secondary effects of Ebola, FFP awarded Mercy Corps, Project Concern International, CRS, and Save the Children grants to implement Pillar II activities in acutely affected regions of Guinea, Liberia, and Sierra Leone. The four grants are valued at approximately \$22.7 million and are intended to benefit more than 300,000 people. The interventions funded by FFP align with the economic recovery plan presented in April 2015 by the Presidents of the three countries most impacted by Ebola. The plan called on the international community to assist with financial support to provide cash transfers and other assistance to those severely affected by the economic downturn in the region. This audit will determine whether select FFP programs are on track to address food insecurity resulting from the effects of Ebola.

Planned Work

USAID OIG plans to obtain and review mission and agency audit plans and lists of awards for USAID’s Ebola programs to ensure

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that required financial audits are performed. These audits will determine whether funds appropriated for USAID Ebola initiatives are expended according to established laws, regulations, and cost principles. Auditors will test costs to determine whether they are allowable, allocable, and reasonable. In addition, USAID OIG plans to examine pre-award reviews that USAID performed for recipients that do not have experience working with USAID, and then follow-up on related recommendations to determine whether needed corrective actions or mitigating steps have been taken. USAID OIG will examine implementer and program risk information in determining when to supplement standard organization-wide financial audits of U.S.-based entities and project-specific audits of international entities with additional targeted financial audit work.



Storage facility at an ETU in Ganta, Liberia containing commodities from USAID (Photo by USAID OIG Audit Team, June 2015)

GOVERNMENT ACCOUNTABILITY OFFICE

GAO is currently conducting oversight activities under section 9005 of the Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235, December 16, 2014), which provides for GAO to conduct oversight of funds appropriated to USAID and DOS for Ebola response and preparedness. During the reporting period, GAO began one related engagement.

Ongoing Work

Review of Ebola Response and Preparedness. The review will address DOS and USAID activities to prevent, prepare for, and respond to the 2014 EVD outbreak in West Africa. In particular, GAO plans to examine the measures DOS and USAID took to be prepared to respond to an Ebola outbreak prior to the 2014 outbreak in West Africa; the actions DOS and USAID have taken and funding used to respond to the outbreak; and key lessons learned from the response effort.⁴⁷⁵

INVESTIGATIVE OUTREACH, HOTLINES, AND OTHER ACTIVITIES

Outreach

USAID OIG provided fraud awareness briefings to USAID staff, implementers, and local officials in West Africa focused on the Ebola response. During the reporting period, USAID OIG provided 16 fraud awareness briefings to 334 attendees.⁴⁷⁶ DoD OIG also conducted 13 fraud awareness briefings during this period for 73 attendees, most of whom were deployed to Africa.⁴⁷⁷

Hotlines

USAID OIG maintains a dedicated Ebola Hotline to receive complaints of fraud, waste, or abuse relating to U.S. Government programs supporting the response to contain and stop the spread of EVD, mitigate second-order effects, and strengthening global health security. Complaints to the Ebola Hotline may include information about mismanagement or violations of law, rules, or regulations by U.S. Government employees, implementers of U.S. Government-funded programs, or program participants. USAID OIG accepts complaints directly from employees, program participants, or the general public. The Ebola Hotline is accessible through a web-based form on the USAID OIG webpage in English and in French as well as by telephone, fax, and mail.

Telephone: 1-800-230-6539 or 202-712-1023

Email: ebolahotline@usaid.gov

PDF form for fax or mail: http://oig.usaid.gov/sites/default/files/ebola_complaint_form.pdf

Fax: 202-216-3801

Mailing address:

U.S. Agency for International Development

Attn: Ebola Hotline

Office of Inspector General

P.O. Box 657

Washington, DC 20044-0657

Hotline Web site in English:

<http://oig.usaid.gov/content/ebola-hotline-report-fraud-or-corruption>

Hotline Web site in French:

<http://oig.usaid.gov/content/ebola-hotline-report-fraud-or-corruption-french>

USAID OIG has received information through the Ebola Hotline that has informed upcoming audit work. As allegations are received, USAID OIG continues to work with its partners in DoD, DOS, and HHS OIGs, and other domestic and international law enforcement partners as appropriate to investigate. USAID OIG investigative work is managed from headquarters in Washington, D.C., and assigned to investigators posted in Dakar, Pretoria, and Washington, D.C.

The DoD Hotline continued emergency procedures to handle any contact alleging a potential Ebola infection, including immediate notification to CDC.⁴⁷⁸

Other Investigation Activities

During this period, USAID OIG opened two international Ebola-response related investigations. One investigation was subsequently closed, while the other investigation is ongoing.⁴⁷⁹ For this reporting period, DoD OIG opened one case and closed one case related to OUA operations to fight Ebola in West Africa. There were two debarment actions.⁴⁸⁰ No DHS OIG, DOS OIG, or HHS OIG investigations related to international Ebola work were opened, ongoing, or closed during this reporting period. There were also no related referrals to the Department of Justice from the OIGs during this period.

APPENDIX A: SECTION 8L

§8L. Special Provisions Concerning Overseas Contingency Operations

(a) Additional Responsibilities of Chair of Council of Inspectors General on Integrity and Efficiency.—Upon the commencement or designation of a military operation as an overseas contingency operation that exceeds 60 days, the Chair of the Council of Inspectors General on Integrity and Efficiency shall, in consultation with the members of the Council, have the additional responsibilities specified in subsection (b) with respect to the Inspectors General specified in subsection (c).

(b) Specific Responsibilities.—The responsibilities specified in this subsection are the following:

(1) In consultation with the Inspectors General specified in subsection (c), to designate a lead Inspector General in accordance with subsection (d) to discharge the authorities of the lead Inspector General for the overseas contingency operation concerned as set forth in subsection (d).

(2) To resolve conflicts of jurisdiction among the Inspectors General specified in subsection (c) on investigations, inspections, and audits with respect to such contingency operation in accordance with subsection (d)(2)(B).

(3) To assist in identifying for the lead inspector general for such contingency operation, Inspectors General and inspector general office personnel available to assist the lead Inspector General and the other Inspectors General specified in subsection (c) on matters relating to such contingency operation.

(c) Inspectors General.—The Inspectors General specified in this subsection are the Inspectors General as follows:

APPENDIX A: SECTION 8L

- (1) The Inspector General of the Department of Defense.
- (2) The Inspector General of the Department of State.
- (3) The Inspector General of the United States Agency for International Development.
- (d) Lead Inspector General for Overseas Contingency Operation.—
 - (1) A lead Inspector General for an overseas contingency operation shall be designated by the Chair of the Council of Inspectors General on Integrity and Efficiency under subsection (b)(1) not later than 30 days after the commencement or designation of the military operation concerned as an overseas contingency operation that exceeds 60 days. The lead Inspector General for a contingency operation shall be designated from among the Inspectors General specified in subsection (c).
 - (2) The lead Inspector General for an overseas contingency operation shall have the following responsibilities:
 - (A) To appoint, from among the offices of the other Inspectors General specified in subsection (c), an Inspector General to act as associate Inspector General for the contingency operation who shall act in a coordinating role to assist the lead Inspector General in the discharge of responsibilities under this subsection.
 - (B) To develop and carry out, in coordination with the offices of the other Inspectors General specified in subsection (c), a joint strategic plan to conduct comprehensive oversight over all aspects of the contingency operation and to ensure through either joint or individual audits, inspections, and investigations, independent and effective oversight of all programs and operations of the Federal Government in

APPENDIX A: SECTION 8L

support of the contingency operation.

(C) To review and ascertain the accuracy of information provided by Federal agencies relating to obligations and expenditures, costs of programs and projects, accountability of funds, and the award and execution of major contracts, grants, and agreements in support of the contingency operation.

(D)

(i) If none of the Inspectors General specified in subsection (c) has principal jurisdiction over a matter with respect to the contingency operation, to exercise responsibility for discharging oversight responsibilities in accordance with this Act with respect to such matter.

(ii) If more than one of the Inspectors General specified in subsection (c) has jurisdiction over a matter with respect to the contingency operation, to determine principal jurisdiction for discharging oversight responsibilities in accordance with this Act with respect to such matter.

(E) To employ, or authorize the employment by the other Inspectors General specified in subsection (c), on a temporary basis using the authorities in section 3161 of title 5, United States Code, such auditors, investigators, and other personnel as the lead Inspector General considers appropriate to assist the lead Inspector General and such other Inspectors General on matters relating to the contingency operation.

(F) To submit to Congress on a bi-annual basis, and to make available on an Internet website available to the

APPENDIX A: SECTION 8L

public, a report on the activities of the lead Inspector General and the other Inspectors General specified in subsection (c) with respect to the contingency operation, including—

- (i) the status and results of investigations, inspections, and audits and of referrals to the Department of Justice; and

- (ii) overall plans for the review of the contingency operation by inspectors general, including plans for investigations, inspections, and audits.

(G) To submit to Congress on a quarterly basis, and to make available on an Internet website available to the public, a report on the contingency operation.

(H) To carry out such other responsibilities relating to the coordination and efficient and effective discharge by the Inspectors General specified in subsection (c) of duties relating to the contingency operation as the lead Inspector General shall specify.

(3)

(A) The lead Inspector General for an overseas contingency operation may employ, or authorize the employment by the other Inspectors General specified in subsection (c) of, annuitants covered by section 9902(g) of title 5, United States Code, for purposes of assisting the lead Inspector General in discharging responsibilities under this subsection with respect to the contingency operation.

(B) The employment of annuitants under this paragraph shall be subject to the provisions of section 9902(g) of

APPENDIX A: SECTION 8L

title 5, United States Code, as if the lead Inspector General concerned was the Department of Defense.

(C) The period of employment of an annuitant under this paragraph may not exceed three years, except that the period may be extended for up to an additional two years in accordance with the regulations prescribed pursuant to section 3161(b)(2) of title 5, United States Code.

(4) The lead Inspector General for an overseas contingency operation shall discharge the responsibilities for the contingency operation under this subsection in a manner consistent with the authorities and requirements of this Act generally and the authorities and requirements applicable to the Inspectors General specified in subsection (c) under this Act.

(e) Sunset for Particular Contingency Operations.—The requirements and authorities of this section with respect to an overseas contingency operation shall cease at the end of the first fiscal year after the commencement or designation of the contingency operation in which the total amount appropriated for the contingency operation is less than \$100,000,000.

(f) Construction of Authority.—Nothing in this section shall be construed to limit the ability of the Inspectors General specified in subsection (c) to enter into agreements to conduct joint audits, inspections, or investigations in the exercise of their oversight responsibilities in accordance with this Act with respect to overseas contingency operations.

(Pub. L. 95–452, §8L, as added Pub. L. 112–239, div. A, title VIII, §848(2), Jan. 2, 2013, 126 Stat. 1851.)

APPENDIX B: TIMELINE

TIMELINE OF SIGNIFICANT EVENTS

DECEMBER 2013

December 28 First EVD victim died in an area close to where Guinea shares a border with northern Liberia⁴⁸¹

JANUARY 2014

January 24 Local health officials traveled to Meliandou, Guinea, to investigate cases of severe diarrhea with a rapidly fatal outcome. They suspected the unknown disease was cholera.⁴⁸²

FEBRUARY 2014

February 1 Virus reached the Guinean capital, Conakry⁴⁸³

February 13 WHO, FAO, OIE, the U.S. Government, and 28 other countries launched the GHSA⁴⁸⁴

MARCH 2014

March 13 Guinean MOH issued an alert concerning the spread of an unidentified disease⁴⁸⁵

March 23 WHO announced an EVD outbreak in Guinea after laboratory tests confirmed that the hemorrhagic fever outbreak was caused by the Ebola virus⁴⁸⁶

March 26 Suspected EVD cases reported in Liberia and Sierra Leone⁴⁸⁷

March 28 WHO Global Outbreak Alert and Response Network team, including CDC members, travelled to Guinea⁴⁸⁸

March 30 Liberia confirmed first EVD cases⁴⁸⁹

APPENDIX B: TIMELINE

MAY 2014

May 24 Sierra Leone confirmed first EVD case⁴⁹⁰

JUNE 2014

June 23 MSF declared Ebola outbreak “out of control” and requested massive deployment of resources by governments and aid organizations to control the epidemic⁴⁹¹

JULY 2014

July 9 CDC activated its EOC for the Ebola response⁴⁹²

July 23 Nigeria reported first EVD case⁴⁹³

July 31 CDC issued a travel warning to Americans to avoid nonessential travel to Guinea, Liberia, and Sierra Leone⁴⁹⁴

July 31 WHO released an Ebola Virus Disease Outbreak Response Plan⁴⁹⁵

AUGUST 2014

August 2 An American doctor who had been working as a missionary physician in Liberia was flown to Atlanta, GA, for treatment after contracting EVD⁴⁹⁶

August 4 U.S. Ambassador to Liberia declared the EVD outbreak in Liberia a disaster⁴⁹⁷

August 5 U.S. Government deployed USAID-led DART to the region.⁴⁹⁸ USAID constituted an RMT and DoD established an international Ebola task force in Washington, D.C.⁴⁹⁹

August 8 WHO declared EVD outbreak in West Africa a “public health emergency of international concern”⁵⁰⁰

APPENDIX B: TIMELINE

| | |
|-----------|---|
| August 13 | The Chargé d’Affaires in Sierra Leone declared the EVD outbreak in Sierra Leone a disaster ⁵⁰¹ |
| August 15 | The Chargé d’Affaires in Guinea declared the EVD outbreak in Guinea a disaster ⁵⁰² |
| August 18 | WHO requested that EVD-affected countries conduct exit screenings of all individuals ⁵⁰³ |
| August 28 | WHO published the Ebola Response Roadmap, which outlined the roles and responsibilities of governments and organizations involved in the effort to combat EVD in West Africa ⁵⁰⁴ |
| August 29 | Senegal reported first EVD case ⁵⁰⁵ |

SEPTEMBER 2014

| | |
|--------------|---|
| September 6 | The Secretary of Defense approved DoD support for a DOS request to provide an expeditionary hospital in West Africa as a healthcare worker EVD treatment facility ⁵⁰⁶ |
| September 9 | Liberian President appealed for urgent aid in a letter to the U.S. President ⁵⁰⁷ |
| September 15 | The Chairman of the Joint Chiefs of Staff issued an order to identify DoD elements to support the U.S. Government response to the Ebola epidemic occurring in West Africa under OUA. ⁵⁰⁸ |
| September 16 | The President announced the U.S. Government’s strategy for responding to EVD outbreak in West Africa, including military support through OUA. ⁵⁰⁹ |
| September 18 | UN Security Council declared the EVD outbreak in West Africa a “threat to international security and peace” and called for nations to assist with the response efforts. ⁵¹⁰ The UN established UNMEER to improve international response coordination. ⁵¹¹ |

APPENDIX B: TIMELINE

- September 26 CDC estimated between 550,000 and 1.4 million people in West Africa could be infected by January 2015 if there were no additional interventions or changes in social behavior.⁵¹²
- September 28 DoD delivered 25-bed hospital and two mobile labs to Monrovia, Liberia⁵¹³
- September 30 First travel-associated case of Ebola reported in the United States⁵¹⁴

OCTOBER 2014

- October 5 DoD established Ebola response cargo hub in Senegal to funnel humanitarian supplies and equipment into West Africa⁵¹⁵
- October 8 First EVD patient diagnosed in the United States dies⁵¹⁶
- October 9 The first person-to-person EVD transmission outside Africa occurred in Spain⁵¹⁷
- October 10 An American nurse tested positive for EVD after caring for an EVD-positive man who had traveled from Liberia to Texas while asymptomatic⁵¹⁸
- October 11 Enhanced U.S. entry screening program started at five international U.S. airports for travelers from Guinea, Liberia, and Sierra Leone⁵¹⁹
- October 16 The President issued an Executive Order to authorize the Secretary of Defense to order reserve units and individuals to active duty to support OUA⁵²⁰
- October 17 Senegal's EVD outbreak declared over⁵²¹
- October 20 Nigeria declared EVD-free⁵²²
- October 23 Mali reported its first case of EVD⁵²³

APPENDIX B: TIMELINE

NOVEMBER 2014

- November 10 First ETU, the Monrovia Medical Unit, built and staffed by the U.S. Government opened in Liberia⁵²⁴
- November 13 The Secretary of Defense ordered the mobilization of reservists to support OUA⁵²⁵
- November 25 The Secretary of the Army approved mobilization orders for reservists⁵²⁶

DECEMBER 2014

- December 16 The President signed the Consolidated and Further Continuing Appropriations Act, 2015 (P.L. 113-235), which provided for \$3.726 billion in funds for international efforts to combat Ebola with an additional \$532 million for use in either domestic or international settings⁵²⁷

JANUARY 2015

- January 18 Mali declared EVD-free⁵²⁸
- January 25 The President approved a plan to transition OUA support activities to civilian responders and international organizations in Liberia⁵²⁹

FEBRUARY 2015

- February 2 The White House announced that the U.S. Government response had shifted from efforts designed to turn the tide on the EVD epidemic to eliminating all cases of the disease from West Africa⁵³⁰
- February 2 The first major Ebola vaccine trials launched in Liberia as part of the Liberia-U.S. partnership (PREVAIL)⁵³¹

APPENDIX B: TIMELINE

APRIL 2015

- | | |
|----------|---|
| April 17 | Guinea, Liberia, and Sierra Leone unveiled Ebola recovery plans. ⁵³² |
| April 30 | Monrovia Medical Unit closed ⁵³³ |

MAY 2015

- | | |
|--------|---|
| May 4 | CDC revised the travel notice for Liberia, no longer recommending that U.S. residents avoid nonessential travel to the country ⁵³⁴ |
| May 9 | Liberia declared free of EVD transmission ⁵³⁵ |
| May 23 | World Health Assembly approved structural reforms to WHO's emergency response program ⁵³⁶ |

JUNE 2015

- | | |
|---------|---|
| June 16 | The Government of Sierra Leone launched Operation Northern Push, a surge operation to halt EVD cases in the country's northern districts ⁵³⁷ |
| June 29 | Liberia confirmed new EVD case ⁵³⁸ |
| June 30 | OUA terminated ⁵³⁹ |

APPENDIX C: COMPONENTS

U.S. GOVERNMENT COMPONENTS WITH A RESPONSE, RECOVERY, AND PREPAREDNESS ROLE

Within the U.S. Government, USAID, HHS, DoD, and DOS and have all contributed to efforts to combat the Ebola outbreak outside U.S. borders. Information on the different organizational components of these departments and agencies with a role in this effort follows.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

USAID is an independent federal agency with programs and activities in more than 100 countries designed to end extreme poverty and promote resilient, democratic societies while advancing U.S. security and prosperity.⁵⁴⁰ USAID is the lead federal agency for providing humanitarian assistance in response to international crises and disasters and was designated the lead federal agency to manage and coordinate the U.S. effort to fight the Ebola outbreak abroad.⁵⁴¹ Although many USAID components have had a role in Ebola-related activities, the following units have been primarily involved in those efforts.

EBOLA SECRETARIAT

USAID relied on an Ebola Secretariat during the peak of response efforts to help coordinate efforts across the four pillars of the U.S. Government EVD response strategy.⁵⁴² As the response effort declined in intensity, the Ebola Secretariat was dissolved on May 26, 2015.⁵⁴³ Its coordination functions within USAID were assumed by the Africa Ebola Unit described below.

APPENDIX C: COMPONENTS

BUREAU FOR AFRICA

USAID operates 27 regional and bilateral missions in Africa under the management of USAID's Bureau for Africa.⁵⁴⁴ The Africa Bureau consists of eight offices that support USAID missions in Sub-Saharan Africa.

USAID operates missions in Guinea, Liberia, Senegal, Ghana, and Mali. These missions have provided coordination and support for U.S. Government efforts to fight Ebola in their respective countries. USAID does not have a mission in Sierra Leone, but the USAID mission in Guinea has personnel based in Sierra Leone to oversee programs there.⁵⁴⁵

Africa Ebola Unit

The Africa Bureau established AEU on March 18, 2015, to oversee implementation of Pillar II activities to mitigate the second-order effects stemming from the EVD outbreak. In addition, AEU assumed the coordinating functions of the Ebola Secretariat in May 2015. AEU is directly responsible for implementing governance, social protection, and economic crisis mitigation activities under Pillar II.⁵⁴⁶

BUREAU FOR FOOD SECURITY

The Bureau for Food Security works to bolster and strengthen public and private institutions that support the growth of agriculture in countries around the world. The Bureau was created in 2010 to manage the President's Feed the Future initiative in addition to traditional agricultural programs.⁵⁴⁷ The Bureau plans to support private sector partnerships to revitalize agricultural sectors and livelihoods affected by the Ebola outbreak in West Africa through the Feed the Future initiative.⁵⁴⁸

APPENDIX C: COMPONENTS

BUREAU FOR GLOBAL HEALTH

USAID's Global Health Bureau is responsible for supporting field health programs and research and innovation to advance international health objectives; and for coordinating with other donors to transfer new health technologies to the field. The Bureau has contributed staff to the Ebola Secretariat, RMT, and DART for the Ebola outbreak.⁵⁴⁹ Additionally, the Bureau established the Global Health Ebola Team on May 8, 2015, to coordinate and manage response and recovery efforts in the three most affected countries in West Africa.⁵⁵⁰ Bureau-sponsored activities include work to restore non-Ebola related health services and assist countries in preventing and preparing for a potential EVD outbreak within their borders.⁵⁵¹

OFFICE OF FOOD FOR PEACE

FFP works to alleviate hunger and save lives by providing emergency food assistance to communities affected by conflict and natural disaster, and development assistance to address the primary sources of food insecurity.⁵⁵² FFP also coordinates relief and development efforts to ensure that humanitarian assistance efforts produce long-term benefits for local communities.⁵⁵³ In response to the EVD outbreak, FFP focused its activities on restoring food production and consumption in West Africa to pre-EVD levels.⁵⁵⁴ FFP has supported activities such as the distribution of food aid, market research and recovery efforts, and food security monitoring activities throughout West Africa.⁵⁵⁵

OFFICE OF U.S. FOREIGN DISASTER ASSISTANCE

OFDA is the office within USAID responsible for providing emergency, non-food humanitarian assistance in response to

APPENDIX C: COMPONENTS

international crises and disasters. An office within USAID's Bureau for Democracy, Conflict, and Humanitarian Assistance, OFDA is responsible for international disaster risk reduction, resilience, and coordination efforts, and also for devising, coordinating, and implementing strategies for responding to disasters. USAID DARTs and RMTs operate under its purview.

Disaster Assistance Response Teams

DARTs consist of humanitarian experts and technical advisors who assess a crisis firsthand, identify the most urgent needs, and coordinate the U.S. Government response. USAID has operated a regional DART team in Guinea, Liberia, and Sierra Leone since August 2014. The DART is responsible for planning, operations, logistics, and administration relating to the U.S. interagency Ebola response effort.⁵⁵⁶

Response Management Team

RMTs are Washington, D.C.-based units activated in response to international disasters that manage disaster response strategy and planning activities by liaising with other U.S. Government agencies so that DARTs can focus on providing assistance in the field.

U.S. GLOBAL DEVELOPMENT LAB

The U.S. Global Development Lab is an organization within USAID designed to bring together and coordinate the efforts of different partner organizations to find new and innovative solutions to development challenges.⁵⁵⁷ In Ebola response and recovery efforts, the Lab has focused on efforts to promote innovations applicable to the response effort and enhance communications and information systems in affected countries.⁵⁵⁸

APPENDIX C: COMPONENTS

DEPARTMENT OF DEFENSE

DoD played a key supporting role in efforts to control and reverse the Ebola outbreak in West Africa. On September 6, 2014, the Secretary of Defense approved DoD support for a DOS request to provide an expeditionary hospital in West Africa as a healthcare worker EVD treatment facility.⁵⁵⁹ DoD declared the expanding effort an operation, naming it Operation United Assistance. Under OUA, DoD was authorized to provide direct support to the lead U.S. agency for response efforts, USAID.⁵⁶⁰ While OUA formally concluded on June 30, 2015,⁵⁶¹ DoD continues to support Ebola response efforts through the work of AFMSC, DARPA, and DTRA, which has focused on new drugs and approaches for treating EVD.

DEPARTMENT OF HEALTH AND HUMAN SERVICES

HHS is the primary federal department responsible for the health of American citizens and delivery of essential services. Several HHS agencies have had a significant role in the U.S. Government's response to the EVD outbreak in West Africa. In particular, CDC, FDA, NIH, ASPR, and USPHS have all played a part in this effort.

CENTERS FOR DISEASE CONTROL AND PREVENTION

CDC is responsible for maintaining the nation's health security, and conducts critical science and provides guidance to protect against major health threats toward this end.⁵⁶² CDC is the medical response and public health lead for the U.S. Government Ebola response.⁵⁶³ CDC has coordinated operations and logistics in support of EVD response efforts through its EOC and supported EVD response needs at home and abroad. CDC continues to monitor and respond to the EVD outbreak and remains a primary

APPENDIX C: COMPONENTS

agency in the U.S. Government's effort to end the outbreak. Additionally, CDC is supporting GHSA by assisting in the coordination and development of 5-year plans for Guinea, Liberia, and Sierra Leone to strengthen their capacity to prevent, detect, and respond to infectious diseases.⁵⁶⁴

FOOD AND DRUG ADMINISTRATION

FDA works to protect public health by regulating the quality and safety of food, tobacco, and medical products. In the effort to combat EVD, FDA established an Ebola Task Force to coordinate with other agencies on medical product development and availability. FDA has also worked to promote development and production of EVD-related vaccines, therapies, and diagnostic tools.⁵⁶⁵

NATIONAL INSTITUTES OF HEALTH

NIH is the U.S. Government's primary medical research agency.⁵⁶⁶ Within NIH, NIAID supports basic, applied, and clinical research to develop diagnostics, therapeutics, and vaccines for infectious diseases, including viral hemorrhagic fevers like EVD. In the effort to combat EVD, NIAID has supported the study of how EVD causes illness in animals and people, and worked to address the disease by developing new diagnostics, vaccines, and treatments.

OFFICE OF THE ASSISTANT SECRETARY FOR PREPAREDNESS AND RESPONSE

ASPR serves as the U.S. Government's public health and medical preparedness and response policy coordinator.⁵⁶⁷ ASPR has provided policy coordination in the effort to combat EVD and, in conjunction with CDC, advised the healthcare workforce on proper EVD care precautions, case management techniques, and

APPENDIX C: COMPONENTS

supported the development of new Ebola drugs.⁵⁶⁸ Additionally, ASPR's BARDA supported the development and production of EVD vaccines and new diagnostic equipment.⁵⁶⁹

U.S. PUBLIC HEALTH SERVICE

Composed of uniformed service men and women, USPHS's Commissioned Corps is a team of more than 6,000 public health professionals who serve within various U.S. Government agencies as both public health officials and clinical specialists.⁵⁷⁰ The USPHS Commissioned Corps responded to the EVD outbreak in West Africa by deploying members to the region to support the work of several U.S. Government agencies.⁵⁷¹

DEPARTMENT OF STATE

DOS responses to EVD have involved headquarters components and U.S. embassies in West Africa. Embassies in Liberia, Sierra Leone, Guinea, Mali, and Senegal all reportedly participated in outbreak response efforts by increasing staff to assist national governments and hosting representatives from the international community and other U.S. Government agencies involved in response efforts.⁵⁷² DOS has provided medical evacuations of U.S. Government personnel operating in the region, and worked in the region to improve biosecurity, disease surveillance, and response capabilities to infectious diseases in sub-Saharan Africa through its Biosecurity Engagement Program.⁵⁷³

APPENDIX D: USAID PROGRAMS

USAID EBOLA RESPONSE AND PREPAREDNESS PROGRAMS BY PILLAR AND GEOGRAPHICAL FOCUS AS OF JUNE 30, 2015 (UNAUDITED)

The table contains Ebola response and preparedness program information provided by USAID. In addition to information regarding the strategic and geographic focus of program activities, it includes information on the USAID unit associated with the program, available program description information, and data on amounts that USAID has committed and obligated to particular programs and activities. USAID-funded programs that concluded before June 30, 2015, are not included, nor are programs for which complete award and period of performance information were unavailable. Pillar III activities are not associated with independent programs and are implemented by units within USAID. These activities are not included in the table as a result.

| USAID Bureau/ Mission | Program Description† | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance§ | |
|--------------------------------|---|-------------------------------------|----------------------------------|----------------------------------|------------------------|------------|
| | | | | | Start Date | End Date |
| Pillar 1: Control the Outbreak | | | | | | |
| Regional | | | | | | |
| OFDA | WASH and Ebola transmis- sion research | Tufts University | 558,504 | 558,504 | 6/1/2015 | 6/1/2016 |
| OFDA | Ebola study | Overseas Develop- ment Institute | 30,011 | 30,011 | 3/12/2015 | 9/29/2015 |
| OFDA | Support disease-control experts working in affected countries to provide technical assistance for surveillance activities, contact tracing, test- ing, and training of MOH staff | CDC | 3,000,000 | 3,000,000 | 8/6/2014 | 8/5/2015 |
| OFDA | Provide supplies and distrib- ute Ebola information to the general public and health workers | UNICEF | 600,000 | 600,000 | 6/26/2013 | 6/30/2015 |
| OFDA | Support for additional health- care workers | African Union | 4,986,157 | 4,986,157 | 9/28/2014 | 6/30/2015 |
| FFP | Regional emergency opera- tion | WFP | 21,486,000 | 21,486,000 | 10/10/2014 | 10/10/2015 |
| FFP | Regional emergency opera- tion | WFP | 13,081,229 | 13,081,229 | 10/11/2014 | 5/31/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|--|--|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Logistics support, and/or procurement and transportation of commodities | Air Force Contract Augmentation Program | 3,075,023 | 3,075,023 | 1/1/2005 | 1/14/2015 |
| OFDA | Logistics support, and/or procurement and transportation of commodities | Air Force Contract Augmentation Program | 798,888 | 798,888 | 1/1/2005 | 1/14/2015 |
| Guinea | | | | | | |
| OFDA | Social mobilization | Johns Hopkins Center for Communication Programs, Management Sciences for Health, NetHope, Population Services International, Ogilvy PR, Forum One, Internews | 1,000,000 | 1,000,000 | 4/1/2015 | 12/31/2015 |
| OFDA | Support screening and referral units, IPC training, and supplies | IMC | 14,854,760 | 14,854,760 | 2/1/2015 | 1/31/2016 |
| OFDA | Provide IPC training on PPE use and kits for non-Ebola health facilities | CRS | 4,041,621 | 4,041,621 | 10/20/2014 | 7/21/2015 |
| OFDA | Social mobilization, surveillance, contact tracing to target caregivers and children affected by EVD | ChildFund | 1,500,000 | 1,500,000 | 12/1/2014 | 8/31/2015 |
| OFDA | Rehabilitate and operate an Ebola transit center | French Red Cross | 4,505,445 | 4,505,445 | 12/1/2014 | 11/30/2015 |
| OFDA | Support contact tracing, case investigation, and Ebola transit centers | Helen Keller International | 1,719,455 | 1,719,455 | 12/1/2014 | 11/30/2015 |
| OFDA | Ebola messaging via local media in Guinea | Internews | 1,999,846 | 799,846 | 10/17/2014 | 4/15/2016 |
| OFDA | Social mobilization, surveillance, contact tracing to target caregivers and children affected by EVD | IOM | 5,792,220 | 5,792,220 | 12/19/2014 | 1/15/2016 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|----------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Support local NGOs for social mobilization activities | IOM | 1,500,000 | 1,500,000 | 5/1/2015 | 1/31/2016 |
| OFDA | Cross-border activities to screen and catch cases crossing the southern Guinea border with Sierra Leone | IOM | 5,475,000 | 5,475,000 | 5/22/2015 | 2/29/2016 |
| OFDA | Emergency appeal, support for burial management, and social mobilization/communication programming | IFRC | 2,999,552 | 2,999,552 | 9/26/2014 | 8/31/2015 |
| OFDA | Social mobilization efforts and improved contact tracing to combat Ebola outbreak | Plan International | 2,111,738 | 2,111,738 | 9/15/2014 | 6/30/2015 |
| OFDA | Immediate health response to populations affected by Ebola in Guinea | Save the Children | 1,499,203 | 1,499,203 | 11/1/2014 | 8/31/2015 |
| OFDA | Health and WASH | Terres des Hommes | 875,000 | 875,000 | 12/15/2014 | 9/14/2015 |
| OFDA | Health and WASH | UNICEF | 10,555,447 | 10,555,447 | 12/18/2014 | 12/31/2015 |
| OFDA | Health, logistics support, and relief commodities | Relief International | 4,000,000 | 4,000,000 | 11/10/2014 | 9/30/2015 |
| OFDA | Construct two ETUs | WFP | 8,500,000 | 8,500,000 | 11/12/2014 | 12/31/2016 |
| OFDA | PPE, logistics, and training | WHO | 19,626,849 | 19,626,849 | 4/1/2015 | 2/28/2016 |
| Liberia | | | | | | |
| OFDA | PPE and logistics pipeline, IPC training, surveillance coordination, transport for lab samples, psychosocial activities | WHO | 35,000,000 | 35,000,000 | 3/25/2015 | 9/30/2015 |
| OFDA | Management of an ETU and training clinical staff | American Refugee Committee | 7,633,633 | 7,633,633 | 11/1/2014 | 12/31/2015 |
| OFDA | Psychosocial and survivor support to the most vulnerable populations, including women and children | BRAC | 1,177,902 | 1,177,902 | 12/11/2014 | 9/10/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|-------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Social and behavior change communication, community mobilization, and community-based surveillance | CARE | 1,652,992 | 1,652,992 | 12/3/2014 | 8/31/2015 |
| OFDA | Interim care center for children separated from family due to Ebola exposure, and protection and support for early return of children to appropriate kinship and to limit Ebola stigmatization | ChildFund | 3,502,025 | 3,502,025 | 12/15/2014 | 9/15/2015 |
| OFDA | Provide triage, isolation, and patient care options through community care centers (CCCs); Mitigate Ebola stigma, and provide contact tracing and psychosocial support | Concern | 6,806,343 | 6,806,343 | 11/1/2014 | 12/31/2015 |
| OFDA | Rehabilitate and construct CCCs, and provide safe detection and isolation of suspected Ebola patients | CRS | 960,447 | 960,447 | 10/20/2014 | 10/20/2015 |
| OFDA | Support for burial and disinfection teams in all Liberian counties, and support health workers and contact tracing in affected communities | Global Communities | 32,076,365 | 32,076,365 | 8/13/2014 | 10/21/2015 |
| OFDA | Clinical and non-clinical management of an ETU | GOAL | 4,702,667 | 4,702,667 | 11/1/2014 | 8/31/2015 |
| OFDA | Support an ETU to manage Ebola cases in Bong County and accept patients throughout Liberia based on need, operate an ambulance service, and support psychosocial needs of Ebola patients and families | IMC | 34,619,248 | 26,794,897 | 10/8/2014 | 12/31/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|--------------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Enhance screening and surveillance capacity at borders and in border communities in Liberia | IOM | 6,143,897 | | 7/1/2015 | 6/30/2016 |
| OFDA | Ebola prevention and response in Montserrado County, including logistical and organizational support, procurement of essential medical items for emergency distributions, IPC teams, contact tracing, dead body removal including management of six burial teams | International Rescue Committee | 18,443,770 | 18,443,770 | 9/1/2014 | 10/31/2015 |
| OFDA | Rapid isolation and treatment of Ebola | Medical Teams International | 4,021,836 | 4,021,836 | 12/15/2014 | 12/31/2015 |
| OFDA | Emergency infection control and case management assistance for slum communities; empower communities in Monrovia to reduce Ebola infection risk, and improve community access to available Ebola treatment, burial services, and safe life-saving treatment services for malaria and other diseases | MENTOR Initiative | 3,926,216 | 3,926,216 | 10/10/2014 | 10/9/2015 |
| OFDA | Provide clinical and non-clinical management of MOH-staffed ETU | Partners in Health | 24,393,170 | 24,393,170 | 10/15/2014 | 8/31/2015 |
| OFDA | Establish CCCs and psychosocial support services in Liberia | Plan USA | 1,508,821 | 1,508,821 | 11/7/2014 | 11/6/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|--|-------------------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Reduce Ebola infection through the establishment of up to 15 CCCs, increase community-level awareness and prevention activities, and strengthen referral pathways between Ebola patients and CCCs/ETUs | Samaritan's Purse | 7,782,027 | 7,782,027 | 9/16/2014 | 6/30/2015 |
| OFDA | Emergency relief for Ebola-affected communities; improve access to community-based supportive care and primary health care; reduce transmission through WASH; provide psychosocial care and support | Save the Children | 8,276,263 | 8,276,263 | 9/23/2014 | 9/22/2015 |
| OFDA | Reduce transmission of Ebola virus through household prevention and procurement of home-based Ebola protection/treatment kits, distribution, and training | UNICEF | 54,260,411 | 54,260,411 | 8/20/2014 | 12/31/2015 |
| OFDA | Support nationwide social mobilization campaign and the development of national and community-level messages across a range of media | Mercy Corps | 12,000,000 | 12,000,000 | 9/13/2014 | 7/12/2015 |
| OFDA | Train non-ETU healthcare workers on IPC; provide PPE and supplies to health facilities | JSI Research and Training Institute | 7,233,653 | 7,233,653 | 11/6/2014 | 12/30/2015 |
| OFDA | Logistics and supply chain support to ETUs and CCCs | WFP | 57,277,108 | 57,277,108 | 10/15/2014 | 12/31/2015 |
| OFDA | Logistics support, and/or procurement and transportation of commodities | HHS, Federal Occupational Health | 50,000 | 50,000 | 9/1/2010 | 9/30/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|--|---------------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Non-medical management of ETU facilities | Pacific Architect and Engineers | 86,249,157 | 86,249,157 | 10/31/2014 | 6/30/2015 |
| Mali | | | | | | |
| OFDA | IPC and contact tracing training with local NGO for health care workers in health facilities near the Mali-Guinea border areas | CRS | 954,122 | 954,122 | 1/2/2015 | 9/30/2015 |
| OFDA | Three rapid response teams to serve Bamako and border areas for 4 months | IMC | 2,000,000 | 2,000,000 | 1/1/2015 | 9/30/2015 |
| OFDA | Strengthen IPC and response capacities at selected points of entry and border areas to prevent further Ebola spread in Mali and Guinea | IOM | 2,033,983 | 2,033,983 | 12/31/2014 | 9/30/2015 |
| OFDA | Rapid response programming to counter Ebola in Mali | UNICEF | 400,000 | 400,000 | 6/26/2013 | 6/30/2015 |
| OFDA | Health, logistics, and training for community health care workers in Ebola prevention and response in border districts | World Vision | 550,646 | 550,646 | 1/1/2015 | 8/31/2015 |
| Sierra Leone | | | | | | |
| OFDA | Health | CRS | 548,619 | 548,619 | 1/5/2015 | 10/4/2015 |
| OFDA | Health, humanitarian coordination and information management, logistics support and relief commodities, protection | Christian Aid | 945,690 | 945,690 | 2/1/2015 | 7/31/2015 |
| OFDA | Health, WASH | GOAL | 2,005,780 | 2,005,780 | 2/1/2015 | 10/31/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|--------------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Raise public awareness of Ebola's mode of transmission and teach disease prevention practices; host 1-hour call-in radio show each week for questions and answers about Ebola | IFRC | 13,000,000 | 13,000,000 | 9/18/2014 | 6/30/2015 |
| OFDA | Manage an ETU in Port Loko District and provide psycho-social support to patients, families, health workers, and others affected by Ebola | IMC | 12,936,976 | 12,936,976 | 10/1/2014 | 12/31/2015 |
| OFDA | Rehabilitate and equip provincial EOCs, and provide mini IPC kits to households | IOM | 5,679,410 | 5,679,410 | 12/1/2014 | 9/30/2015 |
| OFDA | Target health workers in health facilities and government hospitals with complementary IPC activities; serve as lead NGO of the Ebola Response Consortium | International Rescue Committee | 9,688,573 | 9,688,573 | 11/15/2014 | 1/16/2016 |
| OFDA | Manage ETU | Medair | 5,349,216 | 5,349,216 | 12/1/2014 | 12/31/2015 |
| OFDA | Health | Oxfam/Great Britain | 690,646 | 690,646 | 1/5/2015 | 10/4/2015 |
| OFDA | Provide logistical support to ETUs | Partners in Health | 7,881,461 | 7,881,461 | 1/1/2015 | 8/31/2015 |
| OFDA | Train health workers in health facilities on IPC | UNICEF | 16,080,214 | 16,080,214 | 10/1/2014 | 10/31/2015 |
| OFDA | Provide humanitarian coordination and information management, logistics support, and relief commodities | WFP | 20,000,000 | 20,000,000 | 1/29/2015 | 12/31/2015 |
| OFDA | IPC and care quality improvement in facilities caring for Ebola patients | WHO | 4,000,000 | 4,000,000 | 12/19/2014 | 12/31/2015 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--|--|--|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| OFDA | Support IPC in healthcare facilities and maintain surveillance activities in all districts of Sierra Leone | WHO | 8,000,000 | 8,000,000 | 6/1/2015 | 1/31/2016 |
| OFDA | Disinfect and manage ambulance fleet | World Vision | 2,472,525 | 2,472,525 | 12/15/2014 | 9/30/2015 |
| Pillar 2: Mitigate Second Order Impacts of the Crisis | | | | | | |
| Regional | | | | | | |
| FFP | Food assistance support to EVD-affected Ivorian refugees in Liberia refugee camps | WFP | 3,000,000 | 3,000,000 | 4/1/2013 | 12/31/2015 |
| Global Development Lab | Data harmonization summit in Ghana | Johns Hopkins Center for Communication Programs, Management Sciences for Health, NetHope, Population Services International, Ogilvy PR, Forum One, Internews | 152,484 | 152,484 | 7/1/2015 | 6/28/2019 |
| Global Development Lab | Working group on interoperability standards in the United Kingdom | mPowering Frontline Health Workers | 36,000 | 36,000 | 10/1/2014 | 9/30/2015 |
| Global Development Lab | Learning agenda | mSTAR | 100,000 | 100,000 | 9/30/2012 | 9/29/2017 |
| Global Health | Develop a new clothing system for improved heat stress relief, full body liquid integrity, and ease of doffing | International Personnel Protection | 243,205 | 243,205 | 5/22/2015 | 4/21/2016 |
| Global Health | Develop an open source mobile platform that supports health data collection, decision support, client tracking, SMS communication, and map-based visuals | DIMAGI, INC. | 298,996 | 298,996 | 5/22/2015 | 5/21/2016 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|------------------------------------|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| Global Health | Develop a long-lasting, spray-on barrier to be used as a key component in the design of effective medical PPE materials that are breathable, require fewer removals, are reusable, and generate less infectious waste | SPR Advanced Technologies, Inc. | 655,788 | 655,788 | 5/22/2015 | 11/18/2015 |
| Global Health | Develop state-of-the-art, easy-to-assemble chambers that decontaminate health-care workers and equipment in less than 3 minutes without hazardous chemicals | TOMI Environmental Solutions, Inc. | 559,003 | 559,003 | 11/18/2014 | 11/17/2017 |
| Global Health | Develop a low-cost, battery-powered infusion monitor that delivers fluids with precision to patients, eliminating the risk of fluid overload and enhancing survival | Shift Labs, Inc. | 318,682 | 318,682 | 12/22/2014 | 12/21/2019 |
| Global Health | Develop treatment units that use technology to moderate unit temperature and simplify decontamination efforts for safer, more comfortable conditions | Modula S Inc. | 500,000 | 500,000 | 5/1/2015 | 4/30/2019 |
| Global Health | Develop wearable technologies that allow remote monitoring of Ebola patients' critical vital signs | Scripps Health | 632,058 | 632,058 | 6/9/2015 | 6/8/2016 |
| Global Health | Develop a safer and faster doffing of PPE for frontline health workers, and a new PPE designed for community and family care | Johns Hopkins University | 793,635 | 793,635 | 9/26/2012 | 9/25/2017 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|---|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| Global Health | Leverage health information systems and mobile phones to support frontline health workers | IntraHealth International | 700,000 | 700,000 | 6/9/2015 | 6/8/2016 |
| Global Health | Develop a colored bleach mist formula that colorizes standard bleach solution, thereby providing a visualization of sprayed surfaces and ensuring increased coverage and proper decontamination | Columbia University | 649,342 | 649,342 | 7/8/2015 | 12/30/2017 |
| Global Health | Develop repurposed shipping containers as scalable, rapidly deployable, and potentially semi-permanent ETUs | Baylor Global Innovations and Biologics Modular | 613,927 | 613,927 | 5/29/2015 | 5/28/2016 |
| Global Health | Restore basic health services | JSI Research and Training Institute | 15,000,000 | 15,000,000 | 10/1/2012 | 9/1/2017 |
| Guinea | | | | | | |
| FFP | Food assistance and market support | CRS | 1,325,443 | 1,325,443 | 2/1/2015 | 11/30/2015 |
| FFP | Emergency school feeding | WFP | 7,182,907 | 7,182,907 | 4/1/2015 | 12/31/2015 |
| FFP | Emergency food assistance | UNICEF | 3,583,698 | 3,583,698 | 3/1/2015 | 3/1/2016 |
| Global Health | Social mobilization and behavior change messaging | Johns Hopkins University | 5,500,000 | 5,500,000 | 9/26/2012 | 9/25/2017 |
| Global Health | Restore basic health services | JHPIEGO | 4,000,000 | 4,000,000 | 11/17/2014 | 8/16/2015 |
| Global Health | Music and media campaign recorded in local languages to change behaviors about Ebola transmission in West Africa | Stop Ebola Collective | 268,455 | 268,455 | 5/29/2015 | 8/15/2015 |
| Liberia | | | | | | |
| FFP | Food assistance and market support | Mercy Corps | 8,970,000 | 8,970,000 | 1/8/2015 | 8/22/2015 |
| FFP | Food, market, and agricultural assistance support | PCI | | 8,030,564 | 2/15/2015 | 9/14/2016 |
| FFP | School feeding | WFP | 7,370,323 | 7,370,323 | 9/14/2015 | 11/30/2016 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|--|--|----------------------------------|----------------------------------|------------------------------------|------------|
| | | | | | Start Date | End Date |
| FFP | Relief and recovery operation for EVD-affected Ivorian refugees | WFP | 8,921,600 | 8,921,600 | 3/7/2014 | 12/30/2015 |
| FFP | Food, market, and agricultural assistance support | ACDI/VOCA | 9,000,000 | 9,000,000 | 1/30/2015 | 5/30/2016 |
| FFP | Emergency food assistance | UNICEF | 1,119,078 | 1,119,078 | 3/1/2015 | 3/1/2016 |
| Global Development Lab | Technical assistance for MOH | Johns Hopkins Center for Communication Programs, Management Sciences for Health, NetHope, Population Services International, Ogilvy PR, Forum One, Internews | 500,000 | 500,000 | 7/1/2014 | 6/28/2019 |
| Global Development Lab | Information, communications, and technology policy roundtable in Liberia | Alliance for Affordable Internet | 20,000 | 20,000 | 8/5/2013 | 8/4/2016 |
| Global Health | Strengthen routine immunization in Liberia | UNICEF | 2,000,000 | 2,000,000 | 9/1/2007 | 9/1/2020 |
| Global Health | Social mobilization and behavior change messaging | Johns Hopkins University | 2,600,000 | 2,600,000 | 9/26/2012 | 9/25/2017 |
| Global Health | Restore basic health services | JHPIEGO | 10,500,000 | 10,500,000 | 3/1/2014 | 3/1/2019 |
| Sierra Leone | | | | | | |
| FFP | Food assistance and market support | Save the Children | 4,384,010 | 4,684,010 | 3/1/2015 | 1/31/2016 |
| FFP | Food, market, and agricultural assistance support | ACDI/VOCA | 9,000,000 | 9,000,000 | 3/30/2015 | 2/30/2016 |
| FFP | Emergency food assistance | UNICEF | 1,720,733 | 1,720,733 | 3/1/2015 | 3/1/3016 |
| Global Health | Procure essential medications and commodities for the Government of Sierra Leone | UNICEF | 4,500,000 | 4,500,000 | 9/1/2007 | 9/1/2020 |
| Global Health | Restoration of basic health services | JSI Research and Training Institute | 15,000,000 | 15,000,000 | 10/1/2012 | 9/30/2017 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--|--|--|----------------------------------|----------------------------------|------------------------------------|-----------|
| | | | | | Start Date | End Date |
| Global Health | Social mobilization and behavior change messaging | Johns Hopkins University | 5,000,000 | 5,000,000 | 9/26/2012 | 9/25/2017 |
| Global Health | Citizen engagement platform to develop effective behavior change policies | IBM Research | 526,355 | | 7/16/2015 | 6/8/2016 |
| Pillar IV: Global Health Security | | | | | | |
| Regional | | | | | | |
| Global Health | Develop Ebola communications materials | John Hopkins Center for Communication Programs | 4,888,500 | 4,888,500 | 9/26/2012 | 9/25/2017 |
| Africa Bureau | Surveillance and case detection, communication, and health worker protection | ChildFund, Intra-Health, and ADE-MAS | 1,000,000 | 1,000,000 | 10/1/2011 | 9/30/2016 |
| Global Health | Deploy technical experts to Guinea, Liberia, and Sierra Leone for operational and personnel support; provide PPE for health staff and outbreak investigators | WHO, WHO Regional Office for Africa | 12,787,500 | 12,787,500 | 9/1/2009 | 9/1/2016 |
| Global Health | Laboratory support | Broad Institute | 500,000 | 500,000 | 9/24/2014 | 9/23/2015 |
| Global Health | West African regional and in-country Ebola preparedness workshops | DAI | 2,002,000 | 2,002,000 | 10/1/2014 | 9/30/2019 |
| Global Health | Bio surveillance and laboratory capacity building | University of California, Davis | 34,000,000 | 34,000,000 | 10/1/2014 | 9/30/2019 |
| Global Health | Support to university networks to assist government ministries to train the future health workforce | University of Minnesota, Tufts University | 20,000,000 | 20,000,000 | 11/1/2014 | 11/1/2019 |
| Global Health | Ebola preparedness | UNICEF | 2,800,000 | 2,800,000 | 9/1/2007 | 9/1/2020 |
| Global Health | Ebola preparedness | Management Sciences for Health | 4,615,000 | 4,615,000 | 9/1/2011 | 9/1/2016 |
| Global Health | Ebola preparedness | UNICEF | 1,100,000 | 1,100,000 | 9/1/2007 | 9/1/2020 |
| Global Health | Ebola preparedness | Pathfinder | 536,306 | 536,306 | 9/30/2011 | 9/29/2016 |
| Global Health | Ebola preparedness | Population Science International | 1,150,000 | 1,150,000 | 4/1/2014 | 4/1/2019 |

APPENDIX D: USAID PROGRAMS

| USAID Bureau/ Mission | Program Description [†] | Implementing Partner | Commitments (\$) [‡] | Obligations (\$) [‡] | Period of Performance [§] | |
|--------------------------|---|--|----------------------------------|----------------------------------|------------------------------------|-----------|
| | | | | | Start Date | End Date |
| Guinea | | | | | | |
| Africa Bureau | Health messaging and community outreach, with emphasis on reducing violence towards healthcare workers, and comprehensive IPC training in health facilities | Plan Guinea, Helen Keller International, Research Triangle International, JH-PIEGO | 3,482,000 | 3,482,000 | 11/17/2014 | 8/16/2015 |

TABLE NOTES:

† Program descriptions may refer to multiple awards, and activities under the same award may be reflected under different pillars in the table.

‡ Figures for commitments and obligations may include funding associated with multiple awards.

§ Information from USAID on periods of performance corresponds with dates stipulated in award documents. Ebola-related program activities may have been performed at a later date than the indicated start date for a program. In some cases start dates predate the Ebola outbreak.

APPENDIX E: ACRONYMS

| | |
|-------|--|
| ACCEL | Academic Consortium to Combat Ebola in Liberia |
| AEU | Africa Ebola Unit, U.S. Agency for International Development |
| AFHSC | Armed Forces Health Surveillance Center |
| AHS | Adventist Health System |
| ASPR | Office for the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services |
| BARDA | Biomedical Advanced Research and Development Authority, U.S. Department of Health and Human Services |
| CBEP | Cooperative Biological Engagement Program |
| CBP | U.S. Customs and Border Protection, U.S. Department of Homeland Security |
| CCC | Community care center |
| CDC | Centers for Disease Control and Prevention, U.S. Department of Health and Human Services |
| CIGIE | Council of the Inspectors General on Integrity and Efficiency |
| COR | Contracting Officer's Representative |
| CREMS | Centre de Recherche en Épidémiologie |
| CRS | Catholic Relief Services |
| CTS | Centre de Traitement des Soignants |

APPENDIX E: ACRONYMS

| | |
|----------|--|
| DARPA | Defense Advanced Research Projects Agency, U.S. Department of Defense |
| DART | Disaster Assistance Response Team, U.S. Agency for International Development |
| DHS | U.S. Department of Homeland Security |
| DoD | U.S. Department of Defense |
| DOS | U.S. Department of State |
| DTRA | Defense Threat Reduction Agency, U.S. Department of Defense |
| EMDF | Ebola Molecular Diagnostic Facility |
| EOC | Emergency Operations Center |
| EPT 2 | Emerging Pandemic Threats Program, Phase 2 |
| ETU | Ebola treatment unit |
| EVD | Ebola Virus Disease |
| FAO | Food and Agriculture Organization |
| FDA | Food and Drug Administration, U.S. Department of Health and Human Services |
| FETP | Field Epidemiology Training Program |
| FEWS Net | Famine Early Warning System Network |
| FFP | Office of Food for Peace, U.S. Agency for International Development |
| FTE | Full-time equivalent |
| FY | Fiscal Year |

APPENDIX E: ACRONYMS

| | |
|-------|---|
| G-7 | Group of 7 |
| GAO | Government Accountability Office |
| GDP | Gross Domestic Product |
| GHSA | Global Health Security Agenda |
| GNI | Gross National Income |
| HHS | U.S. Department of Health and Human Services |
| IDA | International Disaster Assistance |
| IHR | International Health Regulations |
| IMC | International Medical Corps |
| IP | Institut Pasteur |
| IPC | Infection prevention and control |
| IOM | International Organization for Migration |
| LIBR | Liberia Institute for Biomedical Research |
| MoD | Ministry of National Defense |
| MOH | Ministry of Health |
| MSF | Médecins Sans Frontières (Doctors Without Borders) |
| NGO | Nongovernmental organization |
| NICD | National Institute for Communicable Diseases |
| NIH | National Institutes of Health, U.S. Department of Health and Human Services |
| NIAID | National Institute of Allergy and Infectious Disease, National Institutes of Health, U.S. Department of Health and Human Services |

APPENDIX E: ACRONYMS

| | |
|---------|--|
| NMRC | Naval Medical Research |
| OCO | Overseas Contingency Operation |
| OFDA | Office of Foreign Disaster Assistance, U.S. Agency for International Development |
| OIC | Organization of Islamic Cooperation |
| OIE | World Organization for Animal Health |
| OIG | Office of Inspector General |
| OUA | Operation United Assistance |
| PH | Public Health |
| PHA | Public Health Agency |
| PPE | Personal Protective Equipment |
| PREVAIL | Partnership for Research on Ebola Vaccines in Liberia |
| REDC | Ratoma Ebola Diagnostic Centre |
| RMT | Response Management Team |
| SKD | Samuel K. Doe |
| TSA | Transportation Security Administration, U.S. Department of Homeland Security |
| UN | United Nations |
| UNICEF | United Nations Children's Fund |
| UNMEER | United Nations Mission for Ebola Emergency Response |
| USAID | U.S. Agency for International Development |

APPENDIX E: ACRONYMS

| | |
|----------|--|
| USAMRIID | U.S. Army Medical Research Institute of Infectious Diseases |
| USCG | U.S. Coast Guard, U.S. Department of Homeland Security |
| USPHS | U.S. Public Health Service, U.S. Department of Health and Human Services |
| VSV | Vesicular stomatitis virus |
| WASH | Water, sanitation, and hygiene |
| WFP | World Food Programme |
| WHO | World Health Organization |

APPENDIX F: ENDNOTES

- 1 WHO, Ebola Situation Report –1 July 2015.
- 2 “WHO, One Year into the Ebola Epidemic: Factors That Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment, January 2015, p.4-5; WHO, Fact Sheet No. 103, retrieved from <http://www.who.int/mediacentre/factsheets/fs103/en/#> on March 31, 2015.
- 3 WHO, Ebola Situation Report –1 July 2015.
- 4 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 5 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 6 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 7 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 8 WHO, Origins of the 2014 Ebola epidemic: One year into the Ebola epidemic, January 2015.
- 9 WHO, Ebola Virus Disease in Guinea—update, March 30, 2014; and WHO, Ebola virus disease in Liberia, March 30, 2014.
- 10 K. Sack, S. Fink, P. Belluck, A. Nossiter, “How Ebola Roared Back,” New York Times, December 29, 2014.
- 11 M. Dixon, I. Schafer, “Ebola Virus Disease Outbreak – West Africa, 2014,” Morbidity and Mortality Weekly Report, June 27, 2014.
- 12 MSF, “Ebola Outbreak Timeline,” retrieved from http://www.tiki-toki.com/timeline/entry/431558/Ebola-Virus-Epidemic-in-West-Africa#vars!date=2014-06-01_07:38:26 on May 7, 2015; and Reuters, Factbox—Worst Ebola Outbreak On Record Tests Global Response, October 9, 2014.
- 13 WHO, Ebola virus disease Fact sheet N°103, September 2014.
- 14 S. Funk and P. Piot, “Epidemiology: Mapping Ebola in Wild Animals for Better Disease Control,” eLife, September 19, 2014.
- 15 CDC, Viral Hemorrhagic Fevers Fact Sheet, retrieved from <http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/vhf.htm> on March 20, 2015.
- 16 CDC, Ebola Virus Disease Information for Clinicians in U.S. Healthcare Settings, April 1, 2015, retrieved from <http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/clinicians.html> on April 20, 2015.
- 17 S. Judson, J. Prescott, V. Munster, “Understanding Ebola Virus Transmission,” Viruses, February, 3, 2015.
- 18 M. Osterholm et al, “Transmission of Ebola Viruses: What We Know and What We Do Not Know,” mBio 6(2):e00137-15, March/April 2015.
- 19 CDC, Q&As on Transmission, retrieved from <http://www.cdc.gov/vhf/ebola/transmission/qas.html> on March 30, 2015.
- 20 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 21 WHO Ebola Response Team, “Ebola Virus Disease in West Africa – The

APPENDIX F: ENDNOTES

- first 9 months of the Epidemic and Forward Projections,” New England Journal of Medicine, October 16, 2014.
- 22 CDC, Identify, Isolate, Inform: Emergency Department Evaluation and Management of Patients Under Investigation for Ebola Virus Disease, retrieved from <http://www.cdc.gov/vhf/ebola/pdf/ed-algorithm-management-patients-possible-ebola.pdf> on April 8, 2015; WHO Ebola Response Team, “Ebola Virus Disease in West Africa – The First 9 Months of the Epidemic and Forward Projections,” The New England Journal of Medicine, October 16, 2014.
- 23 WHO, Ebola Response Roadmap, August, 28, 2014, p. 4; WHO, Unprecedented number of medical staff infected with Ebola, August 25, 2014; K. Sack, S. Fink, P. Belluck, A. Nossiter, “How Ebola Roared Back,” New York Times, December 29, 2014.
- 24 MSF, Ebola Response: Where Are We Now? December 2014.
- 25 WHO, WHO Risk Assessment: Human Infections with Zaïre Ebolavirus in West Africa, June 24, 2014.
- 26 WHO, Ebola virus disease, West Africa—update July 31, 2014, July 31, 2014; WHO, Nigeria is now free of Ebola virus transmission, October 20, 2014.
- 27 WHO, Six Months After the Ebola Outbreak was Declared: What Happens When a Deadly Virus Hits the Destitute, September 2014.
- 28 WHO, Ebola virus disease, West Africa – update 4 September 2014, September 4, 2014.
- 29 WHO, One Year Into the Epidemic of Ebola: A Deadly, Tenacious And Unforgiving Virus: Key Events In The WHO Response To The Outbreak, January 2015, p. 32.
- 30 WHO, One Year Into the Epidemic of Ebola: A Deadly, Tenacious And Unforgiving Virus: Key Events In The WHO Response To The Outbreak, January 2015, pp. 32, 34.
- 31 T. Salaam-Blyther, “U.S. and International Health Responses to the Ebola Outbreak in West Africa,” Congressional Research Service, October 29, 2014, p. 12.
- 32 CDC, Morbidity and Mortality Weekly Report: Estimating the Future Number of Cases in the Ebola Epidemic—Liberia and Sierra Leone, 2014 – 2015, September 26, 2014.
- 33 WHO, Ebola Situation Report, January 7, 2015; WHO, Ebola Situation Report, March 25, 2015.
- 34 WHO, Ebola Situation Report, July 1, 2015.
- 35 WHO, Ebola Situation Report, April 15, 2015; WHO, Ebola Situation Report, May 9, 2015. WHO, Ebola Situation Report, July 1, 2015.
- 36 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 37 WHO, Ebola Situation Report, April 1, 2015; WHO, Ebola Situation Report, July 1, 2015.

APPENDIX F: ENDNOTES

- 38 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 39 WHO, “Origins of the 2014 Ebola epidemic,” One year into the Ebola Epidemic, January 2015.
- 40 WHO, “Guinea: The Ebola virus shows its tenacity,” One year into the Ebola Epidemic, January 2015.
- 41 WHO, Ebola Situation Report – 24 June 2015, June 24, 2015; WHO, Ebola Situation Report – 31 December 2014,” December 31, 2014.
- 42 WHO, Ebola Situation Report, July 1, 2015.
- 43 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 44 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 45 WHO, Ebola Situation Report, April 1, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 46 WHO, Ebola Situation Report, June 17, 2015.
- 47 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #33, Fiscal Year (FY) 2015, June 3, 2015.
- 48 WHO, “Guinea: The Ebola virus shows its tenacity,” One year into the Ebola Epidemic, January 2015.
- 49 WHO, “Guinea: The Ebola virus shows its tenacity,” One year into the Ebola Epidemic, January 2015.
- 50 WHO, “Guinea: The Ebola virus shows its tenacity,” One year into the Ebola Epidemic, January 2015.
- 51 WHO, “Guinea: The Ebola virus shows its tenacity,” One year into the Ebola Epidemic, January 2015.
- 52 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #31, Fiscal Year (FY) 2015, April 28, 2015.
- 53 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #33, Fiscal Year (FY) 2015, June 3, 2015; USAID, USAID West Africa – Ebola Outbreak Fact Sheet #34, Fiscal Year (FY) 2015, June 9, 2015.
- 54 WHO, Ebola Situation Report, April 1, 2015.
- 55 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #34, Fiscal Year (FY) 2015, June 9, 2015.
- 56 K. Camara, “Guinea Quarantines Coastal Towns to End Ebola,” Voice of America, June 27, 2015, retrieved on June 29, 2015 from <http://www.voanews.com/content/guinea-quarantines-coastal-towns-to-end-ebola/2839717.html>
- 57 WHO, The Ebola Outbreak in Liberia is Over, May 9, 2015.
- 58 WHO, The Ebola Outbreak in Liberia is Over, May 9, 2015.
- 59 Deputy Secretary of State for Management and Resources Heather Higginbottom, Statement before the U.S. Senate Committee on

APPENDIX F: ENDNOTES

- Appropriations, "The U.S. Government Response to the Ebola Outbreak," November 12, 2014.
- 60 WHO, Ebola Situation Report, December 10, 2014.
- 61 WHO, The Ebola outbreak in Liberia is over, May 9, 2015.
- 62 WHO, The Ebola outbreak in Liberia is over, May 9, 2015.
- 63 WHO, Ebola, Situation Report, July 1, 2015.
- 64 USAID, Fact Sheet: West Africa Ebola Outbreak, June 3, 2015.
- 65 C. MacDougall, "New Cases of Ebola Put an End to Liberia's Status as Virus-free," New York Times, June 30, 2015; J. Paye-Layleh, "Liberia Official Says Corpse Tests Positive for Ebola," ABC News, June 29, 2015; CDC, Response to HHS OIG Request for Information, July 29, 2015.
- 66 Global Ebola Response Information Centre, "Making A Difference: Progress Report 2015," United Nations, May 2015. <http://www.who.int/mediacentre/news/statements/2015/liberia-ends-ebola/en/>
- 67 World Bank, Global Ebola Response – Resource Tracking as of 7/1/2015, July 1, 2015.
- 68 C. MacDougall, "New Cases of Ebola Put an End to Liberia's Status as Virus-free," New York Times, June 30, 2015.
- 69 M. Dixon, I. Schafer, "Ebola Virus Disease Outbreak – West Africa, 2014," Morbidity and Mortality Weekly Report, June 27, 2014.
- 70 WHO, Ebola Situation Report, November 26, 2014.
- 71 WHO, Ebola Situation Report, March 4, 2015.
- 72 World Bank, The Socio-economic Impacts of Ebola in Sierra Leone: Results from a High Frequency Cell Phone Survey, Round 3, July 15, 2015, p. 3.
- 73 WHO, Ebola Situation Report, July 1, 2015.
- 74 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 75 WHO, Ebola Situation Report, April 8, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 76 USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15), June 30, 2015.
- 77 WHO, Ebola Situation Report, July 1, 2015.
- 78 World Bank, Global Ebola Response – Resource Tracking as of 7/1/2015, July 1, 2015.
- 79 Deputy Secretary of State for Management and Resources Heather Higginbottom, Statement before the U.S. Senate Committee on Appropriations, "The U.S. Government Response to the Ebola Outbreak," November 12, 2014; House of Commons Committee of Public Accounts, The UK's Response to the Outbreak of Ebola Virus Disease in West Africa: Thirty-ninth Report of Session 2014-15, February 11, 2015, p. 5.
- 80 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #33, Fiscal Year

APPENDIX F: ENDNOTES

- (FY) 2015, June 3, 2015; USAID, USAID West Africa – Ebola Outbreak Fact Sheet #35, Fiscal Year (FY) 2015, June 16, 2015.
- 81 T. Mazumdar, “Ebola: ‘Fear, denial and fatigue fuelling outbreak’,” BBC News, July 14, 2015.
- 82 WHO, Ebola Situation Report, July 1, 2015.
- 83 K. Cham, “Ebola burial teams seek bribes in Sierra Leone – health official,” Reuters, July 16, 2015.
- 84 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #35, Fiscal Year (FY) 2015, June 16, 2015.
- 85 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #35, Fiscal Year (FY) 2015, June 16, 2015; USAID, USAID West Africa – Ebola Outbreak Fact Sheet #36, Fiscal Year (FY) 2015, June 23, 2015.
- 86 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #37, Fiscal Year (FY) 2015, June 30, 2015.
- 87 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #35, Fiscal Year (FY) 2015, June 16, 2015.
- 88 House of Commons Committee of Public Accounts, “The UK’s response to the outbreak of Ebola Virus Disease in West Africa,” Thirty-Ninth Report of Session 2014-15, January 28, 2015; WHO, Final Report of the Ebola Interim Assessment Panel, July 2015.
- 89 WHO, Final Report of the Ebola Interim Assessment Panel, July 2015; M. Cheng and R. Satter, “Email: UN health agency resisted declaring Ebola emergency,” Associated Press, March 20, 2015.
- 90 WHO, “About WHO,” retrieved from <http://www.who.int/about/en/> on April 8, 2015; and WHO, “The Role of WHO in Public Health,” retrieved from <http://www.who.int/about/role/en/> on April 8, 2015.
- 91 WHO, Basic Documents, 48th Edition, 2014, p. 2.
- 92 MSF, Ebola in West Africa: ‘The epidemic is out of control’, June 23, 2014.
- 93 House of Commons Committee of Public Accounts, “The UK’s response to the outbreak of Ebola Virus Disease in West Africa,” Thirty-Ninth Report of Session 2014-15, January 28, 2015; K. Grepin, “International donations to the Ebola virus outbreak: too little, too late?,” BMJ, February 3, 2015.
- 94 H. Cooper, “Liberian President Pleads with Obama for Assistance in Combating Ebola,” New York Times, September 12, 2014; MSF, Ebola: the failures of the international outbreak response, August 29, 2014; UNICEF, Ebola: Getting to zero – for communities, for children, for the future, March 17, 2015.
- 95 UN Development Program, Socio-economic Impact of Ebola Virus Disease in West African Countries, February 2015.
- 96 WHO, Final Report of the Ebola Interim Assessment Panel, July 2015.
- 97 WHO, Final Report of the Ebola Interim Assessment Panel, July 2015.
- 98 WHO, World Health Assembly Gives WHO Green Light to Reform

APPENDIX F: ENDNOTES

- Emergency Response Program, May 23, 2015.
- 99 WHO, World Health Assembly Gives WHO Green Light to Reform Emergency Response Program, May 23, 2015.
- 100 UNICEF, Ebola: Getting to zero – for communities, for children, for the future, March 17, 2015.
- 101 UNICEF, Ebola: Getting to zero – for communities, for children, for the future, March 17, 2015.
- 102 UNICEF, Ebola: Battling for zero, working for recovery, July 2015.
- 103 UNICEF, Ebola Orphans: West Africa's Abandoned Children, October 7, 2014; UNICEF, Thousands of Children Orphaned by Ebola, September 30, 2014; UNICEF, T. La Rose, "Ebola and Its Devastating Impact on Children," UNICEF, October 1, 2014; and K Weintraub, "Finding Homes for Ebola's Orphans," National Geographic, February 3, 2015.
- 104 UNICEF, Ebola: Battling for zero, working for recovery, July 2015, p. 8.
- 105 UNICEF, Ebola: Battling for zero, working for recovery, July 2015, p. 7.
- 106 World Bank, Back to School After the Ebola Outbreak, May 1, 2015.
- 107 UNICEF, Schools to reopen in Liberia after 7-month closure due to Ebola, February 13, 2015.
- 108 UNICEF, Ebola: Battling for zero, working for recovery, July 2015, p. 7; United Nations, World Bank, European Union, and African Development Bank, Recovering from the Ebola Crisis, 2015, p. 20.
- 109 WHO, One Year Into the Epidemic of Ebola: A deadly, tenacious and unforgiving virus: Factors that Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment, p. 5, retrieved from <http://www.who.int/csr/disease/ebola/one-year-report/ebola-report-1-year.pdf?ua=1> on April 20, 2015.
- 110 WHO, Ebola Recovery is Impossible Unless Resilient Health Systems are Rebuilt in Guinea, Liberia, and Sierra Leone, July 6, 2015.
- 111 M. Siedner, L. Gostin, H. Cranmer, and J. Kraemer, "Strengthening the Detection of and Early Response to Public Health Emergencies: Lessons from the West African Ebola Epidemic," PLOS Medicine, March 24, 2015.
- 112 M. Edelstein, P. Angelides, D. Heyman, "Ebola: the challenging road to recovery," The Lancet, February 8, 2015; A. Delamou, R. Hammonds, S. Caluwaerts, B. Utz, T. Delvaux, "Ebola in Africa: beyond Epidemics, reproductive health crisis," The Lancet, December 2014.
- 113 MOH Republic of Liberia, 2014 Annual Report, p. 11.
- 114 United Nations, World Bank, European Union, and African Development Bank, Recovering from the Ebola Crisis, 2015, p. 19; M. Edelstein, P. Angelides, D. Heyman, "Ebola: the challenging road to recovery," The Lancet, February 8, 2015.
- 115 M. Plucinski, T. Guilavogui, S. Sidikiba, N. Diakite, S. Diakite, et al., "Effect of the Ebola-virus-disease epidemic on malaria case management in Guinea, 2014: a cross-sectional survey of health facilities," Lancet Infectious Disease, June 24, 2015.

APPENDIX F: ENDNOTES

- 116 UN Population Fund, Liberia's Ebola Outbreak Leaves Pregnant Women Stranded, August 26, 2014; UN Population Fund, Ebola Wiping Out Gains in Safe Motherhood, October 16, 2014.
- 117 UN Population Fund, Ebola Wiping Out Gains in Safe Motherhood, October 16, 2014.
- 118 UNICEF, Ebola: Getting to zero – for communities, for children, for the future, March 17, 2015, p. 5.
- 119 M. Edelstein, P. Angelides, D. Heyman, "Ebola: the Challenging Road to Recovery," The Lancet, February 8, 2015; World Bank Group, Summary on the Ebola Recovery Plan: Sierra Leone, April 16, 2015; Government of Sierra Leone, National Ebola recovery Strategy for Sierra Leone 2015-2017, July 2015, p. 25.
- 120 M. Edelstein, P. Angelides, D. Heyman, "Ebola: the Challenging Road to Recovery," The Lancet, February 8, 2015; World Bank Group, Summary on the Ebola Recovery Plan: Sierra Leone, April 16, 2015; Government of Sierra Leone, National Ebola recovery Strategy for Sierra Leone 2015-2017, July 2015, p. 25.
- 121 UNICEF, Ebola: Getting to zero – for communities, for children, for the future, March 17, 2015, p.5.
- 122 M. Edelstein, P. Angelides, D. Heyman, "Ebola: the Challenging Road to Recovery," The Lancet, February 8, 2015; MOH, Republic of Liberia, 2014 Annual Report, p. 31.
- 123 S. Momodu. "Ebola: Fighting a deadly virus," Africa Renewal, published December 2014.
- 124 WHO, One Year Into the Epidemic of Ebola: A deadly, tenacious and unforgiving virus: Factors that Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment, p. 5, retrieved from <http://www.who.int/csr/disease/ebola/one-year-report/ebola-report-1-year.pdf?ua=1> on April 7, 2015.
- 125 WHO, Unprecedented number of medical staff infected with Ebola, August 25, 2014; WHO, Ebola Response Roadmap Update, September 26, 2014, September 26, 2014.
- 126 WHO, Ebola Situation Report July 11, 2015, July 1, 2015.
- 127 D. Evans, M. Goldstein, A. Popova, "Health-care worker mortality and the legacy of the Ebola epidemic," The Lancet, July 9, 2015.
- 128 World Bank, 2015 World Development Indicators: Poverty Rates, retrieved from <http://wdi.worldbank.org/tables> on April 21, 2015; World Bank, Gross national income (GNI) per capita, Atlas method (current US\$) Data Table, retrieved from <http://data.worldbank.org/indicator/NY.GNP.PCAP.CD> on April 21, 2015. Table reflects Liberia, Guinea, and Sierra Leone as having the 5th, 8th, and 17th lowest GNI's per capita, respectively, among 174 countries reporting data in 2013.
- 129 World Bank Group, World Bank Group Ebola Response Fact Sheet, May 18, 2015; USAID response to USAID OIG, EVD Outbreak Draft 2015-07-28, July 29, 2015.

APPENDIX F: ENDNOTES

- 130 United Nations, World Bank, European Union, and African Development Bank, *Recovering from the Ebola Crisis*, 2015.
- 131 Guinea, Liberia, Sierra Leone, Mano River Union, *Mano River Union Advocacy Document: Ebola Recovery Strategies*, July 2015, p. 3.
- 132 World Bank, *Ebola: Most African Countries Avoid Major Economic Loss but Impact on Guinea, Liberia, Sierra Leone Remains Crippling*, January 20, 2015; World Bank Group, *Update on the Economic Impact of the 2014-2015 Ebola Epidemic on Liberia, Sierra Leone, and Guinea*, April 15, 2015.
- 133 The Economist Intelligence Unit, *Liberia: Forecast Summary*, June 3, 2015.
- 134 Republic of Guinea, *Post-Ebola Socio-Economic Recovery Strategy (2015-2017)*, June 2015, p. 7; World Bank Group, *Ebola: World Bank Group Provides New Financing to Help Guinea, Liberia, and Sierra Leone Recover from Ebola Emergency*, April 17, 2015.
- 135 World Bank Group, *Summary on the Ebola Recovery Plan: Sierra Leone*, April 16, 2015; World Bank Group, *Ebola: World Bank Group Provides New Financing to Help Guinea, Liberia, and Sierra Leone Recover from Ebola Emergency*, April 17, 2015.
- 136 United Nations, World Bank, European Union, and African Development Bank, *Recovering from the Ebola Crisis*, 2015, p. 33.
- 137 World Bank Group, *Summary on the Ebola Recovery Plan: Liberia – Economic Stabilization and Recovery Plan (ESRP)*, April 16, 2015.
- 138 World Bank Group, *Update on the Economic Impact of the 2014-2015 Ebola Epidemic on Liberia, Sierra Leone, and Guinea*, April 15, 2015, p. 10; Republic of Liberia, *The Economic Stabilization and Recovery Plan*, April 2015, p. 19.
- 139 World Bank Group, *Summary on the Ebola Recovery Plan: Liberia – Economic Stabilization and Recovery Plan (ESRP)*, April 16, 2015, p. 18.
- 140 World Bank Group, *Summary on the Ebola Recovery Plan: Sierra Leone*, April 16, 2015.
- 141 World Bank Group, *Summary on the Ebola Recovery Plan: Guinea*, April 16, 2015.
- 142 DOS, *Emergency Request Justification: Department of State, Foreign Operations, and Related Programs*, 2015, p. 11; and R. Hamilton, “Ebola crisis: The economic impact”, British Broadcasting Corporation, August 21, 2014.
- 143 World Bank Group, *Summary on the Ebola Recovery Plan: Liberia – Economic Stabilization and Recovery Plan (ESRP)*, April 16, 2015.
- 144 Republic of Guinea, *Post-Ebola Socio-Economic Recovery Strategy (2015-2017)*, June 2015, p.17.
- 145 FEWS NET, *West Africa: Poor purchasing power will continue to limit food access through September*, April 30, 2015.
- 146 World Bank Group, *Update on the Economic Impact of the 2014-2015*

APPENDIX F: ENDNOTES

- Ebola Epidemic on Liberia, Sierra Leone, and Guinea, April 15, 2015, pp. 4-5.
- 147 Statistics Sierra Leone and World Bank Group, The Socio-Economic Impacts of Ebola in Sierra Leone: Results from a High Frequency Cell Phone Survey Round 3, June 15, 2015, p. 6.
- 148 Statistics Sierra Leone and World Bank Group, The Socio-Economic Impacts of Ebola in Sierra Leone: Results from a High Frequency Cell Phone Survey Round 3, June 15, 2015 p. 3.
- 149 Statistics Sierra Leone and World Bank Group, The Socio-Economic Impacts of Ebola in Sierra Leone: Results from a High Frequency Cell Phone Survey Round 3, June 15, 2015 pp. 13, 14.
- 150 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #34, Fiscal Year (FY) 2015, June 9, 2015.
- 151 World Bank, On Ebola Response and Recovery, World Bank and Partners Keep Pressure On, April 16, 2015.
- 152 World Bank Group, Summary on the Ebola Recovery Plan: Liberia – Economic Stabilization and Recovery Plan (ESRP), April 16, 2015.
- 153 Guinea, Liberia, Sierra Leone, Mano River Union, Mano River Union Advocacy Document: Ebola Recovery Strategies, July 2015, p. 8; World Bank Group, Summary on the Ebola Recovery Plan: Liberia – Economic Stabilization and Recovery Plan (ESRP), April 16, 2015.
- 154 World Bank Group, Update on the Economic Impact of the 2014-2015 Ebola Epidemic on Liberia, Sierra Leone, and Guinea, April 15, 2015, p. 6.
- 155 World Bank Group, Summary on the Ebola Recovery Plan: Sierra Leone, April 16, 2015.
- 156 Government of Sierra Leone, National Ebola Recovery Strategy for Sierra Leone, 2015-2017, July 2015, pp. 8-10.
- 157 Guinea, Liberia, Sierra Leone, Mano River Union, Mano River Union Advocacy Document: Ebola Recovery Strategies, July 2015, p. 13.
- 158 Republic of Guinea, Post-Ebola Socio-Economic Recovery Strategy (2015-2017), June 2015, p. 8.
- 159 Republic of Guinea, Post-Ebola Socio-Economic Recovery Strategy (2015-2017), June 2015, p. 8.
- 160 World Bank Group, Statement of the Meeting Convening Partners: “From Ebola to More Resilient Health Systems,” April 17, 2015.
- 161 World Bank Group, Statement of the Meeting Convening Partners: “From Ebola to More Resilient Health Systems,” April 17, 2015.
- 162 USAID, USAID Announces \$266 Million to Support Recovery Efforts in Ebola-affected Countries, July 10, 2015; Guinea, Liberia, Sierra Leone, Mano River Union, Mano River Union Advocacy Document: Ebola Recovery Strategies, July 2015, p. 1.
- 163 M. Dixon, I. Schafer, “Ebola Viral Disease Outbreak – West Africa, 2014,” Morbidity and Mortality Weekly Report, June 27, 2014.

APPENDIX F: ENDNOTES

- 164 USAID, West Africa – Ebola Outbreak, Fact Sheet #37, June 30, 2015.
- 165 C. Pellerin, “Obama to Announce Africom Joint Force Command HQ in Liberia,” DoD News - Defense Media Activity, September 16, 2014.
- 166 White House, Fact Sheet: The U.S. Response to the Ebola Epidemic in West Africa, September 16, 2014.
- 167 DOS, Emergency Request Justification- Fiscal Year 2015, November 14, 2015.
- 168 USAID funds partner organizations to implement activities in the countries. For a list of USAID partner organizations, please refer to Appendix D.
- 169 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235.
- 170 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division A, Title VIII; Division C, Title X; Division G, Title VI; and Division J, Title IX.
- 171 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division J, Title IX.
- 172 This is not the case for all funding appropriated to HHS. FY 2015 appropriations for NIAID, for example, are limited to use through the end of FY 2016. (Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division G, Title VI).
- 173 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division J, Title IX.
- 174 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division J, Title IX, Section 9002.
- 175 Consolidated and Further Continuing Appropriations Act, 2015, P.L. 113-235, Division G, Title VI; and Division J, Title IX, Sections 9003 and 9004; Joint Explanatory Statement accompanying the Consolidated and Further Continuing Appropriations Act, 2015, Division G, p. 109.
- 176 USAID, Agency Notices: Legislative Report June 15-26, June 29, 2015.
- 177 USAID Office of Budget and Resource Management, Response to USAID OIG Information Request, July 24, 2015.
- 178 USAID Office of Budget and Resource Management, Response to USAID OIG Information Request, July 24, 2015.
- 179 CDC response to HHS OIG request for information, CDC-IG Questionnaire for HHS Q3, July 7, 2015, p. 3; USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15), June 30, 2015; USAID Obligations and Expenditures July Update; USAID Response to USAID OIG Information Request, July 24, 2015.
- 180 WHO, Ebola Situation Report, November 26, 2014; WHO, Ebola Situation Report, December 31, 2014.
- 181 USAID, West Africa – Ebola Outbreak, Fact Sheet #37, June 30, 2015.
- 182 USAID, West Africa – Ebola Outbreak, Fact Sheet #37, June 30, 2015.
- 183 CDC response to HHS OIG request for information, CDC-IG

APPENDIX F: ENDNOTES

- Questionnaire for HHS Q3, July 7, 2015, p.3; USAID response to USAID
OIG request for information, July 30, 2015.
- 184 CDC response to HHS OIG request for information, CDC-IG
Questionnaire for HHS Q3, July 7, 2015, p. 3; WHO, Ebola Situation
Report, July 8, 2015.
- 185 USAID, West Africa – Ebola Outbreak, Fact Sheet #37, June 30, 2015.
- 186 White House, Fact Sheet: Progress in Our Ebola Response at Home and
Abroad, February 11, 2015.
- 187 USAID response to USAID OIG Request for Information, presentation
dated July 1, 2015.
- 188 USAID response to USAID OIG Request for Information, presentation
dated July 1, 2015, p. 8; USAID response to USAID OIG request for
information, July 14, 2015.
- 189 USAID response to USAID OIG request for information, July 14, 2015.
- 190 USAID response to USAID OIG request for information, July 14, 2015.
- 191 USAID, West Africa – Ebola Outbreak, Fact Sheet #37, June 30, 2015.
- 192 USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15), June 30,
2015; USAID response to USAID OIG request for information, July 14,
2015, pp. 18-19.
- 193 USAID response to USAID OIG request for information, July 14, 2015, p.
19.
- 194 USAID, Section 9004 Report to Congress, April 2015.
- 195 USAID, West Africa – Ebola Outbreak Fact Sheet # 28 (FY 15), April 7,
2015.
- 196 USAID, West Africa – Ebola Outbreak Fact Sheet # 35 (FY 15), June 16,
2015; USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15),
June 30, 2015.
- 197 USAID, West Africa – Ebola Outbreak Fact Sheet # 32 (FY 15), May 28,
2015.
- 198 USAID, West Africa – Ebola Outbreak Fact Sheet # 35 (FY 15), June 16,
2015; USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15),
June 30, 2015.
- 199 USAID response to USAID OIG request for information, July 14, 2015, p.
19.
- 200 USAID response to USAID OIG request for information, July 14, 2015, p.
19.
- 201 CDC, Q&As on Transmission, retrieved from [http://www.cdc.gov/vhf/
ebola/transmission/qas.html](http://www.cdc.gov/vhf/ebola/transmission/qas.html) on March 30, 2015.
- 202 USAID, West Africa – Ebola Outbreak Fact Sheet # 33 (FY 15), June 3,
2015; 9004 Ebola Report April 2015
- 203 USAID response to USAID OIG request for information, July 14, 2015 p.
19.
- 204 USAID response to USAID OIG Request for Information, presentation

APPENDIX F: ENDNOTES

- dated July 1, 2015.
- 205 ASPR/BARDA response to HHS OIG request for information, July 7, 2015.
- 206 M. Boradhurst, J. Kelly, A. Miller, A. Semper, D. Bailey, et al., “ReEBOV Antigen Rapid Test kit for point-of-care and laboratory-based testing for Ebola virus disease: a field validation study,” *The Lancet*, June 25, 2015; Corgenix, Corgenix Receives FDA Authorization and WHO Listing for Emergency Use of Ebola Rapid Diagnostic Test, February 26, 2015.
- 207 ASPR/BARDA response to HHS OIG request for information, July 7, 2015.
- 208 ASPR/BARDA response to HHS OIG request for information, July 7, 2015; NIH response to HHS OIG request for information, July 7, 2015.
- 209 ASPR/BARDA response to HHS OIG request for information, July 7, 2015; NIH response to HHS OIG request for information, July 7, 2015.
- 210 ASPR/BARDA response to HHS OIG request for information, July 7, 2015; NIH response to HHS OIG request for information, July 7, 2015.
- 211 NIH response to HHS OIG data call, July 7, 2015.
- 212 ASPR/BARDA response to HHS OIG request for information, July 7, 2015; NIH response to HHS OIG request for information, July 7, 2015; CDC, Sierra Leone Trial to Introduce a Vaccine against Ebola (STRIVE) Q&A, retrieved from <http://www.cdc.gov/vhf/ebola/strive/qa.html> on July 30, 2015.
- 213 NIAID Press Release, NIAID Recognizes Significant Milestone in Ebola Vaccine Study, May 7, 2015; NIH response to HHS OIG request for information, July 7, 2015.
- 214 NIH response to HHS OIG request for information, July 7, 2015.
- 215 ASPR/BARDA response to HHS OIG request for information, July 7, 2015.
- 216 ASPR/BARDA response to HHS OIG request for information, July 7, 2015; NIH response to HHS OIG request for information, July 7, 2015.
- 217 ASPR/BARDA response to HHS OIG request for information, July 7, 2015.
- 218 FDA response to HHS OIG request for information, July 7, 2015.
- 219 FDA response to HHS OIG request for information, July 7, 2015.
- 220 FDA, 2014 Ebola Virus Emergency Use Authorizations, retrieved from <http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm> on July 23, 2015.
- 221 FDA, May 12, 2015: Vaccines and Related Biological Products Advisory Committee Meeting Announcement, retrieved from <http://www.fda.gov/AdvisoryCommittees/Calendar/ucm438627.htm> on July 23, 2015.
- 222 FDA response to HHS OIG request for information, July 7, 2015.
- 223 USAID, West Africa – Ebola Outbreak Fact Sheet # 35 (FY 15), June 16, 2015.

APPENDIX E: ENDNOTES

- 224 USPHS response to HHS OIG data call, July 7, 2015.
- 225 USAID, Section 9004 Report to Congress, April 2015.
- 226 USAID, West Africa – Ebola Outbreak Fact Sheet # 30 (FY 15), April 21, 2015.
- 227 CDC response to HHS OIG request for information, CDC-IG Questionnaire for HHS Q3, July 7, 2015, pp. 2-3; USAID response to USAID OIG request for information, July 30, 2015.
- 228 WHO, Ebola Situation Report, July 8, 2015.
- 229 USAID, West Africa – Ebola Outbreak Fact Sheet # 36 (FY 15), June 23, 2015.
- 230 USAID, West Africa – Ebola Outbreak Fact Sheet # 33 (FY 15), June 3, 2015.
- 231 USAID, West Africa – Ebola Outbreak Fact Sheet # 28 (FY 15), April 7, 2015; USAID response to USAID OIG request for information, July 14, 2015, p. 23.
- 232 USAID response to USAID OIG request for information, July 14, 2015, p. 23.
- 233 USAID, West Africa – Ebola Outbreak Fact Sheet # 32 (FY 15), May 28, 2015; USAID, West Africa – Ebola Outbreak Fact Sheet # 36 (FY 15), June 23, 2015.
- 234 USAID, West Africa – Ebola Outbreak Fact Sheet # 33 (FY 15), June 3, 2015.
- 235 CDC, Response to HHS OIG request for information, July 30, 2015; WHO, Ebola Situation Report, July 1, 2015.
- 236 Global Ebola Response Information Centre, “Making A Difference: Progress Report 2015,” United Nations, May 2015. <http://www.who.int/mediacentre/news/statements/2015/liberia-ends-ebola/en/>
- 237 WHO, Report of the Ebola Interim Assessment Panel, July 2015, p. 19.
- 238 WHO, Report of the Ebola Interim Assessment Panel, July 2015, p. 19.
- 239 DOS, Deputy Secretary of State for Management and Resources Heather Higginbottom, Testimony before the U.S. Senate Committee on Appropriations on “The U.S. Government Response to the Ebola Outbreak,” November 12, 2014.
- 240 USAID Obligations and Expenditures July Update.
- 241 USAID Obligations and Expenditures July Update.
- 242 CDC response to HHS OIG request for information, CDC-IG Questionnaire for HHS Q3, July 7, 2015, p. 3; USAID, West Africa – Ebola Outbreak Fact Sheet # 37 (FY 15), June 30, 2015; USAID Obligations and Expenditures July Update.
- 243 DOS, Emergency Request Justification: Department of State, Foreign Operations, and Related Programs, 2015, p. 8.
- 244 USAID, West Africa – Ebola Outbreak Fact Sheet # 35 (FY 15), June 16, 2015.

APPENDIX E: ENDNOTES

- 245 USAID, West Africa – Ebola Outbreak Fact Sheet # 31 (FY 15), April 28, 2015
- 246 USAID, West Africa – Ebola Outbreak Fact Sheet # 36 (FY 15), June 23, 2015.
- 247 USAID response to USAID OIG request for information, July 14, 2015, p. 24.
- 248 USAID, West Africa – Ebola Outbreak Fact Sheet # 35 (FY 15), June 16, 2015.
- 249 USAID, West Africa – Ebola Outbreak Fact Sheet # 19 (FY 15), February 4, 2015; A. Harding, “Ebola survivor ‘hiding’ from community,” British Broadcasting Corporation, March 3, 2015; and MSF, *Alive Again: A Survivor’s Account of Life After Ebola*, April 13, 2015.
- 250 USAID response to USAID OIG request for information, July 14, 2015, p. 15.
- 251 USAID response to USAID OIG request for information, July 14, 2015, p. 15.
- 252 NIH News, Study of Ebola Survivors Opens in Liberia, June 17, 2015.
- 253 NIH News, Study of Ebola Survivors Opens in Liberia, June 17, 2015.
- 254 A. Christie, G. Davies-Wayne, T. Cordier-Lasalle, D. Blackley, A. Scott Laney, D. Williams, “Possible Sexual Transmission of Ebola virus – Liberia, 2015,” *Morbidity and Mortality Weekly Report*, May 8, 2015.
- 255 A. Christie, G. Davies-Wayne, T. Cordier-Lasalle, D. Blackley, A. Scott Laney, D. Williams, “Possible Sexual Transmission of Ebola virus – Liberia, 2015,” *Morbidity and Mortality Weekly Report*, May 8, 2015.
- 256 WHO, Interim advice on the sexual transmission of the Ebola virus disease, May 8, 2015; A. Christie, G. Davies-Wayne, T. Cordier-Lasalle, D. Blackley, A. Scott Laney, D. Williams, “Possible Sexual Transmission of Ebola virus – Liberia, 2015,” *Morbidity and Mortality Weekly Report*, May 8, 2015.
- 257 USAID response to USAID OIG request for information, July 14, 2015, p. 24.
- 258 USAFRICOM, Operation United Assistance: Facts, <http://www.africom.mil/operation-united-assistance/facts-on-May-5>, 2015; DoD OIG Response to USAID OIG Request for Information, July 16, 2015; C. Pellerin, U.S. Added Speed, Scale to West Africa Ebola Fight, DoD News, February 27, 2015. <http://www.defense.gov/news/newsarticle.aspx?id=128260>
- 259 DoD, 20th Chemical, Biological, Radiological, Nuclear and Explosives Command, “TAC-OUA Information to FORSCOM IG’s RFIs,” July 9, 2015.
- 260 DoD response to DoD OIG request for information, Marked Corrected DoDOIG Input 101730 July Final Draft IG Questionnaire, July 16, 2015, p. 4.
- 261 DoD OIG, Memorandum for Director of the Joint Staff Termination of OUA, July 24, 2015.
- 262 DoD response to DoD OIG request for information, July 16, 2015.

APPENDIX E: ENDNOTES

- 263 USAID, “Rebuilding Liberia as Ebola Cases Decline,” April 20, 2015, <http://blog.usaid.gov/2015/04/rebuilding-liberia-as-ebola-cases-decline/>
- 264 World Bank Group, World Bank Group Ebola Response Fact Sheet, May 18, 2015; USAID response to USAID OIG, July 29, 2015.
- 265 MSF, “Pushed to the Limit and Beyond: A Year Into the Largest Ever Ebola Outbreak,” March 23, 2015, p. 21, <https://www.doctorswithoutborders.org/sites/usa/files/msf143061.pdf>
- Dawson, S., “Exclusive: Liberia Health System Collapsing as Ebola Spreads,” Reuters, August 7, 2015, <http://www.reuters.com/article/2014/08/07/us-health-ebola-liberia-idUSKBN0G72FC20140807>
- 266 For planning and monitoring purposes, USAID treats efforts to assist in health system recovery as part of a separate focus area discrete from its efforts to provide for the restoration of critical non-Ebola health services. U.S. USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 267 USAID, “Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV,” July 1, 2015, p. 3; USAID response to USAID OIG Request for Information, July 1, 2015
- 268 USAID OIG meeting with Africa Ebola Unit representatives, June 1, 2015.
- 269 FEWSNET, “Guinea, Liberia, and Sierra Leone: A Slow Economy and Disrupted Markets Trigger Below-Average Household Incomes,” February 21, 2015.
- BBC, “Ebola Outbreak: Liberia Shuts Most Border Points,” July 28, 2014, <http://www.bbc.com/news/world-africa-28522824>
- 270 USAID Office of Food for Peace, “FY14-15 Response Strategy: Ebola Virus Disease Crisis in Liberia, Sierra Leone, and Guinea,” January 20, 2015, p. 1; USAID, “Amendment No. 01 – Guinea, Liberia, and Sierra Leone Emergency Response and Recovery for Ebola Virus Disease (EVD)– Affected Countries USAID/DCHA/FFP Annual Program Statement (APS) No. FFP-15-000001 International Emergency Food Assistance,” March 25, 2015, p. 1; FEWS NET, “Guinea, Liberia, and Sierra Leone: A Slow Economy and Disrupted Markets Trigger Below-Average Household Incomes,” February 21, 2015.
- 271 FEWSNET, “Integrated Phase Classification IPC 2.0: A Common Starting Point for Decision-Making,” accessed July 21, 2015, <http://www.fews.net/our-work/our-work/integrated-phase-classification>
- 272 FEWSNET, “Adequate Market Supply Despite the Start of the Lean Season,” June 2015, <http://www.fews.net/west-africa/liberia/remote-monitoring-report/june-2015>
- FEWSNET, “Adequate Market Supplies and Stable Prices Despite the Onset of the Lean Season,” June 2015, <http://www.fews.net/west-africa/guinea>
- 273 FEWSNET, “Crisis Food Insecurity Will Continue Through the End of the Lean Season in September,” June 2015, <http://www.fews.net/west-africa/sierra-leone>

APPENDIX E: ENDNOTES

- 274 USAID, “Food Assistance Fact Sheet – Sierra Leone,” June 29, 2015, <http://www.usaid.gov/sierra-leone/food-assistance>
- 275 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 276 USAID, “Amendment No. 01 – Guinea, Liberia, and Sierra Leone Emergency Response and Recovery for Ebola Virus Disease (EVD)– Affected Countries USAID/DCHA/FFP Annual Program Statement (APS) No. FFP-15-000001 International Emergency Food Assistance,” March 25, 2015, p. 2.
- 277 USAID OIG meeting with FFP representatives, June 4, 2015.
- 278 USAID, June Report Program Listing, Ebola Obligations and Expenditures, July 22, 2015, p. 8.
- 279 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 280 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 281 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 282 USAID OIG meeting with FFP representatives, June 4, 2015.
- 283 USAID OIG meeting with FFP representatives, June 4, 2015.
USAID, “Amendment No. 01 – Guinea, Liberia, and Sierra Leone Emergency Response and Recovery for Ebola Virus Disease (EVD)– Affected Countries USAID/DCHA/FFP Annual Program Statement (APS) No. FFP-15-000001 International Emergency Food Assistance,” March 25, 2015, pp. 1-2.
- 284 The Bureau for Food Security does not use funds from the December 2014 appropriations designated for Ebola recovery preparedness to support these activities.
- 285 Feed the Future, “About,” accessed July 21, 2015, <http://www.feedthefuture.gov/about>
- 286 Feed the Future, “Feed the Future Country Fact Sheet: Liberia,” accessed on July 30, 2015, <http://www.feedthefuture.gov/country/liberia>
- 287 USAID OIG meeting with USAID Bureau for Food Security representative, June 16, 2015.
- 288 USAID, “Announcement: The Feed the Future Ebola Recovery Partnership in West Africa – Request for Partnership Concept Papers No. RFA-OAA-15-000022,” May 19, 2015, http://www.usaid.gov/sites/default/files/documents/1867/FTFEbolaRecoveryPartnership_APS-OAA-14-000001Addenda.pdf
- 289 USAID, “Announcement: The Feed the Future Ebola Recovery Partnership in West Africa – Request for Partnership Concept Papers No. RFA-OAA-15-000022,” May 19, 2015, http://www.usaid.gov/sites/default/files/documents/1867/FTFEbolaRecoveryPartnership_APS-OAA-14-000001Addenda.pdf

APPENDIX E: ENDNOTES

- 290 Bernstein, L., "With Ebola Crippling the Health System, Liberians die or Routine Medical Problems," Washington Post, September 20, 2014, http://www.washingtonpost.com/world/africa/with-ebola-crippling-the-health-system-liberians-die-of-routine-medical-problems/2014/09/20/727dcfbc-400b-11e4-b03f-de718edeb92f_story.html
- 291 MSF, "Pushed to the Limit and Beyond: A Year Into the Largest Ever Ebola Outbreak," March 23, 2015, p. 21, <https://www.doctorswithoutborders.org/sites/usa/files/msf143061.pdf>
- 292 Hayden, E. C., "Maternal Health: Ebola's Lasting Legacy: One of the Most Devastating Consequences of the Ebola Outbreak Will be its Impact on Maternal Health," Nature, March 4, 2015, <http://www.nature.com/news/maternal-health-ebola-s-lasting-legacy-1.17036>; BBC, "Ebola Crisis in Guinea 'Has Set Back Malaria Fight'," June 24, 2015, <http://www.bbc.com/news/health-33236292>
- Boseley, S., "Thousands of Guinea Malaria Cases Go Untreated Amid Ebola Fears," The Guardian, June 23, 2015, <http://www.theguardian.com/society/2015/jun/24/thousands-of-guinea-malaria-cases-go-untreated-amid-ebola-fears>
- 293 BBC, "Ebola Crisis in Guinea 'Has Set Back Malaria Fight'," June 24, 2015, <http://www.bbc.com/news/health-33236292>
- Boseley, S., "Thousands of Guinea Malaria Cases Go Untreated Amid Ebola Fears," The Guardian, June 23, 2015, <http://www.theguardian.com/society/2015/jun/24/thousands-of-guinea-malaria-cases-go-untreated-amid-ebola-fears>
- 294 USAID, "Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV," July 1, 2015, p. 5.
- 295 USAID, "Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV," July 1, 2015, p. 5; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 296 USAID response to USAID OIG request for information, July 14, 2015; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 297 USAID response to USAID OIG request for information, July 14, 2015.
- 298 USAID response to USAID OIG request for information, July 14, 2015; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 299 Corbett, N., "From Vaccinations to Vitamins: Ensuring West Africans Get Critical Care Amid Ebola Crisis," April 18, 2015, <http://blog.usaid.gov/2015/04/from-vaccinations-to-vitamins-ensuring-west-africans-get-critical-care-amid-ebola-crisis/>
- 300 USAID response to USAID OIG request for information, July 14, 2015, p. 3; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.

APPENDIX E: ENDNOTES

- 301 USAID, “Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV,” July 1, 2015, p. 6.
- 302 USAID, “Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV,” July 1, 2015, p. 8.
- 303 Corbett, N., “From Vaccinations to Vitamins: Ensuring West Africans Get Critical Care Amid Ebola Crisis,” USAID, April 18, 2015, <http://blog.usaid.gov/2015/04/from-vaccinations-to-vitamins-ensuring-west-africans-get-critical-care-amid-ebola-crisis/>
- 304 USAID, “Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV,” July 1, 2015, p. 8.
- 305 USAID response to USAID OIG Request for Information, July 20, 2015.
- 306 WHO, “One Year Into the Ebola Epidemic: A Deadly, Tenacious, and Unforgiving Virus,” January 2015, pp. 20, 33, 49.
- 307 T. Salaam-Blyther, “U.S. and International Health Responses to the Ebola Outbreak in West Africa,” Congressional Research Service, October 29, 2014, pp. 5, 10, 20, <http://fas.org/sqp/crs/row/R43697.pdf>
- 308 USAID, “Africa Ebola Unit Presentation – Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV,” July 1, 2015, p. 9.
- 309 USAID response to USAID OIG Request for Information, July 20, 2015.
- 310 HHS response to USAID OIG request for information, CDC, July 8, 2015, p. 3.
- 311 HHS response to USAID OIG request for information, USPHS, July 8, 2015, p. 1.
- 312 NBC News, “Liberia Declares ‘State of Emergency’ Amid Ebola Outbreak,” August 6, 2014, <http://www.nbcnews.com/storyline/ebola-virus-outbreak/liberia-declares-state-emergency-amid-ebola-outbreak-n174586>
- United States Institute of Peace, “Liberia’s President Thanks U.S. for Helping Control Ebola Epidemic,” February 26, 2015, <http://www.usip.org/publications/2015/02/26/liberia-s-president-thanks-us-helping-control-ebola-epidemic>
- UN Development Program, “Ebola Crisis in West Africa,” July 7, 2015, <http://www.undp.org/content/undp/en/home/ourwork/our-projects-and-initiatives/ebola-response-in-west-africa.html>
- 313 Freid, S., “Ebola Weakens West African Mining Industry,” CCTV-America, December 26, 2014, <http://www.cctv-america.com/2014/12/26/ebola-weakens-west-african-mining-industry>
- 314 Guinea, Liberia, Sierra Leone, Mano River Union, Mano River Union Advocacy Document: Ebola Recovery Strategies, July 2015, p. 3; World Bank Group, Update on the Economic Impact of the 2014-2015 Ebola Epidemic on Liberia, Sierra Leone, and Guinea, April 15, 2015.
- 315 USAID response to USAID OIG request for information, July 14, 2015,

APPENDIX E: ENDNOTES

- pp. 4, 5; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 316 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 317 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p.11.
Better Than Cash, Sierra Leone Commits to Digital Payments to Encourage Growth, June 03, 2015, <http://betterthancash.org/news-releases/sierra-leone-commits-to-digital-payments-transition-to-encourage-growth/>
- 318 Better Than Cash, Mobile Money for 16,000 Ebola Workers, December 24, 2014, <http://betterthancash.org/mobile-money-for-16000-ebola-workers-2/>
USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p.11.
- 319 Better Than Cash, Mobile Money for 16,000 Ebola Workers, December 24, 2014, <http://betterthancash.org/mobile-money-for-16000-ebola-workers-2/>
Better Than Cash, Sierra Leone Commits to Digital Payments to Encourage Growth, June 03, 2015, <http://betterthancash.org/news-releases/sierra-leone-commits-to-digital-payments-transition-to-encourage-growth/>
- 320 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p.11; Better Than Cash, Sierra Leone Commits to Digital Payments to Encourage Growth, June 03, 2015, <http://betterthancash.org/news-releases/sierra-leone-commits-to-digital-payments-transition-to-encourage-growth/>
- 321 UNICEF, “UNICEF Distributes Over 700,000 Learning Kits to Children Across Liberia,” June 8, 2015, <http://www.unicefusa.org/press/releases/unicef-distributes-over-700000-learning-kits-children-across-liberia/25366>
- 322 USAID response to USAID OIG request for information, July 14, 2015, p. 5.
- 323 USAID response to USAID OIG Request for Information, July 20, 2015.
- 324 USAID response to USAID OIG Request for Information, July 20, 2015.
- 325 USAID response to USAID OIG request for information, July 14, 2015, p. 4.
- 326 USAID response to USAID OIG request for information, July 14, 2015, pp. 4-5.
- 327 USAID response to USAID OIG request for information, July 14, 2015, p. 5.
- 328 WHO, “Factors that Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment,” January 2015, p. 5, <http://www.who.int/csr/disease/ebola/one-year-report/ebola-report-1-year.pdf?ua=1>
- 329 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 6.

APPENDIX E: ENDNOTES

- 330 Voice of America, "WHO: Ebola Threatens States, Societies in West Africa," October 13, 2014, <http://www.voanews.com/content/liberian-healthcare-workers-to-launch-ebola-related-strike/2481771.html>
USAID response to USAID OIG request for information, July 14, 2015.
BBC, "Ebola Crisis: Sierra Leone Health Workers Strike," November 12, 2014, <http://www.bbc.com/news/world-africa-30019895>
FoxNews, "Liberia Health Care Workers Strike, Complicating Ebola Fight," September 2, 2014, <http://www.foxnews.com/health/2014/09/02/liberia-healthcare-workers-strike-complicating-ebola-fight/>
- 331 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 6.
- 332 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 6.
- 333 USAID response to USAID OIG request for information, email correspondence, July 23, 2015.
- 334 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 6.
- 335 USAID, U.S. Global Development Lab, accessed July 24, 2015, <http://www.usaid.gov/GlobalDevLab>
- 336 USAID, "Fighting Ebola: A Grand Challenge for Development," accessed July 21, 2015, <http://www.usaid.gov/grandchallenges/ebola> <http://www.usaid.gov/sites/default/files/documents/15396/baa.pdf>
- 337 USAID, Innovations, retrieved from <http://www.ebolagrandchallenge.net/innovations> on April 10, 2015.
- 338 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 7.
- 339 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 7.
- 340 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 7.
- 341 The Measure Evaluation program is a USAID partnership with the University of North Carolina at Chapel Hill, Futures Group, ICF International, John Snow Inc., Management Sciences for Health, and Tulane University.
- 342 USAID response to USAID OIG Request for Information, July 20, 2015; USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 8.
- 343 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 8.
- 344 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 8.
- 345 USAID response to USAID OIG request for information, program descriptions, July 14, 2015, p. 13.
- 346 USAID response to USAID OIG request for information, program

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- descriptions, July 14, 2015, p. 13.
- 347 USAID response to USAID OIG Request for Information, July 20, 2015.
- 348 USAID response to USAID OIG request for information, July 14, 2015, p. 12.
- 349 USAID response to USAID OIG Request for Information, July 20, 2015.
- 350 MSF, Pushed Beyond the Limit,” January 2015, p.2; WHO, “A Year of the Ebola Response: Factors that Contributed to Undetected Spread of the Ebola Virus and Impeded Rapid Containment,” March 25, 2015, pp. 5,9.
- 351 WHO, “Global Alert and Response: A Year of the Ebola Response at a Glance,” March 25, 2015.
- 352 White House, “The Administration’s Response to Ebola,” accessed July 20, 2015, <https://www.whitehouse.gov/ebola-response>
- 353 USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 354 DoD response to DoD OIG request for information, July 16, 2015, pp. 3-4.
- 355 CDC, “The Road to Zero: CDC’s Response to the West African Ebola Epidemic: 2014-15,” July 9, 2015.
- 356 HHS response to USAID OIG request for Information, July 20, 2015.
- 357 HHS response to USAID OIG request for Information, July 20, 2015. FTEs reflect the number of hours worked by an employee during a work year and may include the work of multiple employees. As a result, FTEs do not reflect a head count of individual employees.
- 358 HHS response to USAID OIG request for Information, July 20, 2015.
- 359 HHS responses to USAID OIG request for Information, July 20, 2015, and July 29, 2015.
- 360 HHS response to USAID OIG request for Information, July 20, 2015.
- 361 HHS response to USAID OIG request for Information, July 20, 2015.
- 362 HHS response to USAID OIG request for Information, July 20, 2015.
- 363 USAID, “Ebola: The Response,” accessed July 21, 2015, <http://www.usaid.gov/ebola>
- 364 USAID response to USAID OIG request for information, July 14, 2015.
- 365 OFDA response to USAID OIG request for information, July 29, 2015.
- 366 USAID response to USAID OIG request for information, July 22, 2015.
- 367 OFDA response to USAID OIG request for information, July 29, 2015.
- 368 USAID response to USAID OIG request for information, July 14, 2015.
- 369 USAID response to USAID OIG request for information, July 22, 2015.
- 370 USAID response to USAID OIG request for information, July 22, 2015.
- 371 USAID, Agency Notice: Establishment of the Africa Ebola Unit, March 19, 2015; USAID, Responses to OIG Information Request, May 1, 2015.
- 372 USAID response to USAID OIG request for information, July 22, 2015.

APPENDIX E: ENDNOTES

- 373 USAID response to USAID OIG request for information, July 22, 2015.
- 374 USAID response to USAID OIG request for information, July 22, 2015.
- 375 USAID response to USAID OIG request for information, July 22, 2015.
- 376 USAID OIG meeting notes with OFDA, June 13, 2015
UNHCR, “Worldwide Displacement Hits All-Time High as War and Persecution Increase,” June 18, 2015, <http://www.unhcr.org/558193896.html>; USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 377 RMTs are USAID headquarters’ based teams that act as response coordinators for a disaster or crisis.
- 378 USAID OIG meeting with OFDA representatives, June 13, 2015.
USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 379 USAID OIG meeting notes with OFDA, June 13, 2015.
USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 380 USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 381 USAID OIG meeting notes with OFDA, June 13, 2015; USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 382 USAID OIG meeting notes with OFDA, June 13, 2015; USAID response to USAID OIG request for information, OFDA staffing, July 22, 2015.
- 383 DOS and USAID, “Ebola Response and Preparedness Section 9004 Report,” May 2015.
- 384 CDC, Global Health Security Agenda: Toward A World Safe & Secure From Infectious Disease Threats, 2014.
- 385 CDC, Global Disease Detection Operations Center – What We Do, June 3, 2015, retrieved from <http://www.cdc.gov/globalhealth/healthprotection/ghsb/gddopscenter/what.htm> on July 16, 2015.
- 386 CDC, Global Health Security Agenda: Toward A World Safe & Secure From Infectious Disease Threats, 2014.
- 387 GlobalHealth.gov, Global Health Security, retrieved from <http://www.globalhealth.gov/global-health-topics/global-health-security/index.html> on July 16, 2015.
- 388 White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014.
- 389 GlobalHealth.gov, Global Health Security Agenda Launch, retrieved from <http://www.globalhealth.gov/global-health-topics/global-health-security/ghsagenda-launch.html> on July 24, 2015; White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014.
- 390 DOS, Emergency Request Justification: Department of State, Foreign Operations, and Related Programs, 2015, pp. 15-16.

- 391 WHO, International Health Regulations, Twenty-Second World Health Assembly, 1969; WHO, WHA58.3, Revision of International Health Regulations, Fifty-Eighth World Health Assembly, 2015, pp. 9, 16-20.
- 392 WHO Ebola Interim Assessment Panel, 2014 Ebola virus disease outbreak and follow-up to the Special Session of the Executive Board on Ebola, May 8, 2015. p. 7.
- 393 CDC response to HHS OIG data call, July 7, 2015, p. 7.
- 394 WHO, Statement on the 1st meeting of the IHR Emergency Committee on the 2014 Ebola outbreak in West Africa, August 8, 2014; WHO, Ebola Response Roadmap, August, 28, 2014, p. 4.
- 395 WHO, Statement on the 6th meeting of the IHR Emergency Committee regarding the Ebola outbreak in West Africa, July 7, 2015.
- 396 CDC response to HHS OIG data call, CDC IG Questionnaire for HHS Q3, July 7, 2015, p. 7; USAID response to USAID OIG request for information, July 14, 2015; DoD response to DoD OIG request for information, July 16, 2015.
- 397 Defense Threat Reduction Agency, Cooperative Threat Reduction Program, retrieved from <http://www.dtra.mil/Missions/Partnering/CooperativeThreatReductionProgram.aspx> on July 24, 2015.
- 398 CDC response to HHS OIG data call, CDC IG Questionnaire for HHS Q3, July 7, 2015, p. 7; CDC, Global Disease Detection Operations Center – What We Do, June 3, 2015, retrieved from <http://www.cdc.gov/globalhealth/healthprotection/ghsb/gddopscenter/what.htm> on July 16, 2015; J. Borchert, J. Tappero, R. Downing, T. Shoemaker, P. Behumblize, J. Aceng, “Rapidly Building Global Health Security Capacity – Uganda Demonstration Project, 2013,” Morbidity and Mortality Weekly Report, January 31, 2015.
- 399 USAID, Emerging Pandemic Threats Program EPT-2, November 25, 2014, retrieved from <http://www.usaid.gov/ept2> on July 16, 2015.
- 400 National Academy of Sciences, Global Health Security and Global Health Security Agenda, August 4, 2014, retrieved from http://www.cdc.gov/globalhealth/security/pdf/ghs_ghsa.pdf on July 24, 2015.
- 401 GlobalHealth.gov, Global Health Security Agenda Launch, retrieved from <http://www.globalhealth.gov/global-health-topics/global-health-security/ghsagenda-launch.html> on July 24, 2015; White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014.
- 402 White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014.
- 403 The Group of 7 (G-7) is a group consisting of representatives of the following seven countries: Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.
- 404 White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014; White House, Fact Sheet: The 2015 G-7 Summit at Schloss Elmau, Germany, June 8, 2015.

- 405 White House, Fact Sheet: Global Health Security Agenda: Getting Ahead
of the Curve on Epidemic Threats, September 26, 2014.
- 406 USAID OIG meeting with USAID Global Health Security group, June 16,
2015.
- 407 Global Health Security Agenda, Global Health Security Agenda: Action
Packages, 2014, retrieved from [http://www.cdc.gov/globalhealth/
security/pdf/ghsa-action-packages_24-september-2014.pdf](http://www.cdc.gov/globalhealth/security/pdf/ghsa-action-packages_24-september-2014.pdf) on July 27,
2015; GlobalHealth.gov, Global Health Security Agenda: Concepts and
Objectives, retrieved from [http://www.globalhealth.gov/global-health-
topics/global-health-security/ghsconceptsandobj.html](http://www.globalhealth.gov/global-health-topics/global-health-security/ghsconceptsandobj.html) on July 17, 2015.
- 408 GlobalHealth.gov, Global Health Security Agenda: Concepts and
Objectives, retrieved from [http://www.globalhealth.gov/global-health-
topics/global-health-security/ghsconceptsandobj.html](http://www.globalhealth.gov/global-health-topics/global-health-security/ghsconceptsandobj.html) on July 24, 2015.
- 409 GlobalHealth.gov, Global Health Security Agenda: Concepts and
Objectives, retrieved from [http://www.globalhealth.gov/global-health-
topics/global-health-security/ghsconceptsandobj.html](http://www.globalhealth.gov/global-health-topics/global-health-security/ghsconceptsandobj.html) on July 24, 2015.
- 410 GlobalHealth.gov, Global Health Security Agenda: Concepts and
Objectives, retrieved from [http://www.globalhealth.gov/global-health-
topics/global-health-security/ghsconceptsandobj.html](http://www.globalhealth.gov/global-health-topics/global-health-security/ghsconceptsandobj.html) on July 24, 2015.
- 411 White House, Fact Sheet: Global Health Security Agenda: Getting Ahead
of the Curve on Epidemic Threats, September 26, 2014.
- 412 Global Health Security Agenda, Global Health Security Agenda: Action
Packages, 2014, retrieved from [http://www.cdc.gov/globalhealth/security/
pdf/ghsa-action-packages_24-september-2014.pdf](http://www.cdc.gov/globalhealth/security/pdf/ghsa-action-packages_24-september-2014.pdf) on July 27, 2015.
- 413 CDC response to HHS OIG data call, July 7, 2015, p. 7.
- 414 CDC Press Release, CDC versus Ebola: The Road to Zero, July 9, 2015.
- 415 USAID, Fact Sheet: Emerging Pandemic Threats 2 Program, April 15,
2015.
- 416 USAID, Fact Sheet: PREDICT 2, November 2014.
- 417 USAID, Fact Sheet: PREDICT 2, November 2014.
- 418 USAID, Fact Sheet: PREDICT 2, November 2014.
- 419 USAID, Fact Sheet: PREDICT 2, November 2014.
- 420 S. Cutler, A. Fooks, W. van der Poel, "Public Health Threat of New,
Reemerging, and Neglected Zoonoses in the Industrialized World,"
Emerging Infectious Diseases, January 2010.
- 421 S. Cutler, A. Fooks, W. van der Poel, "Public Health Threat of New,
Reemerging, and Neglected Zoonoses in the Industrialized World,"
Emerging Infectious Diseases, January 2010.
- 422 J. Viegas, "Ebola's Deadly Jump From Animal to Animal," Discovery
News, July 30, 2014.
- 423 S. Funk and P. Piot, "Epidemiology: Mapping Ebola in wild animals for
better disease control," eLife, September 19, 2014.
- 424 USAID Bureau for Economic Growth, Education and Environment

- response to USAID OIG request for information, DTRA Overview 2014 EVD USAID, June 9, 2015.
- 425 CDC, Global Health Security Agenda: GHSA Biosafety and Biosecurity Action Package (GHSA Action Package Prevent-3), December 24, 2014, retrieved from http://www.cdc.gov/globalhealth/security/actionpackages/biosafety_and_biosecurity.htm on July 24, 2015.
- 426 Center for Disaster and Humanitarian Assistance Medicine, Cooperative Biological Engagement Program (CBEP), retrieved from <http://www.cdham.org/cooperative-biological-engagement-program-pakistan> on July 17, 2015.
- 427 DoD response to DoD OIG data call, July 16, 2015, p. 6.
- 428 DoD response to DoD OIG data call, July 16, 2015, p. 6.
- 429 Biological Engagement Program, Biosafety and Biosecurity, retrieved from <http://bepstate.net/biosafety-security> on July 17, 2015.
- 430 PREDICT Consortium, Reducing Pandemic Risk, Promoting Global Health, December 2014, pp. 17-20.
- 431 CDC response to HHS OIG data call, July 7, 2015, p. 7.
- 432 CDC response to HHS OIG data call, July 7, 2015, p. 8.
- 433 USAID, One Health Workforce (OHW), November 2014.
- 434 USAID, One Health Workforce (OHW), November 2014.
- 435 Armed Forces Health Surveillance Center, About Us, retrieved from <http://www.afhsc.mil/Home/About> on July 16, 2015; DoD response to DoD OIG data call, July 16, 2015, p. 8.
- 436 Armed Forces Health Surveillance Center, Global Emerging Infections Surveillance and Response System, retrieved from <http://www.afhsc.mil/Home/Divisions/GEIS> on July 16, 2015; DoD response to DoD OIG data call, July 16, 2015, p.8.
- 437 Armed Forces Health Surveillance Center 2014/2015 Report, pp. 24 and 26.
- 438 CDC response to HHS OIG data call, July 7, 2015, p. 4; CDC Press Release. African Union and U.S. CDC Partner to Launch African CDC, April 13, 2015.
- 439 CDC Press Release. African Union and U.S. CDC Partner to Launch African CDC, April 13, 2015.
- 440 CDC response to HHS OIG data call, July 7, 2015, p. 7.
- 441 USPHS response to HHS OIG data call, July 7, 2015, p. 1.
- 442 USAID, Ebola Response and Preparedness Section 9004 Report to Congress, February 2015; USAID, Global Health Bureau response to USAID OIG request for information, June 25, 2015.
- 443 USAID, Preparedness and Response (P&R), November, 2014.
- 444 USAID, Preparedness and Response (P&R), November, 2014.
- 445 WHO, Nigeria is now free of Ebola virus transmission, October 20, 2014.
- 446 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku,

- "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 447 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku, "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 448 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku, "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 449 WHO, Nigeria is now free of Ebola virus transmission, October 20, 2014.
- 450 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku, "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 451 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku, "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 452 F. Shuaib, R. Gunnala, E. Musa, F. Mahoney, O. Oguntimehin, P. Nguku, "Ebola Virus Disease Outbreak – Nigeria, July – September 2014," Morbidity and Mortality Weekly Report, October 3, 2014.
- 453 USAID, Response to USAID OIG Request for Information, July 30, 2015.
- 454 WHO, Nigeria is now free of Ebola virus transmission, October 20, 2014.
- 455 White House, Fact Sheet: Emergency Funding Request to Enhance the U.S. Government's Response to Ebola at Home and Abroad, November 5, 2014.
- 456 DARPA, "Breakthrough Technologies for National Security," March 2015, p. 8, <http://www.darpa.mil/attachments/DARPA%202015%20FINAL.pdf>.
- 457 Executive Order -- Ordering the Selected Reserve and Certain Individual Ready Reserve Members of the Armed Forces to Active Duty, October 16, 2014.
- 458 U.S. Army Reserve Command, "The U.S. Army Reserve Mobilizes in Support of Ebola Relief Efforts," November 17, 2014.
- 459 Letter from the Chair of the Council of Inspectors General for Integrity and Efficiency (CIGIE) to the DoD IG, February 26, 2015.
- 460 Letter from the DoD IG to USAID Acting Deputy IG, February 27, 2015.
- 461 IG Act of 1978, as amended, (5 U.S.C. App.), Section 8L(2)(e)
- 462 IG Act of 1978, as amended, (5 U.S.C. App.), Section 8L(2)(e).
- 463 DoD OIG, Response to USAID OIG Data Call, July 16, 2015.
- 464 DOS OIG, Response to USAID OIG Data Call, July 14, 2015.
- 465 HHS OIG, Response to USAID OIG Data Call, July 10, 2015.
- 466 DoD OIG, Response to Data Call, July 13, 2015.
- 467 DoD OIG, Response to Data Call, July 13, 2015.
- 468 DoD OIG, Response to Data Call, July 13, 2015.
- 469 HHS OIG, Response to USAID OIG Data Call, July 10, 2015.

- 470 HHS OIG, Response to USAID OIG Data Call, July 10, 2015.
- 471 DHS OIG, Responses to USAID OIG Data Call, July 14, 2015, July 15, 2015, and July 27, 2015.
- 472 DHS OIG, Response to USAID OIG Data Call, July 14, 2015.
- 473 DHS OIG, Response to USAID OIG Data Call, July 14, 2015.
- 474 DOS OIG, Response to USAID OIG Data Call, July 14, 2015.
- 475 GAO, engagement notification letter, June 18, 2015.
- 476 DoD OIG, Response to USAID OIG Data Call, July 13, 2015.
- 477 DoD OIG, Responses to USAID OIG Data Call, July 13, 2015, and July 24, 2015.
- 478 DoD OIG, Response to USAID OIG Data Call, July 13, 2015.
- 479 DoD OIG, Response to USAID OIG Data Call, July 13, 2015
- 480 DoD OIG, Responses to USAID OIG Data Call, July 13, 2015, and July 24, 2015.
- 481 WHO, Origins of the 2014 Ebola epidemic: One year into the Ebola epidemic, January 2015.
- 482 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 483 WHO, One year into the Ebola epidemic – Origins of the 2014 Ebola epidemic, January 2015, Chapter 2.
- 484 GlobalHealth.gov, Global Health Security Agenda Launch, retrieved from <http://www.globalhealth.gov/global-health-topics/global-health-security/ghsagenda-launch.html> on July 24, 2015; White House, Fact Sheet: Global Health Security Agenda: Getting Ahead of the Curve on Epidemic Threats, September 26, 2014.
- 485 WHO, Origins of the 2014 Ebola epidemic: One year into the Ebola epidemic, January 2015.
- 486 WHO, Ebola virus disease in Guinea, March 23, 2014.
- 487 CDC, Previous Updates: 2014 West Africa Outbreak, March 26, 2014.
- 488 WHO, Key Events in the WHO Response to the Ebola Outbreak: One year into the Ebola epidemic, January 2015, chapter 7; M. Dixon, I. Schafer, “Ebola Viral Disease Outbreak – West Africa, 2014,” Morbidity and Mortality Weekly Report, June 27, 2014.
- 489 WHO, The Ebola outbreak in Liberia is over, May 9, 2015.
- 490 M. Dixon, I. Schafer, “Ebola Virus Disease Outbreak – West Africa, 2014,” Morbidity and Mortality Weekly Report, June 27, 2014.
- 491 MSF Canada, Ebola in Africa: The epidemic is out of control, June 23, 2014.
- 492 CDC Response to HHS OIG Data Call, April 7, 2015.
- 493 WHO, Ebola Virus Disease, West Africa—update July 29, 2014, July 29, 2014; Y. Ibukun and E. Bala-Gbogbo, “Ebola Kills Liberian in Nigeria’s First Case in Megacity Lagos,” Bloomberg Business, July 26, 2014.

- 494 CDC, As W. Africa Outbreak Worsens, CDC Issues Level 3 Travel Warning, July 31, 2014.
- 495 WHO, Ebola Response Roadmap, August 28, 2014, p. 4.
- 496 MSF, Pushed to the Limit and Beyond: A Year Into the Largest Ever Ebola Outbreak, March 23, 2015, p.11; J. Achenbach, B. Dennis, and C. Hogan, "American Doctor Infected with Ebola Returns to U.S.," The Washington Post, August 2, 2014; and J. Oatis, "Chronology—Worst Ebola Outbreak On Record Tests Global Response Timeline Of The Ebola Outbreak," Reuters, October 28, 2014.
- 497 USAID, USAID West Africa – Ebola Outbreak Fact Sheet #1, Fiscal Year (FY) 2015, August 13, 2014.
- 498 USAID, West Africa-Ebola Outbreak: Fact Sheet #28, Fiscal Year 2015, April 7, 2015.
- 499 USAID, West Africa-Ebola Outbreak: Fact Sheet #28, Fiscal Year 2015, April 7, 2015; C. Roulo, DoD Establishes Ebola Task Force, August 5, 2014.
- 500 WHO, Six Months After the Ebola Outbreak was Declared: What Happens When a Deadly Virus Hits the Destitute, September 2014; L. Sun, B. Dennis, L. Bernstein, and J. Achenbach, "Out Of Control: How The World's Health Organizations Failed To Stop The Ebola Disaster," The Washington Post, October 4, 2014.
- 501 USAID, West Africa-Ebola Outbreak: Fact Sheet #2, Fiscal Year 2014, August 20, 2014.
- 502 USAID, West Africa-Ebola Outbreak: Fact Sheet #2, Fiscal Year 2014, August 20, 2014.
- 503 USAID, West Africa-Ebola Outbreak: Fact Sheet #2, Fiscal Year 2014, August 20, 2014.
- 504 WHO, Ebola Response Roadmap, August 28, 2014, p. 5.
- 505 CDC, Previous Updates: 2014 West Africa Outbreak, September 6, 2014.
- 506 K. Newman, "Airmen deploy to deliver Ebola treatment facility with U.S. relief package," 633rd Air Base Wing Public Affairs, September 29, 2014.
- 507 D. Flynn, "Liberian President appeals to Obama for U.S. help to beat Ebola," Reuters, September 13, 2014; H. Cooper, "Liberian President Pleads With Obama for Assistance in Combating Ebola," New York Times, September 12, 2014.
- 508 DoD response to DoD OIG Data Call, Operation United Assistance Quarterly Report – April 20 – v2; Chairman of Joint Chiefs of Staff Execute Order dated 151228Z Sep 2014.
- 509 White House Fact Sheet, "U.S. Response to the Ebola Epidemic in West Africa," September 16, 2014.
- 510 WHO, One Year Into the Epidemic of Ebola: A Deadly, Tenacious And Unforgiving Virus: Key Events In The WHO Response To The Outbreak, January 2015, p. 32.
- 511 WHO, One Year Into the Epidemic of Ebola: A Deadly, Tenacious And

- Unforgiving Virus: Key Events In The WHO Response To The Outbreak, January 2015, pp. 32, 34.
- 512 CDC, Morbidity and Mortality Weekly Report: Estimating the Future Number of Cases in the Ebola Epidemic—Liberia and Sierra Leone, 2014 – 2015, September 26, 2014.
- 513 U.S. Africa Command, Operation United Assistance: Facts, retrieved from <http://www.africom.mil/operation-united-assistance/facts> on August 4, 2015.
- 514 CDC, Previous Updates: 2014 West Africa Outbreak, October 2, 2014.
- 515 D. Greer, Kentucky Air Guard Establishes Ebola Response Cargo Hub, DoD News, October 9, 2014.
- 516 D. Maron, First Ebola Patient Dies in the U.S., Scientific American, October 8, 2014.
- 517 WHO, Ebola Virus Disease—Spain, October 9, 2014.
- 518 CDC, Cases of Ebola Diagnosed in the United States, retrieved from <http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/united-states-imported-case.html> on April 29, 2015.
- 519 CDC, Airport Exit and Entry Screening for Ebola – August-November 10, 2014, Morbidity and Mortality Weekly Report, December 12, 2014.
- 520 White House, Executive Order -- Ordering the Selected Reserve and Certain Individual Ready Reserve Members of the Armed Forces to Active Duty, October 16, 2014.
- 521 WHO, *WHO Congratulates Senegal on Ending Ebola Transmission*, October 17, 2014.
- 522 WHO, *Nigeria is now free of Ebola virus transmission*, October 20, 2014.
- 523 CDC, *Previous Updates: 2014 West Africa Outbreak*, October 25, 2014.
- 524 USAID, First U.S.-Constructed Ebola Treatment Unit Set to Open in Liberia, November 10, 2014.
- 525 U.S. Army Reserve Command, *The U.S. Army Reserve Mobilizes in Support of Ebola Relief Efforts*, November 17, 2014; and DOD OIG, Response to USAID OIG Information Request, May 6, 2015.
- DoD OIG response to USAID OIG Information Request, May 6, 2015.
- 526 U.S. Army Reserve Command, *The U.S. Army Reserve Mobilizes in Support of Ebola Relief Efforts*, November 17, 2014; and DOD OIG, Response to USAID OIG Information Request, May 6, 2015.
- DoD OIG response to USAID OIG Information Request, May 6, 2015.
- 527 [Consolidated and Further Continuing Appropriations Act, 2015](#), P.L. 113-235, Division A, Title VIII; Division C, Title X; Division G, Title VI; and Division J, Title IX.
- 528 WHO, *Government of Mali and WHO Announce the End of the Ebola Outbreak in Mali*, January 18, 2015.
- 529 C. Pellerin, U.S. Added Speed, Scale to West Africa Ebola Fight, DoD News, February 27, 2015.

- 530 White House, *Fact Sheet: Progress in Our Ebola Response at Home and Abroad*, February 2, 2015.
- 531 White House, *Fact Sheet: Progress in Our Ebola Response at Home and Abroad*, February 11, 2015; BBC News, *Ebola Crisis: First Major Vaccine Trials in Liberia*, February 2, 2015.
- 532 World Bank Group, *On Ebola Response and Recovery*, World Bank and Partners Keep Pressure On, April 16, 2015.
- 533 USAID, *West Africa – Ebola Outbreak Fact Sheet # 32 (FY 15)*, May 28, 2015.
- 534 CDC Newsroom, *Liberia Travel Alert Revised from Level 3 to Level 2: “Practice Enhanced Precautions”*, May 4, 2015.
- 535 WHO, *The Ebola Outbreak in Liberia is Over*, May 9, 2015.
- 536 WHO, *World Health Assembly Gives WHO Green Light to Reform Emergency Response Program*, May 23, 2015.
- 537 USAID, *USAID West Africa – Ebola Outbreak Fact Sheet #35, Fiscal Year (FY) 2015*, June 16, 2015.
- 538 C. MacDougall, “New Cases of Ebola Put an End to Liberia’s Status as Virus-free,” *New York Times*, June 30, 2015; J. Paye-Layleh, “Liberia Official Says Corpse Tests Positive for Ebola,” *ABC News*, June 29, 2015; CDC, *Response to HHS OIG Request for Information*, July 29, 2015.
- 539 DoD OIG, *Memorandum for Director of the Joint Staff Termination of OUA*, July 24, 2015.
- 540 U.S. Department of State and USAID, *Strategic Plan, FY2014-FY2017*, p. 6.
- 541 White House, *Emergency Funding Request to Enhance the U.S. Government’s Response to Ebola at Home and Abroad*, November 5, 2014.
- 542 USAID, *Response to OIG Information Request, Information on Ebola Task Force and Secretariat*, January 29, 2015; and USAID, *Fact Sheet #1, West Africa – Ebola Outbreak*, August 14, 2014.
- 543 USAID response to USAID Office of Inspector General request for information, July 14, 2015.
- 544 USAID, *Responses to OIG Information Requests*, April 17, 2015, and May 1, 2015.
- 545 USAID response to USAID Office of Inspector General request for information, July 14, 2015.
- 546 USAID, *Agency Notice: Establishment of the Africa Ebola Unit*, March 19, 2015; USAID, *Responses to OIG Information Request*, May 1, 2015.
- 547 USAID, *Bureau for Food Security*, accessed July 24, 2015, <http://www.usaid.gov/who-we-are/organization/bureaus/bureau-food-security>
- 548 USAID, *Announcement: The Feed The Future Ebola Recovery Partnership In West Africa Request For Partnership Concept Papers No. RFA-OAA-15-000022*, May 19, 2015.
- 549 USAID, *Bureau for Global Health*, January 29, 2015.

APPENDIX E: ENDNOTES

- 550 USAID, *Agency Notice: Establishment of the Global Health Ebola Team (GHET)*, May 8, 2015, <https://notices.usaid.gov/notice/30403>
- 551 USAID, *Strategic Program Review: Health – Pillar II (Health and Grand Challenge) and Pillar IV*, July 1, 2015.
- 552 USAID, *Office for Food for Peace*, accessed July 30, 2015, <http://www.usaid.gov/who-we-are/organization/bureaus/bureau-democracy-conflict-and-humanitarian-assistance/office-food>
- 553 USAID, *Office for Food for Peace*, accessed July 30, 2015, <http://www.usaid.gov/who-we-are/organization/bureaus/bureau-democracy-conflict-and-humanitarian-assistance/office-food>
- 554 USAID, “Amendment No. 01 – Guinea, Liberia, and Sierra Leone Emergency Response and Recovery for Ebola Virus Disease (EVD)–Affected Countries USAID/DCHA/FFP Annual Program Statement (APS) No. FFP-15-000001 International Emergency Food Assistance,” March 25, 2015, p. 2.
- 555 USAID OIG meeting with FFP representatives, June 4, 2015.
USAID, June Report Program Listing, Ebola Obligations and Expenditures, July 22, 2015, p. 8; USAID response to USAID OIG Request for Information, presentation dated July 1, 2015.
- 556 USAID, Response to OIG Information Request, Information on Ebola Task Force and Secretariat, January 29, 2015.
- 557 USAID, *U.S. Global Development Lab*, accessed July 24, 2015, <http://www.usaid.gov/GlobalDevLab>
- 558 USAID, *The Lab’s Contribution to USAID’s Ebola Efforts*, July 21, 2015.
- 559 K. Newman, “Airmen deploy to deliver Ebola treatment facility with U.S. relief package,” *633rd Air Base Wing Public Affairs*, September 29, 2014.
- 560 C. Pellerin, “Obama to Announce Africom Joint Force Command HQ in Liberia,” *DoD News - Defense Media Activity*, September 16, 2014.
- 561 Assistant Secretary of Defense, *Memorandum for the Director of the Joint Staff: Termination of Operation UNITED ASSISTANCE (OUA)*, June 29, 2015.
- 562 CDC, *Mission, Role, and Pledge*, retrieved from <http://www.cdc.gov/about/organization/mission.htm> on April 24 2015.
- 563 CDC, Response to USAID OIG Information Request, April 8, 2015.
- 564 USAID OIG meeting with USAID Global Health Security group, June 16, 2015.
- 565 FDA, *2014 Ebola Virus Emergency Use Authorizations*, retrieved from <http://www.fda.gov/MedicalDevices/Safety/EmergencySituations/ucm161496.htm> on July 23, 2015; FDA, May 12, 2015: Vaccines and Related Biological Products Advisory Committee Meeting Announcement, retrieved from <http://www.fda.gov/AdvisoryCommittees/Calendar/ucm438627.htm> on July 23, 2015; HHS response to USAID OIG request for Information, July 20, 2015.
- 566 NIH, *Mission*, May 15, 2013, retrieved from <http://www.nih.gov/about/mission.htm> accessed April 26, 2015.

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- 567 Public Health Emergency, *Office of the Assistant Secretary for Preparedness and Response (ASPR)*, retrieved on <http://www.phe.gov/about/aspr/pages/default.aspx> on April 24, 2015.
- 568 HHS OIG, Responses to USAID OIG Information Request, April 7, 2015.
- 569 ASPR/BARDA response to HHS OIG request for information, July 7, 2015, p. 4, 6.
- 570 USPHS, *Mission and Core Value*, February 3, 2014 retrieved from <http://www.usphs.gov/aboutus/mission.aspx> on April 26, 2015.
- 571 HHS, *U.S. Public Health Service Commissioned Corps to help treat Ebola patients in Liberia*, September 16, 2014.
- 572 DoS, "Response to Ebola Virus," retrieved from <http://www.state.gov/p/af/rt/health/ebola/> accessed on April 27, 2015.
- 573 DOS OIG, Response to USAID OIG Information Request, May 5, 2015; and USAID, Section 9004 Ebola Response and Preparedness Report to Congress for February 2015; Biological Engagement Program, Biosafety and Biosecurity, retrieved from <http://bepstate.net/biosafety-security> on July 17, 2015.



TO REPORT FRAUD, WASTE, OR ABUSE RELATED TO EBOLA PROGRAMS AND OPERATIONS, CONTACT:

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Department of Defense Hotline
dodig.mil/hotline
1-800-424-9098

Department of State Hotline
oighotline@state.gov
1-800-409-9926 or 202-647-3320

Department of Health and Human Services
oig.hhs.gov/report-fraud
1-800-HHS-TIPS (1-800-447-8477)

