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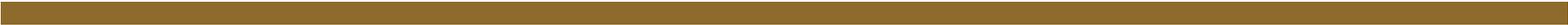
HHS Office of  
Inspector General

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)*



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

June 30, 2015

# FOREWORD

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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

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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.

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

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Catherine M. Trujillo, Acting Deputy Inspector General, USAID  
Associate IG for Operation United Assistance

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Daniel R. Levinson, Inspector General, HHS

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Steve A. Linick, Inspector General, DOS

# INTRODUCTORY MESSAGE

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## 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

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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  
Inspector General  
U.S. Department of Defense

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

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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

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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

# EXECUTIVE SUMMARY

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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

# EXECUTIVE SUMMARY

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.

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

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

# EXECUTIVE SUMMARY

## 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

# EXECUTIVE SUMMARY

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)*

# EXECUTIVE SUMMARY

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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

# EXECUTIVE SUMMARY

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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

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## 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.<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup>

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.<sup>4</sup> 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.<sup>5</sup> 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.<sup>6</sup> 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).<sup>7</sup> 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.<sup>8</sup>

# THE OUTBREAK

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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.<sup>9</sup> Newly reported EVD cases in Guinea and Liberia declined in April and May 2014, but the virus continued to spread.<sup>10</sup> Sierra Leone reported its first EVD case on May 24, 2014.<sup>11</sup> On June 17, 2014, the Liberian government announced that Ebola was present in its capital, Monrovia.<sup>12</sup>

## 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.<sup>13</sup> 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.<sup>14</sup> 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.<sup>15</sup> 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,

# THE OUTBREAK

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and bruising from blood vessels leaking. Both internal and external bleeding can occur.<sup>16</sup>

The Ebola virus is highly infectious, as a low dose of the virus is sufficient to cause the disease.<sup>17</sup> 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.<sup>18</sup> 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.<sup>19</sup>

The Ebola strain causing the epidemic in West Africa was identified as the Zaire strain, the most lethal strain in the Ebola family.<sup>20</sup> 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.<sup>21</sup> In this EVD outbreak, the average incubation period has been about 11 days, with 95 percent of patients presenting symptoms within 21 days.<sup>22</sup>

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.<sup>23</sup> 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.<sup>24</sup> As a result of these and other factors, the outbreak continued to grow.

# THE OUTBREAK

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By June 23, 2014, WHO reported a cumulative total of 618 EVD cases and 357 deaths across the three countries.<sup>25</sup> 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.<sup>26</sup>

As the EVD outbreak became more severe, WHO declared it a “public health emergency of international concern” on August 8, 2014.<sup>27</sup> By August 31, 2014, WHO reported 3,685 probable, confirmed, or suspected EVD cases, and 1,841 deaths in Guinea, Liberia, and Sierra Leone.<sup>28</sup>

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.<sup>29</sup> 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.<sup>30</sup> UNMEER was established as a temporary body tasked with coordinating planning and response activities and addressing the larger socioeconomic effects of the EVD outbreak.<sup>31</sup>

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.<sup>32</sup>

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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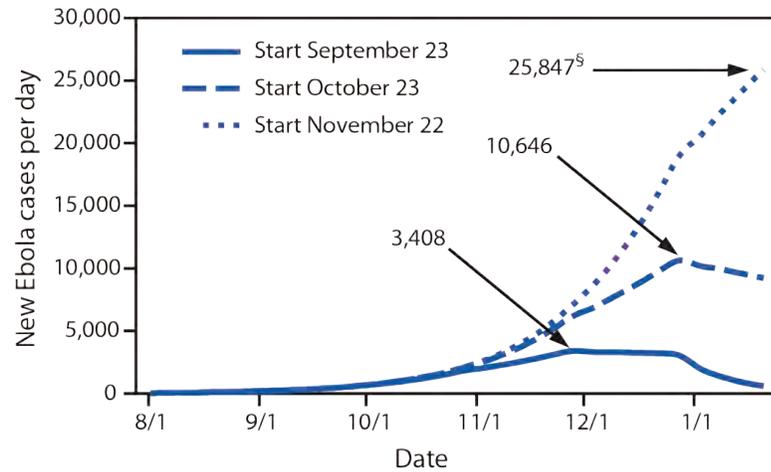


Figure 1: The figure above shows the estimated impact of intensified response efforts to control the EVD outbreak applied at different points in time based on models used by CDC in September 2014. The different trajectories correspond to different prospective start dates for increased interventions and 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.<sup>33</sup> From April to the end of June 2015, the number of new confirmed EVD cases per week declined further to 20 cases.<sup>34</sup> From the end of March until June 2015, Liberia reported no new EVD cases.<sup>35</sup>

## 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.<sup>36</sup> 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.<sup>37</sup>

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.<sup>38</sup> 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.<sup>39</sup> 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.<sup>40</sup> 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.<sup>41</sup> 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.<sup>42</sup>



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

# THE OUTBREAK

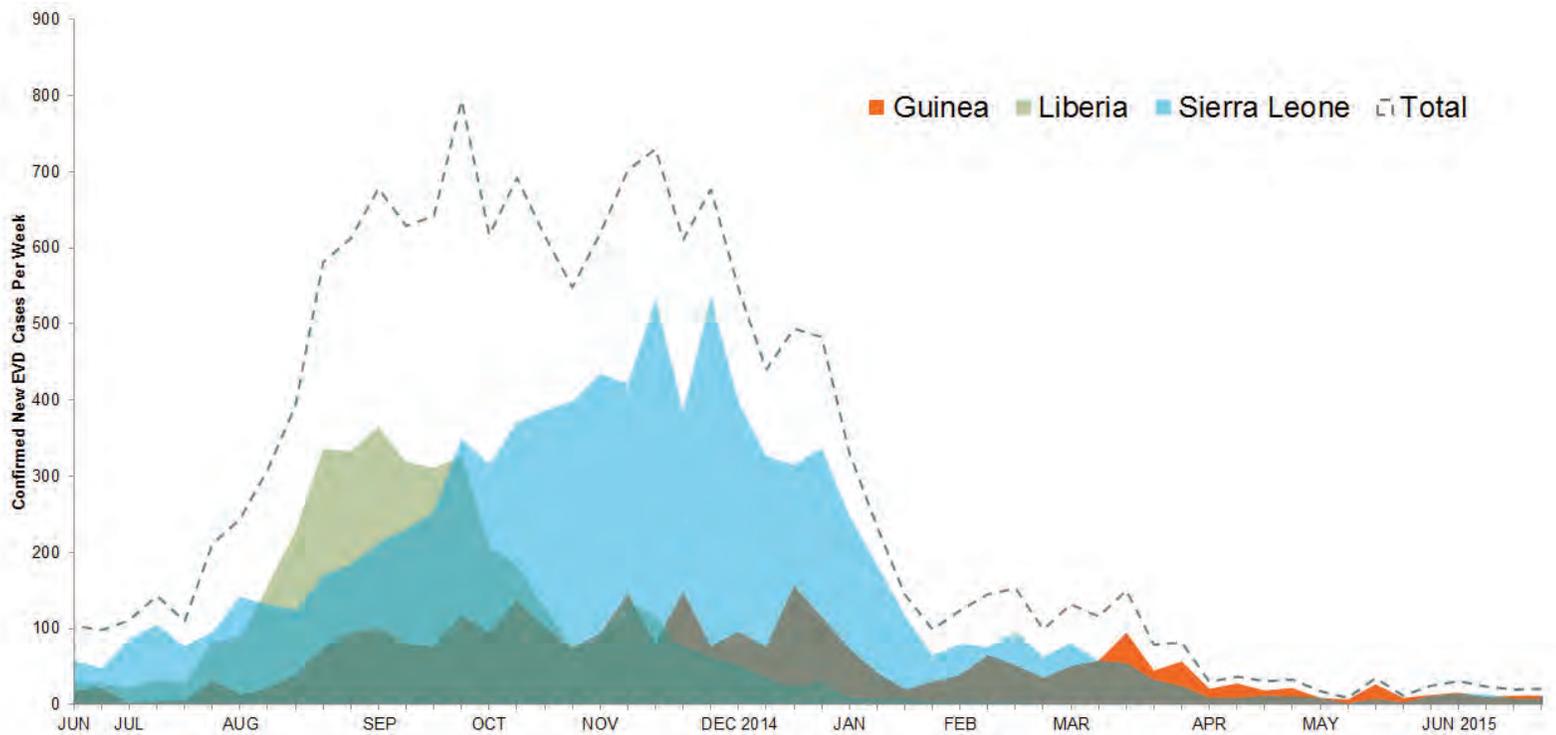


Figure 3: Reported new cases of Ebola per week, June 2014 – June 2015 (Source: CDC/WHO, July 2015)

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).<sup>43</sup> The number of new EVD deaths per week also dropped over this period, from 19 to 9.<sup>44</sup> By the end of the reporting period, EVD cases were reported in three prefectures, including the capital, Conakry.<sup>45</sup> Responders have expressed particular concern about EVD cases in Guinean prefectures near neighboring Guinea-

# THE OUTBREAK

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

Responders face ongoing challenges, including undetected chains of transmission, community resistance, and the continuing use of unsafe burial practices.<sup>47</sup> 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.<sup>48</sup> Some communities in Guinea responded with hostility, fearing that foreign health responders were spreading the disease.<sup>49</sup>

Community resistance has reportedly been more pronounced in Guinea than in neighboring countries grappling with EVD.<sup>50</sup> 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.<sup>51</sup> In April 2015, community members in Boffa attacked Guinean Red Cross staff and damaged the only operable ambulance in the prefecture.<sup>52</sup> 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.<sup>53</sup>

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.<sup>54</sup> 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.<sup>55</sup> At the end of June, international media reported

# THE OUTBREAK

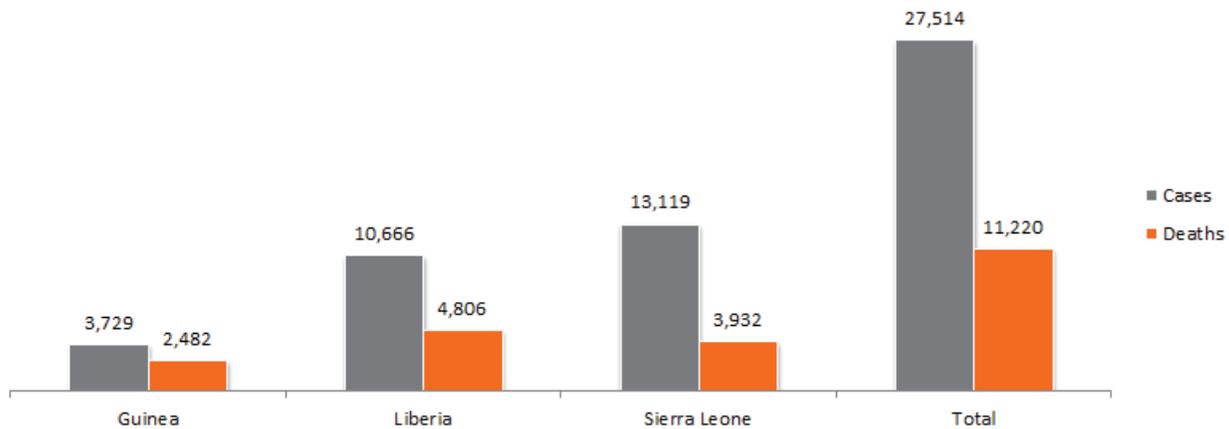


Figure 4: Number of suspected, probable, and confirmed cases of EVD and deaths as of June 30, 2015. The reported deaths are a subset of the number of cases. (Source: WHO, July 1, 2015)

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

## LIBERIA

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

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.<sup>59</sup> 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.<sup>60</sup> The incidence of new cases dropped to less than ten cases per week

# THE OUTBREAK

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in January 2015, and continued to decrease until there were no confirmed cases on March 28, 2015.<sup>61</sup>

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.<sup>62</sup> 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.<sup>63</sup>

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.<sup>64</sup> 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.<sup>65</sup>

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.<sup>66</sup>

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.<sup>67</sup>

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.<sup>68</sup>

## 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.<sup>69</sup> The outbreak peaked in Sierra Leone in November 2014, when 375–550 cases were reported a week.<sup>70</sup> These figures declined over the following 2 months with the number of new cases a week dropping below 100 by February 2015.<sup>71</sup> 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.<sup>72</sup> 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.<sup>73</sup>

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).<sup>74</sup> The number of confirmed EVD fatalities per week also dropped over the period from 32 to 4.<sup>75</sup> 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.<sup>76</sup> 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.<sup>77</sup>

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.<sup>78</sup> 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.<sup>79</sup>

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.<sup>80</sup> 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.<sup>81</sup> 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.<sup>82</sup> 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.<sup>83</sup>

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.<sup>84</sup> 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.<sup>85</sup> Responders also renewed anti-EVD efforts in the Western Area Urban District, which includes Freetown.<sup>86</sup> 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.<sup>87</sup>

## **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.<sup>88</sup> 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.<sup>89</sup>

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.<sup>90</sup> In addition, WHO is responsible for providing aid and technical assistance to countries during emergencies upon the request of host governments.<sup>91</sup>

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.<sup>92</sup>

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.<sup>93</sup> 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.<sup>94</sup> 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.<sup>95</sup>

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."<sup>96</sup> 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.<sup>97</sup>

At the 68<sup>th</sup> 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.<sup>98</sup> 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.<sup>99</sup>

## 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**

<b>Indicators</b>	<b>Guinea</b>	<b>Liberia</b>	<b>Sierra Leone</b>
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*

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## 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.<sup>100</sup> 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



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

80 percent.<sup>101</sup> More than 18,200 children have reportedly lost one or both parents or primary caregivers to EVD.<sup>102</sup> Child survivors of EVD have also been stigmatized, and there have been reports of children shunned by their relatives and communities as a result.<sup>103</sup> 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.<sup>104</sup> 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.<sup>105</sup> 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.<sup>106</sup>

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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.<sup>107</sup> Schools in Liberia reopened in phases in February and March 2015, and Sierra Leone reopened schools in April 2015.<sup>108</sup>

## 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.<sup>109</sup> In 2013, Guinea, Liberia, and Sierra Leone spent \$7, \$14, and \$11 per person on health services, respectively.<sup>110</sup> When EVD spread, the health institutions in these countries were quickly overwhelmed and the quality and availability of care deteriorated.<sup>111</sup>

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.<sup>112</sup> In Liberia, the utilization of primary health care services in 2014 decreased by 39 percent in comparison with 2013.<sup>113</sup> Sixty percent of HIV/AIDS care centers in the country reportedly closed after the onset of the outbreak.<sup>114</sup> In Guinea, an estimated 74,000 cases of malaria went untreated in 2014.<sup>115</sup>

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.<sup>116</sup> At the time, the UN Population Fund estimated that more than 120,000 women could die of complications from pregnancy and childbirth.<sup>117</sup> 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.<sup>118</sup> Meanwhile, in Sierra Leone, 80 percent of clinics offering services for pregnant women with HIV closed.<sup>119</sup> 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.<sup>120</sup>

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.<sup>121</sup> 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.<sup>122</sup>

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.<sup>123</sup> Years of civil war and disruption limited opportunities for formal education and reduced local workforce capacity to address health challenges of this kind.<sup>124</sup>

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

*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.*

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worker infections during this outbreak; something that had not been as prominent a feature of past EVD outbreaks.<sup>125</sup> 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.<sup>126</sup> 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.<sup>127</sup>

## 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.<sup>128</sup> 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.<sup>129</sup> The UN Development Group reported that between 2014 and 2015, poverty could increase, on average, between 7 and 16 percent in the three countries.<sup>130</sup>

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.<sup>131</sup> The World Bank estimated that, through 2015, GDP losses for the three countries would amount to \$2.2 billion.<sup>132</sup> Liberia's GDP

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growth in 2015 is now expected to amount to 0.5 percent, well below pre-Ebola growth estimates of 6.8 percent.<sup>133</sup> Guinea is projected to experience no GDP growth in 2015, compared to the pre-EVD estimates of 4.3 percent.<sup>134</sup> 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.<sup>135</sup>

The EVD outbreak has reduced economic activity, which in turn undercut employment and household income.<sup>136</sup> 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.<sup>137</sup> 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.<sup>138</sup> In Liberia, mining and service sector activities decreased as companies scaled down or suspended their operations in the country.<sup>139</sup> In Sierra Leone, formal employment declined by 50 percent in the private sector.<sup>140</sup> In Guinea, manufacturing and agricultural production declined, mining companies decreased operations and delayed projects, and exports to neighboring countries stalled.<sup>141</sup>

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.<sup>142</sup> 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.<sup>143</sup> Guinea reported a 10 percent reduction in rice production in 2014.<sup>144</sup> Agricultural activities and land preparation for the upcoming 2015-16 cropping season were underway during this quarter and will shape future yields.<sup>145</sup>

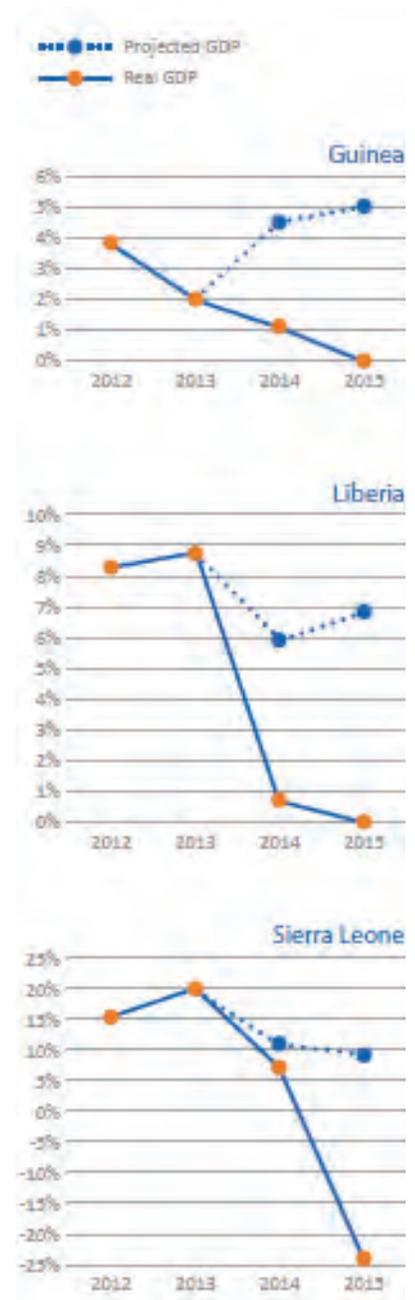


Figure 5: Economic Trends Due to the EVD Crisis in Guinea, Liberia, and Sierra Leone. (Source: Manu River Union, July 2015)

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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.<sup>146</sup> In Sierra Leone, economic activities in the country improved as many restrictions were lifted and the border with Liberia was reopened in February 2015.<sup>147</sup> 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.<sup>148</sup> 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.<sup>149</sup> 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.<sup>150</sup>

## 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.<sup>151</sup>

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.<sup>152</sup> The plan focuses on achieving these objectives by stimulating private-sector growth and diversifying exports; improving infrastructure; increasing access to and

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

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.<sup>155</sup>

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.<sup>156</sup>

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.<sup>157</sup> 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.<sup>158</sup> 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.<sup>159</sup>

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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.<sup>160</sup> 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.<sup>161</sup>

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.<sup>162</sup>

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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.<sup>163</sup> 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.<sup>164</sup> In September 2014, DoD began providing support under OUA.<sup>165</sup>

On September 16, 2014, the President announced the U.S. Government's strategy for EVD outbreak response and preparedness.<sup>166</sup> 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 Security<sup>167</sup>

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.<sup>168</sup> 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.<sup>169</sup> 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.<sup>170</sup> 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,<sup>171</sup> designated the period of availability for CDC and HHS' Public Health and Social Services Emergency Fund Ebola funding through FY 2019,<sup>172</sup> and provided that USAID Global Health, International Disaster Assistance (IDA), and FDA funding

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would be available until expended.<sup>173</sup> 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.<sup>174</sup> 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.<sup>175</sup> 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.<sup>176</sup>

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)

# THE RESPONSE

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

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.

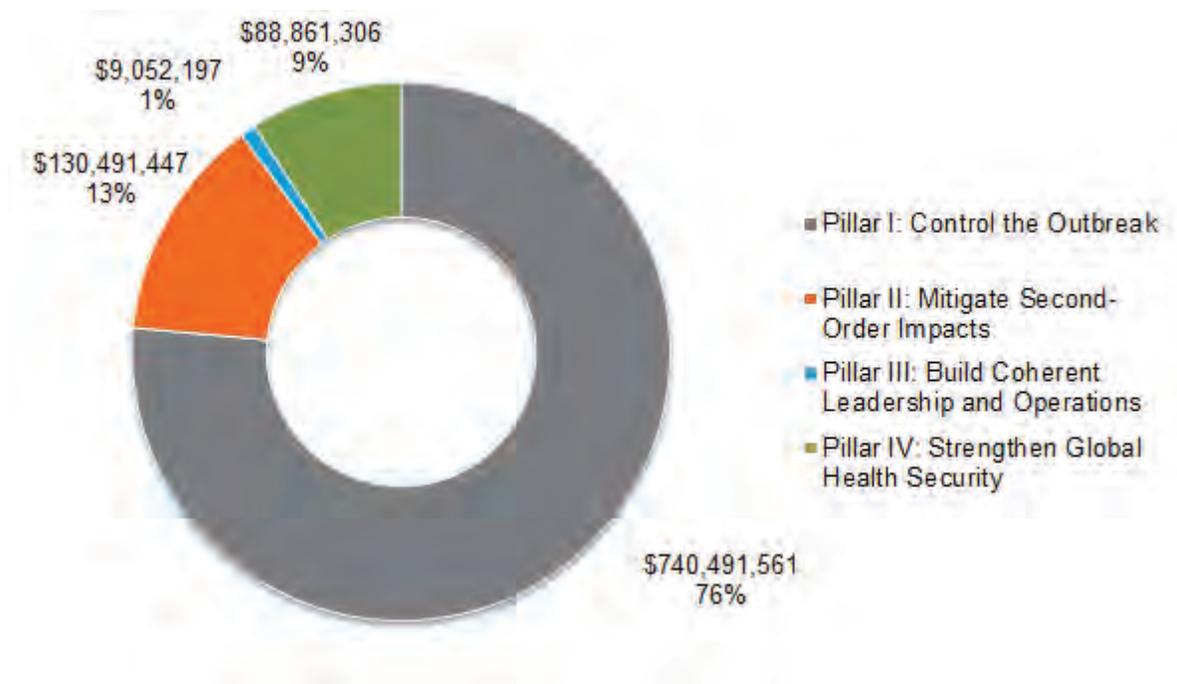


Figure 6: USAID Obligations by Pillar as of June 30, 2015 (USAID, unaudited). Percentages do not add up to 100 percent due to a rounding error.

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.<sup>177</sup>

# THE RESPONSE

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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.<sup>178</sup> 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.<sup>179</sup>

## 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

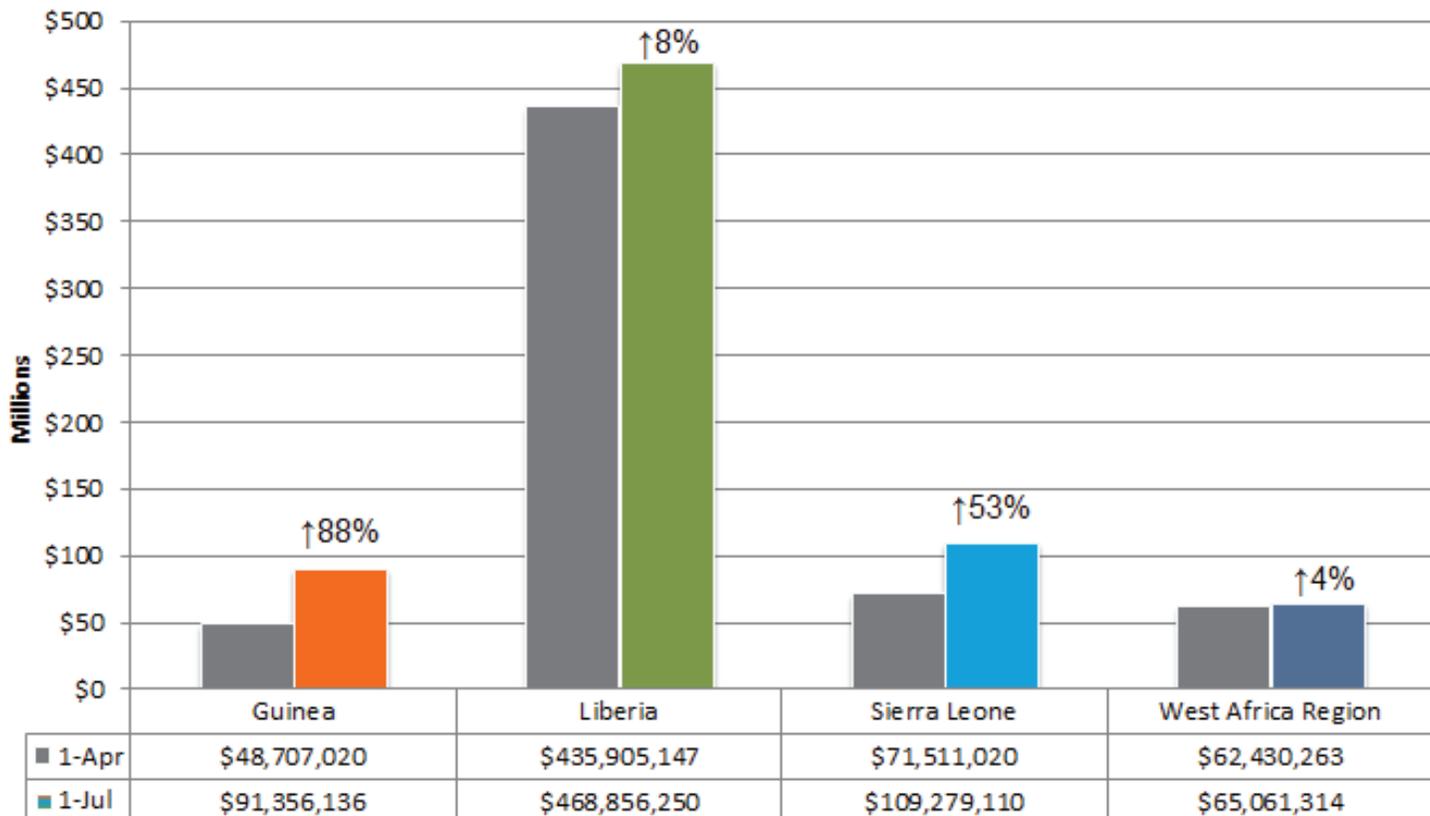


Figure 7: USAID Pillar I Obligations Through the End of the 2nd and 3rd Quarters of FY 2015 (USAID, unaudited)

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.<sup>180</sup>

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.<sup>181</sup> At the time, U.S. Government commitments exceeded the levels provided by the other top nine donors combined.<sup>182</sup>

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

# THE RESPONSE

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in helping responders halt EVD transmission.<sup>183</sup> 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.<sup>184</sup> In June 2015, Sierra Leone and Guinea launched intensified efforts to eliminate EVD in districts with active EVD transmission.<sup>185</sup>

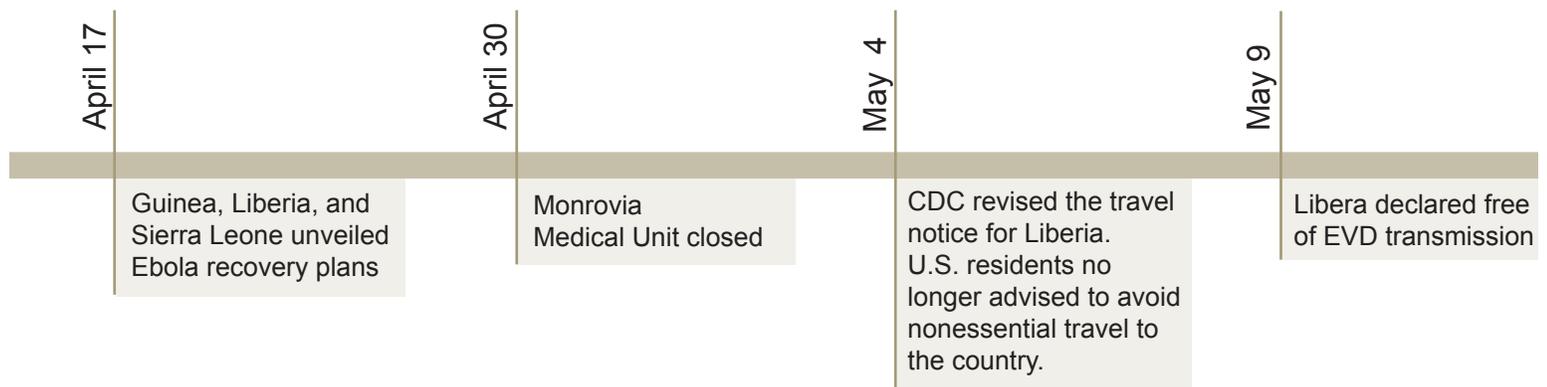
The U.S. Government's efforts to control the EVD outbreak initially focused on reducing EVD transmission in the affected countries. As the number of new EVD cases decreased in the first half of 2015, response efforts transitioned to achieving and maintaining no new cases ("getting to zero").<sup>186</sup> 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.<sup>187</sup>

# THE RESPONSE

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.<sup>188</sup> 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.<sup>189</sup> In Guinea, USAID personnel continued visiting sub-national EOCs to support coordination and management at the sites during the quarter.<sup>190</sup>

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.<sup>191</sup> 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.<sup>192</sup> 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.<sup>193</sup>

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.<sup>194</sup>

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.<sup>195</sup> 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.<sup>196</sup> 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.<sup>197</sup> By the end of June 2015, six ETUs remained operational in Liberia.<sup>198</sup> At that time, nine ETUs were operational in Sierra Leone, including three supported by the U.S. Government.<sup>199</sup>

*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

Liberia confirmed a new EVD case

June 30

OUA terminated

# THE RESPONSE

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

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.<sup>201</sup> 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.<sup>202</sup> In Sierra Leone and Guinea, USAID partner International Federation of Red Cross and Red Crescent Societies supported 55 and 104 burial teams, respectively.<sup>203</sup>

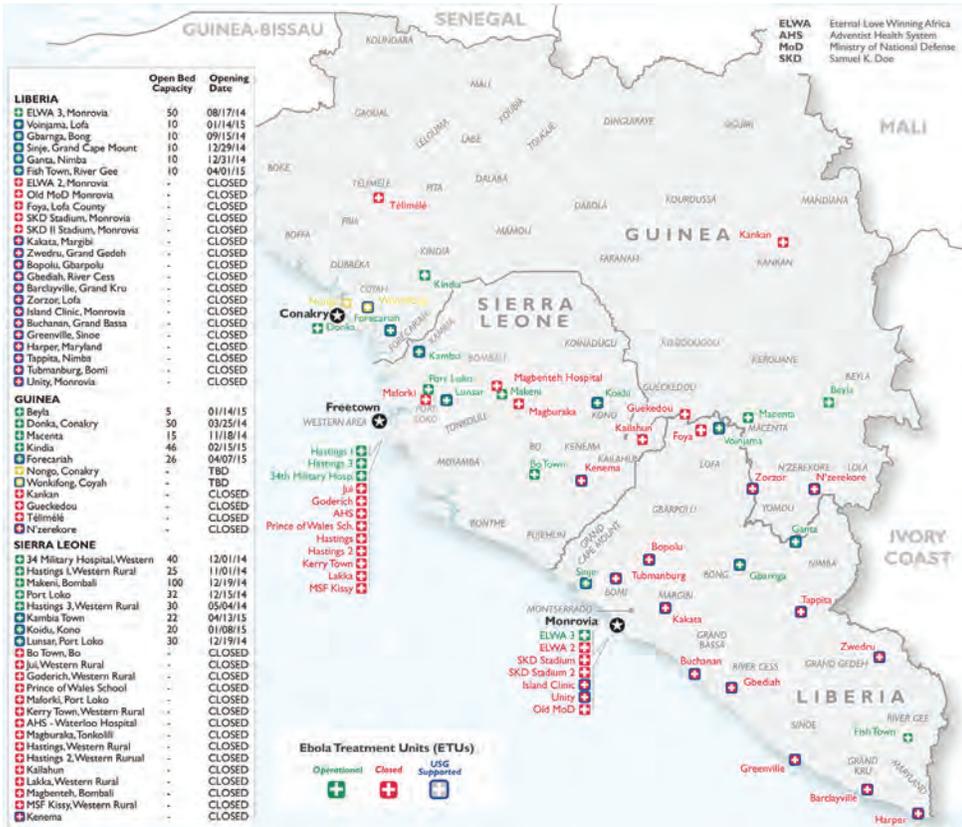


Figure 8: Location of ETUs in Guinea, Liberia, and Sierra Leone as of July 1, 2015 (WHO, 2015)

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.<sup>204</sup>

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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.<sup>205</sup> 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.<sup>206</sup>

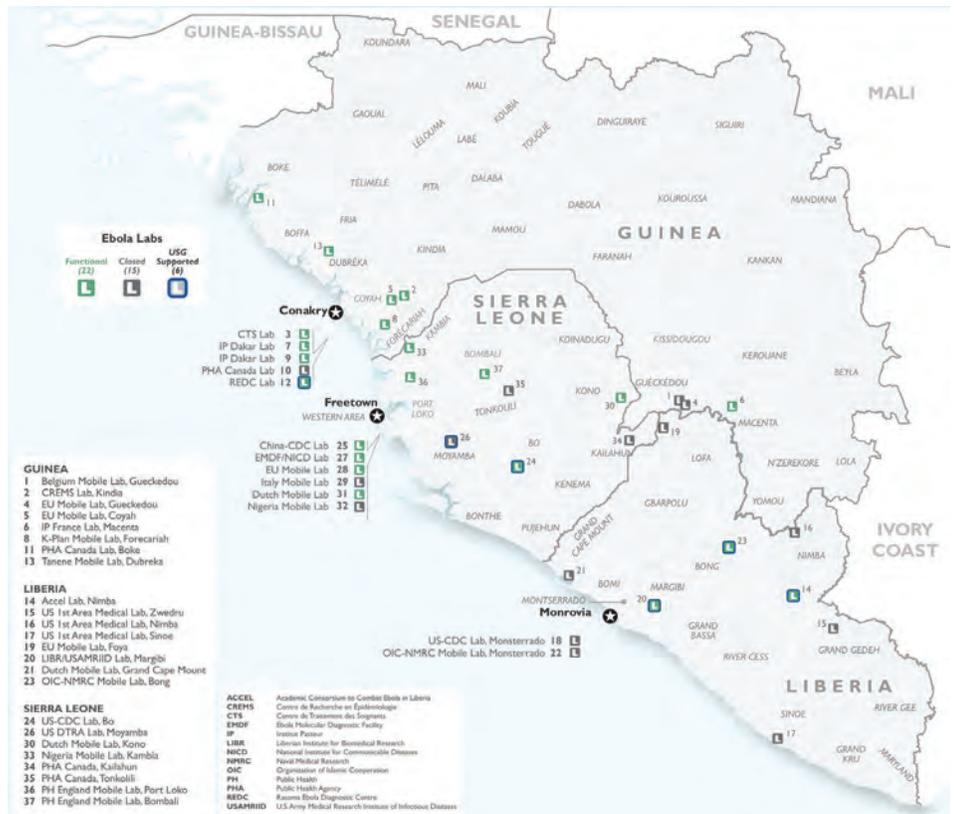


Figure 9: Location of Laboratories in Guinea, Liberia, and Sierra Leone as of July 1, 2015 (WHO, 2015)

## 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

# THE RESPONSE

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zero candidates in mid-2014 to 11 vaccine, therapeutic, and diagnostic candidates in June 2015.<sup>207</sup>

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.<sup>208</sup>

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.<sup>209</sup> Meanwhile, BARDA, NIAID, and DoD collaborated with NewLink Genetics/Merck on a recombinant vesicular stomatitis virus (VSV)-based vaccine candidate.<sup>210</sup> A study conducted by NIAID and DoD found that the VSV-vaccine candidate was safe and elicited strong antibody responses in healthy volunteers.<sup>211</sup> 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.<sup>212</sup> 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.<sup>213</sup> 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.<sup>214</sup>

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

# THE RESPONSE

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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.<sup>215</sup> 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.<sup>216</sup>

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.<sup>217</sup>

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.<sup>218</sup> 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.<sup>219</sup> 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.<sup>220</sup> 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.<sup>221</sup> 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.<sup>222</sup>

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.<sup>223</sup>

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.<sup>224</sup> 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.<sup>225</sup>

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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.<sup>226</sup> In Guinea, CDC and USAID worked with prefecture-level authorities and WHO to assist with epidemiological investigation, contact tracing, and data management activities.<sup>227</sup> 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.<sup>228</sup>

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.<sup>229</sup> USAID also provided more than 40 metric tons of EVD disinfectant to responders in the country through WFP.<sup>230</sup> According to USAID, as of mid-June, its partner IOM had trained 1,024 healthcare workers through 29 mobile training sessions.<sup>231</sup> 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.<sup>232</sup>

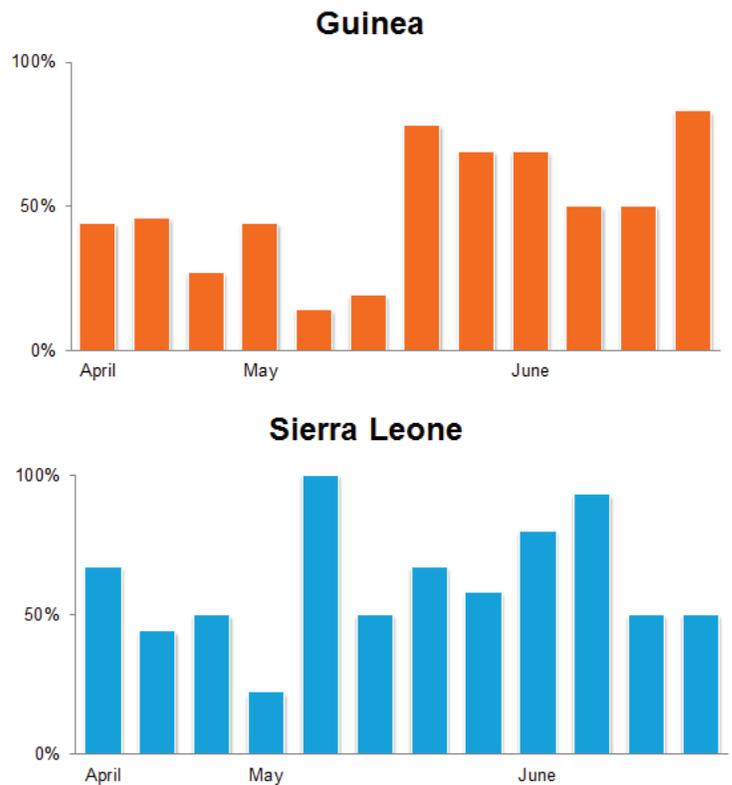


Figure 10: Contact Tracing: percentage of new confirmed cases from registered contacts in Guinea and Sierra Leone, April 20 - June 28, 2015 (WHO, June 28, 2015)

# THE RESPONSE

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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.<sup>233</sup> 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.<sup>234</sup>

## **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.<sup>235</sup> 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.<sup>236</sup>

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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.<sup>237</sup> In Sierra Leone, initial command and control of the international response effort was not under civilian leadership.<sup>238</sup>

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.<sup>239</sup> As of June 30, 2015, approximately 55 percent of USAID Ebola-related obligations had supported Liberia-based activities.<sup>240</sup>

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.<sup>241</sup> Meanwhile, CDC expanded its field presence in those countries to assist in contact tracing, case management, and community engagement activities.<sup>242</sup>

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

# THE RESPONSE

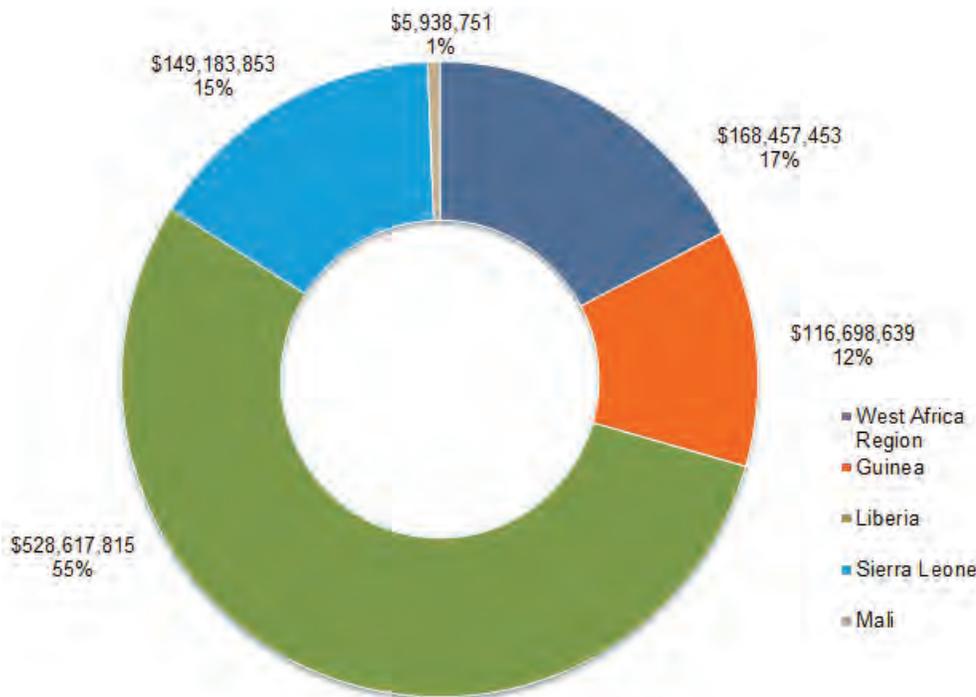


Figure 11: USAID Obligations for Ebola Emergency Response (all Pillars), by Country and West African Region as of June 30, 2015 (USAID, unaudited)

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.<sup>243</sup>

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.<sup>244</sup> Through Samaritan's Purse, USAID supported EVD awareness messaging and distribution of more than 47,000 IPC kits in six Liberian districts.<sup>245</sup> 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.<sup>246</sup> USAID also supported IOM's community-centered intervention to train 100 community and religious leaders and EVD survivors to educate their communities

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

## **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.<sup>249</sup> With USAID support, ChildFund, IMC, Save the Children, and UNICEF provided psychosocial support to EVD-affected communities.<sup>250</sup> As of June 16, 2015, UNICEF reported that it had provided psychosocial support to more than 93,000 children across Guinea.<sup>251</sup>

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.<sup>252</sup> 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.<sup>253</sup>

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.<sup>254</sup> For

# THE RESPONSE

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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.<sup>255</sup> 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.<sup>256</sup>

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.<sup>257</sup> 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.<sup>258</sup>

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.<sup>259</sup> Military personnel from the 101<sup>st</sup> Airborne Division were deployed, followed by the 48<sup>th</sup> Chemical, Biological, Radiological, and Nuclear Brigade with support from engineers from the 4<sup>th</sup> Infantry Division, a Forward Surgical Team from the 14<sup>th</sup> Combat Support Hospital, and an epidemiologist from the Uniformed Services University of Health Sciences.<sup>260</sup> The President directed the termination of OUA effective June 30, 2015.<sup>261</sup> 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.<sup>262</sup>

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	
	April 4, 2015	July 4, 2015	April 4, 2015	July 4, 2015	April 1, 2015	July 4, 2015
Total new confirmed cases over past 21 days and (average daily count of new confirmed cases over past 7 days), as of...	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.<sup>263</sup> Economic activity declined and unemployment increased.<sup>264</sup> 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.<sup>265</sup> 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 services<sup>266</sup>
- Governance and crisis mitigation
- Innovation and communication technology<sup>267</sup>

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.<sup>268</sup>

### 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.<sup>269</sup> Food prices increased while household incomes and purchasing power decreased, stressing the food security of millions and exposing others to crisis conditions.<sup>270</sup>

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.<sup>271</sup>

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.<sup>272</sup> 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.<sup>273</sup> By the end of the reporting period, these issues continued to persist and food insecurity in the country worsened.<sup>274</sup>

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.<sup>275</sup>

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.”<sup>276</sup>



*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.<sup>277</sup>

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

# THE RESPONSE

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therapeutic foods.<sup>278</sup> In Liberia and Guinea, FFP sponsored school meal programs designed to provide about 245,000 children with hot meals once a day.<sup>279</sup> 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.<sup>280</sup> 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.<sup>281</sup>

FFP's geographic engagement reportedly shifted during the quarter, as the Office placed greater emphasis on activities in Sierra Leone and Guinea.<sup>282</sup> 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.<sup>283</sup>

USAID's Bureau for Food Security plans to help mitigate the outbreak's second-order effects through the Feed the Future initiative.<sup>284</sup> 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.<sup>285</sup> 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.<sup>286</sup> During the reporting period,

# THE RESPONSE

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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.<sup>287</sup> 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.<sup>288</sup> 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.<sup>289</sup>

## 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.<sup>290</sup> Compounding the crisis, fear of contracting EVD at healthcare facilities prevented many from seeking care for non-EVD related health issues.<sup>291</sup> Health systems could not cope with routine issues such as infant delivery, maternal care, and the treatment of diseases like malaria.<sup>292</sup> 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.<sup>293</sup>

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.<sup>294</sup> 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.<sup>295</sup> 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.<sup>296</sup>

USAID has targeted several specific areas of intervention, including maternal and child health, immunization, newborn delivery and care, and social and behavior change communication.<sup>297</sup> 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.<sup>298</sup> 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.<sup>299</sup> 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.<sup>300</sup> 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.<sup>301</sup>

U.S. Government health system recovery efforts in West Africa are also focused on improving health system preparedness and response capacity.<sup>302</sup> 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.<sup>303</sup> 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.<sup>304</sup> 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.<sup>305</sup>

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.<sup>306</sup> 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.<sup>307</sup> To address these issues, USAID started assessments of related supply chains and health management information systems across the three countries.<sup>308</sup>

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.<sup>309</sup>

HHS has also assisted in this area. CDC coordinated repairs to the central public health institute in Sierra Leone, and supported increased measles immunization.<sup>310</sup> 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.<sup>311</sup>

## 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.<sup>312</sup> Mining industry activity declined and major segments of the economy suffered significant setbacks.<sup>313</sup> 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.<sup>314</sup>

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.<sup>315</sup> In addition, the U.S. Government aims to help promote private sector investments and contributions in these areas.<sup>316</sup>

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## **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.<sup>317</sup> 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.<sup>318</sup> 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.<sup>319</sup> 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.<sup>320</sup>

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.<sup>321</sup>

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.<sup>322</sup> 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.<sup>323</sup> To achieve these aims, USAID is working with partners to provide technical assistance to radio stations and to support media monitoring activities.<sup>324</sup>

USAID also advanced efforts to stimulate the economy and increase service sustainability by fostering private sector investment during the reporting period.<sup>325</sup> 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.<sup>326</sup> USAID's Global Development Alliance program plans to provide up to \$10 million to support 10-20 partnerships in these and other areas.<sup>327</sup>

## **INNOVATION, TECHNOLOGY, AND PARTNERSHIPS**

Efforts to respond to the EVD outbreak in West Africa were complicated by limited communications and technology infrastructure.<sup>328</sup> 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.<sup>329</sup> 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.<sup>330</sup>

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.<sup>331</sup> 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.<sup>332</sup>

A number of USAID innovation technology and partnership efforts have been led by the U.S. Global Development Lab.<sup>333</sup> 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.<sup>334</sup>

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.<sup>336</sup> The Grand Challenge is an effort to stimulate innovation in the development of new tools and methods for combating EVD.<sup>337</sup> 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.<sup>338</sup> 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.<sup>339</sup> USAID also issued an invitation to the private sector to submit concepts for partnerships in support of recovery efforts during the quarter.<sup>340</sup>

During the reporting period, USAID provided technical assistance to Liberia's MOH through its Measure Evaluation program.<sup>341</sup> 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.<sup>342</sup> 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.<sup>343</sup> 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.<sup>344</sup>

*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.<sup>335</sup>*

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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.<sup>345</sup> 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.<sup>346</sup>

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.<sup>347</sup> 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.<sup>348</sup> 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.<sup>349</sup>

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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.<sup>350</sup> In response, the international community mobilized personnel and supplies to support efforts to contain the outbreak.<sup>351</sup> 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.<sup>352</sup> 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.<sup>353</sup>

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 101<sup>st</sup> Airborne Division to the 48<sup>th</sup> 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.<sup>363</sup>

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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.<sup>354</sup>

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.<sup>355</sup> As of June 30, 2015, CDC reported that more than 300 of its personnel participated in the EVD response effort each day.<sup>356</sup> 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.<sup>357</sup> 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.<sup>358</sup>

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.<sup>359</sup> 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.<sup>360</sup> Of these positions, 128 were on board as of June 30, 2015.<sup>361</sup> HHS reportedly used Ebola funds to reimburse some portion of the salaries of 1,175 CDC personnel.<sup>362</sup>

USAID responded to the EVD outbreak by supporting a wide array of Ebola-related activities in the region.<sup>363</sup> 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.<sup>364</sup>

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.<sup>365</sup> Of this total, 262 were based abroad in West African countries, mostly in Liberia.<sup>366</sup> From an organizational standpoint, the largest number of personnel came from OFDA and the USAID mission to Liberia, with 78 and 88, respectively.<sup>367</sup>

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.<sup>368</sup> 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.<sup>369</sup> 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.<sup>370</sup>

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.<sup>371</sup> 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.<sup>372</sup>

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.<sup>373</sup> Of these positions, USAID reported that it had filled seven by June 30, 2015.<sup>374</sup>

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.<sup>375</sup>

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.<sup>376</sup> Since August 2014, OFDA has maintained the deployment of three to four DARTs and corresponding Response Management Teams (RMTs)<sup>377</sup> to plan and coordinate response activities around the world.<sup>378</sup> 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.<sup>379</sup>

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.<sup>380</sup> 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.<sup>381</sup> 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.<sup>382</sup>



*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.<sup>384</sup> Since 2007, CDC has reported more than 1,300 discrete outbreaks in over 150 countries.<sup>385</sup>

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.<sup>386</sup> 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.<sup>387</sup> 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."<sup>388</sup> 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

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

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.<sup>390</sup>

## **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.<sup>391</sup>

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.<sup>392</sup> 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.<sup>393</sup>

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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.<sup>394</sup> At its July 7, 2015, meeting, the WHO emergency committee advised that the EVD outbreak remained a public health emergency of international concern.<sup>395</sup>

The U.S. Government has been actively engaged in global health security for many years.<sup>396</sup> 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.<sup>397</sup> 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.<sup>398</sup> 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.<sup>399</sup> 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.<sup>400</sup>

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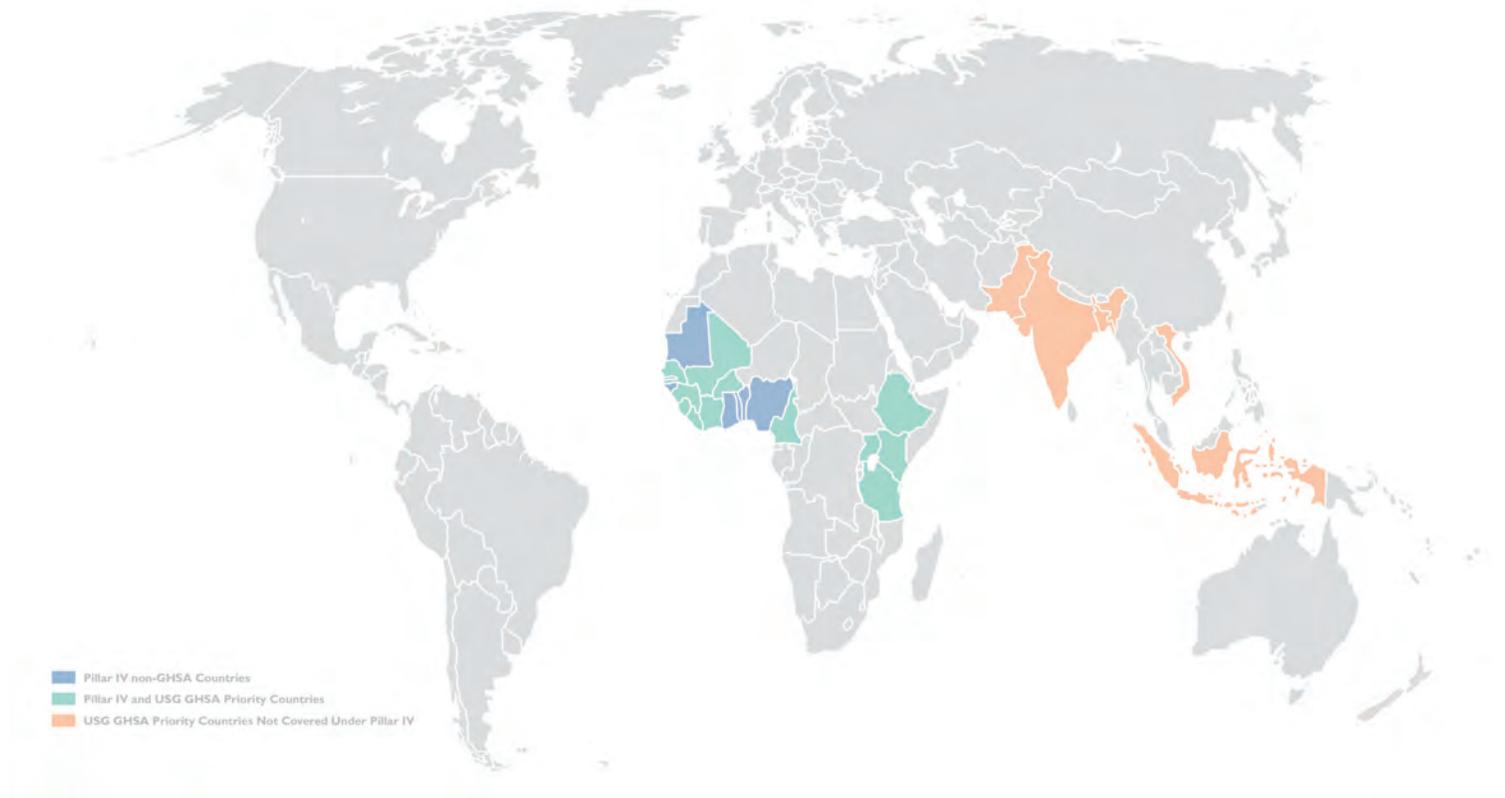


Figure 12: U.S. Government support for Pillar IV and GHSA focus countries.

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## 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”.<sup>401</sup> In working toward this goal, GHSA’s focus is on strengthening countries’ capacity to prevent, detect, and respond to infectious disease threats.<sup>402</sup> In June 2014, GHSA was endorsed by the Group of 7 (G-7)<sup>403</sup> 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.<sup>404</sup>

The U.S. Government has committed to assist at least 30 countries achieve GHSA objectives.<sup>405</sup> 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.<sup>406</sup>

To help drive progress toward GHSA objectives, countries at the GHSA Commitment Development meetings in Helsinki and Jakarta identified 11 focus areas for action.<sup>407</sup> To help prevent avoidable epidemics, GHSA targets activities to address antimicrobial resistance, zoonotic disease, biosafety and security, and immunization.<sup>408</sup> 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.<sup>409</sup> 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.<sup>410</sup>

The GHSA Steering Group—comprised of 10 countries, including the United States—tracks the progress, identifies challenges, and oversees implementation of GHSA objectives.<sup>411</sup> 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.<sup>412</sup>

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.<sup>413</sup> 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.<sup>414</sup>

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.<sup>415</sup> 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.<sup>416</sup> 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.<sup>417</sup>

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.<sup>418</sup> 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.<sup>419</sup>

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## **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.<sup>420</sup> The encroachment of human populations into natural habitats increases opportunities for human exposure to, and the transmission and spread of such diseases.<sup>421</sup> 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.<sup>422</sup> 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.<sup>423</sup> 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.<sup>424</sup>

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.<sup>425</sup> 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.<sup>426</sup> 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.<sup>427</sup>

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.<sup>428</sup> 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.<sup>429</sup> 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.<sup>430</sup> CDC's efforts to promote international capacity to detect emerging diseases have included building laboratory, surveillance, and informatics management capacity.<sup>431</sup> In addition, CDC plans to expand FETP to include additional countries,

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

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.<sup>433</sup> This network now includes 14 public health and veterinary medicine institutions in Central and Eastern Africa.<sup>434</sup>

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.<sup>435</sup> AFHSC also works with host nations and partners to improve diagnostic and reporting capacity in accordance with IHR guidelines.<sup>436</sup> 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.<sup>437</sup>

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.<sup>438</sup> 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.<sup>439</sup>

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

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.<sup>442</sup> USAID also designed and facilitated regional EVD workshops in Ivory Coast, Ghana, and Cameroon.<sup>443</sup> 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.<sup>444</sup>

## **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.<sup>445</sup> EVD was first introduced to Nigeria when a traveler with EVD arrived by commercial airline from Liberia on July 20, 2014.<sup>446</sup> The patient was immediately admitted to a hospital and initially treated for malaria.<sup>447</sup> When he failed to respond to malaria treatment, the patient was tested for EVD and local public health authorities were alerted.<sup>448</sup> 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.<sup>449</sup>

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.<sup>450</sup> The EOC coordinated EVD response efforts in Nigeria and consolidated decision making.<sup>451</sup> Under EOC direction, more than 150 contact tracers quickly identified and followed up on 894 contacts.<sup>452</sup> These contact tracers were able to rely on preexisting disease surveillance software to track cases and transmit information immediately to the EOC.<sup>453</sup> After seven EVD fatalities, Nigeria was declared EVD-free on October 20, 2014.<sup>454</sup> 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.<sup>455</sup> 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.<sup>456</sup>

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

# OVERSIGHT

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## 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.<sup>457</sup> The Secretary exercised this authority on November 13, 2014, and the U.S. Army issued mobilization orders for reservists on November 25, 2014.<sup>458</sup> 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.<sup>459</sup> Mr. Rymer subsequently appointed Catherine M. Trujillo, the USAID Acting Deputy Inspector General, as the Associate

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IG to lead OUA oversight planning, coordinating, and reporting activities.<sup>460</sup>

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

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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.<sup>461</sup>

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.<sup>462</sup>

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.<sup>463</sup>

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- 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.<sup>464</sup>
- 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.<sup>465</sup>
- 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.

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## 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.<sup>466</sup>

**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.<sup>467</sup>

**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.<sup>468</sup>

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## 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.<sup>469</sup>

### 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.”

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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.<sup>470</sup>

## 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

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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.<sup>471</sup>

## 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.

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

**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.<sup>473</sup>

## 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.<sup>474</sup>

## 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).

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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.

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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.

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*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.

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**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

# OVERSIGHT

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)*

# OVERSIGHT

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## 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.<sup>475</sup>

## 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.<sup>476</sup> DoD OIG also conducted 13 fraud awareness briefings during this period for 73 attendees, most of whom were deployed to Africa.<sup>477</sup>

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## 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](mailto:ebolahotline@usaid.gov)

PDF form for fax or mail: [http://oig.usaid.gov/sites/default/files/ebola\\_complaint\\_form.pdf](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>

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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.<sup>478</sup>

## 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.<sup>479</sup> 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.<sup>480</sup> 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

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## **§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

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- (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

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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

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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

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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

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## TIMELINE OF SIGNIFICANT EVENTS

### DECEMBER 2013

December 28 First EVD victim died in an area close to where Guinea shares a border with northern Liberia<sup>481</sup>

### 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.<sup>482</sup>

### FEBRUARY 2014

February 1 Virus reached the Guinean capital, Conakry<sup>483</sup>

February 13 WHO, FAO, OIE, the U.S. Government, and 28 other countries launched the GHSA<sup>484</sup>

### MARCH 2014

March 13 Guinean MOH issued an alert concerning the spread of an unidentified disease<sup>485</sup>

March 23 WHO announced an EVD outbreak in Guinea after laboratory tests confirmed that the hemorrhagic fever outbreak was caused by the Ebola virus<sup>486</sup>

March 26 Suspected EVD cases reported in Liberia and Sierra Leone<sup>487</sup>

March 28 WHO Global Outbreak Alert and Response Network team, including CDC members, travelled to Guinea<sup>488</sup>

March 30 Liberia confirmed first EVD cases<sup>489</sup>

# APPENDIX B: TIMELINE

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## MAY 2014

May 24 Sierra Leone confirmed first EVD case<sup>490</sup>

## 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 epidemic<sup>491</sup>

## JULY 2014

July 9 CDC activated its EOC for the Ebola response<sup>492</sup>

July 23 Nigeria reported first EVD case<sup>493</sup>

July 31 CDC issued a travel warning to Americans to avoid nonessential travel to Guinea, Liberia, and Sierra Leone<sup>494</sup>

July 31 WHO released an Ebola Virus Disease Outbreak Response Plan<sup>495</sup>

## 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 EVD<sup>496</sup>

August 4 U.S. Ambassador to Liberia declared the EVD outbreak in Liberia a disaster<sup>497</sup>

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

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

## APPENDIX B: TIMELINE

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- August 13 The Chargé d’Affaires in Sierra Leone declared the EVD outbreak in Sierra Leone a disaster<sup>501</sup>
- August 15 The Chargé d’Affaires in Guinea declared the EVD outbreak in Guinea a disaster<sup>502</sup>
- August 18 WHO requested that EVD-affected countries conduct exit screenings of all individuals<sup>503</sup>
- 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<sup>504</sup>
- August 29 Senegal reported first EVD case<sup>505</sup>

### 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<sup>506</sup>
- September 9 Liberian President appealed for urgent aid in a letter to the U.S. President<sup>507</sup>
- 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.<sup>508</sup>
- September 16 The President announced the U.S. Government’s strategy for responding to EVD outbreak in West Africa, including military support through OUA.<sup>509</sup>
- 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.<sup>510</sup> The UN established UNMEER to improve international response coordination.<sup>511</sup>

## APPENDIX B: TIMELINE

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- 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.<sup>512</sup>
- September 28 DoD delivered 25-bed hospital and two mobile labs to Monrovia, Liberia<sup>513</sup>
- September 30 First travel-associated case of Ebola reported in the United States<sup>514</sup>

### OCTOBER 2014

- October 5 DoD established Ebola response cargo hub in Senegal to funnel humanitarian supplies and equipment into West Africa<sup>515</sup>
- October 8 First EVD patient diagnosed in the United States dies<sup>516</sup>
- October 9 The first person-to-person EVD transmission outside Africa occurred in Spain<sup>517</sup>
- October 10 An American nurse tested positive for EVD after caring for an EVD-positive man who had traveled from Liberia to Texas while asymptomatic<sup>518</sup>
- October 11 Enhanced U.S. entry screening program started at five international U.S. airports for travelers from Guinea, Liberia, and Sierra Leone<sup>519</sup>
- 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 OUA<sup>520</sup>
- October 17 Senegal's EVD outbreak declared over<sup>521</sup>
- October 20 Nigeria declared EVD-free<sup>522</sup>
- October 23 Mali reported its first case of EVD<sup>523</sup>

# APPENDIX B: TIMELINE

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## NOVEMBER 2014

- November 10 First ETU, the Monrovia Medical Unit, built and staffed by the U.S. Government opened in Liberia<sup>524</sup>
- November 13 The Secretary of Defense ordered the mobilization of reservists to support OUA<sup>525</sup>
- November 25 The Secretary of the Army approved mobilization orders for reservists<sup>526</sup>

## 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 settings<sup>527</sup>

## JANUARY 2015

- January 18 Mali declared EVD-free<sup>528</sup>
- January 25 The President approved a plan to transition OUA support activities to civilian responders and international organizations in Liberia<sup>529</sup>

## 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 Africa<sup>530</sup>
- February 2 The first major Ebola vaccine trials launched in Liberia as part of the Liberia-U.S. partnership (PREVAIL)<sup>531</sup>

# APPENDIX B: TIMELINE

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## APRIL 2015

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

## MAY 2015

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

## 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<sup>537</sup>
- June 29 Liberia confirmed new EVD case<sup>538</sup>
- June 30 OUA terminated<sup>539</sup>

# APPENDIX C: COMPONENTS

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## 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.<sup>540</sup> 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.<sup>541</sup> 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.<sup>542</sup> As the response effort declined in intensity, the Ebola Secretariat was dissolved on May 26, 2015.<sup>543</sup> Its coordination functions within USAID were assumed by the Africa Ebola Unit described below.

# APPENDIX C: COMPONENTS

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## BUREAU FOR AFRICA

USAID operates 27 regional and bilateral missions in Africa under the management of USAID's Bureau for Africa.<sup>544</sup> 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.<sup>545</sup>

### 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.<sup>546</sup>

## 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.<sup>547</sup> 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.<sup>548</sup>

# APPENDIX C: COMPONENTS

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## **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.<sup>549</sup> 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.<sup>550</sup> 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.<sup>551</sup>

## **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.<sup>552</sup> FFP also coordinates relief and development efforts to ensure that humanitarian assistance efforts produce long-term benefits for local communities.<sup>553</sup> In response to the EVD outbreak, FFP focused its activities on restoring food production and consumption in West Africa to pre-EVD levels.<sup>554</sup> FFP has supported activities such as the distribution of food aid, market research and recovery efforts, and food security monitoring activities throughout West Africa.<sup>555</sup>

## **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

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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.<sup>556</sup>

## 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.<sup>557</sup> 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.<sup>558</sup>

# APPENDIX C: COMPONENTS

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## 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.<sup>559</sup> 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.<sup>560</sup> While OUA formally concluded on June 30, 2015,<sup>561</sup> 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.<sup>562</sup> CDC is the medical response and public health lead for the U.S. Government Ebola response.<sup>563</sup> 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

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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.<sup>564</sup>

## 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.<sup>565</sup>

## NATIONAL INSTITUTES OF HEALTH

NIH is the U.S. Government's primary medical research agency.<sup>566</sup> 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.<sup>567</sup> 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

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

## 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.<sup>570</sup> 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.<sup>571</sup>

## 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.<sup>572</sup> 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.<sup>573</sup>

# APPENDIX D: USAID PROGRAMS

## USAID EBOLA-RELATED PROGRAMS BY PILLAR AND GEOGRAPHICAL FOCUS AS OF JUNE 30, 2015

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
<b>Pillar 1: Control the Outbreak</b>						
<b>Regional</b>						
OFDA	WASH and Ebola transmission research	Tufts University	558,504	558,504	6/1/2015	6/1/2016
OFDA	Ebola study	Overseas Development 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, testing, and training of MOH staff	CDC	3,000,000	3,000,000	8/6/2014	8/5/2015
OFDA	Provide supplies and distribute 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 operation	WFP	21,486,000	21,486,000	10/10/2014	10/10/2015
FFP	Regional emergency operation	WFP	13,081,229	13,081,229	10/11/2014	5/31/2015
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

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USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
<b>Guinea</b>						
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
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

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USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
<b>Liberia</b>						
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
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

## APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
OFDA	Enhance screening and surveillance capacity at borders and in border communities in Liberia	IOM	6,143,897		7/1/2015	6/30/2016

## APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
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

## APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
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

## APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
<b>Sierra Leone</b>						
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
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 psychosocial support to patients, families, health workers, and others affected by Ebola	IMC	12,936,976	12,936,976	10/1/2014	12/31/2015

# APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
OFDA	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
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
<b>Pillar 2: Mitigate Second Order Impacts of the Crisis</b>						
<b>Regional</b>						
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

# APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
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

## APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
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

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USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
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

# APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
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
<b>Sierra Leone</b>						
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
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

# APPENDIX D: USAID PROGRAMS

USAID Bureau/ Mission	Program Description	Implementing Partner	Commitments (\$)	Obligations (\$)	Period of Performance	
					Start Date	End Date
<b>Pillar IV: Global Health Security</b>						
Regional						
Global Health	Develop Ebola communication 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
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

# APPENDIX D: USAID PROGRAMS

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## 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

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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

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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

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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

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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

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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

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

U.S. Agency for International Development Hotline  
[ebolahotline@usaid.gov](mailto:ebolahotline@usaid.gov)  
1-800-230-6539 or 202-712-1023

Department of Defense Hotline  
[dodig.mil/hotline](http://dodig.mil/hotline)  
1-800-424-9098

Department of State Hotline  
[oighotline@state.gov](mailto:oighotline@state.gov)  
1-800-409-9926 or 202-647-3320

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

