



EVALUATION

EVALUATION OF THE USAID/OFDA EBOLA VIRUS DISEASE OUTBREAK RESPONSE IN WEST AFRICA 2014–2016

OBJECTIVE 3. RELEVANCE OF THE RESPONSE



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Evaluation of the USAID/OFDA Ebola Virus Disease Outbreak
Response in West Africa 2014–2016
Objective 3: Relevance of the Response

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ACRONYMS AND ABBREVIATIONS

ACF	Action against Hunger	GOL	Government of Liberia
AMEP	Activity Monitoring and Evaluation Plan	GoSL	Government of Sierra Leone
ANSS	<i>Agence Nationale de la Sécurité Sanitaire</i>	HC3	Health Communication Capacity Collaborative
ASEOWA	African Union Support to the Ebola Outbreak in West Africa	HCW	Health care workers
AU	African Union	HHBM	Health and Humanitarian Border Management
BCC	Behavior change communication	HHS	Health and Human Services
CEBS	Community event-based surveillance	HIV	Human immunodeficiency virus
CCC	Community Care Center	HKI	Helen Keller International
CDC	Centers for Disease Control and Prevention	HTH	Heart to Heart
CECI	Center for International Studies and Cooperation	IBTCI	International Business & Technical Consultants, Inc.
CHW	Community Health Worker	ICS	Incident Command System
CNLE	National Coordination Cell	IFRC	International Federation of Red Cross and Red Crescent Societies
COR	Contracting Officer's Representative	IHR	International Health Regulations
CRS	Catholic Relief Services	IMC	International Medical Corps
CT	Contact tracer	IMS	Incident Management System
DART	Disaster Assistance Response Team	INSS	<i>Instituto Nacional do Seguro Social</i>
DASP	Disaster Assistance Support Program	IOM	International Organization for Migration
DCHA	Democracy, Conflict and Humanitarian Assistance	IP	Implementing partner
DERC	District Ebola Response Centers	IPC	Infection prevention and control
DFID	UK Department for International Development	IRC	International Rescue Committee
DHMT	District Health Management Team	JSI	John Snow International
DHS	Department of Homeland Security	KAP	Knowledge, attitude and practices
DOD	United States Department of Defense	KII	Key informant interview
DOS	United States Department of State	ME&L	Monitoring, evaluation & learning
DRC	Danish Refugee Council	MHPSS	Mental health and psychological support service
ECHO	European Community Humanitarian Office	MITAM	Mission Tasking Matrix
EOC	Emergency Operations Center	MMU	Monrovia Medical Unit
ERC	Ebola Response Consortium	MMWR	Morbidity and Mortality Weekly Reports
ETU	Ebola treatment unit	MOH	Ministry of Health
EU	European Union	MOHS	Ministry of Health and Sanitation
EVD	Ebola virus disease	MOHSW	Ministry of Health and Social Welfare
FEMA	Federal Emergency Management Agency	MOU	Memorandum of understanding
FETP	Field Epidemiology Training Program	MSF	<i>Médecins sans Frontières</i>
FEWS NET	Famine Early Warning System Network	MTI	Medical Teams International
FFP	Food for Peace	NERC	National Ebola Response Center
FGD	Focus group discussion	NGO	Nongovernmental organization
FRC	French Red Cross	NIH	National Institutes of Health
GC	Global Communities	NSC	National Security Council
GHSA	Global Health Security Agenda	OCHA	UN Office for the Coordination of Humanitarian Affairs
GOARN	Global Outbreak Alert and Response Network	ODI	Overseas Development Institute
GOG	Government of Guinea		

OFDA	Office of United States Foreign Disaster Assistance	UK	United Kingdom
OICC	Observational Interim Care Center	UN	United Nations
PAE	Pacific Architects and Engineers	UNICEF	United Nations Children's Emergency Fund
PCI	Project Concern International	UNHAS	UN Humanitarian Air Service
PHS	Public Health Service	UNMEER	UN Mission for Ebola Emergency Response
PHU	Primary Health Unit	USAID	United States Agency for International Development
PIH	Partners in Health	USDA	United States Department of Agriculture
PIO	Public International Organization	USG	United States Government
PMP	Performance management plan	USPHS	United States Public Health Service Commissioned Corps
PPE	Personal protective equipment	USUHS	DOD Uniformed Services University of the Health Sciences
PSI	Population Services International	VHF	Viral hemorrhagic fever
PU-AMI	<i>Premiere Urgence - Aide Medicale Internationale</i>	WAHA	Women and Health Alliance
RI	Relief International	WAHO	West African Health Organization
RITE	Rapid isolation and treatment of Ebola	WASH	Water, sanitation and hygiene
RMT	Response Management Team	WB	World Bank
SDB	Safe and dignified burials	WHO	World Health Organization
SRU	Screening and referral unit	WHH	<i>Welthungerhilfe</i>
SOP	Standard operating procedure	WFP	World Food Programme
SOW	Scope of work	WV	World Vision
SP	Samaritan's Purse		
STC	Save the Children		
TDH	<i>Terre des Hommes</i>		
TOC	Theory of change		
TOT	Training of Trainers		

GLOSSARY

Case-fatality rate (CFR): The proportion of people who die from a specified disease among all individuals diagnosed with the disease over a specified period of time. CFR is typically used as a measure of disease severity and is often used for prognosis (predicting disease course or outcome), where comparatively high rates are indicative of relatively poor outcomes. Often in disease outbreaks, and particularly with EVD, CFR is used to assess the effectiveness of disease treatment and/or intervention.

Community or Civic Engagement: Similar to and overlapping with “social mobilization” (see below), this set of activities includes working with community leaders, local civil society organizations, opinion leaders, and community health workers. In the EVD outbreak, this includes a wide array of grassroots groups, such as motorcycle drivers, as well as established relationships by some NGOs with their village-level contacts.

Contact tracing: The identification and in-person tracking of all people who may have come into contact with an infected person to identify, as soon as possible, any new cases of infection. It is an integral component of active surveillance, as well as epidemic investigation. In the case of EVD, contact tracing includes close observation of persons with even casual contact with a known case for 21 calendar days after that contact (21 days being the maximum incubation period of EVD).

Cumulative incidence: The cumulative incidence is a measure of disease frequency that addresses the question “How far has the disease spread during a specified period of time?” It is calculated using the following formula: (Number of new cases) / (Total population at risk).

Ebola virus disease (EVD): EVD is a severe illness transmitted through direct contact with the bodily fluids (including semen, blood, breast milk), and tissues of infected animals or people. Symptoms of EVD include fever, severe headache, muscle pain, weakness, diarrhea, vomiting, and unexplained hemorrhage. Diarrheal stools and saliva cause more transmission than anything else.

Emergency Operations Center (EOC): A central facility to command and control emergency activities at a strategic and, if necessary, political level. Its functions are to gather and analyze surveillance and operational data, make decisions about outbreak control, convene response agencies, and disseminate decisions.

Incident Command System (ICS): A structured approach to the way complex teams of responders to emergencies are managed in terms of the clarity of their roles, responsibilities, span of authority, and simple lines of reporting. ICS is

commonly applied by OFDA, FEMA, and USDA and trained in around the world, including for OFDA-supported capacity building with other governments.

Incident Management System (IMS): A broader category that incorporates and uses ICS, often at the national level, and expressly for multi-agency cooperation. At the national level in the three countries discussed in this evaluation, the IMS included nationwide systems, authorities, central offices, and processes for tracking each activity by each actor. In turn, this included a coherent surveillance system and software for managing data.

Infection prevention and control (IPC): IPC includes measures to prevent transmission within health facilities through PPEs, training, ventilation, procedures, referral systems, and triage. IPC also includes systems within the health facility, roles and responsibilities, existence of guidelines and physical resources, outbreak investigation, hygiene, and waste management.

Isolation: A measure to physically separate infected individuals from non-infected persons. Isolation can occur at the household, community, or larger level, including admitting infected persons to hospitals (Ebola treatment units) or community care centers. The purpose of isolation is to reduce forward transmission of the infection. Isolation in health care facilities is a standard measure to implement infection control: the prevention of contagious diseases from being spread from a patient to other patients, health care workers, and visitors, or from outsiders to a particular patient. In the West African context, isolation also included community and household-based isolation.

P-value: The p-value is a measure of the probability that differences observed between groups occurred by chance. Frequently, differences between groups are considered statistically significant if the p-value is less than .05. This means that there is a 5% chance or less that the observed difference occurred by chance.

Personal protective equipment (PPE): PPE is used by individuals dealing with infected individuals or around infectious materials. Typically worn by health care workers, health facility staff, and burial workers, this includes gowns, shoes, gloves, masks, goggles, other garments, and accompanying materials that create a safe barrier between infectious materials and the worker in order to prevent infection. A PPE package may also include air-purifying respirators. The clothing varies in weight, permeability, and complexity for donning (putting on) and doffing (removal).

Quarantine: Measures taken to reduce the spread of a disease by limiting movement of peoples, including reducing

the mobility of non-infected groups with the goal of limiting the spread of disease. Typically, quarantine does not apply to emergency responders or health workers, but to families and communities. Most frequently, it is enforced by authorities, often in response to an epidemic. It can be applied to humans or animals, and includes border control. In Sierra Leone, for example, extensive nationwide quarantine was used to limit movement.

Reproduction Number: Designated by “R nought” or R_0 , this number is the average number of onward new infections from each single infection, or the number of secondary cases that one case generates, on average, over the course of that case’s infectious period. Mathematically, it is represented as $R_0 = (\text{the ratio of number of new cases}) / (\text{the infectious period of time})$. An R_0 greater than one signifies increasing transmission, and R_0 below one signifies contraction of the outbreak.

Social Mobilization: A broad, generic category for a wide range of activities that involve a large population, both through in-person travel and meetings and through media. In the EVD response, this included public gatherings, convenings of village leaders, meetings among religious leaders, home visits, radio and television programming, use of billboards,

SMS, and internet social media. For many implementing partners in this effort, this type of activity was executed via cadres of community health workers or volunteers who received training, financial support, transportation (such as motorcycles), and messages to disseminate. Social mobilization includes the activities undertaken by international and local aid agencies and national and local governments, but also includes those of local populations themselves. Much of the social mobilization effort of the EVD response was oriented toward affecting behavior change among as many persons as possible to change simple behaviors such as shaking hands, other physical contact, washing hands, and the handling of infected persons and dead bodies.

Surveillance: Surveillance is the ongoing systematic collection, recording, analysis, interpretation, and dissemination of data reflecting disease occurrence in a community or population.

ABSTRACT

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Background: The West Africa Ebola virus disease (EVD) outbreak began in December, 2013 in southeastern Guinea. As the United States Government (USG) lead for the response, the U.S. Office of Foreign Disaster Assistance (OFDA) deployed a Disaster Assistance Response Team on August 5, 2014, and established a corresponding Response Management Team, which operated until January 4, 2016. International Business & Technical Consultants, Inc. (IBTCI) conducted an independent performance evaluation of OFDA's EVD outbreak response in West Africa. The performance evaluation was guided by four complementary objectives relating to the overall effectiveness of the response, the effectiveness of different programmatic components, the relevance, and the coordination of OFDA's response.

Methods: The evaluation focused on the OFDA EVD response in Liberia, Guinea, and Sierra Leone. Data collection methods included a review of peer-reviewed and gray literature, Centers for Disease Control and Prevention (CDC) reports and surveillance data, and reports from OFDA implementing partners (IPs); semi-structured focus group discussions (n=196); semi-structured key informant interviews (n=285); an online self-assessment of OFDA staff (n=49); roundtable discussions with other responders; and three quantitative surveys. These included: a household survey (n=16,365); a community health workers survey (n=288); and a contact tracer survey (n=250). The primary data collection occurred from March to July, 2017. The portion of the evaluation presented in this report focuses on OFDA's priority setting, the effectiveness and timeliness of OFDA funding mechanisms, and the use and impact of technical guidelines.

Findings: Analysis of OFDA awards and communications identify early OFDA priorities as infection prevention and control (IPC) practices, isolation and treatment including Ebola treatment units, and safe burial, in line with priorities identified by the CDC, based on models and experience from past outbreaks. OFDA underemphasized social mobilization early, but gave more emphasis to community-level interventions and social mobilization in 2015. Analysis of the timing of OFDA awards compared to the epidemic curve shows that the majority of OFDA funding arrived after the epidemic peak in all three countries. While OFDA reviewed initial proposals rapidly, approval processes sometimes delayed funding disbursements by months. Some response elements were delayed due to

confusion regarding guidelines and technical deliberations. Insufficient IPC standards led to nosocomial infections and inadequate contact tracing resulted in unidentified chains of transmission.

Conclusions: Though the early response was overly focused on Ebola Treatment Units (ETUs) in Liberia, which came online late, OFDA appropriately responded to significant shifts in the EVD epidemic by the end of 2014. OFDA's country-by-country approach was ill-suited to addressing the regional nature of the epidemic. The majority of OFDA funding arrived late relative to the course of the epidemic. Consortia proved a successful means of promoting coordination and integration of projects and bringing economies of scale. In-kind support was timely and appropriate and OFDA supported the construction of a crucial logistics supply chain. Insufficient guidelines hindered quality, and adequate guidelines improved it. Early responses were not hampered by an attempt to adhere to strict "gold standards;" the few that existed gave responders a template to follow and enabled them to act quickly. In a few cases, guideline adherence or confusion over guidelines caused delays. Availability of appropriate guidelines improved response quality.

Recommendations: Overall response strategy and priorities should undergo regular formal review. Transparent mechanisms for feedback and buy-in of local partners and community leadership are key. OFDA should ensure its in-house capacity to integrate key epidemiological indicators in the prioritization of outbreak response approaches. The use of standing contracts and indefinite quantity contracts could increase funding flexibility and speed. OFDA should work with the CDC to expedite approval mechanisms or enable approval from DART-level CDC staff. Private contractors should be held to the same monitoring and reporting requirements as those in cooperative agreements to ensure availability of adequate data to evaluate their performance. Enhanced DART coordination across countries will better facilitate cross-border or regional approaches to multi-country outbreaks. OFDA should provide funding to inventory existing outbreak response guidelines and lessons learned, and for the expansion of epidemic response guidance in manuals such as SPHERE. IPs would be aided by the development of a protocol addressing which among competing technical guidelines to follow in the event that they clash in a future response. OFDA should work with CDC and WHO to help make technical guidelines more IP-friendly.



Photo courtesy of the U.S. Department of Defense

EXECUTIVE SUMMARY

Evaluation Purpose and Rationale

Under contract AID-OAA-I-15-00022/Order No. AID-OAA-TO-16-00034, International Business & Technical Consultants, Inc. (IBTCI) received a contract from the Office of United States Foreign Disaster Assistance (OFDA) in October, 2016 to conduct an independent performance evaluation of its support for the Ebola virus disease (EVD) outbreak response in West Africa. This performance evaluation focused

on programs funded by the United States Government (USG)'s EVD outbreak response strategy: Controlling the Outbreak. This evaluation was guided by four complementary objectives relating to the overall effectiveness of the response, effectiveness of different programmatic components, the relevance, and the coordination of OFDA's response to the EVD outbreak.

Project Background

The West Africa EVD outbreak began with a single illness in December, 2013 in southeastern Guinea, before spreading to the neighboring countries of Mali, Nigeria, Liberia, Senegal, and Sierra Leone. With symptoms similar to some other endemic infectious diseases, EVD was not definitively diagnosed in the region until March, 2014. Misinformation and lack of awareness among the local public regarding EVD transmission modes, combined with inadequate health care facilities and lack of health staff trained in surveillance or in EVD response, allowed EVD to rapidly spread. The severity of the outbreak was recognized by the international community in the summer of 2014, and soon after, national governments and international organizations began to take the actions to control EVD. The USG response to the EVD outbreak in West Africa was structured around four "Pillars:" 1) control the outbreak; 2) mitigate second-order impacts of the crisis; 3) coherent leadership and operations; and 4) global health security.

The goal of the USG Pillar One response was to reduce the spread of EVD by preventing or limiting the exposure of susceptible persons to the virus. OFDA pursued this by: 1) funding isolation of EVD cases and safe burial of those who died (required to decrease transmission); and 2) simultaneous and comprehensive social education and outreach (necessary to increase population-wide understanding of the disease, how to recognize it, how to prevent its transmission, and the importance of modifying behaviors that increase risk).

As the USG lead for the response, OFDA deployed a Disaster Assistance Response Team (DART) on August 5, 2014, and established a corresponding Response Management Team (RMT) based in Washington, DC at the same time. The

DART—a team that over the course of the response included disaster response and public health experts from OFDA, the Department of Defense (DOD), and the Centers for Disease Control and Prevention (CDC)—coordinated with the National Institutes of Health (NIH), the Peace Corps, and the U.S. Public Health Service Commissioned Corps (USPHS) when deployed to assist host country governments in containing the EVD outbreak. Specific and separate DARTs were posted in Liberia, Sierra Leone, and Guinea.

EVALUATION QUESTIONS

This evaluation report presents the findings, conclusions, and recommendations of the evaluation team related to Objective Three of the overall evaluation: Relevance of the Response. Objective Three includes evaluation questions five, six, and seven¹ out of the ten evaluation questions presented in the evaluation statement of work (SOW) (see Annex B). Evaluation questions five, six, and seven posit:

5. *Did OFDA correctly prioritize and weight the most relevant activities over the course of the response to the outbreak in relation to the outbreak's changing epidemiology?*
6. *Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?*
7. *To what extent did attempting to adhere to technical "gold standards" affect the timeliness and quality of the response?*

Evaluation Design and Methods

This performance evaluation was designed to evaluate programs funded by OFDA between March 1, 2014 and January 4, 2016. The evaluation focused on the EVD response in Liberia, Guinea, and Sierra Leone. It was designed with a utilization-focused approach—to provide findings, conclusions, and recommendations that can be applied to future OFDA responses, are scalable, and are actionable. The design implied that each evaluation question finding is supported by two or more data collection methods, and that each conclusion is supported by data triangulation and interpretation of two or more findings. The data collection methods included a review of peer-reviewed and gray (unpublished) literature, reports

from OFDA's implementing partners (IPs) and surveillance data; semi-structured focus group discussions (FGDs) (n=196); semi-structured key informant interviews (KIIs) (n=285); an online self-assessment of DART and RMT members (n=49); roundtable discussions with other responders; and three quantitative surveys: a household survey (n=16,365); a community health workers survey (n=288); and a contact tracer survey (n=250). The primary data collection occurred from March to July, 2017. Contribution analysis was used to mitigate the limited ability to attribute outcomes to individual interventions due to presence of multiple actors and programs.

Findings

Evaluation Question 5: Analysis of OFDA awards and communications identify early OFDA priorities as infection control practices, isolation and treatment including Ebola treatment units (some agencies used an alternate name, Ebola treatment center or ETC; in this evaluation we use ETU to refer to both), and safe burial, in line with priorities identified by the CDC based on models and experience from past outbreaks. By the time of OFDA's engagement, the reproduction number had been above three at some point in all three countries, and

each had large caseload projections and insufficient existing ETU capacity.² Comparison of the epidemic curve to ETU bed capacity shows that while the epidemic peaked in Liberia in late September, 2014, the first OFDA-funded ETU was not ready until late November, and some were not ready until January, 2015. Analysis of awarded funds and key informant reports demonstrate that OFDA under-emphasized social mobilization early, but agree that OFDA gave more emphasis to community-level interventions and social mobilization in



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2015 in line with USG's decreasing emphasis on ETUs and recognition—in the overall response—that social mobilization was critical to controlling transmission. IPs and national authorities both reported that OFDA was responsive to changes and adapted its approaches appropriately.

The reproduction number was climbing in all three countries in the third quarter of 2014,² but unlike Liberia, it continued climbing in Guinea and Sierra Leone in the fourth quarter. According to award documents and KIIs, OFDA funded cross-border initiatives starting in January 2015, but was not engaged in a whole-of-region response. Although there was regular communication between DART members, there was little evidence of a regional DART strategy across the region. The sharp contraction of the outbreak in Liberia in late 2014, compared with the slower containment in Sierra Leone and the diffuse micro-outbreaks in Guinea in 2015, suggests that a “whole-of-response” approach in Liberia was more effective than piecemeal support in Guinea and Sierra Leone.

Evaluation Question 6: Analysis of the timing of OFDA awards, compared to the epidemic curve, shows that the majority of OFDA funding arrived after the epidemic peak in all three countries. When OFDA began its response, the EVD reproduction number had been over two in all three countries, and remained over one, signifying rapid expansion. From August to October, 2014, funding was not rapid enough to keep pace with demand for resources. OFDA made 30% of its awards during this critical period, comprising approximately 35% of total OFDA funding. Another 30% of awards were made in November and December, 2014, as funding began to catch up with needs. USG key informants noted early OFDA difficulty in finding sufficient response partners, slowing the initial response. Key informants and award documents show that while OFDA was able to make recommendations for awards within days of receiving proposals, approval processes sometimes delayed funding disbursements by months. Analysis of awards documents shows that most OFDA funding went through grants or cooperative agreements with NGO IPs, accounting for more than half of the awards and about half of the funding. Initial in-kind support reached Liberia as shortages were being reported, helping to fill critical gaps in supplies for infection prevention and control (IPC) and water, sanitation, and hygiene (WASH). OFDA contracted with Pacific Architects and Engineers (PAE) to meet staffing requirements that NGO partners did not have the capacity to fulfill, the staff, however, arrived late.

Conclusions

Evaluation Question 5: OFDA's early priorities were focused on facility based responses, case isolation and treatment, and safe burial and inadequately prioritized social mobilization and community level responses. OFDA supported ETUs in Liberia

OFDA and national response structure key informants reported that while OFDA played a leading role among response partners in Liberia, it played a more secondary role in the response mechanisms in Guinea and Sierra Leone—resulting in a comprehensive OFDA response in Liberia, but a more fragmented approach in Guinea and Sierra Leone. Awards documents and KIIs show that in 2015 OFDA supported the micro-outbreak strategy that CDC helped develop, which was ultimately successful in containing the epidemic.

Evaluation Question 7: Timeline analysis suggests that most standards were in the process of development concurrently with the need for decisions about implementation. Key informants and literature from the early response show that even when initial guidelines proved inadequate in rigor and had to be updated over time, the initial presence of a road map helped prevent delays. Analysis of literature shows that some Community Care Centers (CCCs) were delayed due to confusion regarding guidelines. OFDA actions may have been slowed down by delays due to technical deliberations over personal protective equipment (PPE), bleach, and construction standards. Delays in initiating trainings on ETU guidelines and technical standards led to some delays in opening and staffing of ETUs.

Insufficient IPC standards led to nosocomial infections, inadequate contact tracing resulted in unidentified chains of transmission, and overly strong disinfection solutions led to potential chlorine contamination. There was a lack of guidelines for how to address needs that vary by gender or those particular to vulnerable populations. The diffusion of rigorous IPC guidelines led to significant decrease in nosocomial infections. The implementation of more rigorous contact-tracing guidelines improved case finding and tracking, decreasing the share of unidentified cases. Burial workers were extremely appreciative of having guidelines to follow and credited the guidelines with keeping infections among their team members very low. Adaptations to safe burial guidelines helped burial teams overcome initial community resistance and better manage working with PPE.

Most IPs followed guidelines provided by the WHO and CDC. Data from IBTCI surveys of contact tracers and community health workers (CHWs) show that the vast majority reported receiving guidelines and that the top sources of guidelines were reliable: Ministry of Health (MOH), WHO, and *Médecins sans Frontières* (MSF). Survey data show contact tracers and CHWs followed the standardized guidelines more than 90% of the time.

in accordance with modeled case projections, however they came online late, limiting their contribution to controlling the outbreak. OFDA appropriately responded to significant shifts in the EVD epidemic by the end of 2014. OFDA's country-by-

country approach was ill-suited to addressing the regional nature of the epidemic and the transnational mobility of the virus. The decision to engage in Liberia first resulted in intervening late in Guinea and Sierra Leone with regard to the epidemic in those countries.

Evaluation Question 6: The majority of OFDA funding was late in arriving relative to the peak of the epidemic, though OFDA's continued funding was crucial for addressing micro-outbreaks and cross-border permeability. OFDA made proposal recommendations quickly, however internal approval processes slowed disbursements. Grant awards and cooperative agreements with IPs functioned as expected and were the most common support mechanism. Consortia proved a successful means of promoting coordination and integration of projects and bringing economies of scale. In-kind support was timely and appropriate and OFDA supported the construction of a crucial logistics supply chain. Private contracts generally offered a useful mechanism for filling gaps that IPs were unable to address, however the PAE contract resulted in a massive expenditure on

an untimely result. Early targeting was better in Liberia than in Guinea and Sierra Leone, but later support of micro outbreak strategies in all three countries was well-targeted to areas critical for outbreak control. Fragmented funding approaches in Guinea and Sierra Leone may have contributed to slower containment in Sierra Leone and persistent micro-outbreaks in Guinea.

Evaluation Question 7: Insufficient guidelines hindered quality, and adequate guidelines improved it. Guidelines had both a positive and negative impact on timeliness. Early responses were not hampered by an attempt to adhere to strict "gold standards." Few existed, but initial IPC and contact tracing guidelines gave responders a template to follow and enabled them to act quickly. In some areas where guidance was lacking, early mistakes were made. In a few cases, guideline adherence or confusion over guidelines caused delays. Availability of appropriate guidelines improved response quality. OFDA ensured that its partners were aware of the relevant guidelines, but did not require adherence with any particular set

Recommendations

The evaluation team suggests that USAID/OFDA consider the following, in order of priority:

EVALUATION QUESTION 5

1. *In similar public health emergencies, establish a regular formal review of the overall response strategy*, e.g., on a daily or weekly basis, to review and critique public health data and make proactive decisions that are documented about aligning priorities with evolving conditions.
2. *Involve emergency response implementing partners and local leadership consistently* in priority setting by seeking their buy-in and transparent feedback to the donors' response strategy.
3. *Incorporate key epidemiologic indicators such as incidence, reproduction numbers, the average time between onset of symptoms and admission to a facility for treatment, and the proportion of cases resulting from unidentified chains of transmission* in the prioritization of outbreak response approaches.

EVALUATION QUESTION 6

1. *Use Standing Contracts and Indefinite Quantity Contracts (IQCs)* to increase funding flexibility and speed.
2. *Work with the CDC to develop an expedited decision-making mechanism or establish an agreement to enable DART members from CDC to approve proposals on behalf of CDC* without having to route them up the chain with the CDC management in Atlanta.

3. *Require private contractors to provide adequate data to evaluate their performance.* Build monitoring and evaluation into private contracts, so their efficacy can be evaluated similar to grant awards and cooperative agreements.
4. *Enhance DART coordination across countries* to better facilitate cross-border or regional approaches to timely and targeted response in multi-country outbreaks.

EVALUATION QUESTION 7

1. *Provide funding a) to inventory existing outbreak response guidelines and b) for guidelines to be developed or revised based on lessons learned* in the EVD outbreak, in particular in regard to community engagement by agencies who institutionalized internal lessons and procedures in areas such as mobilizing safe burial teams, organizing community leaders, and CHW mobilization.
2. *Establish a protocol for helping IPs to understand* which among technical guidelines to follow in the case that guidelines from authorities such as WHO, CDC, or MSF compete or clash in a future response.
3. *Partner with CDC and WHO* to help make technical guidelines more IP-friendly.
4. *Fund expansion of epidemic response guidance in manuals* such as SPHERE.

INTRODUCTION

Evaluation Purpose

The United States Government (USG) support for the Ebola virus disease (EVD) outbreak response in West Africa was led by the United States Agency for International Development (USAID)/United States Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA)/Office of United States Foreign Disaster Assistance (OFDA), in close coordination with a number of other U.S. Agencies, including the Department of State (DOS), Department of Defense (DOD), USAID Missions in Liberia and Guinea, and multiple arms of the Department of Health and Human Services (HHS) including the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the U.S. Public Health Service Commissioned Corps (USPHS). Within USAID, OFDA worked closely with the Africa and Global Health Bureaus. In total, the USG provided \$2.4 billion (combined across all U.S. Agencies funding (see Annex B, Scope of Work) for the EVD outbreak response in fiscal years 2014–2016.⁵⁶ The USG response to the EVD outbreak in West Africa was structured around four pillars, reflecting Congressional earmarks: 1) control the outbreak; 2) mitigate second-order impacts of the crisis; 3) coherent leadership and operations; and 4) global health security. OFDA's programming for the EVD outbreak response in West Africa

in fiscal years 2014 and 2015 was focused on Pillar One of the response: Controlling the Outbreak. The purpose of this evaluation is to improve the USG's understanding of the performance of its response to the outbreak in Guinea, Liberia, and Sierra Leone. The evaluation focuses on the effectiveness of the response and relevance of the USG's response to the outbreak, as well as OFDA's role in coordinating the USG's international response.

Under contract AID-OAA-I-15-00022/Order No. AID-OAA-TO-16-00034, International Business & Technical Consultants, Inc. (IBTCI) was awarded an OFDA contract in October, 2016 to conduct an independent performance evaluation of OFDA's support to the EVD outbreak response in West Africa. The evaluation responds to the USAID's Evaluation Policy of January 2011 (updated in 2016) to ensure that USAID obtains systematic, meaningful feedback about the successes and shortcomings of its programming—and specifically that the lessons learned are documented and disseminated. This evaluation will inform future USG large-scale public health responses to infectious disease outbreaks.

INTENDED AUDIENCE

The primary audience for this evaluation is the OFDA Director and senior management team, senior managers, program managers, water, sanitation and health (WASH) and public health advisors. Other intended audiences include national and international implementing partners (IPs), governments in West Africa, as well as key stakeholders of the USG's response to large-scale infectious disease outbreaks within the CDC and

USAID's Bureau for Global Health. OFDA intends to use the evaluation results to make evidence-based decisions on its role, and on the type and timing of its support within any future large-scale public health response of similar magnitude and complexity.

Evaluation Objectives and Questions

This performance evaluation focused on programs funded between March 1, 2014 and January 4, 2016 and actions taken under the EVD response objective: Controlling the Outbreak. This evaluation was guided by four complementary objectives relating to the overall effectiveness of the response, effectiveness of different programmatic components, the

relevance, and the coordination of OFDA's response to the EVD outbreak. Each objective has multiple evaluation questions as described below. A complete description of this evaluation's statement of work (SOW) is provided in Annex B. The evaluation team is detailed in Annex K.

OBJECTIVE ONE: EFFECTIVENESS OF THE RESPONSE

1. *To what extent did the set of OFDA-supported activities and models of intervention achieve the outcomes and objectives, as defined by each IP and as part of OFDA's intentions?*
2. *Which USG-funded activities, alone or in combination, made the most significant contribution to controlling the EVD outbreak in West Africa?*
3. *Of the many activities designed to address specific aspects of the set of inter-related control measures, how well did each of the OFDA-funded activities fit within the overall response and efforts to control the outbreak?*

OBJECTIVE TWO: EFFECTIVENESS OF PROGRAMMATIC COMPONENTS

4. *What were the determining factors that contributed to success or failure of each of the different types of programs that OFDA supported?*

OBJECTIVE THREE: RELEVANCE

5. *Did OFDA correctly prioritize and weight the most relevant activities over the course of the response in relation to the outbreak's changing epidemiology?*
6. *Were OFDA's funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?*
7. *To what extent did attempting to adhere to technical 'gold standards' affect the timeliness and quality of the response by OFDA's supported IPs?*

OBJECTIVE FOUR: COORDINATION

8. *How effectively did OFDA coordinate all USG efforts as the lead agency in this response?*
9. *To what extent were the activities supported by the USG well-coordinated with the broader international response, including national response structures in the affected countries, and well-coordinated operationally among those organizations that the USG funded?*
10. *How well did OFDA adjust to the changing epidemiology and priorities of the international response?*

This evaluation report presents the results related to Objective Three: Relevance of the Response, i.e., questions five, six, and seven.¹

Response Context

The West Africa EVD outbreak began with a single case in December, 2013 in southeastern Guinea, and then spread to the neighboring countries of Liberia and Sierra Leone. With symptoms similar to other endemic infectious diseases, EVD was not definitively identified as the cause of the outbreak until March, 2014. Misinformation and a lack of awareness among the public regarding EVD transmission modes, combined with inadequate health care facilities and a lack of health staff trained in EVD response techniques, allowed EVD to spread rapidly. By the end of March, 2014, there were 120 suspected, probable, and confirmed cases and 80 deaths in Liberia, Guinea, and Sierra Leone.²

The CDC activated its Emergency Operations Center (EOC) for EVD on July 9, 2014. By July 20, 2014, EVD cases surged in the region and the World Health Organization (WHO) reported the total number of EVD cases in Guinea, Liberia, and Sierra Leone as 1,093, with 660 deaths.³ On July 24, 2014 WHO labeled the EVD outbreak a “Level 3” emergency, its highest level of health risk. As the lead USG entity for the response, OFDA deployed a Disaster Assistance Response Team (DART) to Liberia on August 5, 2014 and established a corresponding Response Management Team (RMT), based in Washington, DC. The DART, a team that over the course of the response included disaster response and public health experts from OFDA, DOD, and CDC—and was coordinated with NIH, and USPHS—was deployed to assist host country governments in containing the EVD outbreak.

OFDA instituted DARTs in Sierra Leone and Guinea as well, all under a nominal regional DART framework. The RMT based in Washington, DC supported the DARTs in coordination efforts. On August 28, 2014, WHO reported that the number of confirmed, probable, and suspected EVD cases and deaths had more than doubled from the previous month.⁴ The number of new EVD cases per week in West Africa was about 700 in September 2014.⁵

On September 16, 2014, the United States President announced the USG’s strategy for EVD outbreak response and preparedness.⁷ The four pillars of the response and preparedness strategy were:

- Pillar One: Control the Outbreak
- Pillar Two: Mitigate Second-order Impacts of the Crisis
- Pillar Three: Coherent Leadership and Operations
- Pillar Four: Global Health Security

The goal of Pillar One was to control the outbreak by reducing the rate of transmission in the affected countries. This response had the following five distinct components:

1. Create effective nationally-led incident management and coordination. This component involved the creation of a National Incident Management System structured around sub-national EOCs to support technical leadership for all aspects of the response, as well as operational support for communications, call center coordination, and associated logistics.
2. Create adequate isolation and treatment capacity in the countries affected by the outbreak. This component involved the creation of Ebola treatment units (some agencies used an alternate name, Ebola treatment center or ETC; in this evaluation we use ETU to refer to both), and Community Care Centers (CCCs) alongside complementary interim measures to enable a community-based response to the outbreak.
3. Assist the public health response through safe human remains management, which goal was to collect human remains of suspected EVD cases within 24 hours to minimize disease transmission and inform surveillance.
4. Restore safety and functionality to the health care system by mainstreaming infection control practices in the health care systems of affected countries.
5. Support the delivery of concise, credible, and clear public outreach and communications to promote broad social mobilization around clear messages about the EVD outbreak.

Epidemiologic Aspects of EVD in West Africa

The most common method of monitoring progress against an outbreak of EVD or other disease is disease surveillance, i.e., counting numbers of cases that occur over time. In settings with weak health systems, those surveillance numbers may be inaccurate, because many cases are neither accurately identified nor reported to authorities.

From a perspective of reported new cases, Liberia had an apparent peak in September, 2014, whereas Sierra Leone and Guinea appeared to have multiple peaks, more spread out in time. Liberia saw 90% of its cases over 9 months, while Guinea and Sierra Leone both had 90% of cases over 12 months. The mode or peak in Liberia was the week of September 14–20, 2014, with 590 cases. Sierra Leone, which has a larger population and more cases overall, had its peak of 540 cases during the last week of October, 2014. In Guinea, there appeared to be multiple peaks—the highest being 292 cases during October 5–11, 2014—but experts believe that the curve charted for Guinea does not include a large number of undiagnosed and/or unreported EVD cases. Reported cases were heavily clustered in urban areas, along trade routes, and along borders. This clustering may also reflect better reporting in these areas.

Figure 1 depicts the known case counts as reported or reconstructed.⁷ Sierra Leone and Liberia each demonstrated classic growth-peak-decline curves, though all three countries ought to be viewed as one collective outbreak, as there was re-transmission across borders during the 2014–2015 period. Guinea's curve is the most atypical, demonstrating a smoldering almost-endemic outbreak curve, reflecting micro-outbreaks in different parts of the country and most probably reflecting significant under-reporting. Across all three countries, the outbreak peaked within a few months of intervention programs being initiated. Thereafter, the orientation of response efforts was aimed toward rapidly locating new, primarily rural mini-outbreaks until zero cases were reached.

In this West African EVD outbreak, several less common epidemiologic indicators also provided important clues to the impact of ongoing outbreak control efforts.

First, there were several of assessments of R_0 , a term that represents the average number of new EVD cases generated by each EVD-infected person. An R_0 of less than one means that the next generation of EVD cases will be smaller than the generation before and indicates that an outbreak is on the decline—success in outbreak control. In West Africa, careful analysis of EVD case surveillance data early in the outbreak indicated that, on average, each EVD case was infecting more

than two other new people with Ebola virus ($R_0 > 2$) thus explaining why each subsequent EVD generation was much larger than the one before. However, as the use of isolation techniques and other EVD prevention measures became more widespread and more effective, the average number of new people infected by each EVD case began to decrease. Eventually, as that average number of new infections from each current EVD case fell below one ($R_0 < 1$), the size of subsequent generations of EVD cases became progressively smaller until the EVD outbreak died out.

When viewed from the perspective of specific small-area mini-outbreaks in districts, towns, or cities, the duration of individual outbreaks in Liberia varied from 20 to 100 days and declined over time at different times in each country.

Another epidemiologic indicator is the average period between the onset of symptoms in persons with EVD and the time when those infected persons were admitted to appropriate EVD treatment facilities. This indicator is important, because it is a measure of the length of time that EVD-infected people were exposing others in their families and communities to the virus. It is also important because early access to supportive nursing and other care of EVD cases in appropriate facilities is associated with lower EVD mortality among those cases.

Incubation periods tended to be 8–20 days,⁴ meaning that the timeline of EVD case identification represents one to three weeks later than actual EVD transmission.

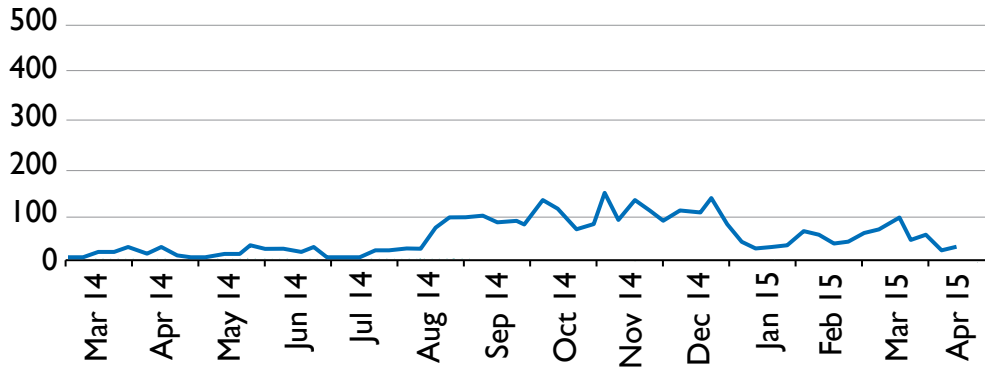
Finally, a critical aspect of EVD epidemiology in the West African outbreak was the identification and monitoring of close contacts of EVD cases, i.e., those people who were most likely to have become infected by being in contact with current cases. The major goal of contact tracing for EVD is to ensure that any and all new EVD cases in the next generation occur only among those people who were known EVD contacts, who can then be quickly and safely referred for definitive diagnosis and clinical care. Conversely, EVD cases occurring among persons who were not known and monitored as contacts indicates that unknown EVD infection chains were continuing to spread EVD in families and communities.

Initially in all three countries, many newly occurring EVD cases had not previously been identified as contacts, indicating that the effectiveness of contact tracing was low. Over time, as these programs became more efficient, a larger and larger proportion of all EVD cases occurred among those people already being monitored by contact tracing programs.

Figure 1. New EVD infections reported, by country, 2014, 2015.
 Source: CDC and WHO

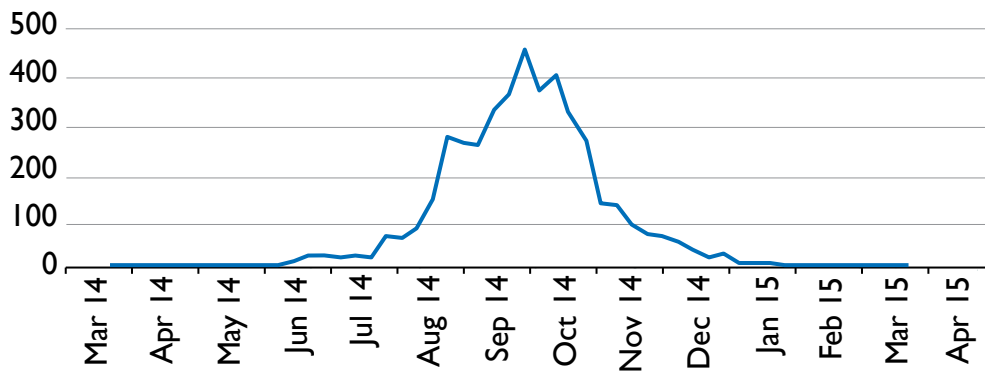
NEW INFECTIONS REPORTED PER WEEK

GUINEA



NEW INFECTIONS REPORTED PER WEEK

LIBERIA



NEW INFECTIONS REPORTED PER WEEK

SIERRA LEONE

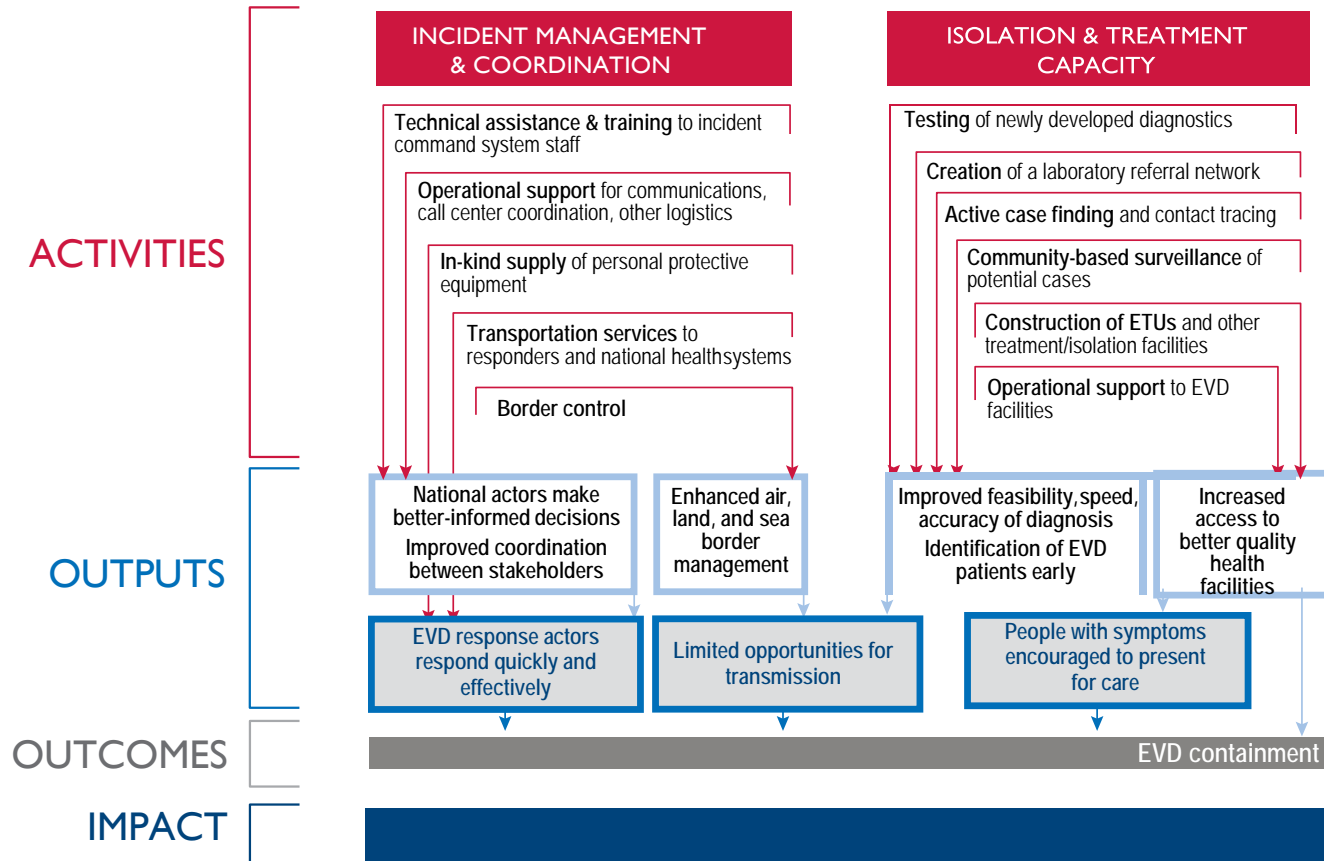


Theory of Change

The underlying theory of change (TOC) for the response, as described in the SOW, was informed by two guiding principles of disease control: 1) effective isolation of EVD cases and safe burials of those who died were required to decrease transmission and bring the outbreak under control; and 2) simultaneous massive education and outreach was required to increase population-wide understanding of the disease, how to recognize it, how to prevent transmission, and the importance of modifying behaviors that increase risk. The structure of the response was modified and adjusted at several points during the course of the outbreak. The evaluation team constructed a TOC illustration to understand the logical

structure of the response. The TOC explains the response components and activities grouped by response components, direct results (outputs), higher level outcomes (reduced disease transmission and number of EVD cases), and impact (reduced EVD mortality) (Figure 2). The TOC illustration helped the evaluation team to identify the most relevant respondents for each evaluation question, to formulate quantitative survey and qualitative interview questionnaire, and provided a structure for data analysis and reporting.

Figure 2. OFDA EVD response theory of change



OFDA-supported IPs and Activities

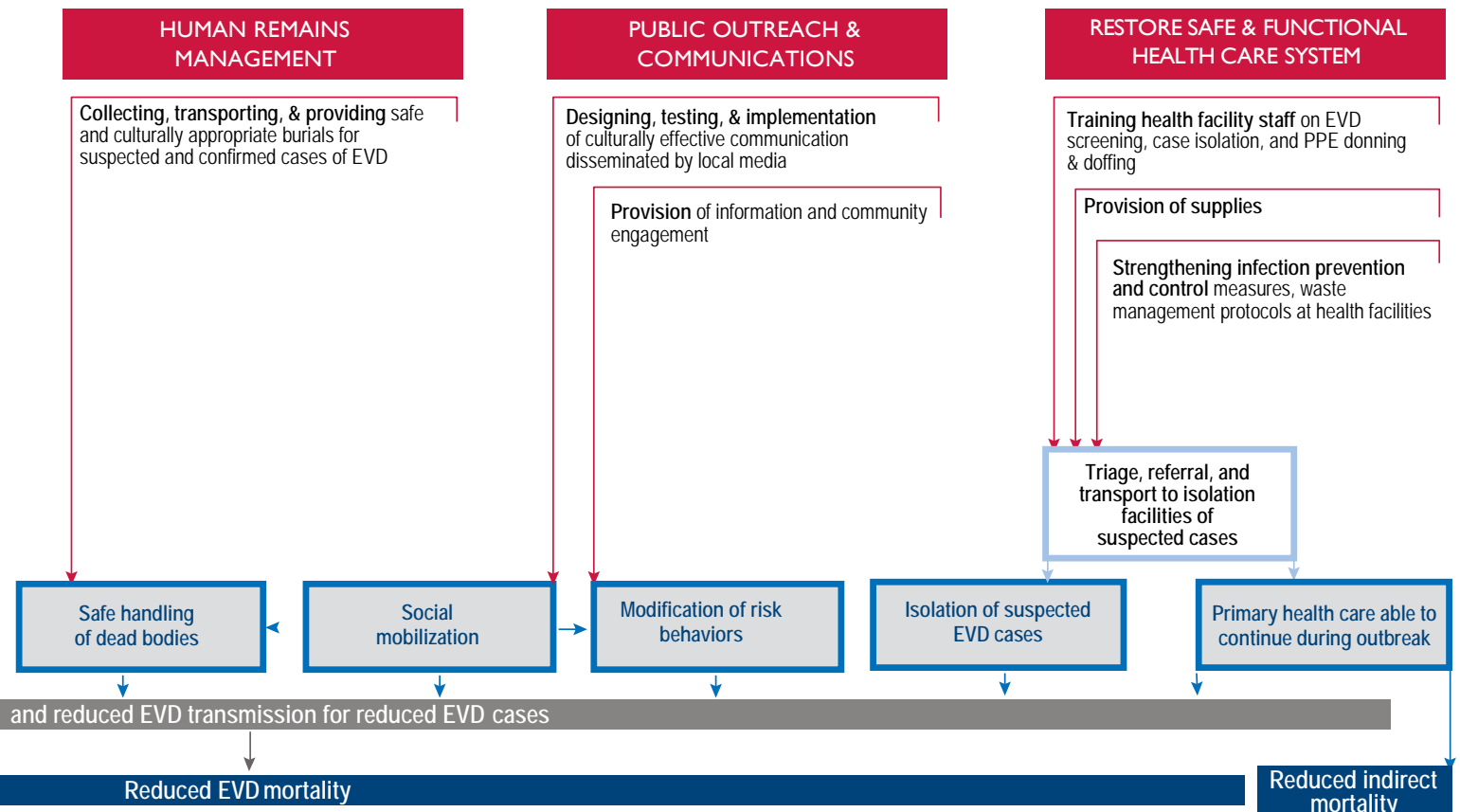
OFDA funded over \$772 million in country and regional activities under the response in Guinea, Liberia, and Sierra Leone and in the West Africa region (see Annex B, Evaluation SOW). The number of IPs supported included 26 in Liberia, 18 in Guinea, 14 in Sierra Leone, and five regional partners. Annex E includes a list of the OFDA-supported implementing partners, including location, funding amount received, and types of activities supported. Figure 3 on page 14 shows the

physical locations of activities. During the 16 months from August 5, 2014 to January 4, 2016, the OFDA DARTs and RMT coordinated the response with OFDA-supported IPs, other USG agencies, non-USG donors, and national and international response partners in each country. Following the steady decrease in the EVD caseload in late 2015, the DARTs and RMT demobilized on January 4, 2016.

Response Funding

USG was a major donor in all three countries, its funding the highest among the major donors. Other major donors involved in the response at the same time were (and their respective funding contribution was) as follows: the World Bank (WB) \$1.6 billion; United Kingdom (UK) \$550 million; the European Union (EU) \$720 million; the governments of Japan \$185 million, Germany \$134 million, China \$125 million, and France \$97 million; and the major philanthropic organizations Paul Allen

Foundation and the Bill and Melinda Gates Foundation.⁹ USG funding for individual countries was highest in Liberia, at around 83%; in Sierra Leone at 46%; and Guinea at 38% of total donor funding. The remainder was all other donors combined.¹⁰ See Annex E for detail.



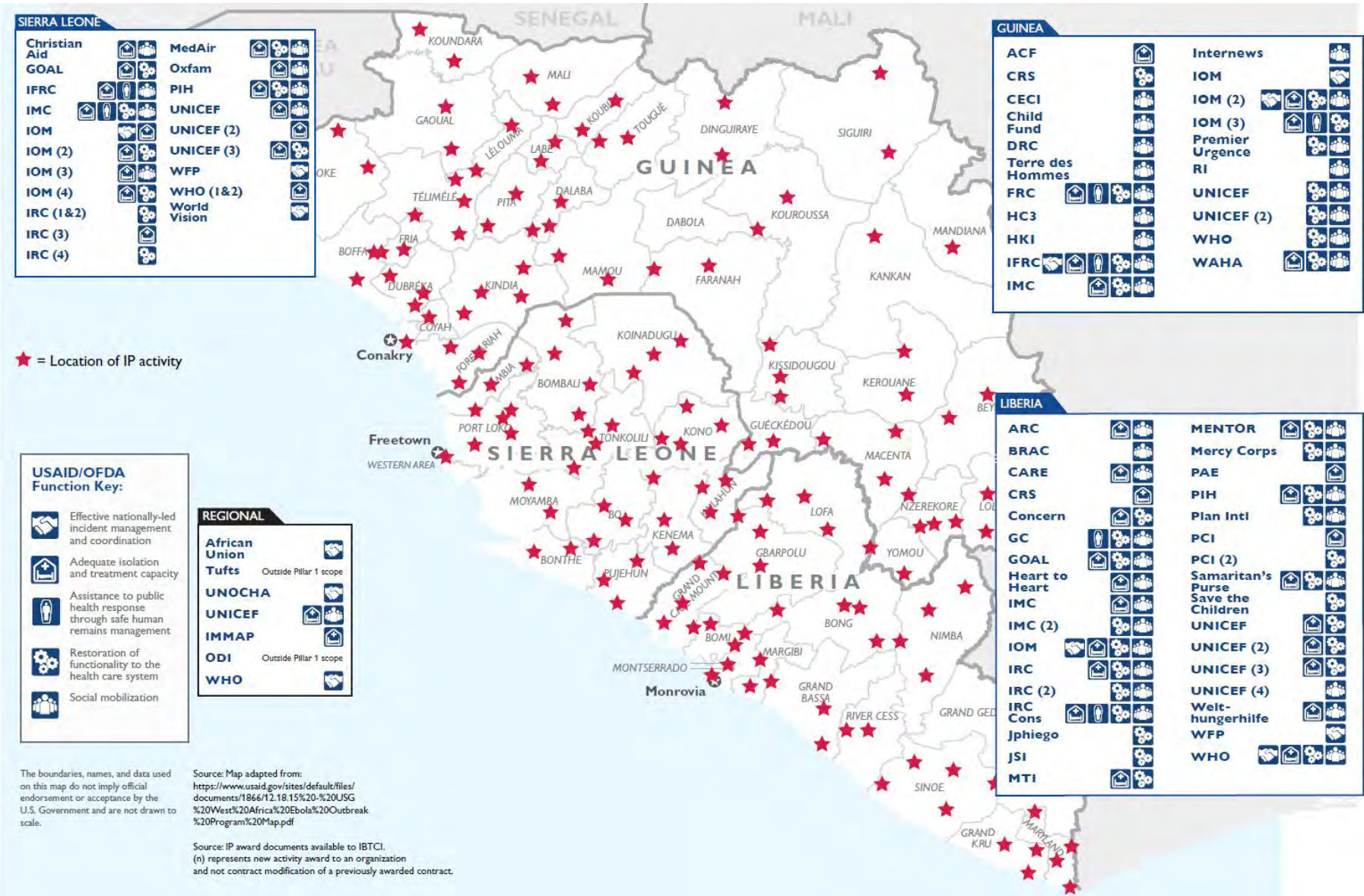


Figure 3. Map of project locations (detail in Annex E)

METHODOLOGY

Evaluation Design

The performance evaluation was designed to evaluate actions taken and activities funded by OFDA between March 1, 2014 and January 4, 2016 of the EVD response: Controlling the Outbreak. Focusing on the EVD response in Liberia, Guinea, and Sierra Leone, it was designed with a utilization-focused approach—to provide findings, conclusions, and recommendations that can be applied, are scalable, actionable, and are meant to be of utility to the design and implementation of future OFDA interventions. The evaluation methodology considered real-world constraints, including time and funds available, and sought to minimize disruption and burden placed on individuals serving as data sources. The evaluation was designed to answer each of the 10 specified evaluation questions listed above in the Introduction.

The evaluation design team included experienced evaluators and methodological experts in qualitative and quantitative data collection. It included specialists in infectious disease epidemiology, medical anthropology, analysis of qualitative data, and data collection in humanitarian settings. A detailed description of the evaluation team is presented in Annex K. A local national working as an Evaluation Coordinator in each of the three target countries helped to refine the data collection questions and tools and ensure cultural relevance and sensitivity. Local response partners in each country were consulted to help compile lists of key informants. A more detailed description of evaluation design can be found in Annex D.

Data Collection Methods

This evaluation design incorporates six data collection methods: a review of peer-reviewed and gray (unpublished) literature,¹¹ OFDA, CDC, and IP reports, and surveillance data; semi-structured focus groups; (3) semi-structured key informant interviews (KIIs); (4) an online self-assessment survey conducted among DART and RMT members; (5) roundtable discussions with OFDA-supported IPs and other responders; and (6) quantitative surveys (see Table 1). The quantitative methods included national household surveys, with sub-national sampling proportionate to population size,¹² of several thousand households per country, as well as smaller purposively sampled surveys of individuals who worked as contact tracers, CHWs, or volunteers trained or supported by OFDA IPs.

The evaluation team interviewed the most relevant respondents for each of the evaluation questions. The choice of KII or FGD respondent group was determined based on the relevance to each evaluation question. An in-depth design matrix can be found in Annex D, which describes for each evaluation question the data collection methods, data sources, data collection locations and sampling, and data analysis methods. All of the data collection tools used can be found in Annex F. A full listing of persons interviewed can be found in Annex H, and a list of documents consulted can be found in Annex G with a literature review in Annex M. Desktop reviews and other research began in December, 2016

Field Implementation

Primary data collection occurred within Liberia, Sierra Leone, and Guinea from March to July, 2017. Training for the local supervisors and field survey teams occurred in each country from May 10–17, 2017. Survey trainings were led by ORB International in-country affiliates and overseen by the Public Health Advisor and local Evaluation Coordinators in each country. All surveyors were from the areas in which the data were collected, and field supervisors were country nationals. Training of field survey teams included instruction in survey methodology, operational guidelines including research

ethics, a detailed review of the survey tools in each language, instruction in the electronic data collection devices, and practice interviews in the local community (under supervision). Data collection tools were pilot tested in each country the week prior to the survey training. Results from pilot testing informed adjustments made to the tools that ensured appropriate local understanding. Consistency was maintained in the tools across the three countries for comparability. The final tools were approved by OFDA.

Table 1. Data collection methods and sources of information

Methods	Sources of information	Scope
Literature review	Peer-reviewed and gray literature; implementing partner records; published surveillance data	4,000 general literature plus 590 IP records from OFDA
Focus group discussions (FGDs)	<ul style="list-style-type: none"> ▪ Burial team members ▪ EVD survivors and families affected by EVD ▪ Members of communities affected by EVD ▪ Members of communities near EVD-affected areas 	196
Key informant interviews (KIIs)	<ul style="list-style-type: none"> • Community leaders • Ministry of Health (MOH) national response partners • National or regional hospital staff • Non-USG international response partners • OFDA supported implementing partners USG partners 	285
OFDA Self-assessment online survey	DART members, RMT members	49
Roundtable discussions	USG and non-USG response partners	2
Quantitative surveys	General population	16,365
	Contact tracers	250
	Community health workers/social mobilizers	288

One household survey, representative of nationwide populations with 16,365 respondents (households), was conducted across all three countries.¹³ Specific protocols were developed, both to comply with “do no harm” principles and to ensure the protection of respondents in this evaluation. Verbal informed consent was obtained from each household respondent. The respondents were informed in detail the purpose of evaluation and their right to refuse participation without any negative consequence. KII respondents’ confidentiality was protected by not including their names and organization names in the report. Household survey teams were provided with instructions about how to make local referrals for counseling and other services, in case a respondent

requested the information during or by the end of the survey. To protect respondent privacy, unique identifiers were used in place of names and the database and interview transcripts were password-protected. Local permissions were obtained for data collection in each country: from the Institute of Statistics and Geo-Information Services in Liberia; the Statistician General in Sierra Leone; and from the Ministry of Health, the National Health Security Agency, and the National Statistics Institute in the Ministry of Planning and Cooperation in Guinea.

Two representative but smaller sample-size surveys were conducted among contact tracers and community health workers.

Data Management and Analysis

Standardized procedures for interviewing, note taking, and data analysis ensured consistency and objectivity in interpretation of findings. Combining qualitative data with quantitative findings and findings from literature review enabled triangulation of information and ensured multiple sources of support for each finding. The quantitative survey data were collected on electronic tablets using SurveyToGo offline software, with built-in response validation. Data were uploaded from the tablets to a secure online server daily after data quality check by an ORB field supervisor. Data

were downloaded from the online server weekly to perform an additional data quality check by the team leader. STATA version 14 was used for quantitative analysis, which compared indicators across countries as well as by gender and urban/rural residence within each country. In this context, there were no appropriate baseline data for comparison. Interviewer notes were prepared immediately following each KII and FGD and uploaded to a secure shared online drive. Coding was applied according to a designated codebook based on the ten evaluation questions.

following each KII and FGD and uploaded to a secure shared online drive. Coding was applied according to a designated codebook based on the 10 evaluation questions. The qualitative data were analyzed using Atlas-ti version 8, using a Grounded Theory approach.¹⁴ Literature review data were analyzed with some use of *Tableau* software version 10. Contribution analysis¹⁵ was used to assess the influence of individual interventions on the outcomes in the presence of multiple actors and programs. Contribution analysis examines all evidence to discern the plausible links and impact pathways between activities and a common goal.

Summary data from quantitative surveys, KIIs, FGDs, document review, and secondary data analysis were distributed among team members. Multiple team meetings were held for data triangulation and interpretation of the results. Each evaluation question's findings were supported by two or more data collection methods; each conclusion was supported by data triangulation and interpretation of two or more findings.

Limitations

A number of potential limitations to the evaluation data and findings were identified during the design and implementation of the evaluation. Most were identified early, enabling IBTCI to take effective mitigating measures. Limitations are mentioned briefly below, and more detailed information on limitations, and the measures taken by IBTCI to mitigate their impact, is available in Annex D.

Interviews with key informants from OFDA, CDC, and each IP, and analysis of IP awards made, funding amounts, and public statements failed to fully mitigate the major limitation of IBTCI's inability to see the complete OFDA strategy documents and the lack of several IP awards documents. Key informants and household survey data were used to mitigate a restricted ability to evaluate achievement of program outcomes due to limited availability of IP performance measurement data. Key respondents were often identified and interviewed remotely to mitigate the limitation of many key personnel having left the focus countries. Survey questions were designed using

anchor dates, and respondents were given time to reflect before answering to mitigate potential recall bias. Survey teams were trained extensively on interviewing skills and avoidance of leading questions to mitigate social desirability bias.

Data from numerous FGDs and KIIs in Sierra Leone and Guinea ensured the experiences of those countries were well-represented to mitigate the impact of numerous respondents focusing their recollections disproportionately on the response in Liberia. Quantitative survey data were disaggregated by gender to mitigate the limited availability of evidence on gender dimensions. Participation of men and women was ensured through conducting equal numbers of separate community FGDs by gender. Females were purposely selected for KIIs to compensate for bias from the natural under-sampling in non-professional groups. Data triangulation helped mitigate the tendency of stakeholders to feel they were successful and did a good or better than average job (optimism bias).

FINDINGS

This section consists of high-level findings associated with the evaluation questions. The overall results are presented here analyzing evaluation data across the three countries; country-

specific findings and summary conclusions for each evaluation question are presented in the subsections.

Overall Findings

EVALUATION QUESTION 5

Did OFDA correctly prioritize and weight the most relevant activities over the course of the response to the outbreak in relation to the outbreak's changing epidemiology?

The intervention prioritizations evident in OFDA's early response strategy were more case oriented than prevention oriented.

Based on analysis of awards made and OFDA communications, early priorities included infection control practices, isolation and treatment, and safe burial, in line with priorities identified by the CDC and based on models and experience from past outbreaks. In September, 2014, the decision to prioritize ETU construction and staffing was consistent with an EVD reproduction number over one, large caseload projections, and insufficient existing ETU capacity.

OFDA-supported ETUs in Liberia came online too late to contribute significantly to transmission control. As the epidemic contracted in Liberia beginning in October, 2014, the ETU focus proved to be overemphasized and was slow to change course. Comparison of the epidemic curve to ETU bed capacity shows that while the epidemic peaked in Liberia in late September, the first OFDA funded ETU was not ready until late November, and some were not ready until January. Several ETUs reported not seeing any patients. Key informants have also asserted, however, that the ETUs served as an important symbol of support, and that stopping their construction could have sent a negative message. The construction of ETUs across Liberia also ensured that people in all parts of the country had access, if required.

OFDA inadequately prioritized social mobilization in the early response. Analysis of awarded funds and KIIs demonstrate that OFDA under-emphasized social mobilization early on. Though the repurposing of some preexisting USAID supported projects contributed to social mobilization, OFDA did not integrate social mobilization well into its overall efforts. IP key informants confirmed this and they and other responders reported that behavior change was the core element in controlling the outbreak. Post-epidemic research shows that mobilization

was beginning to affect the outbreak in Liberia even as OFDA was entering. Models including only ETU control did not match the actual epidemic trajectory, however those that modeled increasing ETU capacity coupled with social mobilization did. Awards analysis and key informants show that OFDA gave more emphasis to community-level interventions and social mobilization in 2015. This was in line with the USG's decreasing emphasis on ETUs, and recognition in the overall response that social mobilization was critical to controlling transmission.

OFDA appropriately responded to significant shifts in the EVD epidemic by the end of 2014. OFDA communications, awards documentation, and reports from key informants show that in late 2014 and early 2015 OFDA decreased its weighting of ETUs and gave more emphasis to community-level interventions. OFDA also increased its engagement in Guinea and Sierra Leone at that time. Analysis of award modifications shows that OFDA demonstrated flexibility in modifying IP awards as the epidemic response needs shifted. IPs and national response mechanisms both reported that OFDA was responsive to changes and adapted its approaches appropriately.

OFDA's country-by-country approach was ill suited to addressing the regional nature of the outbreak. The decision to engage in Liberia first, and delay responding in Guinea and Sierra Leone, was inconsistent with the course of the epidemic in those countries. The reproduction number was climbing in all three countries in the third quarter of 2014, but unlike Liberia, it continued climbing in Guinea and Sierra Leone in the fourth quarter. A country-specific approach was also inadequate to address the transnational mobility of the virus. According to awards documents and KIIs, OFDA funded cross-border initiatives starting in January, 2015, but prior to that was not engaged in a whole of region response. There was little evidence of DART coordination across the three countries. The significant contraction of the epidemic in Liberia in late 2014, compared with the slower containment in Sierra Leone and the diffuse micro-outbreaks in Guinea in 2015, suggests that a "whole of response" approach in Liberia was more effective than the piecemeal support in Guinea and Sierra Leone.

EVALUATION QUESTION 6

Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?

The majority of OFDA funding was late in arriving, relative to the course of the outbreak. The timing of OFDA awards compared to the epidemic curve shows that OFDA funding arrived after the epidemic peak in all three countries. When OFDA began its response, the EVD reproduction number had been over two in all three countries, and remained over one, signifying rapid expansion. In August, September, and October, funding was not rapid enough to keep pace with demand for resources. OFDA made 30% of its awards during this critical period, comprising approximately 35% of total OFDA funding. Another 30% of awards were made in November and December 2014, as funding began to catch up with needs. USG key informants noted early that OFDA had difficulty in finding sufficient response partners, slowing the initial response.

OFDA made recommendations for funding quickly; however, internal approvals required for funds disbursement were slower. Key informants and award documents show that while OFDA was able to make initial reviews of proposals within days of receiving them, approval processes sometimes delayed funding disbursements by months. Prioritization of partners with whom OFDA had preexisting relationships sped up the process.

Grant awards and cooperative agreements with IPs functioned as expected and were the common support mechanism. Analysis of awards documents shows that most OFDA funding went through grants or cooperative agreements with NGO IPs, accounting for more than half of the awards and about half of the funding. The earliest of these were made to IPs already working in the affected countries or that had existing relationships with OFDA from previous partnerships, such as Global Communities (GC), Samaritan's Purse, UNICEF, and International Organization for Migration (IOM). Consortia proved a successful means of promoting coordination and integration of projects implemented by different partners, and bringing economies of scale to key regions in the response.

In-kind support was timely and appropriate. Initial in-kind support reached Liberia, as shortages were being reported, helping to fill critical gaps in supplies for IPC and WASH. OFDA sent 16 metric tons of medical supplies and equipment to Monrovia, Liberia in August, 2014, as well as helping UNICEF procure and transport 27 tons of supplies.¹⁶ In September, OFDA provided PPE through WHO and coordinated with the World Food Programme (WFP). IP informants reported that in-kind contributions were helpful and appreciated. They also said that OFDA teams were onsite helping to arrange materials and transportation.

Private contracts offer a useful mechanism for filling gaps that IPs are unable to address; however, in this case, the generally contract resulted in massive expenditure on an untimely result. PAE was able to meet staffing requirements that NGO partners did not have the capacity to fulfill; however, the staff arrived late.

Early targeting was better in Liberia than in Guinea and Sierra Leone, but later support of micro-outbreak strategies in all three countries was well-targeted to areas critical for outbreak control. OFDA and national response structure key informants reported that while OFDA played a leading role among response partners in Liberia, it played a secondary role in the response mechanisms in Guinea and Sierra Leone, resulting in a comprehensive OFDA response in Liberia but a more fragmented approach in Guinea and Sierra Leone. This may have contributed to slower containment in Sierra Leone and persistent micro-outbreaks in Guinea. Award documents and KIIs show that in 2015, OFDA supported the micro-outbreak strategy that CDC helped develop, which was ultimately successful in containing the epidemic.

EVALUATION QUESTION 7

To what extent did attempting to adhere to technical "gold standards" affect the timeliness and quality of the response?

Insufficient availability of international guidelines hindered quality, adequate guidelines improved it. Guidelines had both a positive and negative affect on timeliness.

Early responses were not hampered by an attempt to adhere to strict "gold standards." Timeline analysis suggests that most standards were in the process of development concurrently with the need for decisions about implementation. Analysis of existing guidelines from WHO and CDC showed that only a few relevant guidelines were readily available at the start of the outbreak. Initial IPC and contact-tracing guidelines gave responders a template to follow and enabled them to act quickly. Key informants and literature from the early response show that even when initial guidelines proved inadequate in rigor and had to be updated over time, the initial presence of a road map helped prevent delays.

In a few cases, guideline adherence or confusion over guidelines caused delays. Analysis of response literature shows that some CCCs were delayed due to confusion regarding guidelines. Some USG key informants reported that slow DOD ETU construction was due in part to meticulous guideline adherence. OFDA actions may have been slowed down by delays due to discordance between guidelines from different sources and technical deliberations over what the standards were or ought to be in a wide range of matters, ranging from the correct percentage of chlorine bleach solution, the proper procedure for donning and doffing PPE, or construction standards for CCCs. There was disagreement between CDC and USAID

regarding the use of home hygiene kits. ETU guidelines and technical standards did not contribute directly to delays in isolation and care, however there were delays associated with training on guidelines and technical standards.

In some areas where guidance was lacking, early mistakes were made. Insufficient IPC standards led to infections among clinical staff, inadequate contact tracing resulted in unidentified chains of transmission, and overly strong disinfection solutions led to over-chlorination. There was notable improvement in each of these areas as improved guidelines were implemented. There was a lack of guidelines for how to address needs that varied by gender or that were particular to vulnerable populations, resulting in some needs of vulnerable populations not being met.

Availability of appropriate guidelines improved response quality. The diffusion of rigorous IPC guidelines led to significant decrease in nosocomial infections. The implementation of more rigorous contact tracing guidelines improved case finding and tracking, decreasing the share of unidentified cases. Burial workers were extremely appreciative of having guidelines to follow and credited the guidelines with keeping infections among their team members very low. Adaptations to safe burial guidelines helped burial teams overcome community resistance and better manage working in PPE.

OFDA ensured its partners were aware of the relevant guidelines, but did not require adherence with any particular set. This enabled IPs to make locally relevant adjustments and coordinate with national response mechanisms. Most IPs followed guidelines provided by WHO and CDC. Staff from IPs and local response partners, including burial workers and district health staff, reported being happy to receive and follow technical guidelines when they were available. Data from IBTCI surveys of contact tracers and CHWs show that the vast majority reported receiving guidelines and the top sources of guidelines were reliable: MOH, WHO, and *Médecins sans Frontières* (MSF). Survey data show contact tracers and CHWs followed the standardized guidelines more than 90% of the time.

Country-specific technical guidance was not available at the beginning of the outbreak and IPs adapted and used international guidelines. Guidelines were introduced later and changed over time, as more was understood about the social context of the epidemic. Liberia's MOH had a notable mechanism for reviewing and adapting guidelines in an inclusive way that supported adherence by stakeholders.

Findings by Country

EVALUATION QUESTION 5

Did OFDA correctly prioritize and weight the most relevant activities over the course of the response to the outbreak in relation to the outbreak's changing epidemiology?

OVERVIEW

Initial OFDA priorities: As the 2014 EVD outbreak was unprecedented in size and scope, OFDA was unable to rely on previous experience to craft its response strategy. Key informants from within the USG reported that OFDA's internal response strategy was largely designed by the CDC, which was the dominant partner in defining the early EVD response strategy for the whole of USG. The CDC used epidemic models to help inform response priorities. A WHO model estimated there would be 20,000 cases in West Africa by early November, 2014.¹⁷ CDC warned of the potential for as many as 1.4 million cases in the region by early 2015.¹⁸ The CDC model also identified a tipping point at which the number of cases would plateau and decline, if enough (>70%) EVD patients were isolated effectively and those who died were buried safely.¹⁹ CDC's Director, Thomas Freiden, said that the CDC strategy was based on this finding.²⁰ In July, 2014,

CDC and USAID attended the WHO-sponsored Emergency Ministerial Meeting on Ebola in Ghana,¹⁸ which resulted in a WHO sponsored response roadmap.²² As with other coordination meetings, OFDA was aware of other responders' and donors' plans, and remained in communication with them, but was more influenced by its own field teams and the CDC.

The CDC's approach, and thus OFDA's as well, focused on interventions about which it had prior information. Initial models did not incorporate behavior change or social mobilization as inputs into their forecasts for transmission or comparisons of the relative effects of interventions, as there was little information available about these factors available.²³ No 2014 model that the evaluation team found attempted to account for health communications, community engagement, or grassroots-driven behavior change as a factor in reducing or stopping transmission. Later models, using data from the West Africa outbreak, attempted to incorporate social factors, the earliest of which was released in May, 2015 after USG response strategies had been largely formulated.²⁴ One model, published in December 2016, concluded that "the extent to which unquantified factors such as human behavior change can reduce transmission is unclear, but appears to have played a major, if not the key role, in stopping EVD transmission."²⁵

Initial OFDA strategy focused on Liberia, and prioritized infection control and generating more isolation beds for EVD patients (areas emphasized by early models and emphasized by CDC as critical for controlling transmission). The initial goal was to erect ETUs, to get ahead of the expanding geographic scope of transmission by positioning ETUs in key population centers, as well as funding safe burials and providing infection control supplies.

This prioritization was reflected in early awards. According to award documentation provided by OFDA, OFDA made its first three awards in late August, 2014. OFDA awarded Global Communities (GC) \$800,000 primarily for safe burials. UNICEF received \$7,000,000 award for IPC and WASH activities, and International Medical Corps (IMC) receive \$5,000,000 for case management (early diagnosis, isolation, and treatment) and safe burial. Initial weighting as measured by funding amounts was for IPC and case management, in line with the CDC strategy. OFDA's early response also prioritized the delivery of critical supplies. OFDA sent PPE, water treatment supplies, gloves, and body bags beginning in August 2014.

In September 2014, President Obama made a statement outlining USG response priorities, the same week that the outbreak peaked in Liberia (September 14–20). In his speech, the U.S. President focused on Liberia, and discussed the urgent need to establish ETUs, in combination with “a community- and home-based strategy that supports households and communities.”²⁶ OFDA's role fell under the first of four key goals,²⁷ controlling EVD transmission, which OFDA broke down into the five stated priorities discussed in the Background section above.

At this time, OFDA also tasked the DOD with constructing the Monrovia Medical Unit (MMU), in Margibi County, Liberia. The MMU was an ETU designated for international and Liberian health care workers and responders should they become infected, to assure them that high-quality EVD care and trained staff were available if needed. DOD reported feedback from numerous stakeholders, including the UN Mission for Ebola Emergency Response (UNMEER), which indicated that “the presence of the MMU and its demonstrated capabilities continue to inspire and sustain confidence among the international community of responders, contributing greatly to the overall capacity of ... response efforts.”²⁸ The large-scale mobilization of U.S. resources and assurance of quality medical care helped build the confidence of other potential response partners to engage.

September 2014 funding followed a similar pattern as August, with greater weight on infection control and case management, but with an increasing emphasis on social mobilization. The largest grant of more than \$28,000,000 went to the IOM for clinical and operational management of ETUs. Ten million dollars awarded to the African Union was used for ETU

support, epidemiological support, opening and management of laboratories, and training medical teams. Mercy Corps received \$12,000,000 for work in community health education and behavior change. Samaritan's Purse and GC each received about \$7,000,000, including some support for social mobilization activities. OFDA also expanded funding for safe burial programs. A listing of all IP awards, including the amounts and dates, are found in Annex E.

Prioritization of ETUs: OFDA made its single largest award in October, to the private company PAE to manage ETUs in Liberia. The \$89,000,000 contract with PAE was more than the amount of the awards to the Red Cross, Mercy Corps, The African Union, Concern, Medair, BRAC (Bangladesh Rural Advancement Committee/Liberia), ChildFund, CARE, InterNews, Relief International (RI), and Catholic Relief Services (CRS) combined. The size underlined the emphasis the USG put on ETUs as the key to controlling the epidemic. This contract, however, was made after the outbreak began contracting in Liberia, and it did not include support for ETUs in Sierra Leone, where the epidemic was peaking. OFDA also awarded WFP nearly \$60,000,000 to enhance the supply chain management and logistics support for ETUs and CCCs. IOM was awarded \$28,000,000 for clinical and operational management of ETUs in Liberia. Partners in Health (PIH) was awarded more than \$11,000,000, largely for ETUs and CCCs, and the International Rescue Committee (IRC) was awarded more than \$10,000,000 for ETU clinical care. Based on funding, it appears that ETU construction, staffing, and management was the most heavily weighted activity. The ETU focus was also the USG's determination of how it could best add value—ETUs are expensive to build and run, and outside the reach of the local governments or community organizations that would be able to address other response components more effectively.

ETUs in Liberia were not ready until after the epidemic had peaked there and was already sharply declining. The first U.S.-constructed ETU in Liberia didn't open until mid-November, 2014, and the others in late December, 2014 and January, 2015.²⁹ As shown in Figure 4 below, the number of isolation beds available did not increase until late 2014. This led many key informants to conclude that the ETU focus was unwarranted. One IP key informant said “*IPC and contact tracing seemed like afterthoughts to ETUs, but they should have been primary.*”

CDC projections of infection trends drove decision-making. Jeremy Konyndyk, who headed OFDA and the EVD relief response for USAID, was publicly quoted as saying “The challenge in this kind of a response is you don't know where the fire is going to break out, but you're going to need a fire station there when it does.”³⁰ Continuing ETU construction supported the objective of having an ETU within accessible geographic distance for all areas of the country. A key element of the case management strategy was the presence of an ETU within an acceptable referral distance, precisely due to the difficulty of predicting the number or location

Figure 4. Newly reported cases of EVD vs. beds in treatment centers

Source: Epidemiologic data from CDC and WHO.

Source: Number of beds from Humanitarian Policy Group, Overseas Development Institute; 2015 Oct. (HPG Working Paper). Available from: <https://www.odi.org/publications/9956-ebola-response-west-africa-exposing-politics-culture-international-aid>

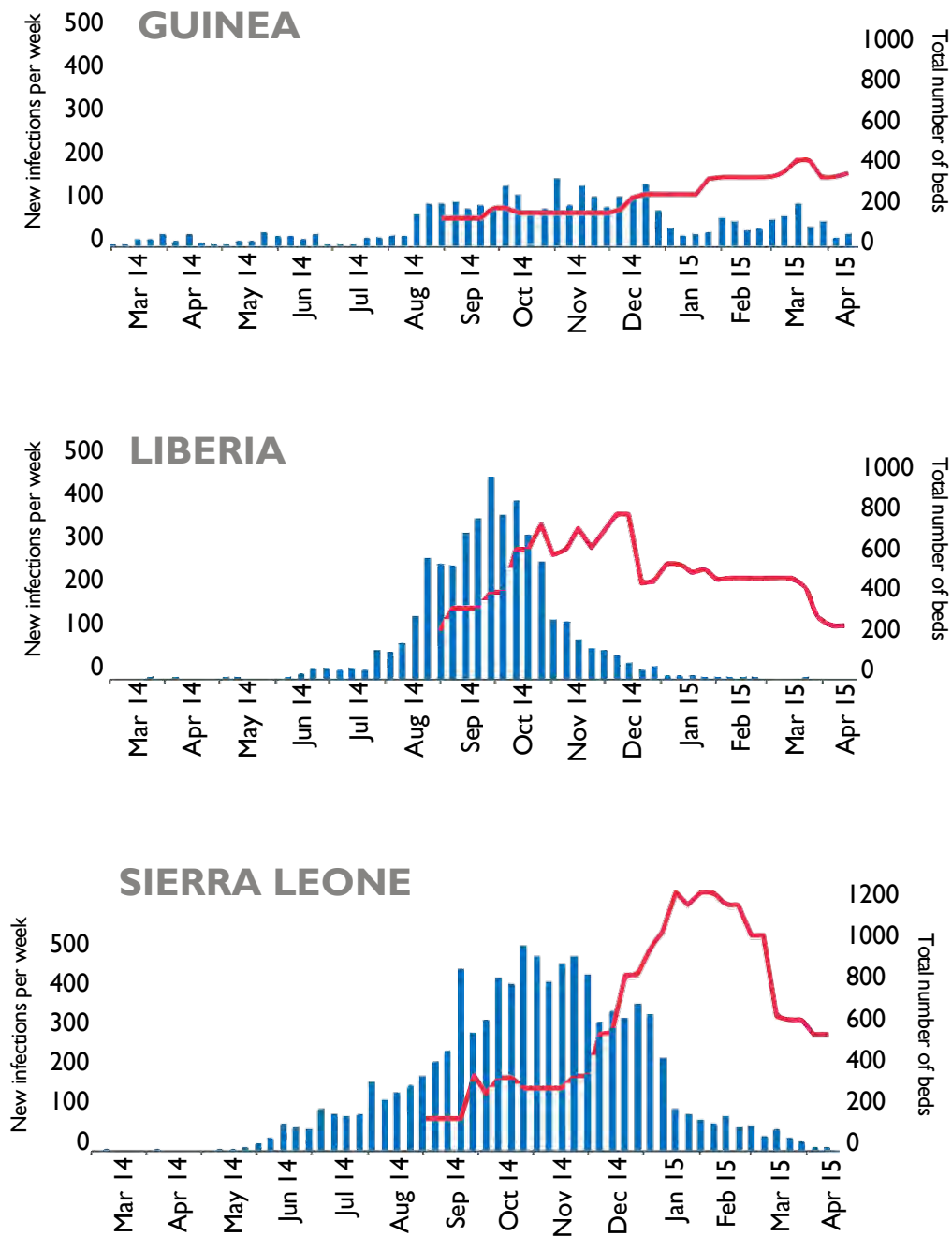


Figure 4 depicts the gradual increase in beds at health facilities, which reached target levels after they were needed for the EVD response in each country.

of future cases. Even a single case, effectively isolated, contributes to control of the outbreak, suggesting that ETUs played an important role even as cases declined.

“It was adequate, even when it seems that ETUs were not utilized as expected. In disasters you must build redundancies in the system. If we had not and then we had not contained EVD we would have said we had the money, so why didn’t you prepare? Speed was the main thing in responding to the way the disease was spreading – you had to be in it to appreciate it.”

— KI

Several key informants commented that although the initial projections warranted commissioning the ETUs, emerging data should have informed a shift in approach. Though data quality varied and case numbers were underreported (presumed at the time, now confirmed),³¹ a sharp decline in transmission was evident in Guinea and Sierra Leone in January, 2015, and even earlier in Liberia. One IP informant concluded that:

“OFDA and USG could have used the data better to inform decisions. Some modeling informed massive amounts of resources for ETUs. Then, they were still building them when data clearly showed a shift was needed, needed more nimble modification of funding. I felt ‘what a waste of resources.’”

The decision to prioritize ETUs was not made by OFDA alone, and neither could it change that prioritization unilaterally. One USG key informant put it bluntly, “Did OFDA define the strategy? No. They delivered.” Interviews at OFDA emphasized the pressure from political leadership about this.

“One issue was that there was clear leadership from the top which wasn’t involved in the day-to-day. Meanwhile the day-to-day changed so quickly and we couldn’t react due to orders from the top.”

“In September, the President made an official statement on how Ebola would be tackled, but by December the situation had changed, and people were uncomfortable with making changes to the President’s statement. By March, ETUs for example, were still being set up and fully staffed in a county that hadn’t had a case in 6 months. People did what they could in the political context.”

OFDA did make some adjustment to the ETU strategy. As transmission declined in Liberia in late 2014, it revised downward the total number planned and new awards focused on other response components. Given the USG’s willingness to fund the response at high levels, ETU construction did not prevent funding other interventions. Carrying on with ETU construction enabled responders to hedge against resurgence, and portray consistency in the response strategy.

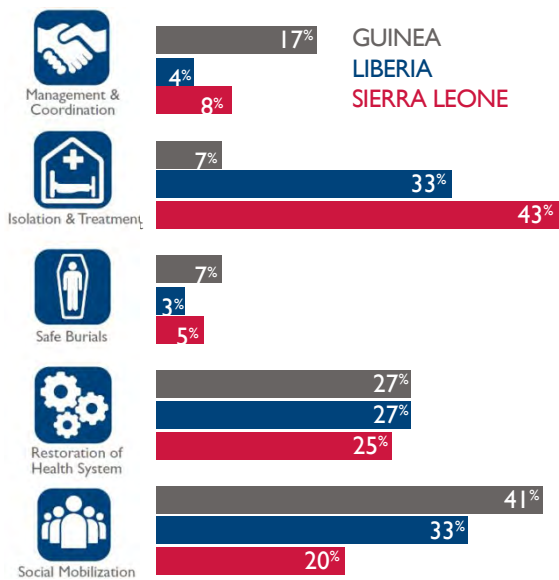
Social mobilization: An important goal of EVD outbreak control is to reduce the average period of time between the onset of EVD symptoms and admission to an appropriate EVD isolation and care facility. Social mobilization was a critical

element of educating the community and building the trust and participation that were necessary to achieve the behavior change and effective contact tracing critical to reducing that period. For most of 2014, in all three countries, many newly occurring EVD cases had not previously been identified as contacts, indicating that the effectiveness of contact tracing was low. As these programs became more effective, the proportion of all EVD cases occurring among people already being monitored increased, enabling them to be quickly and safely referred for definitive diagnosis and clinical care. Transparency, communication, and community engagement have been credited with contributing substantially to changing the course of the outbreak.³² Comparison of models of the outbreak in Liberia have shown that models including ETUs alone did not match the observed epidemic trajectory, however those that modeled increasing ETU capacity along with education and awareness-induced behavior change match the actual data well.³³

There were a few awards for social mobilization in Liberia in August and September 2014, but none in Guinea until October, and in Sierra Leone, not until December. Though the repurposing of some preexisting USAID supported projects contributed to social mobilization, OFDA did not integrate social mobilization well into its overall efforts. A key informant from a multilateral response partner summarized the problem, saying that the response “missed the real problem, i.e., that behavior change in the population was the core element needed for success in controlling the epidemic. That we didn’t need such a singular focus on building treatment centers, which were used by only 28 people in the end. What we needed was to focus on changing the behavior in the population and empowering and engaging them.” Another multilateral response partner informant reflected that one means of preventing this gap in future responses is to “embed greater attention to integrating social and anthropological views.” Other parties were working on social mobilization at this time; governments, the media, and networks of CHWs were trying to engage communities, though early government outreach was unsuccessful.

OFDA gave more emphasis to community-level interventions and social mobilization in 2015, in line with the USG’s decreasing emphasis on ETUs and recognition within the overall response that social mobilization was critical to controlling transmission. However, based on award numbers and sizes, community outreach was still not a top priority. Nearly two-thirds of 2015’s funding went into three awards: \$60,000,000 to WHO to support regional command and control, \$10,000,000 to UNICEF for PPE, and \$15,000,000 to IMC to minimize transmission within health facilities in Guinea. A few existing awards were modified to add in or scale up social mobilization activities in 2015: UNICEF in January and IRC in February in Sierra Leone, International Federation of the Red Cross (IFRC) in Guinea in April, and Plan International in Liberia in June.

Figure 5. Awards by program area, by country
Source: IP contracts made available



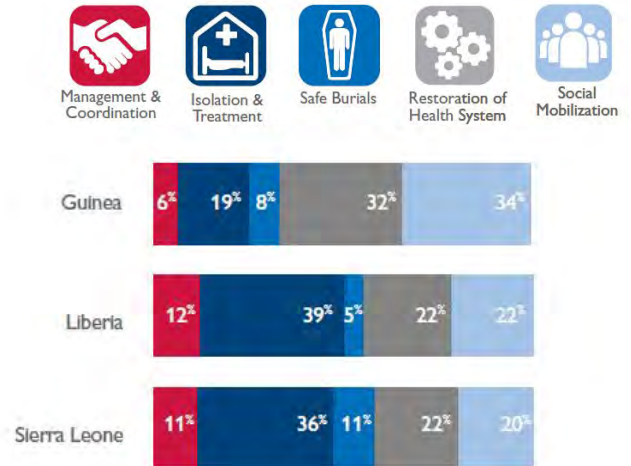
Gaps: Contact tracing was identified as important for controlling transmission early on; however, as early responders were overwhelmed, there was little time available for tracing contacts. Although it was as prominent in outbreak models as ETUs, it was not emphasized in the strategy laid out by President Obama, making it easier to push it aside. The limited number of actors in the early response also made it difficult to find partners that were prepared and mobilized to do it.

“Contact tracing was spitting into the wind at that point. Yes of course that is important but it was such an overwhelming tide, that the priority was to get back and stabilize, and contact tracing was not a priority then—wrongly or rightly... earlier on it should have been a priority, but the international community hadn’t stormed in.”

— NGO KI

Other gaps identified included sufficient pay for health workers, which USAID did help address in Liberia by funding the MOH,³⁴ early command and control in Sierra Leone, and data management. CDC and WHO were using different data management tools, and there was no harmonization between the three countries—each ultimately chose its own route. Data management improved later in 2015, but early systems required a lot of cleaning, particularly with regard to linking to laboratory testing and determining whether a case was really a case. One CDC responder recalled that *“the regional capacity to report, particularly with regard to contact tracing, was really essential to getting things under control.”*

Figure 6. Funding by program area, by country
Source: IP contracts made available



Working flexibly with partners: OFDA and CDC both reported that recommendations about what to fund were based on a combination of input from the DART in the field, the CDC, and more overarching directives from political leadership (such as Obama’s statement in September, 2014). Key informants reported that some directives coming from political leadership didn’t align with the quickly changing day-to-day realities, making funding allocations hard to align with national political statements.

As OFDA was preparing to gear up, many agencies were departing the region to avoid EVD exposure, and OFDA initially had some trouble finding sufficient response partners. Many organizations closed and left affected areas from July to September, 2014. Some organizations’ workers contracted EVD. As organizations saw the provisions for care that were put into place—to a large part with USG assistance—and addressed their own duty-of-care concerns, organizations came forth to apply for funds.

Existing IPs were prioritized. There was some pressure from USG officials to fund certain partners. In retrospect, OFDA staff commented that in the future, emergency response actors should be involved first, before engaging with health actors. Local partners were only funded as sub-grants through IP awards to international NGOs. Award documentation provided by OFDA and information provided by IPs was insufficient to analyze how well those sub-awards worked, or how much they accomplished.

OFDA demonstrated award flexibility by approving modifications for 44 of 76 awards (58%). Significant shifts in the EVD outbreak required shifts in IPs' responding programs and operations. IPs reported that the process was straightforward and OFDA was accommodating. Program revisions included scale-up of activities, addition or expansion of community engagement, addition of psychosocial activities, strengthening national response capacity, support for resumption of normal health center functions, survivor reintegration, and operations research.

Internally, OFDA rated itself well. Fifty-eight percent of respondents to an online survey of DART and RMT members rated OFDA's ability to prioritize the most relevant activities in response to changes in epidemiologic data as "good" or "very good."

Gender: Evaluation findings (see Annex N for detailed analysis based on primary interviews) suggest that OFDA under-prioritized gender as a factor to address in the epidemic response. First, our study found that the under-collection of epidemiological data that included gender as a variable prevented OFDA or any other response agency from having a clear understanding of gender effects on the virology and epidemiology of EVD. Two systematic reviews of EVD literature showed that there were no data reported on gender during the period of response programming, and this data was not integrated into responses or protocols. Gender-based information was not collected as part of case data until October or November, 2014. The few scattered reports about the gender implications of EVD published, for example, by the Ministry of Gender in Sierra Leone, are not evidence-based and were not integrated into policy.

As a result, actions that were specifically targeted toward prevention, case management, contact tracing, and isolation and treatment did not integrate gender concerns into planning or operations. Gender issues were not integrated into community engagement until early 2015. Second, the pathways of transmission experienced by women were qualitatively different than those of men, indicating the need to tailor prevention messages by gender.³⁵ Men were more likely to come into contact with the virus through community-based activities like burials, surveillance, or market or labor activities; women—as primary health care, physical care, and social support providers—were more likely to come into contact with the virus within the household or through gender-specific support networks. Third, our findings suggest that health communications pathways were biased against women when compared with men, as women were more likely to have lower levels of literacy, less access to mobile phones and media devices, and less access to EVD health promotion campaigns in urban areas. Evaluation research showed that while men were more likely to receive information about Ebola through radio, flyers, and posters, women's chief access points were through distributions or interactions with social mobilizers. Fourth, our

findings demonstrated that women were disproportionately affected by health systems closures, and that health systems failures, when combined with inadequate IPC training, resulted in women being turned away for pre-partum, labor and delivery, and postpartum treatment and neonatal care (see Annex N for further detail).

GUINEA

OFDA had a low profile in Guinea from August to December, 2014. During this time, OFDA provided funding support for case investigation, contact tracing, and social mobilization. OFDA's first awards were in October: IFRC was awarded \$1,000,000 to lead public outreach and case management and InterNews was awarded \$800,000 for community education via radio. In November 2014, Relief International was awarded \$4,000,000 for community education and community level IPC. In December 2014, five IPs were awarded a combined total of less than \$10,000,000. The awards OFDA made aligned with the priorities of Guinea's national response structure (CNLE), which OFDA and CDC strongly supported.

During this period, OFDA was not substantially involved in construction of ETUs or other isolation facilities. It did, however, send mass shipments of specific IPC-related goods (chlorine, PPE) to Conakry to support ongoing Guinea response activities and funded six IPs to provide IPC training. The largest award by OFDA during 2014 was approximately \$4,500,000 to the French Red Cross (FRC) to conduct safe and dignified burials, active case-finding, and community mobilization.

In early 2015, OFDA increased its activity in Guinea substantially. Ongoing micro-outbreaks across many of Guinea's geographically dispersed prefectures spurred intensive OFDA investments. OFDA purchased and distributed chlorine and other IPC supplies. OFDA also supported the construction, conversion, and operations of community transit centers and ETUs. It made a major shift into supporting logistics and health surveillance, and participated in the development of new social mobilization guidelines. OFDA's 2015 support for IPs implementing social mobilization, IPC training, safe burials, contact tracing, and the FRC ETU in Forécariah were all very relevant to the stage of the epidemic and helped to effectively address the widespread focal points of transmission and secondary peak of EVD cases in the first quarter of 2015.

The chronology of OFDA's response shows that awards were spread out over a nine-month period, from October 2014 to July 2015. Despite delayed engagement, CNLE perceived OFDA and CDC as appropriately responding to the unfolding epidemic. After finding that a classical response did not work, CNLE modified its strategy starting in January 2015, with support from OFDA and CDC. An informant from the government of Guinea (GOG) reported that the new strategy put greater emphasis on social mobilization, and within one to two months the number of prefectures reporting resistance

to response activities dropped from 27 to 4. The CNLE also noted that later, the CDC developed a strategy to assist EVD survivors. Informants from eight different IPs in Guinea all concurred that OFDA was flexible and adapted well to the changing epidemiology and context.³⁶ One noted “OFDA responded to changes in the epidemiology, e.g., increasing support to social mobilization at the relevant time.”

Some IPs, however, identified gaps in or problems with OFDA’s weighting of priorities. One IP reported that there were inadequate funds for effective triage structure in health centers not specifically for EVD, suggesting insufficient emphasis on maintaining routine health systems functioning or case isolation. OFDA did make two grants in this area: one in July, 2015 to CRS that included management of triage in health care worker training, and one in August, 2015 to Women and Health Alliance International (WAHA) for triage and IPC in primary and secondary health facilities. Together they totaled \$2,500,000, indicating that from both temporal and financial standpoints, this area was not prioritized.

Another IP perceived a lack of support for and focus on mental health care for both survivors and families. While it was not prioritized in early OFDA communications, OFDA did make several awards in this area. Psychosocial support was part of a larger award for command and control and clinical case management to IFRC in October, 2014. Child protection and psychosocial support were included in awards to Child Fund and Terre des Hommes in December, 2014, and UNICEF in March, 2015. The IP IFRC posted information and toolkits for providing psychosocial support via the OFDA funded Ebola Communication Network website in August and November,

2014. Though psychosocial support wasn’t given much weight in the overall OFDA response, this does not set it apart from other emergency responders and OFDA gave more support to this area than some. It was, however, an identified need³⁷ and more emphasis would be warranted in future responses.

Another IP commented that targeting private clinics was important, but that the initial response did not do so. The CNLE was concerned about a lack of laboratory capacity and slow vaccine development. One social anthropologist was concerned that the same interventions were applied in both the Forest Region and Lower Guinea, which have different cultures, and that there were not separate case management guidelines for children.

Many IPs made recommendations for future priorities.³⁸ The most-recommended priority area among IPs was community engagement, encouraging close ties with local residents, local organizations, and associations earlier in the outbreak, greater involvement of youth, and support of community approaches. Among GOG informants, the most recommendations related to command and control, particularly in increasing MOH capacity, conducting trainings about monitoring, and reinforcement of coordination mechanisms.

Communication was also emphasized by both groups, emphasizing the importance of focused communication early, harmonizing messages, and preparing messages in local languages.

Figure 7. Number of programs funded by OFDA, Guinea, by month and year

Source: IP contracts made available



Figure 8. IP funding by program area, Guinea

Source: IP contracts available

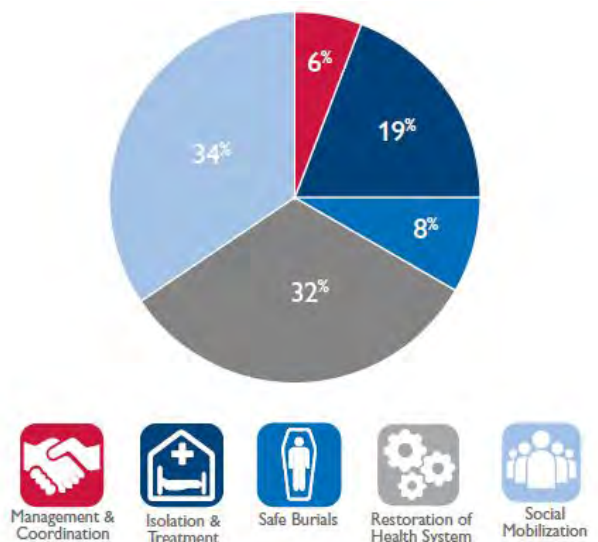
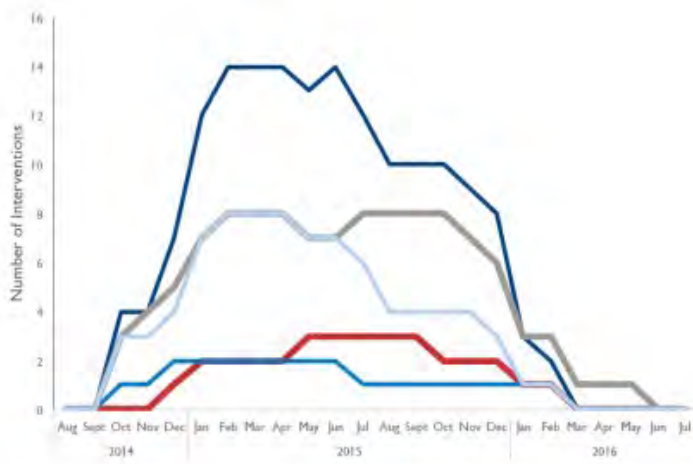


Figure 9. Number of programs funded by OFDA, Sierra Leone, by month and year

Source: IP contracts available



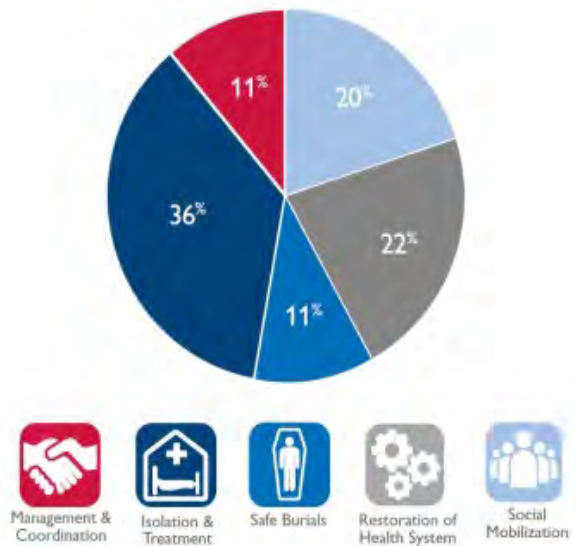
SIERRA LEONE

In Sierra Leone, OFDA played a deferential role to the government of Sierra Leone (GoSL) and the UK government response, led by its Department for International Development (DFID). OFDA did not have the same kind of bilateral coordination with the GoSL that it had with the Government of Liberia (GOL). From August to December, 2014, OFDA’s funding priorities in Sierra Leone remained consistent. OFDA’s initial awards (Oct–Nov, 2014) in Sierra Leone prioritized isolation and treatment units, IPC, and survivor recovery and reintegration. In December, OFDA provided support to the Sierra Leone Red Cross and to IFRC, both lead agencies in social mobilization and safe and dignified burials. OFDA provided funding to IPs, but its role in direct coordination and policy setting was secondary. CDC staff embedded into the National Ebola Response Centre (NERC) provided technical assistance.

OFDA’s direct contribution to mass purchasing and distribution was much more limited in Sierra Leone than in Guinea or Liberia, and PPE procurement, as well as chlorine for IPC and burial teams, complementing food from FFP. OFDA funded a series of needs assessments in Sierra Leone, to target interventions to predetermined, specific needs, rather than the “open-the-spigot” approach pursued in Liberia. This targeted approach makes sense if efficiency and resource conservations are priorities. However, needs assessments meant some delay and may have precluded a holistic model of response that integrated multiple activities simultaneously. OFDA may have made this change in approach as a result of having more information about the outbreak by

Figure 10. IP funding by program area, Sierra Leone

Source: IP contracts available



the time it scaled up its response in Sierra Leone in December, 2014 or observing that some interventions in Liberia had resulted in wasted resources. The needs assessments may also have been directed by GoSL policy.

During 2015, OFDA activity funding priorities in Sierra Leone intensified. OFDA investments in training and logistics for safe burial teams increased, public media campaigns continued, isolation and treatment center construction and operations expanded, and OFDA contributed supplies of PPE and ambulances. OFDA also provided investments for household-based IPC training, and began to make major investments in EVD response coordination activities across the board. One also sees at this time a surge of psychosocial support, protection programs, and family reunification programs, which suggests that lessons from Liberia were being integrated into Sierra Leone response priorities. There was also a surge in social mobilization activities supported by OFDA.

Feedback from IPs and the Ministry of Health and Sanitation (MOHS) was positive regarding OFDA’s prioritization of activities in line with the epidemiology of the response.³⁹ One IP said “The support from OFDA was stable and matched the needs of the response.” A GoSL key informant said OFDA’s “prioritization process was appropriate and responded well to the changes in disease epidemiology.” Another IP commented “the priorities matched with that of other IPs. It also matched with that of the government.” A GoSL informant had a different view, saying “they should have done better by telling us about what they have and asked where they are mostly needed.”

Some recommendations were also made for priorities in future responses. The most emphasized message was the early involvement of community members. *“Involve community members in the process so as to increase confidence in people.”* The involvement of religious leaders was specifically highlighted. There were also comments about the need for research, to learn from this outbreak in order to prevent future outbreaks and respond to them more effectively.

LIBERIA

The CDC model predicted that transmission would decline rapidly when a tipping point was reached. In Liberia the predictions closely matched the actual case trajectory after effective intervention. The CDC model’s prediction that if urgent action were taken, there would be 10,000–27,000 cumulative cases in Liberia by January 21, 2015 closely matched the actual 8,500–24,000 cases that occurred.⁴⁰ A substantial share of the effective intervention was funded by the USG.

From August to December 2014, OFDA aggressively expanded its support across all aspects of the response, but especially of ETU construction led by IMC, the DOD, PIH, and other OFDA partners. One of OFDA’s first awards, on August 13, 2014, was to GC for safe, dignified burials and social mobilization. Awards for ETU construction were also among the earliest. In September 2014, CDC and the MOH developed the plan for CCCs to meet the urgent need for local isolation facilities before sufficient ETUs were constructed.

When the downturn in the epidemic curve became apparent in October 2014, CCCs took on greater importance. The MOH, however, wasn’t entirely in agreement with the CCC plan. More than one IP key informant raised the issue of OFDA building

CCCs, despite the government expressing other preferences. The capacity to build CCCs was limited. More than 80 CCCs were envisaged, yet less than 10 ever became operational.⁴¹ One IP informant recalled two CCCs built with OFDA funds weren’t ready until mid-November, and only attended (saw) one EVD case between them.

OFDA also invested heavily in the supply of items needed for ETU operations, including cots, PPE, IPC supplies, latex gloves, and chlorine. PAE in Liberia was awarded an \$89,000,000 contract in October 2014 — the largest awarded by OFDA during the EVD response—to mobilize more than 1,600 people to staff nine ETUs and a field hospital unit with facilities operation and maintenance, logistics, and medical support. Another ETU partner, IOM, was awarded more than \$28,000,000 for clinical and operational management of ETUs. Starting in November, 2014, the focus changed to training and capacity building of local health care workers, contact tracing, infection prevention and control, surveillance, restoring primary health care services, and continued community mobilization.

This rapidly expanding funding and capacity was specifically EVD-focused. More than one IP said that OFDA funding was too EVD-specific, with *“not enough focus on the other things people were dying from.”* One IP identified a confirmed case of Lassa fever, *“and even though it was viral hemorrhagic fever, it was not EVD, so we could not use the money for that. If the funding is flexible to respond to diseases that are life-threatening, it should be open to other diseases.”*

While from August to October, 2014 massive outbreaks called for large-scale humanitarian effort, including the construction of many large ETUs by the year end and during 2015, there was a sharp shift—outbreaks were smaller, in more confined

Figure 11. Number of programs funded by OFDA, Liberia, by month and year
Source: IP contracts available

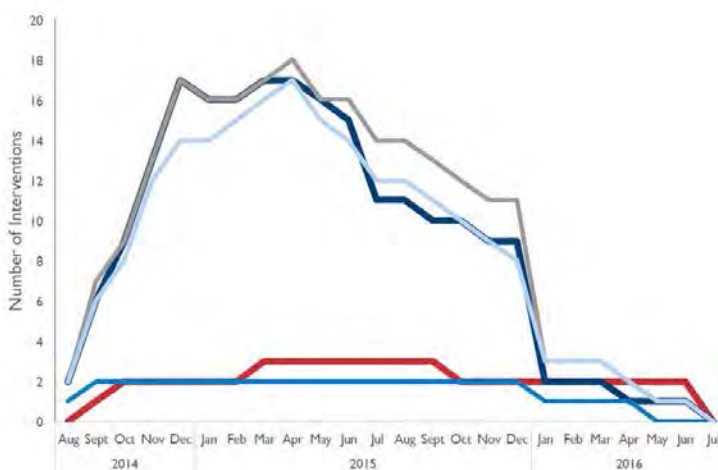
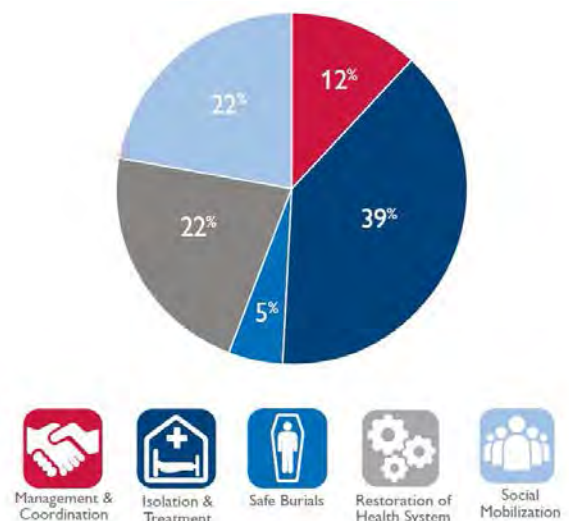


Figure 12. IP funding by program area, Liberia
Source: IP contracts available



and geographically dispersed areas called “Ebola hotspots.” Using the rapid isolation and treatment of Ebola (RITE) strategy, containment efforts were able to target and reach remote rural areas and contain micro-outbreaks quickly. Cross-border surveillance was also prioritized. When cases in Liberia led to the reinfection of communities in Guinea, cross-border surveillance activities were rapidly expanded to prevent recurrence.

OFDA efforts in 2015 included a substantial escalation in the sophistication of social mobilization strategies, efforts to standardize the response, and efforts to improve minimum standards of all aspects of the response—from clinical management to quarantine support to customary traditions in burial practices. There was a growing emphasis on having a nationwide, integrated response that included urban and rural areas (rather than just most-affected areas or outbreak epicenters), and a more consistent establishment of survivor support and reintegration services. In early 2015, OFDA funded IRC and Plan International support of the reopening of schools.

In the second half of 2015, OFDA invested in policy-level initiatives, the development of post-Ebola Guidelines, and the creation of MOH surveillance resources. OFDA made only one new award in Liberia, to SCI for community level prevention activities and restoration of health services. During this phase, OFDA decommissioning processes had a generous policy for directly transferring decontaminated high-value resources (generators, motorcycles, ambulances) from OFDA to MOH and local ownership.

IP key informants reported that OFDA priorities during the response were largely appropriate.⁴² One IP informant recalled that “OFDA kept close watch on data and reports describing increase and decrease in the number of EVD cases. Funding for activities and programs were often modified and adjusted to address the needs for the changing epidemiology.” A project officer from an IP commented that OFDA priorities matched other international and national responders because they all were working to achieving the same goal. The informant said OFDA and non-USG partners endeavored to fit into the overall response plan.

As discussed above, the USG’s prioritization of ETUs was controversial, with many respondents and officials questioning whether the money would have been better spent elsewhere, particularly after the downturn of cases.⁴³ One IP key informant recalled “national authorities wanted a change in how the resources were used after the curve shift.” There were some key informants, however who reported the ETU focus an appropriate prioritization. One GOL official said that when USG support started, there were only four or five functioning ETUs in the country, however “the caseload was overwhelming and more ETUs were needed.” When asked in a FGD what assistance or services contributed the most to reducing the number of EVD cases in their community, civic society leaders

responded “The ETU contributed the most. There we had professional people working and giving specific care to those that had the virus.” Another GOL informant asserted that even excess ETUs served a purpose, “Unused ETUs were used instead for training and mock drills of case management,” helping to create cadres of trained healthworkers.

Some IP key informants reported an inadequate focus on community-level care early on:

“People focused on burials as the main source of infection. But then more people got infected at the household level and community level – not by touching the dead, but by caring for the sick. So this aspect was under-focused, under-funded. According to custom, it is the men who do the burials, but the women do the caring for the sick. And more women were getting infected, so [we] knew that caring for the sick was a main way people were getting infected.”

This suggests that more emphasis should have been put on community-level IPC. Another IP complained that community-based protection didn’t receive sufficient funding: “prevention is more effective.” A religious leader said “training community members on prevention should be part of the first process.”

With the notable exception of the continued ETU focus, OFDA was recognized to have made timely modifications to accommodate the changing epidemiology of the outbreak. Such accommodations included decommissioning of some ETUs, aiding the transition back to normal health care provision, support for school reopening, operations research, and developing exit strategies, which included building local capacity in WASH, waste management, and rapid response. A member of the OFDA-funded Montserrado Consortium recalled several ways in which consortium members made adjustments, demonstrating OFDA’s willingness to modify awards:

“Three months after implementation started, by November, everyone needed to readjust. The goal was to try to focus on certain areas, to eliminate EVD there. At this time, ACF added a psychosocial element to what they did. Medical Teams International scaled up their infection prevention and control to help more facilities, and their Keep Safe, Keep Saving training. IRC decided to scale up case investigations at ETUs and with burial teams.”

CONCLUSIONS: EVALUATION QUESTION 5

Once activated, OFDA quickly sprang into action in Liberia, but delayed response in Guinea and Sierra Leone. OFDA’s early focus on Liberia resulted in a late entry into Guinea and Sierra Leone, where the reproduction number continued climbing after it began falling in Liberia. As Guinea was the initial source of transmission and was associated with continued cross-border transmission into neighboring countries Sierra Leone, Guinea, Senegal, and Mali, it merited earlier and more intensive engagement.

OFDA's early priorities were focused on facility based responses and case isolation and treatment, and inadequately prioritized social mobilization and community level responses. First steps prioritized the distribution of in-kind donations, which began flowing by the end of August, 2014. This prioritization helped address reports of dwindling supplies and played to one of OFDA's strengths. Initial awards were made to actors already on the ground, and supported activities identified in the EVD models and prioritized by the CDC, primarily IPC, isolation and treatment, and safe burial. Initially, funding known and available actors helped ensure funding was put to immediate use. The funding to GC, which was quickly ramped up with successive modifications, enabled the provision of safe and dignified burials across the whole of Liberia. Safe burial management was one of the most critical elements for bringing the response under control and was timely as a priority.⁴⁴ OFDA's early focus on ETUs in Liberia was warranted but OFDA supported ETUs in Liberia came online late, limiting their contribution to controlling the outbreak. Social mobilization was under-weighted in funding and attention in the early response and poorly integrated into other response activities. By late 2014 and early 2015 OFDA priorities better aligned with outbreak epidemiology in all three countries.

USG response policy was formally set in mid-September, 2014. OFDA aligned its priorities with this national strategy, largely informed by the CDC. From September, the clear focus was on ETU construction and staffing. Though this was not the only intervention funded in 2014, it was weighted more heavily, in terms of both funding and attention, than any other single aspect of OFDA's 2014 response. At the time this policy was set, transmission continued at high levels and available ETUs were at capacity. The prioritization of ETUs made sense in that context, and OFDA appropriately supported their high price tag. Although the ETUs did not necessarily represent a detrimental diversion of funds, they did divert attention, allowing other response elements to be overlooked and contributing to the late ramp up in social mobilization activities. Abandoning half-built ETUs, on the other hand, may have sent a message of a disorganized or inconsistent response strategy. ETUs were a public symbol of USG engagement and international support. They also provided important isolation capacity, which was important even in the absence of cases given the difficulty predicting outbreak trajectory.

There were significant shifts in the EVD epidemic by the end of 2014, which required corresponding shifts in IP programs and operations. The ETU focus proved overemphasized and was slow to change course. OFDA did adapt to some extent, moving beyond a focus on health facility beds at ETUs (in Liberia) to more community-oriented approaches such as CCCs (in Guinea and Sierra Leone), and eventually to an emphasis on community-based approaches supported by public health outreach. In 2015, OFDA broadened funding to include social mobilization, engage communities in necessary behavior change, prevent transmission, and encourage compliance

with burial teams and case isolation and treatment. Despite a continued focus on ETU and CCC construction, OFDA showed flexibility in modifying IP awards as response needs shifted.

Over time (from early to middle of response), and between countries (from Liberia to Sierra Leone), OFDA transitioned from an experimental, holistic approach ("try everything first, then evaluate") toward a more targeted, phased approach that prioritized a traditional program model ("needs assessment – intervention – evaluation"). Although this allows for more targeted resource use, it can also lead to delays in initiating activities. OFDA got better at aligning priorities and weighting needs according to the evolving epidemiology as the data and epidemic curves improved and experience with the outbreak deepened. As it moved away from a holistic response approach, however, some of its effectiveness suffered as a result of fragmentation.

In Liberia, OFDA funds effectively built a protective wall of primary and secondary response structures to demarcate non-EVD primary and secondary health care facilities from EVD infection—through the creation of primary (community-based, facility-based primary health care) and secondary (e.g., ETUs) EVD response mechanisms. Some modeling studies have suggested that such a whole-of-response effort needs to be introduced early, and massively, regardless of population size to establish a systemic EVD "buffer" on the protection-To-treatment continuum that would contain reemergence, expedite micro-cerclage responses (a small-scale quarantine approach, targeting a small number of households deemed to be areas of high risk), and prevent new waves. This buffer is important even in small outbreaks. Recent research has shown that "the level of epidemic control has disproportionately greater reductive effect on larger waves, so that a small wave requires nearly as much epidemic control as a larger wave to end an epidemic."⁴⁵

In Sierra Leone, the diffuse spread of ongoing outbreaks suggested that the funneling of resources was being concentrated in too few target areas, like Freetown, and was failing to be distributed widely enough to create the kind of "epidemiological wall" that was created in Liberia. It is possible that the "filtered spigot" approach employed in Sierra Leone, as opposed to the "open spigot" response in Liberia, led to a more fragmented response that contributed to the slowness of containing the Sierra Leone epidemic through 2015, compared with the significant contraction of the outbreak in Liberia in late 2014. The persistent micro-outbreaks in so many locations across Guinea through 2015 may be a result of the more fragmented response approaches there as well, similar to Sierra Leone, and less like the holistic approach in Liberia. The differences between countries was emblematic of OFDA's country-by-country, insufficiently regional, coordination. Given the transnational mobility of the virus, "silo'ed" country approaches weren't suited to addressing the regional nature of the outbreak.

EVALUATION QUESTION 6

Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?

OVERVIEW

Funding Mechanisms: OFDA EVD response funding mechanisms included awards to NGOs (both grants and cooperative agreements), contributions through multilateral organizations, use of preexisting (standing) funding frameworks (as with UNICEF), contracts with private companies, and in-kind support in the form of PPEs, and IPC supplies. OFDA also deployed a large number of personnel via its secondment arrangements and its subcontract with MacFadden. OFDA also deployed teams from USPHS to Liberia under OFDA funding via inter-agency channels.

IBTCI received documentation on \$630 million of the \$772 million reportedly spent by OFDA on the response (over 80%). Of the \$630,000,000, grants comprised the largest portion at 45%, public international organization awards 37%, the PAE contract represented 14%, and cooperative agreements made up less than 5%. OFDA gave this funding to 57 unique IPs to through 76 separate awards. The largest single award was via a contract with a for-profit company, and the next several largest awards by volume were with multilaterals.

There were no complaints about the overall scale or amount of OFDA funding. IP key informants reported that what they received was largely what was requested, and that OFDA funding levels did not inhibit IP responses. Multiple IPs expressed frustration with OFDA's restriction on building permanent structures, which limited options for ETU and CCC construction. Even though structures were being significantly rehabilitated with OFDA resources, NGOs were advised to not propose "building" anything, as this runs against OFDA's core mandate which is short-term relief and not long-term assistance.

Most IPs reported that the award modification process was straightforward and OFDA was accommodating, although a focus group of NGOs, including both IPs and non-IP responders, reported that "NGOs are locked into grants with no flexibility." Our analysis of award modifications shows that over half of all IP awards made were modified. Half of the modifications were for changes to program activities or the addition of new activities (30% of all awards included these modifications), demonstrating OFDA's flexibility and adaptive approach to the response.

Analysis of awards documents shows that the most common funding mechanism was grants or cooperative agreements with NGO IPs, accounting for more than half of the awards and about half of the funding. The earliest of these were made to

IPs already working in the affected countries or that had existing relationships with OFDA from previous partnerships, such as GC, Samaritan's Purse, IMC, and IRC.

OFDA's funding of complex programs via grants to consortia was particularly effective at fostering rapid rollout of multiple concurrent activities. OFDA has promoted consortia in other emergencies, to good effect, such as in DRC and Darfur. Consortia in West Africa were particularly effective for "getting to scale" when timing matters a lot. Among other things, they allow OFDA to leverage trusted relationships with proven international NGOs who manage the complementarities and efficiencies across a network of NGOs from different countries. This was effective in each of Guinea, Sierra Leone and Liberia. The challenge with consortia is that they take some time to come together. So they were more relevant mid-way through the EVD response than at the outset. Consortia proved a successful means of promoting coordination and integration of projects implemented by different partners, and bringing economies of scale to key regions in the West Africa response. Consortia provide an opportunity to coordinate and integrate activities undertaken by different partners, and facilitate participation of local organizations. They are particularly relevant in urban areas where the scale of initiatives makes it unlikely that one organization can conduct multiple response activities.

About a third of awarded funds went to the multilateral organizations the African Union, United Nations Office for the Coordination of Humanitarian Affairs (OCHA), WFP, WHO, UNICEF, and IOM. This mechanism was well-established and largely functioned as expected. UNICEF was a natural early partner, as it was already working in all of the EVD-affected countries; however, USG key informants reported that UNICEF failed to provide adequate reporting on their activities and communicated insufficiently with OFDA. Because of this, it was unclear if what they were doing fit within the OFDA response strategy. With large multilaterals like UNICEF, OFDA has less ability to enforce compliance with awards terms such as reporting, due to their size and autonomy. Several key informants also reported that UNICEF staff were very focused on child protection while other responders were fighting to get the outbreak under control. By contrast, similar problems were not recorded regarding the partnership with WFP. This may have been because expectations were simpler—FFP awards to WFP focused on warehousing, transportation, and delivery of food and supplies.

OFDA contracts with private companies included supply procurement and delivery, such as its long-standing relationship with FedEx, which shipped more than 140 pallets of relief supplies to Monrovia, Liberia⁴⁶ and a new contract with PAE, for ETU staffing and management. USG key informants reported that the need for field personnel outstripped NGO capacity during the first few months and that OFDA had difficulty recruiting additional response partners. The same

key informants said the White House and CDC pressured OFDA to get as many clinical personnel to the field as possible to staff ETUs, so OFDA turned to the private sector to fill gaps. Another USG key informant reported that WHO put forward PAE to OFDA as a staffing solution. The PAE contract was successful in that it brought many health professionals to the field, more than did NGOs, enabling ETU access from all parts of the country. However, the personnel were slow to arrive and OFDA had limited experience with and capacity to manage such large contracts.

In-kind support comprised a notable part of OFDA's response, both directly and through IPs such as UNICEF and WFP. Through the end of 2014, USAID awarded nearly \$35,000,000 in food assistance to WFP through the Office of Food for Peace (FFP), which also served on the DART. In August and September OFDA procured and began to deliver 140,000 sets of PPE, along with hundreds of thousands of medical gloves and thousands of protective coveralls, goggles, face shields, and other personal protective supplies for health workers and outbreak investigators. In September 2014 OFDA delivered 9,000 community care kits to Liberia. In November OFDA airlifted an additional 130,000 PPE sets. In 2014 OFDA airlifted more than two thousand rolls of plastic sheeting, nearly 5,000 cots, and hundreds of tents for ETUs in Liberia and more than 7,000 infrared thermometers to Guinea. In early 2015, OFDA began to transfer excess supplies in Liberia to Sierra Leone. DOD delivered 1.4 million PPE sets to Liberia. OFDA partner WFP provided food assistance to more than 500 quarantined households in Freetown.

While moving this enormous amount of medical supplies, the USG also played a crucial role in establishing a logistics supply chain within the region. The USG airlifted supplies directly, and provided support to UNHAS. OFDA supported WFP to build a system of warehouses throughout Liberia and develop a supply chain of medical equipment to the ETUs, including logistics bases located in five strategic Liberian cities close to U.S.-supported ETUs.

OFDA's direct contribution to mass purchasing and distribution was much more limited in Sierra Leone than in Guinea or Liberia, with funding provided for PPE procurement, as well as chlorine for IPC and burial teams. IP key informants reported that in-kind contributions were helpful and appreciated. IP informants noted that OFDA teams were onsite helping to provide materials and transportation.

OFDA also provided logistical support. OFDA tasked DOD with transportation of staff, however, DOD was unwilling to pick up individuals who had been working in contact with EVD patients. USG key informants observed that DOD was not willing to assume any level of risk. OFDA shifted this responsibility to the UN Humanitarian Air Service (UNHAS) through WFP. USG key informants expressed a need to improve non-military supply chain management, both for in-country

storage and transportation as well as international procurement and delivery.

Standing contracts are pre-established mechanisms that would allow IPs to respond immediately. OFDA has a standing contract with IMC, which would have enabled IMC to immediately set up field hospital. However, this contract wasn't activated during the EVD response. OFDA's standing subcontract with MacFadden for grants management support was activated.

Timeliness of Funding Mechanisms: Timeline analysis (see Annex A) suggests that the tipping point in the relationship between funding and program implementation occurred in late November and December, 2014. Prior to this time, programs were unable to keep pace with the demand for resources. After this time period, the majority of funds were allocated to program maintenance and expansion. In early 2015, program funding was dedicated to reinforcing existing response priorities, and building out response elements previously under-prioritized, such as social mobilization.

OFDA began its official response at the beginning of August 2014, as the outbreak began rapid expansion. OFDA met with prospective partners and reviewed initial proposals rapidly. The first award signed was with GC in Liberia on August 13, 2014, less than two weeks after OFDA formed its RMT, and only nine days after it deployed the DART. Awards to UNICEF and IMC followed in late August. Following the first three awards in August 2014, OFDA issued seven in September, with the majority being made from October to December. Sixty percent of awards were made by the end of 2014. FFP too was able to modify existing IP awards for the EVD response, enabling a rapid response.

Funding disbursement required completion of a longer process. Proposals had to comply with USG requirements and many went through rounds of comments and revisions. Technical proposals required approval from both OFDA and the CDC. The DART Deputy Director from CDC sent proposals up the CDC chain of command for approval, which took longer than the internal OFDA approvals, as it is not an emergency organization and thus is not set up for rapid funding. A number of NGOs found that this full process for approval and disbursement often took several months. This process was still faster than many other donors and would have been reported as adequate if the transmission rate had not climbed so rapidly in the second half of 2014.

New IPs faced a learning curve, which slowed the proposal and approval process. One new partner recalled their application going through 11 revisions, a process that took five months. An existing partner, however, commented that the funding process was fast, taking only two to three months to receive funding.

Of 26 KIIs and 4 FGDs that explicitly discussed the speed of OFDA funding, 20 described it as good (4), adequate (8) or timely (8). Twelve interviewees described it as slow or

Or delayed citing delays due to revisions (2), delays in receiving funds (4), delays due to the challenge of being a new partner (2), administrative and paperwork delays (2), or just generally being slow (6).

One IP key informant commented about the importance of IPs having a system in place for advancing internal funds once a contract with OFDA was signed, to allow them to proceed without having to wait for funds from OFDA to arrive. Delayed distributions are a barrier for organizations without substantial cash reserves or other sources of revenue.

OFDA funding mechanisms were notably faster than CDC funding, although CDC had some preexisting cooperative agreements with local partners, which aided response time. DART team members noted the CDC funding model was “*too dependent upon Atlanta-based personnel to be emergency response.*” Disbursements through the CDC Foundation, a not-for-profit philanthropic entity authorized by the U.S. Congress in 1992 to help CDC improve its response capacity, were much quicker than grants from the CDC itself because its structure was set up to quickly approve funding. A CDC key informant recalled that some funds could even be awarded on the same day, as was done for fuel vouchers when clinic vehicles ran out of gas. Similarly, some key, large contributions by U.S. foundations were made based on guidance from USAID’s Bureau for Global Health. These are important examples of successful USG/ nonprofit partnerships.

Targeting of Funding Mechanisms to Affected Areas: USG key informants reported that greater attention to Liberia paid by the White House, OFDA, and DOD was due to the U.S.’s long standing relationship with Liberia, a perception that the outbreak was worse in Liberia at that time, and also that efforts to control the spread of EVD in Guinea and Sierra Leone would be commensurately supported by the governments of France and the UK, respectively.

There were only eight regional IP awards,⁴⁷ totaling \$16,000,000, or about 2% of overall OFDA spending. The vast majority of funds were country-specific, and supported national, rather than regional, response strategies. As a result, the targeting of funds varied by country. Funding in Liberia was spent nationwide, with OFDA programs active in every county from early on. As discussed in the previous section, funding in Guinea and Sierra Leone was initially much more targeted, to hotspots and to fill gaps in support from other funders. This was scaled up later when the outbreaks in those countries were slow to come under control.

Data from IBTCI’s two-stage cluster sampling household survey across all three countries provided information about concurrence of response services and households with EVD cases. Analysis of survey data showed households that reported an EVD case had higher levels of exposure to the various response interventions than households that did not report a

case, and households in high prevalence areas also had higher exposure to most response interventions, indicating appropriate targeting of response mechanisms toward households most in need overall. See Annex O, Table O3–1 and Table O3–9 for detail.

There was notable variation across the three countries in access to response services. In Guinea and Liberia, ETU access was roughly similar in both high- and low-prevalence areas, but in Sierra Leone households in high-prevalence areas were three-and-a-half times more likely to report ETU access, suggesting highly focused ETU targeting. However, ETU access was reportedly low overall. The highest access was in high-prevalence areas in Liberia, where 26% of households reported access. CCC access was about double in high-prevalence areas in Guinea (24% in low and 41% in high prevalence areas) and Sierra Leone (15% and 31%), and was similar in Liberia (33% and 39%). Access to a CCC ranged from a low of 15% of households in low-prevalence areas of Sierra Leone to 41% in high-prevalence areas in Guinea.

Contact tracing showed marked differences. Among households reporting EVD cases, three quarters of households in Liberia reported being visited by a contact tracer, half of those in Sierra Leone, and only 30% of those in Guinea. Among households without cases, the proportion visited was about 20 percentage points less than households with cases, in all three countries. Comparison of low-prevalence areas to high-prevalence areas shows similar exposure across these groups in all three countries. The biggest difference was in Guinea, where 60% of households were visited by contact tracers in high-prevalence areas compared with 45% in low-prevalence areas.

PPE availability at the household-level was notably higher in Liberia, with over 70% of households with cases reporting receiving PPE, compared to 43% and 53% in Guinea and Sierra Leone, respectively. About half of households reported access, with a low of 31% in high-prevalence areas of Guinea (less than 44% in low-prevalence areas of Guinea) and a high of 70% in high-prevalence areas of Liberia (notably higher than the 50% reported in low-prevalence areas of Liberia, another example of good targeting).

The proportion of quarantined households that received food support was roughly similar in all three countries, between 60 and 70 percent, however financial support was significantly more common in Guinea, with more than 40% of quarantined Guinean households reporting receipt of financial support, compared with between 15% and 25% in Sierra Leone and Liberia. Among households reporting EVD deaths, over 95% reported practicing safe burial in both Sierra Leone and Liberia, though only 80% did in Guinea.

These results show that there was greater exposure to response interventions in households with cases. In Guinea and Sierra Leone there was notably higher reported ETU access

by households with cases than in those without. In Guinea, three times as many households with EVD cases reported ETU access than households without cases. The difference is less stark in Liberia, where there were more ETUs spread across the country. There were fewer ETUs in Guinea and Sierra Leone, so this data suggests that ETUs were well placed near outbreak hotspots. Exposure to contact tracing and isolation were also significantly higher among households with cases, for all three countries. Differences in food and financial support were less notable, though still slightly higher in households with cases. This suggests supply coverage was high in all three countries, supplies that were in part supported by OFDA in-kind donations.

The results also show that in most cases, high-prevalence areas had greater exposure to response services. A notable exception was that among households that reported being quarantined or isolated—food and financial support were more likely to be reported by households in low-prevalence areas than in high-prevalence areas. This may have been because there were fewer instances of isolation and it was therefore easier to identify households requiring support.

GUINEA

Appropriateness of Funding Mechanisms: IP relationships with OFDA in Guinea were constructive and well regarded by the IPs. Several IP key informants said that they had a good relationship with the DARTs (though one reported difficulties with the final DART). One IP informant said OFDA staff were “transparent and flexible.” OFDA communicativeness was appreciated, particularly through “monthly reports and useful, positive feedback. OFDA staff were encouraging and responded positively to inquiries/requests.” IPs praised how OFDA staff were hands-on and present in the field and nationally, listening to what was needed and where, and advising about adjusting awards accordingly. IP key informants reported that feedback from DART field visits was more valuable than comments on reports. Several IP key informants noted a lack of French speakers among both CDC and OFDA personnel, and suggested having more Francophone OFDA staff would facilitate award-making and support partnership with a broader range of organizations in Guinea.

IP key informants said award extensions and modifications were easily negotiated. One IP respondent commented that:

“Some organizations won’t work with OFDA/USAID because they are known to be ‘difficult’. However, [we] have a long history of working with OFDA during emergencies. We found OFDA transparent and flexible, although there are certain areas they will not fund (like permanent structures). No problems with the financing mechanism. The extension was easily negotiated.”

— IP respondent

Timeliness of Funding Mechanisms: OFDA funding was fastest with organizations it had funded in the past, such as UNICEF, CEPI, IFRC, CRS, Child Fund, and IMC. One IP commented that

OFDA provided “quick contracts and timely access to funds” and another described OFDA funding as “timely and adequate.” Another described OFDA as having a “very rapid financing mechanism and also very flexible. Decision-making by OFDA was rapid.”

However, while the DARTs were able to render rapid recommendations about proposals, a few partners experienced delays in the follow-through steps to receive awarded funds. One IP commented: “Initially, this was not easy. The proposal to OFDA was written in Washington and adaptation to local conditions took three months. But OFDA Guinea were supportive” during the proposal process. Another IP reported a three-month delay in receiving OFDA funds. An informant from the GOG said OFDA could have a “more timely response with financing.”

Targeting of Funding Mechanisms to Affected Areas: Comparison between households that reported having at least one suspected or confirmed case of EVD with households that reported not having any cases showed that houses with cases had greater exposure to response activities (see Annex O, Table O3-2 for detail). T-tests were used to identify statistically significant differences between households with cases and those without, with at least 95% confidence. Statistically significant differences were found for access to ETUs and CCCs, being visited by a contact tracer, and having received any infection prevention materials. This was particularly notable for access to ETUs, with three times as many households with cases having access than households without, which supports successful ETU targeting. In both houses with cases and those without, a higher percentage of urban households reported that there was an ETU established near enough to their home for them to get to and more rural households had a community care center near enough to their home for them to get to. ETU access was higher among urban households and CCC access higher among rural households.

T-tests were also used to identify statistically significant differences between urban and rural households. In houses with cases, there was a statistically significant difference between urban and rural areas in the percent of households with an EVD death that reported receiving any protective supplies for body preparation and safe burial, with more than three times as many urban households receiving supplies. This suggests that supply distribution was targeted around urban centers, possibly reflecting an urban bias at the policy level, in addition to the general reality that urban areas are easier to reach for a range of logistical reasons. Food support was more prevalent than financial support for those in isolation. A strikingly low number of households reported having been visited by any contact tracer. Among houses that reported having an EVD case, only 30% reported receiving such a visit, though it should have been 100%. Less than a third of households with cases reported being isolated or quarantined. While a fairly high proportion (about 80%) of houses with EVD deaths reported safe burials,

it was notably lower than in Liberia and Sierra Leone (both more than 95%), which is consistent with higher reports of community resistance and hiding of cases in Guinea. See Annex O, Table O3–2 for detail.

More programs were conducted in Kindia region than any other region in the country (this is the region encompassing Conakry). It had the most cases of EVD, along with the forest region of Nzérékoré. Significantly more programming was targeted in Kindia than Nzérékoré, despite the latter also having a high disease burden, probably due to accessibility and transmission potential. It is a two-day trip from Conakry to Nzérékoré, with difficult roads that are nearly impassable in the rainy season. Conakry has the highest population density in Guinea, making rapid transmission and higher case counts more likely. Forty percent of programs were implemented in all eight regions. Annex E, Figure E9, shows the geographic distribution of OFDA-funded programs in Guinea.

SIERRA LEONE

Appropriateness of Funding Mechanisms: IP respondents reported no problems with OFDA financing mechanisms and noted flexibility in negotiating extensions. MOHS respondents reported that the funding of activities was sufficient and appropriate. One GoSL respondent said that support was “sufficient and appropriate, especially as more partners kept coming in and addressing the needs for intervention in the districts.” One GoSL respondent reported a challenge related to USG funding regulations, which did not provide flexibility to build new infrastructure due to the nature of emergency funding. Another GoSL respondent reported a lack of funding and technical support, which resulted in a lack of human resource capacity.

In-kind support for health workers included training support, job aids, salaries, IPC supplies, and equipment. For communities, IPs provided hygiene supplies, food support (from FFP), and communication materials. Health workers and community members were satisfied with the in-kind support. There were no reports of IPC supply stock-outs.

Timeliness of Funding Mechanisms: IPs reported that OFDA funding was timely. One IP informant reported that “the funding mechanism and in-kind support was appropriate and timely. Once approval is obtained, funds were immediately available.” A GoSL informant, in contrast, reported that funds arrived late. There were reports of initial delays in supplies of consumables and procurements of ambulances, but these improved later.

Community views were that aid came late but was adequate.

“The help we got was okay for our needs. We needed to survive. Other things were not a priority at that time. We received messages, information, food, hygiene care, - some before we got

sick, during the sickness. Not much after.”

— FGD with families affected by EVD

“Well, when it started they were not timely, but as time went by, they started come on time.”

— FGD with youth leaders

“If any outbreak, there should not be a delay. People or NGOs responsible must respond sooner, also when they want to help, they should involve everyone in the community.”

— FGD with members of a community bordering a highly-affected area

Targeting of Funding Mechanisms to Affected Areas: Among both households with cases and those without, urban households had greater access to ETUs and CCCs than rural households (see Annex O, Table O3-3 for detail). Only a third of households with cases reported having access to an ETU or CCC, and only half reported being isolated or quarantined. Food support was provided to most households in quarantine, and was substantially more prevalent than financial support. Seventy-six percent of households with cases reported having been visited by a contact tracer, as well as over half of households without cases – the highest levels across the three countries. Nearly all (96%) households reporting an EVD death reported practicing safe burial although less than a quarter reported receiving protective supplies for body preparation and safe burial. See Annex O, Table O3–3 for detail.

Forty percent of OFDA funded programs were implemented in all 14 districts of Sierra Leone. More programs were implemented in Bombali district than any other. Bombali was one of the four hardest-hit districts, along with bordering district Port Loko, as well as Kailahun and Kenema, bordering both Guinea’s Forest Region and Liberia. Poor roads and travel difficulty in Kenema and Kailahun likely account for there being fewer programs there than in Bombali and Port Loko, as well as the U.S. support focus on areas where the UK DFID was not already working. Annex E, Figure E13, shows the geographic distribution of OFDA-funded programs in Sierra Leone.

OFDA responses appeared scattershot in Sierra Leone, symptomatic of the geographically widespread outbreak there and the efforts of the international response to align with and support a questionable control strategy of a series of “quarantine” and “surge” events. OFDA seemed to be plugging gaps where DFID and NERC required assistance.

LIBERIA

Appropriateness of Funding Mechanisms: IP key informants reported that OFDA funding was adequate. OFDA was the largest donor for multiple IPs. The MOH in particular found OFDA’s funding to be “timely, accessible and sufficient.” One GOL key informant said “The government did not have the

resources to do anything, but when USAID and others came in it helped a whole lot. Enabled us to do the work.” The MOH also reported a good working relationship with OFDA. Both IPs and community members reported that adequate supplies were provided.

There were some informants, however, who noted shortages. Multiple families in FGDs reported that they did not receive any food support during the outbreak. Civil society representatives reported that community radio was facing funding problems. A religious leader was dissatisfied with the manner in which distributions of goods and services was done. He said “*there were food and oil to be distributed, but we did not see them distributing them to the rightful people. Those people did not receive them, but overnight, everything was gone.*” An IP informant observed that community-based IPC didn’t receive sufficient funding.

IPs reported being pleased with OFDA funding flexibility with modifications and no-cost extensions. IP key informants said extensions enabled transition and decommissioning plans to be made. MOH staff lamented the termination of funding, and expressed a wish that the programs could continue. The most contentious issue mentioned were restrictions on permanent structures and unclear building guidelines. This required extensive discussion that delayed approvals of proposals.

Timeliness of Funding Mechanisms: OFDA funded IMC, UNICEF, and GC in August, 2014. OFDA awards continued throughout the rest of the 2014, peaking in number in December 2014. More than half of OFDA’s Liberia awards were made by the end of 2014, through project periods continued through the end of 2015.

During OFDA’s rollout period in Liberia, the short time spans of deployment of OFDA personnel and the time that it took for new personnel to come up to speed caused delays in approving a number of IP proposals, particularly those who were new to OFDA funding. Some IPs reported that, “...*the funding model is a problem.*” Various IP staff criticized the time lost because of the high turnover of DART personnel. One IP suggested that OFDA establish a rapid disaster response fund, from which disbursements can be made very quickly, with particular project objectives and budgets specified later.

The MOH reported that OFDA’s funding was timely. Both IPs and community members reported supplies arrived without delays. A village chief commented that “*The help we needed came on time when we really needed it the most.*” One traditional leader recalled that materials “*can be delayed and the aid agencies’ representative will say the delay is not from us but is from the head office.*”

Targeting of Funding Mechanisms to Affected Areas: Among both households with EVD cases and those without, urban households had greater access to ETUs (see Annex O, Table O3-4 for detail). Urban and rural households had similar

levels of access to CCCs. Only half of households with cases reported being visited by a contact tracer or being isolated or quarantined. Food support was provided to about 60% of households in quarantine, and was substantially more prevalent than financial support. Nearly all households reporting an EVD death reported practicing safe burial, although only 35%–40% reported receiving protective supplies for body preparation and safe burial. Higher percentages of households reported receiving PPE than in Guinea or Sierra Leone. See Annex O, Table O3–4 for detail.

Thirty percent of OFDA funded programs were implemented in all counties, as opposed to 40% in Guinea and Sierra Leone. More programs were implemented in Montserrado County by far than any other county. The most populous county and surrounding Liberia’s capital Monrovia, Montserrado also had more EVD deaths than any other County in Liberia. Annex E, Figure E17, shows the geographic distribution of OFDA-supported programs in Liberia.

CONCLUSIONS: EVALUATION QUESTION 6

Although OFDA is structured to act quickly in emergencies, the unprecedented nature of the EVD outbreak taxed its ability to act and fund quickly enough. The majority of OFDA funding arrived after the epidemic peak. This was partly due to delay in USG engagement, and partly to delays in finding partners and the disbursement of committed funds. OFDA in particular is not mandated to engage until the situation is classified as a humanitarian emergency, so speed is of paramount importance.

OFDA made funding recommendations quickly; however, internal approvals required for funds disbursement were slower. Existing partners were prioritized for funding to expedite the process, but opportunities may have been missed to incorporate new partners with relevant expertise. New partners found the funding procedure more challenging.

In-kind support was timely and appropriate. Initial in-kind support reached Liberia as shortages were being reported, helping to fill critical gaps in supplies for IPC and WASH. Funding multilaterals was also quick, but resulted in less OFDA control and oversight of implementation. OFDA supported the construction of a crucial logistics supply chain, including directly airlifting supplies, supporting UNHAS, and supporting warehousing and distribution through WFP.

Funding recommendations were rapid, but disbursements took more time, resulting in the funding of more large, established IPs that had internal funds to front. Private contracts appear to offer a useful mechanism for filling gaps that IPs are unable to address; however, in this case, the PAE contract resulted in a massive expenditure on an untimely result.

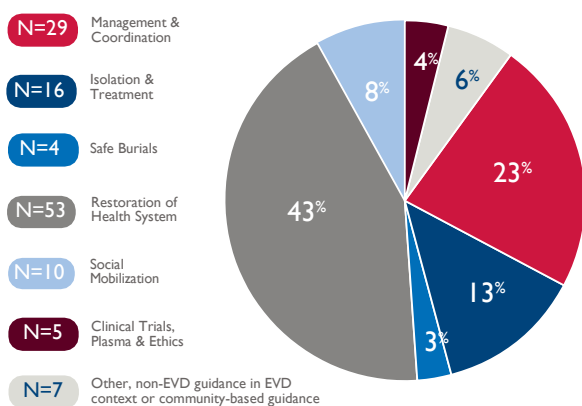
There was agreement among all categories of respondents that OFDA funding of activities was sufficient and appropriate and that OFDA was flexible with regard to extensions and

redistributions. The only consistently reported challenge was related to OFDA funding restriction that did not provide flexibility to build new physical infrastructure, which was challenging in relation to ETU and CCC construction.

Though some regional awards were made, funding was largely targeted by country, contributing to distinct country approaches that didn't address the regional nature of the epidemic. OFDA response in Liberia was comprehensive but it took a more fragmented approach in Guinea and Sierra Leone, which may have contributed to slower containment in Sierra Leone and persistent micro outbreaks in Guinea. In 2015, OFDA support of micro outbreak strategies in all three countries was well targeted to areas critical for outbreak control.

Analysis of household survey data suggests that response interventions were appropriately targeted. Survey data shows that households with EVD cases had greater exposure to response interventions, and that households in high-prevalence areas had greater exposure than those in low-prevalence areas. In Guinea and Sierra Leone, there was notably higher reported ETU access by households with cases than in those without, suggesting that ETUs were well placed near outbreak hot spots. Data on CCC accessibility suggested particularly good targeting, with high-prevalence areas having as much as twice as much access as low-prevalence, whereas food and financial support for households in isolation or quarantine was the reverse, with low-prevalence areas having greater access to these forms of support than did the high-prevalence areas.

Figure 13. CDC and WHO guidelines relevant to the EVD response, by response component area



EVALUATION QUESTION 7

To what extent did attempting to adhere to technical “gold standards” affect the timeliness and quality of the response?

Though this evaluation question refers to “gold standards” (the best test/process/care available under reasonable conditions), this discussion addresses the integration of standards of care and technical guidelines in the EVD response in a more general sense. A “standard of care” refers to the level at which the average, prudent provider in a given community would practice, for example, how similarly qualified practitioners would have managed a patient’s care under similar circumstances. Technical guidelines are statements that aim to make particular processes or services consistent according to a set routine or sound practices. During the EVD response, the context was novel and standards were evolving. Emerging technical guidelines sought to help establish standards of care, that were themselves evolving over time, as discussed below.

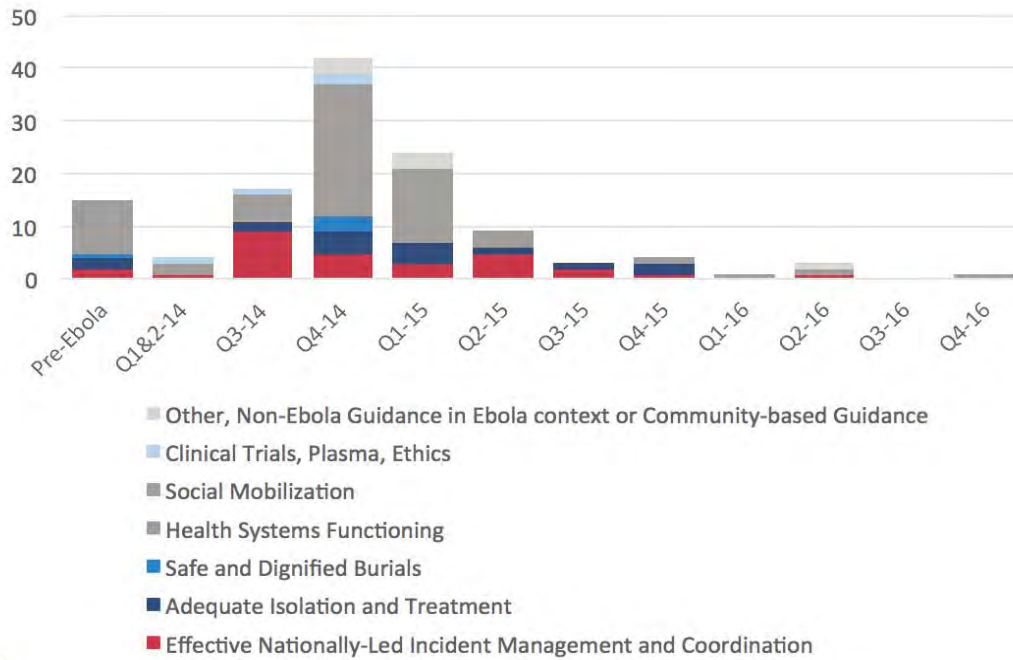
OVERVIEW: AVAILABLE TECHNICAL GUIDANCE

Prior to the outbreak in West Africa, existing guidance relevant to the unfolding situation included the following WHO guidelines: Infection Prevention and Control in Healthcare Facilities (2011), Health Communications For Behavior Change (2012), and Investigating Cause Of Death During An Outbreak Of Ebola Virus Hemorrhagic Fever (2003). There were several crucial areas for which adequate guidelines did not exist, including safe and dignified burial, patient transport, contact tracing, and research and use of unregistered interventions. There were notable gaps in areas such as social mobilization and community engagement.

The SPHERE standards are the most widely accepted guidelines for minimum standards in emergency response, established well before the West Africa EVD outbreak. They are supported by the CDC and WHO and all relief organizations are familiar with them. They include guidelines on the control of communicable diseases, however in this case the guidelines were inadequate to control EVD transmission. The failure of this staple, designed to be all encompassing, contributed to the dearth of guidelines during the early response.

A review of publicly available WHO and CDC Technical Guidance documents, Protocols, Standard Operating Procedures (SOPs), and Guidance documents referenced in OFDA’s Ebola Fact Sheets demonstrates that of 124 guidelines published during the outbreak, WHO and CDC standards and guidelines were disproportionately focused on Component Four of the response strategy: Health System Safety And Functionality (see Figure 13 below). These included guidelines regarding logistics for local health centers; facility-based IPC protocols; and training of facility staff. Component I, Effective Nationally-Led Incident Management and Coordination, was the second most common domain, including border control

Figure 14. CDC and WHO SOPs, guidelines, and protocols relevant to the EVD response, by response component, by quarter



and warehouse-level logistics. The combined percentage of non-Ebola related health activities (vaccination campaigns, malaria campaigns, IPC activities focused on households and communities, and social mobilization guidelines) amounted to less than 15%, reflecting the lack of cumulative experience and lessons about these issues from the previous, smaller outbreaks. A related timeline analysis demonstrates that the most standards and guidelines were released during the fourth quarter 2014, followed by the first quarter of 2015 (see Figure 14 below). CDC and WHO were also under international pressure to generate guidance documents about clinical trials, blood plasma collection and treatment, and experimental clinical care at a sensitive time for escalating conventional public health responses, like contact tracing.

WHO and CDC did not prioritize creation of “gold standard” guidelines for interventions such as social mobilization and community-based IPC management. They developed tools and visual aids for these purposes, but not technical guidelines for their administration. Social mobilization was regarded by some as too complex to develop standardized guidelines. Social mobilization was also not well tied into guidance for other OFDA response component areas.

Adherence: Within the USG, the CDC set technical guidelines and promoted adherence. In interviews with USG personnel, namely OFDA, CDC, and DOD, it was clear that CDC was responsible for establishing technical guidelines and providing technical support. One USG informant described the roll of CDC: “CDC reviewed proposals that the DART had for infection control work and ETUs. CDC provided technical guidance.” Several

CDC staff members described the OFDA/CDC working relationship as OFDA getting funds moving quickly and CDC providing the technical guidance.

OFDA did not require adherence to particular guidelines in contracts with IPs and no technical guidelines were specifically articulated in award agreements. OFDA encouraged IPs to be aware of the various guidelines and use their judgment. Neither is there evidence of the USG requiring national response structures to adhere to particular technical guidelines. However, CDC staff were integrated into the response structures in each country, and thus influenced national policies with regard to technical guidelines and national adherence.

Some IPs, in their award documents, described their knowledge and adoption of known standards and reference widely-respected guidelines such as those from CDC, WHO, and MSF. Several IPs reported already having internal guidance that they continued to follow. One IP said “We already know and have standards for clinical people, composition of teams, severity of patients.” No responders reported feeling limited or boxed in by technical standards; on the contrary, key informants reported being glad to receive guidelines and following them diligently.

Data from surveys conducted with contract tracers and CHWs across all three countries show that the vast majority reported receiving and following standardized guidelines for their work. More than 90% of contact tracers reported receiving guidelines as had between 82% and 89% of CHWs at some point during their work. The national MOH was a top source of guidelines for all groups. MSF was listed as a top source of guidelines in Guinea, and IRC in Sierra Leone. WHO was a top source

of guidelines for contact tracers in all three countries, and for CHWs in Liberia. Just less than half of CHW and contact tracers in Guinea and Sierra Leone reported changes to the guidelines over time. Fewer changes were reported in Liberia; around a quarter of contact tracers reported changes, and a third of CHWs. Liberian workers may have reported fewer changes because many of them had concluded their work before updated guidelines were released. Reported compliance with guidelines was high—more than 85% for all groups, as high as 97% for CHWs in Liberia. These data show that guidelines were prevalent, were from reliable sources, and were utilized. See Annex O, Table O3–5 for detail.

A review of the literature demonstrates that some key professional populations were not engaged until quite late in the response in training, IPC standards, or community engagement and outreach.⁴⁹ In Liberia, for example, a large professional field of mortuary experts were not consulted or trained, despite evidence that middle-income Monrovia residents continued to contract private funerary services rather than use safe and dignified burial (SDB) services. In all three countries, informal healers, traditional healers, private medical care providers, and formal pharmaceutical vendors who regularly provided health care functions such as insulin injections were not provided with IPC training, nor were they integrated into wider surveillance networks.⁵⁰ Some evaluations of IPC training activities have noted the difficulty in identifying these widely distributed labor forces during a response.

Additionally, key decision makers in local communities were not regularly included in trainings about safe and dignified burials, IPC, and contact tracing, inhibiting local will and capacity to cooperate with the response.⁵¹ By extending technical trainings to lay persons, community leaders, and religious leaders, and providing them with the resources to assume primary responsibility for tasks otherwise centralized in IP response agencies, some analysts believe that remote areas might have been able to be integrated into response standards and strategies earlier, despite geographical and social remoteness from the center of the response.⁵²

Impact on timeliness and quality: Early in the outbreak, many health workers were infected. The diffusion of rigorous IPC guidelines led to a significant decrease in nosocomial infections. Initial contact tracing practices were missing cases, leading to a “hidden” caseload, which facilitated transmission and led to outbreaks in areas previously unknown to have cases. The implementation of more rigorous contact tracing guidelines improved case finding and tracking. Burial workers were extremely appreciative of having guidelines to follow and credited the guidelines with keeping infections among their team members very low.

In some cases, the need for rapid programming decisions, before guidelines were developed, may have contributed to user error. October 2014 guidelines about chlorine poisoning

suggested inadequate standards for disinfection with chlorine spray may have led to increased risk of chlorine poisoning.

ETU guidelines and technical standards did not contribute directly to delays in isolation and care. However, the conditions around setting up ETUs (such as slow ETU construction in Sierra Leone) lead to delays in isolation and care. Fear of going to ETUs and lack of transparency around ETUs contributed to community fear and avoidance of ETU referrals, which contributed to delays in isolation and care. Poor integration of ETUs into broader networks of referral and transportation also contributed to delays in isolation and care. Delays in initiating trainings for adherence to guidelines and technical standards led to some delays in opening and staffing of ETUs. Technical trainings were very good, but were delayed too long, creating risky conditions. MSF indicated that training and staffing was a major issue for them, but not setting up the ETUs themselves. USG key informants observed that DOD’s meticulous and inflexible adherence to technical standards contributed to the slow construction of ETUs.

Comprehensive evaluations of CCCs in Sierra Leone (UNICEF, PIH) and Liberia (Save the Children) found that initial discussions about the feasibility and advisability of CCCs were hampered by internal debates within the medical community about whether IPC guidelines created additional exposure to community members, in contrast with the perceived superior IPC standards of ETUs.⁵³

“We felt that doing it well was as difficult as doing an ETU . . . Basically it is very difficult to make these safe places. Only add the medical staff to become an ETU. The medical staff is not the hard part. The hard part is the WASH, and infection control.”

— Respondent (non-IP)

This debate was likely ill-conceived, as the frame of reference was not a situation in which community members were selecting between ETUs and CCCs; it was one in which people were selecting between CCCs and households—with CCCs creating new opportunities for testing, transparency, reporting, and community engagement. During CCC construction, the process was further slowed in some locations—sometimes by as much as a month—by debates between IPs and national governments over construction standards, WASH standards, IPC criteria for floor plans, and technical criteria regarding water, drainage, and incinerator usage. These debates frequently required the contribution of WASH and construction experts who were unable to access the sites.

The efficacy of, and standards for, home-based care were also controversial. USG respondents reported conflict between USAID/OFDA and CDC over home hygiene kits. Some initial OFDA support of home-based was reined in following CDC’s direction, resulting in kits already purchased by OFDA not being distributed in Liberia. The Director of USAID’s Global Health Security and Development Unit was strongly supportive of home hygiene kits.

“And then [USAID office] was enthusiastic about home protection kits and told them good luck. CDC did not agree with them as an appropriate strategy. It’s better than nothing. If [the kits] had two sets of PPEs maybe [CDC] might use them.”

— USG KI

Sanitation kits were ultimately among the most visible and widespread direct benefits of the response. People reported receiving kits prior to community infections (in unaffected communities) when there was a household infection, when there was a community infection, or when a family member had been diagnosed with EVD. FGD respondents indicated receiving sanitation kits in quantity. It was a priority activity for most partners, and was closely integrated into CHW activities. Respondents from the Guinea MOH ranked hygiene kits as among the most effective parts of the response program in reducing the number of cases. Household hygiene kits were widely perceived as effective in focus group discussions with community members affected by EVD. Members of a focus group in an unaffected community in Guinea indicated that they received ample supplies of home hygiene kits; and groups in Liberia strongly recommended that home hygiene kits should be prioritized in the future.

A review of the literature and round table discussions with responders demonstrates that PPE guidelines were controversial. The suits, face masks, and goggles limited the time, physical contact, and emotional connections between patients and caregivers, as well as restricting motion and causing overheating and dehydration for the wearer. Contrasting guidelines were available for the level of PPE required for interaction with EVD patients, and for PPE donning and doffing procedures. This caused confusion as well as contention among responders. MSF guidelines were significantly more rigorous than those from WHO and CDC. In October, 2014, both WHO and CDC released updated guidelines with increased precautions, although still below the level recommended by MSF. Some scientists at both WHO and CDC argued that MSF’s guidelines were overly rigorous, causing unneeded difficulties for health workers. MSF and others argued that a lower standard put health workers at undue risk. This debate has not yet been fully resolved.

A minority of IP and local responder key informants reported that changing guidelines were challenging for IPs, and led to some delays. One IP key informant recalled an OFDA water and sanitation staff person asking them to change their infection control protocols from using chlorine for hand washing to using soap and water. The informant noted that while they recognized this guidance was “not wrong,” nevertheless “fears led to unnecessary delays.”

GUINEA

IP key Informants did not report that trying to adhere to gold standards impeded implementation. Most IP respondents reported following guidelines from CDC and WHO, and

said following them was not a problem. IP respondents also reported that the various coordination meetings led to common guidelines and standards being adopted; for example, IPC training followed WHO standards and all agencies agreed to WHO certification of IPC trainers. One IP key informant noted that the standards were agreed upon by all parties, they were not imposed, and they did not present a problem. IPs that were not familiar with working in emergencies had to learn quickly and expressed appreciation of having guidelines and standards to follow.

A number of IPs reported having developed their own guidelines. A key informant reported that IFRC had standard guidelines that they followed. CECI “developed their own guidelines and were not impaired by ‘gold standards.’” Jhpiego already had developed guidelines for IPC training, which were consistent with WHO (who also certified their trainers). Initially, the French Red Cross (FRC) used MSF ETU guidelines, but later developed their own guidelines, and have since published a book that provides comprehensive guidelines to responding to an EVD epidemic: *Répondre à une épidémie de maladie à virus Ebola - Guide Opérationnelle*.

MOH CHWs reported in an FGD that the activities of health care agents improved gradually through the practice of standardized procedures. Burial workers appreciated having guidelines to follow. “...these directives that were given to you, you found that these directives were normal, because it allowed you to protect yourself and to save lives, to avoid contamination.”

It was noted that the initial lack of guidelines caused problems. In interviews with MOH staff, they commented that the lack of SOPs caused retreat of some doctors. Religious leaders interviewed similarly noted: “Many doctors died for lack of PPE and SOPs,” a finding supported in the literature.⁵⁴

Local responders named the rigorous PPE guidelines as the most challenging to adhere to. One district health worker noted that “What we are wearing as a combination there is so stifling, to the point that when you spend time in it you risk falling” from dehydration and exhaustion. However, the protection it provided was deemed worth the discomfort: “Did it protect you from the disease? Of course, 100%.”

A quantitative survey of 65 contact tracers and 85 CHWs indicated that they appreciated having guidelines to follow. More than 80% of CHWs and more than 90% of contact tracers reported receiving written standardized guidelines for their response work. The top sources of these guidelines were UNICEF, MoH, and MSF for CHWs, and for contact tracers IFRC, WHO, MSF, MOH and UNICEF. Roughly half of each reported changes in the guidelines over time. Over 85% of CHWs and more than 90% of contact tracers reported following the guidelines all of the time. There were no significant differences between those working in urban and rural areas. See Annex O, Table O3–6 for detail.

SIERRA LEONE

All key informants interviewed in Sierra Leone reported adherence to the SOPs and technical guidelines approved by the MOHS. Initially, country specific guidelines were not available and IPs and the MOHS reported adapting preexisting guidance available from WHO, MSF, and CDC. Later, the MOHS and the NERC developed specific SOPs and guidelines, in collaboration with WHO and CDC, which IPs were instructed to follow. One IP key informant commented that in addition to following guidelines formulated by NERC and MOHS, “we also followed guidelines of donor agencies such as OFDA.” MOHS reported following guidelines in field epidemiology provided by the CDC. One IP respondent noted that they put monitoring structures in place to ensure compliance.

IPs reported that adherence did not affect response timeliness, and positively affected response quality. Burial team members, youth volunteers, and MOHS personnel all commented that the guidelines were appropriate. Many response partners reported that the technical guidelines enhanced response quality and safety. One GoSL key informant noted “We were doing it right and getting support from government and partners. We did not face any challenges in adhering to these guidelines. We were effective because of the existence of these procedures.”

Multiple burial team members credited following the guidelines with preventing transmission among their team members. One commented that nothing about the safe burial process was easy, as each action required a process that should be strictly adhered to, or risk contacting the virus. He believed that due to these strict processes, no member of his burial team was ever lost to EVD. Another stated that “The guidelines were helpful, as we would have all died from contacting the virus. We listened and followed procedures given to us.” Informants at one IP expressed feeling safe during their work because of trainings received and support from IMC and other partners in the community.

A major constraint to adhering to the guidelines was community resistance during safe burials. Complying with guidance on burial time frames was also reported as a challenge. One district health team member said “The workload was very hectic. Sometimes we would work up to 18 hours in a day. Some days we even bury the dead in the dark so as to beat the 24-hour deadline placed on burying the dead.” Burial team members and youth volunteers reported that the guidelines that were easiest to follow were those for swabbing bodies (to test for presence of EVD in those who had died) and digging graves, which presented no risk of infection.

Multiple burial team members agreed that “the guideline that was hard to follow was the one that dealt with the removal of gloves and PPEs. This was strenuous to do. It had to be done correctly all the time or risk infection and eventual death.” Several also commented on the challenges of thirst and overheating while wearing PPE in accordance with the guidelines. However, despite these

challenges, all agreed that compliance was important.

Clinical staff reported difficulty in interacting with patients while wearing the full PPE suits and resistance from family members when they were not allowed to enter the ETU premises. To overcome these challenges, ETU staff engaged EVD survivors (who need lighter PPE) to interact with patients, and allowed telephone communication with family members. Local responders interviewed most often cited disrobing PPE appropriately as the most difficult guideline to follow.

Key informants reported some changes to guidelines over the course of the epidemic. One USG staff member noted that “The guidance changed over time because of these, I mean, there were different things going on in different places. But I think, once the guidance is given, the adherence was good.” Changes to burial guidelines were noted in particular. Burial team members in a FGD noted that burial guidelines were “modified to ensure community involvement and reduce resistance.” Participants in an FGD with male community members noted that “Safe burial practices were introduced after people complained of the inhumane way in which the dead were being treated. They were neglected initially. We did not like that. People denied and resisted.”

In a quantitative survey of 61 contact tracers and 81 CHWs, about 90% of contact tracers and CHWs reported receiving written standardized guidelines for their response work. The top sources of these guidelines were IRC, MOH, and MSF for CHWs, and for contact tracers, MOH, WHO, and MSF. Between a third and half of each reported changes in the guidelines over time. More than 90% reported following the guidelines all of the time. There were no significant differences seen between those CHWs working in urban and rural areas. See Annex O, Table O3–7 for detail.

LIBERIA

IPs, MOH staff, and community leaders all reported complying with technical guidelines once they were available. A supervisor from one IP noted that “there was a guideline for every activity, including a guideline for contact tracing, safe burial activities, IPC, waste management, etc.” A participant in a FGD of women leaders said “we followed all the protocols and guidelines to keep us safe.” Burial team members across several focus groups said having the guidelines and following them closely helped them to feel safe and prevented transmission among burial workers. One responder emphasized the importance that was placed on utilizing the guidelines: “We had a guideline that we were trained to. It’s like a frontline – you can’t have a gun and bullets and you don’t know how to fire.” IPs reported that guidelines were from WHO, but were adapted by the MOH, with partners, during the response. KIs were consistent in rating the government highly in playing a constructive role in reviewing and adapting international standards and guidelines.

Meshing various standards and guidelines and adapting them to the Liberian context was an ongoing requirement during the EVD response. The GOL and international and local IPs sought to adhere to quality standards, while recognizing that the specific contexts of Liberia may require some adaptation. For example, MSF—with perhaps the most extensive experience among the INGOs—expressed concern with some clinical guidelines which they felt were not realistic for operating in remote rural conditions without electric power or water.

To help ensure appropriate application of guidelines, the national IPC Task Force was established in September, 2014, when transmission was still on the upswing. Liberia had no IPC structure. Chaired by the MOH and supported by international partners and local NGOs, the Task Force rapidly developed a national policy and set of guidelines for IPC practices in general health care facilities. Leveraging partnerships with organizations on the ground, the Task Force assumed the role as the coordinating body for IPC activities in Liberia, standardizing messages, overseeing resource needs (especially PPE), establishing IPC standards, and providing tools to assess compliance with these standards. A primary goal of the Task Force was to “speak as one voice through an all-inclusive principle” (community-based, faith-based organizations, national and international NGOs, etc.). The Task Force helped drive initiatives crucial to the response through technical oversight, regular communication, and partner relationships.

Related to IPC was the Keep Safe, Keep Serving program, supported by OFDA. A technical working group of the Task Force convened for two weeks to develop numerous guidelines, posters, and training materials adapted to the specific needs of non-ETUs in Liberia at the time. The most significant issue reported by health care workers was the need for consistent and clear guidance on PPEs. Based on fear for their personal safety, many health care workers reported concern that a standard level PPE was inadequate and that additional precautions were necessary. There were overt differences between what was worn in ETUs and what was recommended by the WHO and CDC. Keep Safe, Keep Serving mediated the difference to come up with the standard for Liberia.

Availability of PPEs, however, varied. Burial workers and MOH staff in Robertsport and Voinjama counties reported having ample PPE—even having supplies left over: “The materials were fully supplied and many. We were never out of materials.” Early on, however, there was a lack of supplies in some locations. ETU providers from Montserrado County reported that “since our facility lacked the essential equipment and protective gear (PPE) at the onset of the EVD outbreak, our safety as care providers was jeopardized.” One traditional healer commented that without access to PPE, community members “wrapped plastic sheets around our hands when handling or caring for sick relatives or friends.”

Despite the knowledge that technical guidelines existed, the majority of burial team workers reported never actually receiving any written guidance. Instead, they were informed of the guidelines orally, and given practical trainings. One respondent reported that “although we did not receive a copy, we followed everything within the guideline to save our lives and the lives of our families.” According to a burial team supervisor, they were trained in the content of the guide but were not provided with a copy, as it was presumed they were all illiterate and could not read the guide. A few burial workers, however, found the oral training insufficient.

As elsewhere, the most difficult part of adhering to guidelines was reported to be doffing PPE. One IP key informant noted that the protocol for donning and doffing PPE were different for WHO versus IMC, who also trained on PPE protocols following MSF guidelines. The informant (who was not IMC staff) found the IMC procedures were more practical. However, although some responders initially were following IMC protocols, they switched to the WHO guidelines because the MOH adopted them. Performing in PPE was also challenging. The PPE was very hot to wear in high-temperatures, leading to profuse sweating, dehydration, and exhaustion after an hour of clinical work. The process of donning and doffing was involved and tedious. To help prevent mistakes due to tiresome routines, burial team members swapped roles each week. It was also difficult to communicate with patients while wearing PPE.

In a quantitative survey of 124 contact tracers and 122 CHWs, 80–90% of contact tracers and CHWs reported receiving written standardized guidelines for their response work. The top sources of these guidelines were MOH, WHO, and GC for CHWs, and for contact tracers MOH, WHO, and PIH. Between a quarter and a third of each reported changes in the guidelines over time, which is the lowest of the three countries. More than 90% reported following the guidelines all of the time. There were no significant differences between those working in urban and rural areas. See Annex O, Table O3–8 for detail.

CONCLUSIONS: EVALUATION QUESTION 7

Insufficient guidelines hindered quality, adequate guidelines improved it. Guidelines had both a positive and negative impact on timeliness.

Early responses were not hampered by an attempt to adhere to strict “gold standards.” Rather, the timeline suggests that most standards were in the process of development concurrently with the need for decisions about implementation. Only a few relevant guidelines existed and were readily available at the start of the outbreak. Initial IPC and contact tracing guidelines gave responders a template to follow and enabled them to act quickly. Even when initial guidelines proved inadequate in rigor and had to be updated over time, the initial presence of a road map helped prevent delay. ETU guidelines and technical standards did not contribute directly to delays in isolation and

care. However, delays in initiating trainings for adherence to guidelines and technical standards led to some delays in opening and staffing of ETUs.

There is evidence that some CCCs were delayed due to confusion regarding guidelines, and slow DOD ETU construction may be due in part to meticulous guideline adherence. OFDA actions may have been slowed down by delays in experts engaged in technical deliberations over what the standards ought to be, in a wide range of matters ranging from the correct percentage of chlorine bleach solution, the proper procedure for donning and doffing PPE, or construction standards for CCCs. The efficacy of, and standards for, home-based care were also controversial.

In some areas where guidance was lacking, early mistakes were made. Insufficient IPC standards led to nosocomial infections, inadequate contact tracing resulted in unidentified chains of transmission, and overly strong disinfection solutions led to risks of chlorine contamination and harm to people. There was notable improvement in each of these areas as better guidelines were implemented. The lack of guidelines early in the response for how to address the specific needs of vulnerable populations and girls and women meant that these needs were not addressed in some cases. Inadequate

guidelines on IPC for childbirth resulted in some health facilities refusing to let pregnant women deliver, due to fears about transmission.

Country-specific technical guidance was not available at the beginning of the outbreak and IPs adapted and used international guidelines. They were introduced later and changed over time as more was understood about the social context of the epidemic. Liberia's MOH had notable mechanisms for reviewing and adapting guidelines in an inclusive way that supported adherence by stakeholders. *Burial teams faced challenges in adhering to technical guidance, due to community resistance and the difficulties of working in PPE.* With community engagement and mobilization and adaptations to the guidelines, the situation improved over time. Having written guidelines adapted for low-literacy groups (like some of the burial teams) could facilitate adherence.

OFDA ensured its partners were aware of the relevant guidelines, but did not require adherence with any particular set. This enabled IPs to make locally relevant adjustments, and coordinate with national response mechanisms.

SUMMARY CONCLUSIONS

OFDA's expertise in disaster response, speed, and flexibility made it relevant as the office assigned to lead the USG response.

OFDA's initial priorities were heavily case oriented (identification, isolation, treatment, and burial) and under emphasized social mobilization and community level responses, which were crucial for prevention and for underpinning case oriented interventions. OFDA's early response was highly influenced by a medically oriented CDC approach and USG strategy that was driven by CDC priorities. The limited availability of partners in the early response also constrained initial response options. An ETU focus that was initially warranted due to case projections was slow to change course in relation to emerging epidemic data demonstrating contraction. OFDA gave more emphasis to community-level interventions and social mobilization in 2015, in line with decreasing emphasis on ETUs, and recognition in the overall response that social mobilization was critical to controlling transmission. OFDA demonstrated flexibility in modifying IP awards as the epidemic response needs shifted. OFDA should ensure the incorporation of beneficiaries and response partners in priority setting processes and ensure priorities evolve along with changing conditions. Epidemics require incorporation of key epidemiologic data to ensure appropriate priorities are set, as well as consideration of the impact of pathogen mobility.

OFDA's strategy was too closely tailored to individual countries, and less well-designed for fluid regional response. Prioritizing Liberia over Guinea and Sierra Leone was likely due to an expectation of others' involvement in those countries, but resulted in late OFDA engagement there, relative to the course of the epidemic, which may have contributed to the delays in containing the outbreaks in those countries. There were only eight regional IP awards, totaling about 2% of overall OFDA spending. The vast majority of funds were country-specific, and supported national, rather than regional, response strategies. As a result, the targeting of funds varied by country. Funding in Liberia was nationwide, with OFDA programs active in every

county from early on. Funding in Guinea and Sierra Leone was initially much more targeted, to hotspots and to fill gaps in support from other funders. The significant contraction of the epidemic in Liberia in late 2014, compared with the slower containment in Sierra Leone and the diffuse micro-outbreaks in Guinea in 2015, suggests that a "whole of response" approach in Liberia was more effective than the piecemeal OFDA support in Guinea and Sierra Leone.

OFDA funding mechanisms largely worked well and relatively quickly, however in a disaster that evolves as quickly as the EVD outbreak did, they are not fast enough. As a result, the majority of funding arrived after the epidemic peak. In August, September, and October, funding was not rapid enough to keep pace with demand for resources. OFDA made 30% of its awards during this critical period, comprising approximately 35% of total OFDA funding. Another 30% of awards were made in November and December, 2014, as funding caught up with needs.

OFDA made funding recommendations quickly; however, internal approvals required for funds disbursement were slower. In-kind funding was timely and appropriate. Funding mechanisms that maximize speed and flexibility should be prioritized.

OFDA's hands-off approach to guidelines was appropriate. OFDA is not a standards setting organization, nor should it be. OFDA ensured its partners were aware of the relevant guidelines, but did not require adherence with any particular set. Availability of rigorous technical guidelines substantially improved response quality, however in areas where guidance was lacking early mistakes were made. Where guidelines existed, having a road map facilitated quick response. The delays that did occur in some settings were largely to do deliberation during development of standards or confusion over contradictory guidelines. OFDA should leverage its position to ensure appropriate guidelines are available, to encourage standards setters to make guidelines more IP friendly, and to help IPs navigate conflicting standards.

RECOMMENDATIONS

The evaluation team suggests that USAID/OFDA consider the following, in order of priority:

Evaluation Question 5: Priority Setting

1. *In similar public health emergencies, establish a regular formal review of the overall response strategy*, e.g., on a daily or weekly basis, to review and critique public health data and make proactive decisions that are documented about aligning priorities with evolving conditions. Particularly for rapidly moving disasters, such as many outbreaks, regular review helps ensure that priorities stay abreast of evolving conditions. These meetings can set priorities for how IPs can be engaged to generate data to fill gaps or clarify suspect information.
2. *Involve emergency response IPs and local leadership consistently in priority setting by seeking their buy-in and transparent feedback to the donors' response strategy.* Local partners or IPs that have experience working in the effected population are frequently well-placed to advise about gaps and inform about priorities. A national, consolidated input process can ensure that partners and community leadership are consistently involved.
3. *Incorporate key epidemiologic indicators* such as incidence, reproduction numbers, the average time between onset of symptoms and admission to a facility for treatment, and the proportion of cases resulting from unidentified chains of transmission in the prioritization of outbreak response approaches. Whenever possible, this can be done in conjunction with CDC. However, OFDA should acquire in-house capacity in epidemiology, as CDC may not always work closely with OFDA in OFDA responses involving an outbreak. The West Africa EVD outbreak was atypical in terms of the daily cooperation of CDC and OFDA. If CDC cannot support OFDA in a future public health emergency, OFDA should not be left without internal capacity in epidemiology.

Evaluation Question 6: Funding Mechanisms

1. *Use Standing Contracts and Indefinite Quantity Contracts (IQCs) to increase funding flexibility and speed.* Pre-negotiated, standing contracts with IPs are an effective mechanism for rapidly initiating response activities. Issue a general IQC to one or more firms to establish a standing contract for pandemic response. At first sign of a possible outbreak, issue a task order to that entity to stand up, enabling immediate response up to a pre-designated amount of funding. The IQC will allow OFDA to dictate, under the contract, specific needs on a daily basis. As new information or decisions are made at OFDA, they can be immediately converted into already-funded actions for the entity to undertake *that same day*. Consortia, as well, have proven successful repeatedly and were evaluated as bringing economies of scale to key regions in the West Africa response. To the extent that OFDA and IPs can pre-establish templates for rapid mobilization of consortia mechanisms, greater scale-up can be achieved in future outbreaks at earlier, critical stages. OFDA should also increase its capacity to manage very large contracts
2. *Work with the CDC to develop an expedited decision-making mechanism or establish an agreement to enable DART members from CDC to approve proposals on behalf of CDC without having to route them up the chain* with the CDC management in Atlanta. Empowering CDC members engaged on the DART would save the time of running proposals up the CDC chain of command, which was not designed for the speed required in disaster response.
3. *Require private contractors to provide adequate data to evaluate their performance.* Build monitoring and evaluation into private contracts, so their efficacy can be evaluated similar to grant awards and cooperative agreements. Take a more cautious approach to engaging for-profit firms to implement programs from scratch when those same firms are unable to meet minimal requirements for transparency in their ME&L systems, and unable or unwilling to discuss their reasons for the mismatch between their activities, outputs, and outcomes.
4. *Enhance DART coordination across countries to better facilitate cross-border or regional approaches* to timely and targeted response in multi-country outbreaks.

Evaluation Question 7: Technical Guidelines

1. *Provide funding to inventory existing outbreak response guidelines and for guidelines to be developed or revised based on lessons learned in the EVD outbreak*, particularly with regard to community engagement by agencies who have a experiential basis and internal lessons/procedures in areas such as mobilizing safe burial teams, organizing community leaders, and CHW mobilization. The guidelines need not be specific to EVD, but should specify best practices for the control of pathogens of varying levels and modes of transmissibility.
2. *Establish a protocol for helping IPs to understand which among technical guidelines to follow* in cases when guidelines from authorities such as WHO, CDC, or MSF compete or clash in a future response. Such guidance will help IPs navigate conflicting information and remain focused on their main response activities. This protocol should not be EVD-specific.
3. *Partner with CDC and WHO to help make technical guidelines more IP-friendly*. Technical guidelines should also take into account the reality of responders who must comply with them in real-world settings. OFDA can serve as a connector between responders and technical guidance organizations to facilitate IP input.
4. *Fund expansion of epidemic response guidance in manuals such as Sphere Humanitarian Minimum Standards*. Support the addition of rigor to current guidelines, so that there is one main set, and ensure guidance is appropriate for epidemics of varying modes of transmission.

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6. Ibid.
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8. During the early weeks and months of the outbreak infections were misdiagnosed, unconfirmed, or double-counted—as a person might be “reported” when identified, and then re-reported at a health facility, and then re-reported again for various reasons. Data was also lost at different steps. Thus, one of the surveillance tasks during the fall of 2014 was to sort through and consolidate the array of records to hone the most accurate estimates of the cumulative cases. This, however did not rectify the extensive under-reporting which occurred because people were reticent to come forward when they suspected infection.
9. Sources of donor funding:
— Source of U.S. government funding total: USAID/OFDA Fact Sheet #12 FY2016, September 30, 2016
— Source of UK government funding total: The end of the Ebola epidemic. UK.gov website. <https://www.gov.uk/government/news/the-end-of-the-Ebola-outbreak> (converted from GBP to USD at a rate of 1.29 U.S. dollars to 1 pound). Published January 14, 2016.
Source of World Bank Group funding total: World Bank Group Ebola Response Fact Sheet. World Bank website. <http://www.worldbank.org/en/topic/health/brief/world-bank-group-ebola-fact-sheet>. Published April 6, 2016.
— Source of data for all other donors: Office of the UN Special Envoy on Ebola. Resources for Results V. I September 2014 to 31 October 2015. Available from: https://ebolaresponse.un.org/sites/default/files/resources_for_results_v.pdf.
10. UN data and U.S. OFDA fact sheet data.
11. The IBTCI team culled over 4,000 published and grey literature documents through online search, communications, and requests from aid agencies and in conversations with NGOs. The team actively wrote to CDC, USPHS, the Pasteur Institute, Ministries of Health in West Africa, USAID offices, UN offices, Public Health England, and the European Centers for Disease Control to solicit data and analysis. Critical documents included the CDC’s *Morbidity and Mortality Weekly Reports* (MMWRs). This complemented the over 860 documents made available by OFDA from its own files about grants, contracts, and reporting by IPs. The team reviewed all documents for their salience to the key analytic questions about mapping the time frame of the epidemic against tangible field interventions, and for scientific or biological basis measuring how interventions may have affected the epidemic curve. There were limitations in the data collected, as European agencies and the World Bank were unwilling to share documents.
12. “Subnational levels” refers to districts or regions within a country and its communities. With a sub-national proportionate-to-size sampling method, communities with larger populations have a proportionately greater chance of being selected in a survey sample than do smaller communities.
13. The survey was designed to exceed 15,000 households to allow for meaningful coverage of each part of the three-country region and offset limitations in recall specificity. 3,500 respondents were selected across 8 regions of Guinea; 5,500 from 14 districts in Sierra Leone; and 6,000 from 15 counties of Liberia. These samples by country were determined by calculating the population necessary to be representative at the largest sub-national organizational level, which varies by country. These samples achieve a balance of the statistical power of different evaluation hypotheses and purposes of the different indicators and questions pursued through the survey, and recognizing that there were believed to be fewer cases overall in Guinea, despite its larger population, and more OFDA-funded activities in Liberia, of interest.
14. Grounded theory is an approach for looking systematically at largely qualitative data, such as transcripts of interviews

or protocols of observations, with the aim of generating theories. Grounded theory categorizes empirically collected data to build a general theory that will fit the data.

15. Contribution analysis is an analytic approach used for determining a complex, multifaceted program's effectiveness in a complex setting (i.e., one with multiple intervention components, multiple levels of funders (from global to local), a wide array of actors and providers, and varying socio-political contextual factors). See Bressler, S, 2009. Presentation on assessing contribution: Paper read at First Committee Meeting on Planning Assessment/Evaluation of HIV/AIDS Programs Implemented under the U.S. Leadership Against HIV/AIDS, Tuberculosis, and Malaria Reauthorization Act of 2008, Washington, DC.
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22. The roadmap sought to achieve full geographic coverage of countries with widespread transmission, ensure immediate application of Ebola response interventions in countries with localized transmission, and strengthen preparedness of all countries to rapidly detect and respond to an Ebola exposure.
23. Instead, modelers prioritized the factors they had past evidence about: augmenting the availability of clinical beds via the introduction of ETUs and other EVD isolation units, the expansion of contact tracing, the interruption of high transmission events like funerals through the introduction of safe burial practices, the expansion of infection prevention and control resources in clinics and hospitals, and in some cases, the modeled impact of a then-non-existent vaccine. Even that data was sparse and all of the models acknowledged limitations, due to the relatively small number of historical Ebola outbreaks, the unusual size of this outbreak, and the difficulty collecting data during an emerging epidemic. (See also: Ajelli M, Merler S, Fumanelli L, Piontti AP, Dean NE, Longini IM, Vespignani A.; Spatiotemporal dynamics of the Ebola epidemic in Guinea and implications for vaccination and disease elimination: a computational modeling analysis. 2016. *BMC Medicine*, 14(1).)
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 “OFDA priorities matched the priorities of the national response.” – IP
 “OFDA responded to changes more quickly than WHO. Compatible with national response.” – IP
 “OFDA adapted well and identified gaps quickly.” – IP
 “They adapted but sometimes slow.” – IP
 “Minor adjustments.” – IP
 “Their partners respected the protocols of the authorities and followed the dynamic of the epidemic.” – IP
 “The organizations’ priorities were in line to the changes in disease epidemiology and matched with both national and international responders.” – Ebola survivor
 “All the organizations including OFDA IPs had programs that were really in line to the response.” – MOH
 “OFDA’s priorities matched with national and other international responders.” – NGO responder
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- Community engagement “engage with local organizations and associations earlier in the epidemic.” (IP)
 “greater involvement of youth.” (IP)
 “need to address resistance by engaging with communities early in the epidemic.” (IP)
 “support local NGOs.” (IP)
 “involve community base at the right beginning of the epidemic.” (MOH)
 “support community approaches.” (MOH)
 “create a support mechanism to motivate community agents.” (MOH)
 “community based awareness at the right beginning of an epidemic by anthropologists.” (MOH)
- Communication “more focused communication early in the epidemic.” (IP)
 “support behavior change communication earlier.” (IP)
 “must support communication early.” (MOH)
 “harmonize messages in local languages regularly and intensively.” (MOH)
- Command and control “can’t rely on the existing health system so have to work hard to increase MOH capacity.” (IP)
 “conduct conjoint monitoring trainings.” (MOH)
 “build laboratories for rapid detection and diagnosis of epidemic.” (MOH)
 “reinforce coordination.” (MOH)
 “develop surveillance, epidemiology, and logistic support.” (MOH)
 “conduct surveillance and contacts tracing.” (MOH)
- Other “support preparedness planning.” (MOH)
 “train and equip private health care facilities with protective equipment.” (IP)
 “implement triage centers.” (MOH)
 “rehabilitate or adapt health structures like ebola treatment centers.” (MOH)
 “focus on prevention earlier in the epidemic and all over the country, not just the zones already affected.” (IP)
39. “The prioritization process was appropriate and responded well to the changes in disease epidemiology.” – MOHS
 “. . . regions [to work in] were chosen because EVD was more prevalent at the time.” – IP
 “The support from OFDA was stable and matched the needs of the response.” – IP
 “The priorities matched with that of other Implementing Partners. It also matched with that of the government.” – IP
 “They were expanding over time according to the growth of the epidemic.” – MoHS
 “As needs change, I believe they too changed with the needs.” – MoHS
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USAID
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January 2018

EVALUATION

EVALUATION OF EBOLA RESPONSE IN WEST AFRICA 2014–2016 ANNEXES



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At the request of the United States Agency for International Development (USAID), this publication was prepared independently by International Business and Technical Consultants, Inc. (IBTCI).

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2014–2016,
ANNEXES

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Cover Photo:
© 2016 by Sean G. Smith, Critical-Care Professionals International
The view into the confirmed patient ward of an Ebola Treatment Unit in
Monrovia, Liberia

ANNEXES

January 2018

EVALUATION OF EBOLA RESPONSE IN WEST AFRICA 2014–2016

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TIMELINE ANALYSIS OF WEST AFRICAN EBOLA EPIDEMIOLOGICAL TRENDS, INTERNATIONAL RESPONSE ACTIVITIES, AND USAID/OFDA ACTIONS

Timeline Tables

The timelines that follow draw from:

- US government/OFDA timeline (includes CDC, DOD, and other key events)
- United Nations/international assistance timeline
- General epidemic key events timeline
- Guinea key events timeline
- Liberia key events timeline
- Sierra Leone key events timeline
- Guinea: DART/CDC/IP timeline
- Liberia: DART/CDC/IP timeline
- Sierra Leone: DART/CDC/IP timeline
- USG expenditures to date (from USAID fact sheets)
- OFDA expenditures to date (from USAID fact sheets)

These timelines were indexed against WHO statistics about the number of EVD-related cases and the number of EVD-related fatalities. EVD epidemiological data integrated into our analysis included the following statistics:

- # reported EVD rates for the entire response
- # reported EVD fatalities for the entire response
- # reported EVD cases in Guinea
- # reported EVD fatalities in Guinea
- # reported EVD cases in Liberia
- # reported EVD fatalities in Liberia
- # reported EVD cases in Sierra Leone
- # reported EVD fatalities in Sierra Leone

Data was analyzed using Tableau version 10.3.0, a data visualization software program allowing for comparative analysis of quantitative and qualitative data.

Table A-1. Key events in USG response to EVD outbreak

Year	Month	Date	Activity
2013	Dec	Early	Index case of Ebola virus disease (EVD) occurred in child in Gueckedou, Guinea; that child and multiple family members died over next month
2014	Mar	21	Guinea's Ministry of Health notified WHO about an expanding and high-fatality EVD outbreak
2014	Mar	Late	Liberia's Ministry of Health and Social Welfare reports initial EVD cases in Liberia; Sierra Leone reports suspected case of EVD
2014	Mar	27	Senegal closes border with Guinea to reduce EVD spread
2014	Mar	31	CDC sends five-person team to Guinea to support MOH and WHO in controlling the outbreak
2014	April	mid	DOD lab team travels from Guinea to Liberia to set up country's first EVD laboratory
2014	Apr–May		Sporadic EVD cases reported in Guinea and Liberia; CDC increases assigned staff
2014	May	24	Sierra Leone reports first confirmed EVD case; 38 EVD cases reported the following week
2014	May	29	Liberia reports new EVD case that originated in Sierra Leone
2014	July	9	CDC Emergency Operations Center activated, CDC deployments surge
2014	July		First airlines cancel flights to Liberia and Sierra Leone (Nigerian airlines Asky and Arik Air)
2014	July	mid	OFDA assessments covering the region
2014	July	20	Ebola infected traveler arrives in Nigeria from Liberia, introduces EVD to Lagos
2014	July	24	WHO classifies west African EVD outbreak as Level 3, its highest classification
2014	July	32	Government of Sierra Leone declares a national State of Emergency
2014	Aug		More airlines suspend flights to the region, including African and European airlines Bruses Airlines limits flights. (Royal Morocco Airlines continues flights throughout the outbreak.)
2014	Aug	1	OFDA stands up (activates) a Response Management Team (RMT) for EVD outbreak
2014	Aug	4	Spread to Senegal, CDC teams help stop the outbreak
2014	Aug	4	US Ambassador in Liberia issues Disaster Declaration
2014	Aug	13	DOD creates EVD Task Force, USAID DART arrives in Liberia
2014	Aug	14	CDC laboratory established in Sierra Leone. US Chargé d'Affaires declares a disaster due to the effects of the EVD outbreak in Sierra Leone.
2014	Aug	15	CDC Director visits Liberia
2014	Aug	22	US Chargé d'Affaires declares a disaster due to the magnitude of the EVD outbreak in Guinea
2014	Aug	25	CDC expands EVD testing among US labs
2014	Aug	28	CDC Director and USAID/OFDA Director meet with Liberian President, other key GoL officials, and international partners regarding challenges and overall EVD response strategy
2014	Aug	8	Dr. Frieden travels to Guinea, Liberia, and Sierra Leone
2014	Sept	15	USAID/OFDA airlifts five shipments of relief commodities into EVD-affected countries, valued at more than \$393,000. Humanitarian partners use USG relief commodities—including PPE, plastic sheeting, water treatment supplies, and body bags—to conduct EVD screenings, protect health care workers, and construct ETUs.
2014	Sept	16	USARAF CG In Liberia
2014	Sept	18	The US President announces the establishment of a 3,000-strong US military command center in Liberia and intent to build treatment centers
2014	Sept	23	US military engineers and airfield specialists arrive in Monrovia to begin conducting assessments
2014	Sept	24	Microplanning workshops with county leaders held in Liberia. USAID/OFDA-supported U.N. Humanitarian Air Service (UNHAS) transports more than 380 humanitarian responders to EVD-affected areas. UNHAS also transports more than 510 cubic meters of medical cargo in support of the EVD response (1.4 million cases by Jan 20, 2015).
2014	Sept	26	USAID/FFP provides a total of \$6.6 million in food commodities—including 5,629 MT of lentils, rice, soy-fortified bulgur, vegetable oil, and yellow split peas—to support the WFP EMOP. CDC works with UNICEF and Focus 1000 to develop a KAP study in Sierra Leone.

Year	Month	Date	Activity
2014	Sept	1	USAID and US Department of State provide a \$10 million grant to support the AU medical mission responding to the EVD outbreak
2014	Oct	6	CDC implements enhanced screening at airports, new tracking program for people coming from countries with EVD outbreak
2014	Oct	9	CDC organizes health care worker safety course in Anniston, Alabama for West Africa volunteers. By now, USG has sent more than 130 civilian medical health care and disaster response experts and nearly 350 military personnel to West Africa.
2014	Oct	13	DOD sends 100 US Marines to help bolster US response in Liberia. Marines arrive on Oct 9. DOD sends four tilt-rotor aircraft and two C-130 cargo planes to Liberia. The Marine contingent serves to temporarily assist US supply efforts and air transport until the US Army 101st Airborne arrives in mid-Oct.
2014	Oct	14	US President spoke with UN Secretary-General on Oct 13 to stress the importance of member state support to the UN's EVD outbreak appeal and the need to provide more support to EVD-affected areas
2014	Oct	15	100 additional US military are sent to Liberia, then totaling 565. USAID Administrator announced nearly \$142 million in USAID humanitarian activities to support the EVD response in acutely affected countries of West Africa, including in Guinea, Liberia, and Sierra Leone.
2014	Oct	25	Rapid Isolation and Treatment of Ebola (RITE) teams help rapidly control new outbreaks in Liberia. More than 430 DOD personnel are in Liberia to support the EVD response.
2014	Oct	26	101st Airborne Division Relief in Place/Transfer of Authority
2014	Oct	31	CDC works with states to improve hospital readiness
2014	Oct	5	EVD spreads to Mali, CDC teams help stop the outbreak
2014	Nov	7	White House requests just over \$6 billion in funding from Congress to address EVD epidemic. Between Nov 5 and 19, the USG provided nearly \$185 million in additional funding to support the humanitarian response to the EVD outbreak in West Africa, including emergency medical services, community education and outreach, food, and water; sanitation, and hygiene (WASH) interventions, as well as logistical support and relief commodities
2014	Nov	17	MMU and the first DOD-built ETU completed
2014	Nov	11	USG declares a EVD outbreak a disaster
2014	Dec	23	Congress passes President Obama's Ebola supplemental appropriations request, funding the Global Health Security Agenda (launched in Feb, 2014)
2015	Jan	13	DOD mobile laboratory began operation in Sierra Leone
2015	Feb	11	White House announced via fact sheet that the three countries had sufficient emergency operations centers, rapid response capacities and Ebola-capable laboratories
2015	Mar	1	USG Interagency Meeting on Social Mobilization, Communication and Preparedness in DC
2015	April	22	USAID-funded Rebuilding Basic Health services project with HC3 responds to EVD in Liberia
2015	Apr	17	CDC deploys 1000 th staff member to West Africa
2015	May		Kenya Airways resumes flights to Liberia
2015	Jun	27	CDC recommends reduced screening for passengers from Liberia
2015	Jun	30	DOD's Operation United Assistance concluded its onsite operations in West African.
2015	Aug		OFDA states it will give an additional \$5 million in USAID/OFDA funding to support EVD response efforts.
2015	Sep		Most major airlines resum flight services to EVD-affected regions.
2016	Jan	4	OFDA terminates the West African EVD DART.
2016	Early		Sporadic EVD cases are reported in Guinea, Liberia, and Sierra Leone; spread within each country was limited.
2016	Mar	31	CDC's Emergency Operations Center (Atlanta) closes out its EVD activities.

Table A-2. Key events in international coordination of the response to EVD outbreak

Year	Month	Date	Activity
2014	March	27	Senegal closes its border with Guinea in an effort to halt EVD from spreading
2014	March	31	MSF warns of an “epidemic of a magnitude never seen before”
2014	July	1	Uganda sends a team of 20 Ebola experts to Sierra Leone and Liberia
2014	July	25	WHO opens a regional Ebola response center
2014	July	31	WHO appeals for US\$71 million
2014	Aug	4	The World Bank announces up to \$200 million in emergency assistance for Guinea, Liberia, and Sierra Leone
2014	Aug	13	WFP declares EVD outbreak a Level 3 emergency, announces that it needs \$70 million to feed 1.3 million people in quarantine areas
2014	Aug	19	The International Federation of Red Cross and Red Crescent Societies (IFRC) announces a regional emergency appeal
2014	Aug	21	The World Bank says it is expecting GDP growth in Guinea to fall from 4.5% to 3.5%.
2014	Aug	28	WHO announces that \$490 million shall be needed over the next six months
2014	Sept	1	The Global Ebola Response Coalition (GERC) is established.
2014	Sept	2	MSF briefs the U.N about EVD, warns that treatment centers are overwhelmed and transmission rates are at unprecedented levels.
2014	Sept	5	UN appeals for \$600 million. European Union commits €140 million.
2014	Sept	8	UK announces plan to build Ebola treatment center in Sierra Leone, and states plan to send 750 troops to Sierra Leone.
2014	Sept	12	Government of the People’s Republic of China (GoPRC) states plan to deploy an additional 59 medical personnel and a mobile laboratory to Sierra Leone. The GoPRC announces plan to provide approximately \$32.5 million in humanitarian assistance—including food commodities, relief supplies for disease control, emergency treatment facilities, and financial support—to help control the EVD outbreak.
2014	Sept	15	UNDP economic projections for Liberia are revised downwards
2014	Sept	16	UN appeals for \$988 million. World Bank approves a \$105 million grant for EVD-containment efforts in Guinea, Liberia, and Sierra Leone. The grant—which includes \$52 million for Liberia, \$28 million for Sierra Leone, and \$25 million for Guinea—is to help communities cope with the economic impact of the crisis and support the rebuilding of essential public health systems.
2014	Sept	18	United Nations Mission for Ebola Emergency Response (UNMEER) is established. An emergency session of the UN Security Council adopts UNSC Resolution 2177, declaring EVD a threat to international peace and security and calling on UN member states to provide resources and assistance, lift travel bans, and refrain from isolating EVD-affected countries. UN Disasters Assessment and Coordination (UNDAC) team deployed to Liberia to support to the National Ebola Command Center and humanitarian partners in operational coordination, information management, mapping the outbreak and response, and the launch of multi-sector humanitarian clusters.
2014	Sept	19	The governments of France and Germany announce plans to establish an air hub in Dakar, Senegal, to help move supplies and personnel into affected countries,
2014	Sept	22	UNMEER advance team arrives Accra
2014	Sept	23	Distribution of MSF hygiene kits begins. WFP has delivered approximately 3,345 metric tons of food commodities to more than 180,000 people affected by the EVD outbreak in Guinea, Liberia, and Sierra Leone.
2014	Sept	26	WHO announces that the Ebola epidemic ravaging parts of West Africa is the most severe acute public health emergency seen in modern times.
2014	Oct	2	UK Secretary of State for International Development J announces that the UK DFID will provide an additional £20million—\$32.4 million—to support public health staff and procurement of supplies for the ongoing response in Sierra Leone. The DFID funding will also allow for additional international disease control experts to assist the GoSL. The £20million announcement comes in addition to the previously announced £100 million—\$162 million—commitment from the government of the UK to control the EVD outbreak in Sierra Leone.

Year	Month	Date	Activity
2014	Oct	6	Government of Norway announces an additional NOK 89 million—\$13.8 million—to support the EVD response in West Africa, bringing Norway's total commitments to NOK 184 million—\$28.5 million.
2014	Oct	10	The EU announced €3 million—approximately \$3.8 million—in funding to support medical evacuation for humanitarian workers who contract EVD while working in West Africa.
2014	Oct	13	Margaret Chan reports in a speech that the EVD outbreak in West Africa is the most severe public health emergency in modern times, noting that it has progressed from a public health crisis to a crisis of international peace and security.
2014	Oct	14	WHO Assistant Director-General reports that up to 10,000 people per week could contract EVD by early December. MSF reports that 16 staff members contracted EVD, and nine had died as a result of the disease.
2014	Oct	15	UNMEER EVD preparedness, prevention, and response planning conference in Accra, Ghana.
2014	Oct	20	WHO declares Nigeria to be Ebola-free; Ghanaian president announces that aid is beginning to arrive.
2014	Oct	2930	UNMEER in operation for thirty days.
2014	Nov	21	The UN Security Council meets on the question of Ebola.
2014	Dec	18	UN Secretary-General pledges support for affected countries in West Africa to rebuild their health systems.
2015	Jan	18	The Malian government and the UN declare the country Ebola-free after no new cases in 42 days.
2015	Jan	19	UN special envoy on Ebola reports that the outbreak has cost \$4 billion, UN appeals for another \$1 billion through June, 2015.
2015	Jan	28	The response to the EVD epidemic moves to a second phase: focus shifts from slowing transmission to ending the epidemic.
2015	Feb	15	Launch of the 60-day 'Zero Ebola' campaign in Sierra Leone, Guinea, Liberia, and Côte d'Ivoire to last until 16 April 2015.
2015	Feb	16	By this time, more than 800 African Union health workers have participated in the Ebola response.
2015	Feb	18	Foreign medical teams meeting on the EVD response in Geneva, Switzerland at WHO.
2015	July	10	UN Secretary-General Ban Ki-moon hosts the International Ebola Recovery Conference in cooperation with the governments of Guinea, Liberia, and Sierra Leone. The Conference is organized in partnership with the African Union, the African Development Bank, the European Union and the World Bank.
2015	July	31	UNMEER closes after having achieved its core objective of scaling up the response on the ground.
2015	Aug	13	The UN Security Council hears a briefing on Ebola from WHO Director-General and UN Special Envoy
2015	Aug	27	Médecins Sans Frontières calls the international response to Ebola "irresponsible" and "slow and derisory," saying health services in the affected countries needed to be "bolstered with operational support rather than politicians' empty promises."
2015	Dec	4	Economic Community of West African States (ECOWAS) reports deployment of 116 West African health care workers to the three countries acutely affected by EVD, including 49 to Guinea, 39 to Liberia, and 28 to Sierra Leone.
2016	Jun	21	MSF declares the second wave of the outbreak "totally out of control" and calls for massive resources

Table A-3. Key events in Guinea response to EVD outbreak

Year	Month	Date	Activity
2013	Dec	25	Unidentified EVD contracted in Guinea.
2014	March	10	MOH alerted to mysterious disease in Guékédou and Macenta prefectures.
2014	March	19	Guinean health officials announce outbreak of hemorrhagic fever.
2014	March	21	First ETC opened in Guékédou; public schools closed.
2014	March	22	Ebola confirmed as infectious agent; government of Guinea (GoG) confirms outbreak.
2014	March	24	The first isolation center is established by MSF in Guékédou prefecture.
2014	March	27	The WHO Global Outbreak Alert and Response Network (GOARN) travels to Guinea, headed by a senior WHO field epidemiologist.
2014	April	1	Guinea under the Ministry of Health appoints an Ebola coordinator
2014	May	5	Reported cases decreasing; ETU in Macenta closed.
2014	May	12	Cases are reported in Conakry.
2014	August	9	Borders with Sierra Leone and Liberia closed.
2014	August	13	Guinea declares a National Public Health Emergency.
2014	August	15	US Chargé d'Affaires declares a disaster, due to the magnitude of the EVD outbreak in Guinea.
2014	August	21	Russian Federal Service for Supervision of Consumer Rights Protection and Human Welfare deploys a mobile laboratory to Guinea to support EVD response efforts for up to five months. Russian support staff, including bacteriologists, epidemiologists, and virologists, accompanied the mobile lab to Guinea to assist in the EVD outbreak response.
2014	Sept	6	Schools in Guinea are closed.
2014	Sept	18	Health care team murdered in Womey, N'Zérékoré.
2014	Sept	22	Health actors continue efforts to establish four additional transit centers for EVD affected individuals in Guinea. One transit center, located in Forécariah prefecture, is under construction with GoG and UN support. Three additional transit centers are planned for Kérouané, Nzérékoré, and Yomou prefectures. UNICEF commits to supporting the completed transit centers by providing ambulances and addressing the nutrition, protection, and WASH needs of suspected and confirmed EVD patients in the centers.
2014	Sept	23	GoG announces plans to pre-position medical response stocks in six regions: Boké, Fouta Djallon, Guékédou, Kankan, Mamou, and Nzérékoré. WFP began delivering food to patients at the Guékédou ETU in Guinea. WFP is providing all patients discharged from the Guékédou ETU with a 60-day food ration upon leaving the ETU. WFP continues general food distributions in EVD-affected communities in Guinea, of 45-day rations—including rice, oil, pulses, and salt.
2014	Oct	2	The Governor of Conakry banned celebrations for Eid. MSF hands over control of a former EVD transit center site in Macenta to the Government of France (GoF) on September 24. The GoF is transforming the facility into a 60-bed ETU and reports plans to have the ETU operational by late October or early November, according to DART staff in Guinea.
2014	Oct	3	In Guinea, screening for EVD at Conakry International Airport is put into place.
2014	Oct	8	WHO begins to expand the national Emergency Operations Center model to the prefecture level in Guinea, including social mobilization, epidemiological, and logistics components. Priority response areas for Guinea include contact tracing and raising social awareness to reduce community resistance to EVD prevention activities, according to the UN.
2014	Oct	13	France pledges to build several treatment centers in Guinea and warns of possible bans on flights.
2014	Nov	11	The EVD outbreak peaks in Guinea.
2015	Jan	19	Guinea public schools reopen.
2015	Feb	7	Guinea authorizes the wider use of an experimental drug against EVD in treatment centers after successful initial trials.
2015	Feb	9	UNICEF sets up a temporary center to monitor children and parents infected with EVD in Guékédou, a forest region in Guinea.

Year	Month	Date	Activity
2015	Feb	15	Launch of the 60-day “Zero Ebola” campaign in Sierra Leone, Guinea, Liberia, and Côte d’Ivoire to last until April 16, 2015. From February 15–19, the US Embassy in Conakry hosts a conference for the Global Health Security Agenda (GHSA)—a USG effort to both prevent and quickly respond to global disease outbreaks and promote global health security as an international security priority.
2015	March	17	In Guinea, a report from the weekend showed 21 new cases in a single day. The chain of new infections may have been linked to a woman who died of EVD and was not buried safely.
2015	March	28	Guinea deploys security forces to the southwestern part of the country in response to influx of Sierra Leoneans crossing the border to flee a three-day EVD lockdown.
2015	June	6	Teams of the Guinean Red Cross set up a mobile radio station in Dubréka and distribute solar radio sets for people to listen to Ebola messages.
2015	June	28	In Guinea, an average of 56 new contacts are registered per confirmed case and some 99 per cent of those contacts are being traced daily. Of the newly confirmed cases reported, 70 percent arose from registered contacts between June 1 and 28, 2015.
2015	Oct	29	Guinea is first declared Ebola-free.
2016	March	16	New cases detected in Guinea.
2016	June	1	Guinea is declared Ebola-free again.

Table A-4. Key events in Liberia response to EVD outbreak

Year	Month	Date	Activity
2014	March	24	The Liberian Ministries of Information, Culture, Tourism, and Health announces six suspected cases in the country, five of which had already died.
2014	March	30	Government of Liberia (GoL) confirms the EVD outbreak.
2014	June	17	Liberia reports that EVD has reached its capital, Monrovia.
2014	June	30	Liberia shuts schools and orders quarantining of worst-affected areas, deploying military.
2014	July	2	Two ETUs opens in Monrovia and Foya; government closes most border points and all schools.
2014	July	9	WHO supports the Ministry of Health community education to contain EVD in Liberia.
2014	July	27	Liberian President declares the closing of the country's borders; Roberts International Airport adds screening; football events are banned; schools and universities are closed; worst-affected areas are placed under quarantine.
2014	July	30	Liberia shuts schools and orders the quarantining of the worst-affected communities, employing its military.
2014	Aug	1	President declares a state of emergency; enhanced contact tracing and quarantining measures instituted.
2014	Aug	3	Liberia's government orders cremation of all bodies of people affected by Ebola.
2014	Aug	7	Liberia Call Center is launched.
2014	Aug	16	West Point ETU isolation center is attacked.
2014	Aug	18	MSF opens ELWA Three ETU.
2014	Aug	19	Liberia's President declares a nationwide curfew beginning Aug 20 and orders two communities to be completely quarantined, with no movement in or out of the areas. West Point protests.
2014	Aug	20	Dolo Town quarantine implemented.
2014	Aug	28	Ugandan team brings Ebola experts to Liberia.
2014	Aug	30	Liberia begins denying sailors from entering or disembarking from vessels at the country's four main seaports.
2014	Sept	1	In August and September, additional ETCs are built.
2014	Sept	8	Dolo Town curfew is lifted.
2014	Sept	15	UNDP economic projections for Liberia are revised downwards.
2014	Sept	21	Island Clinic ETU (100 Beds) opens.
2014	Sept	22	150-bed ETC is opens in Monrovia.
2014	Sept	23	CDC-Microplanning workshops with county leaders are held in Liberia.
2014	Sept	26	The GoL national-level emergency operation center (EOC) became operational on Sept 25 in Monrovia. USG and UN staff support the GoL to increase staffing and integrate effective incident command structures in the EOC, which will coordinate the GoL response to the EVD outbreak.
2014	Sept	28	WFP Liberia completed food distributions to the densely-populated West Point neighborhood in Monrovia. DOD technicians completed mobile laboratory site assessments in recent days near the Bong ETU and at the Island.
2014	Sept		Clinic ETU in Monrovia. Six additional DOD technicians and two mobile laboratories arrived. The EVD outbreak peaks in Liberia. All components of the DOD-supported 25-bed field hospital arrive in Monrovia. A three-person US Public Health Service team plans to assist with establishing the hospital.
2014	Sept	29	Ebola Response Social Mobilization Pillar Established in Liberia. A high-level USG delegation—including Assistant Administrator for USAID's Bureau for Democracy, Conflict, and Humanitarian Assistance and DOD Assistant Secretary of Defense arrive in Monrovia to assess ongoing EVD response efforts.
2014	Oct	2	The USG-provided laboratory at the Island Clinic ETU in Monrovia begins operations.
2014	Oct	6	Survivors help train health workers in Ebola care.
2014	Oct	14	International media report that HCWs ended a two-day strike to secure risk pay, noting that international requests and the desire to continue providing care to EVD patients influenced their decision to end the strike.

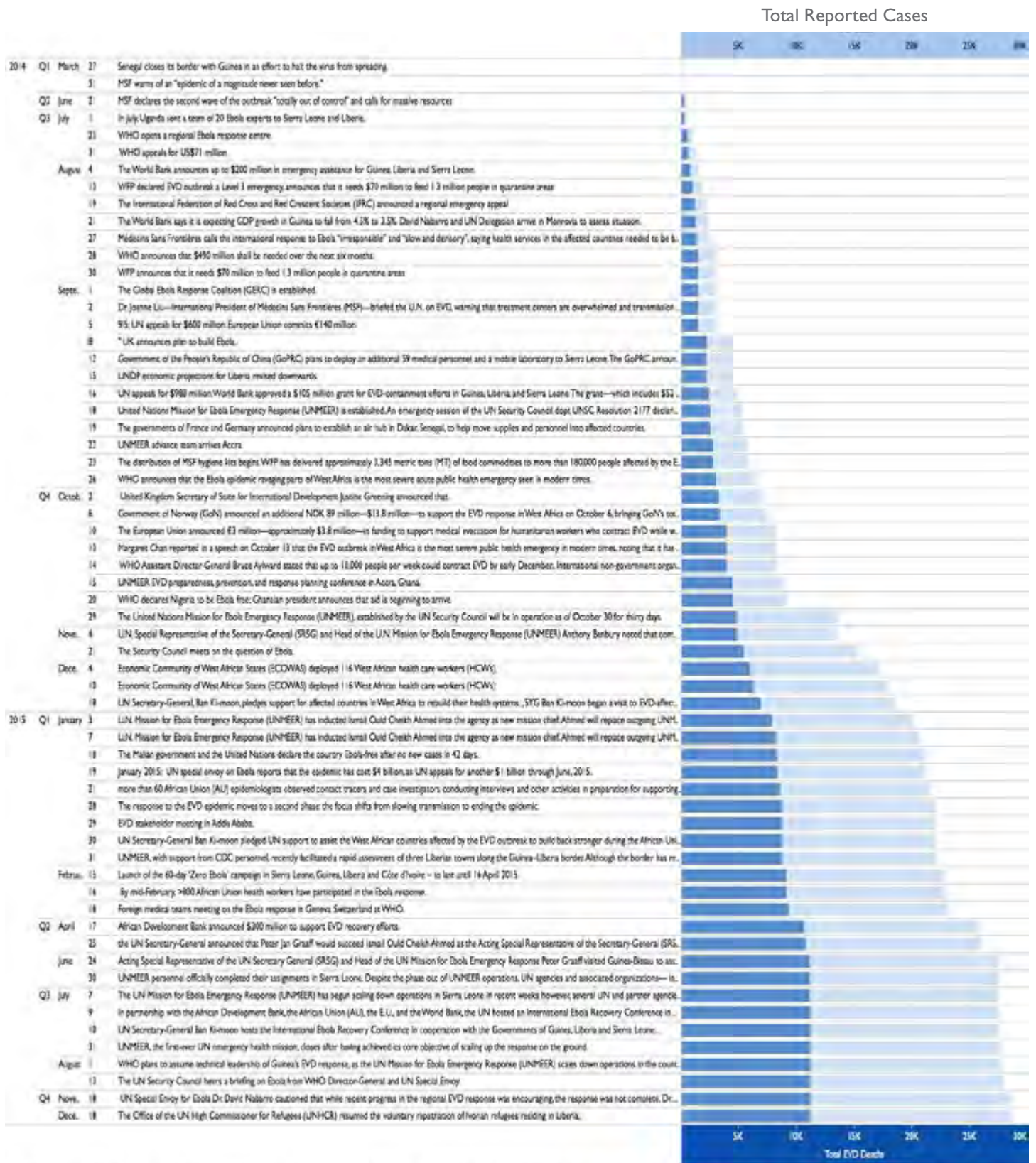
Year	Month	Date	Activity
2014	Oct	20	A new Ebola mobile lab speeds up diagnosis and improves care.
2014	Oct	25	National reporting transitions from aggregate to case-based data (lab and ETU lists), which may have contributed to the large peak in cases seen.
2014	Oct	29	WHO reports that the rate of infections in Liberia has slowed, due in part in changes in cultural mortuary practices.
2014	Oct	31	GoL officially opens an ETU constructed with USG assistance at the old GoL Ministry of Defense (MoD) site in Monrovia.
2014	Nov	5	UN is establishes five regional logistics hubs to increase storage and distribution capacity for the delivery of adequate amounts of PPE and other supplies to health facilities—including ETUs and CCCs—throughout Liberia. The UN plans to establish the new logistics hubs by the end of November in Bong, Grand Bassa, Grand Gedeh, Lofa, and Maryland counties. In Bomi, Grand Cape Mount, and River Gee counties, strikes by HCWs in more than half of operational non-EVD health facilities could significantly impair basic health services amid the EVD outbreak, according to the UN. In addition, the UN reports that a shortage of PPE for health care personnel poses a substantial hindrance to the provision of basic care in non-EVD health facilities.
2014	Nov	18	IOM opens ETU in Bomi county.
2014	Dec	13	State of Emergency is lifted in Liberia.
2014	Dec	31	Cremation in Liberia is stopped, to be replaced by safe burials.
2015	Jan	1	A clinical trial for a possible treatment for EVD begins in Liberia at MSF's Ebola Management Centre in Paynesville, Monrovia. Effective contact tracing documented (100% of confirmed cases were among known contacts).
2015	Jan	6	A new burial site for EVD victims is prepared in Monrovia as the GoL ends cremation of the dead from EVD.
2015	Jan	30	The Liberian Ministry of Education announces that it will delay reopening schools for two weeks to better prepare safety measures against EVD; reopening was initially scheduled on Feb 2, 2015.
2015	Feb	2	Trials for a new vaccine begin in Liberia, in the outskirts of Monrovia.
2015	Feb	15	Launch of the 60-day “Zero Ebola” campaign in Sierra Leone, Guinea, Liberia, and Côte d’Ivoire, to last until April 16, 2015.
2015	Feb	16	In Liberia, schools reopen after months of closing due to EVD outbreak.
2015	Feb	22	Liberia’s President announces the lifting of nationwide curfews and re-opens borders shut at the height of the EVD outbreak.
2015	March	2	Liberia tightens EVD preventive measures at the borders with Sierra Leone, Guinea, and Côte d’Ivoire to prevent a resurgence of EVD. These measures included the placement of thermometers and buckets with chlorinated water for the washing of hands at border points.
2015	March	5	Liberia releases its last confirmed case of Ebola.
2015	May	9	Liberia is declared free of Ebola transmission.
2015	June	17	CDC recommends reduced screening for passengers from Liberia.
2015	June	29	A new EVD case is identified in Liberia, 50 days after the interruption of active transmission was achieved early May.
2015	July	8	A second case is confirmed in Liberia.
2015	Nov	20	Cluster of cases detected.
2016	Apr	1	Further cluster of cases detected.
2016	Jun	9	Liberia is declared Ebola-free again.

Table A–5. Key events in Sierra Leone response to EVD outbreak

Year	Month	Date	Activity
2014	May	24	WHO reports the first cases in Kenema, Sierra Leone. They are traced back to the funeral of a widely respected traditional healer from Kailahun, who had contracted the disease after treating EVD patients from across the border in Guinea.
2014	May	26	Sierra Leone confirms EVD outbreak.
2014	June	2	First ETC opens in Kailahun; plans for further ETCs begin; borders with Guinea and Liberia closed.
2014	June	11	Sierra Leone closes its borders with Liberia and Guinea and closes a number of schools around the country.
2014	June	12	Government of Sierra Leone (GoSL) declares a state of emergency in Kenema and Kailahun.
2014	July	2	Schools close.
2014	July	15	Ministry of Health of Sierra Leone establishes an Emergency Operations Centre (EOC) at the WHO Country Office in Freetown.
2014	August	1	Sierra Leone's President declares state of emergency and establishes a presidential task force.
2014	August	7	GoSL announces closure of nightclubs and cinemas, establishment of district level EOCs, prohibition of transport into EVD-affected areas.
2014	August	13	CDC laboratory established in Sierra Leone.
2014	August	15	US Chargé d'Affaires Kathleen FitzGibbon declares a disaster due to the effects of the EVD outbreak in Sierra Leone.
2014	Sept	8	UK announces plan to build EVD treatment center in Sierra Leone, and a month later reports it will send 750 troops to Sierra Leone.
2014	Sept	12	Cuban medical team heads for Sierra Leone.
2014	Sept	19	Nationwide lockdown from September 19 through 21.
2014	Sept	25	The GoSL places Bombali, Moyamba, and Port Loko districts—which have a total population of approximately 1.2 million people, according to international media—under quarantine. Government of China (GoC) delivers a second mobile laboratory to Sierra Leone.
2014	Sept	26	GoSL mobilizes nearly 200 volunteers to deliver EVD prevention messages in densely-populated areas of the capital city of Freetown, aiming to reach 500,000 people by early October.
2014	Oct	1	First curfews are imposed in Freetown.
2014	Oct	2	Government of Canada (GoC) sends a second mobile laboratory and two additional members of staff to Sierra Leone to increase EVD testing capacity. Public Health Agency of Canada places the laboratory in Kailahun, where Canadian staff assist with testing specimens from an 80-bed MSF ETU operating in Kailahun. The laboratory has the capacity to test 30 cases per day.
2014	Oct	4	Government of the UK delivers two ambulances, construction equipment, and supplies for a planned ETU and four additional vehicles to Sierra Leone.
2014	Oct	6	Burial teams in Sierra Leone refuse to work on Oct 7 due to a reported lack of hazard pay, according to international media.
2014	Oct	8	Sierra Leone's Deputy Health Minister states that the strike is over and media report witnessing burial teams removing bodies in the capital city of Freetown.
2014	Oct	12	The UK's International Development Secretary reports that the UK airlifted beds, PPE, tents, and 10 vehicles to Freetown, Sierra Leone, to support EVD response efforts. Aid flights from the UK to Sierra Leone deliver personnel and supplies for the construction and operation of a planned 92-bed ETU in Kerry Town, the first of at least five treatment facilities that the UK plans to build in Sierra Leone, according to the DFID. DFID previously announced the establishment of an NGO-managed Ebola Emergency Response Fund (DEERF) for Sierra Leone supporting actions to address gaps in the current EVD response via small grants to implementing partners. DFID also released a call for partners to staff, manage, and operate four new ETUs in Sierra Leone. Each of the four centers—planned for Freetown, Makeni, Port Loko, and Bo—has a planned capacity of 50–100 beds.

Year	Month	Date	Activity
2014	Oct	15	Representatives from CDC note that the number of EVD cases reported in Kenema and Kailahun—two of Sierra Leone’s most-affected districts—declined in the prior four weeks. CDC assesses how the multiple EVD response efforts, such as ETUs, safe burial teams, and community mobilization activities, have contributed to the decreased caseload. CDC reports that surveillance in the districts of Western Area, Port Loko, Tonkolili, and Bombali has uncovered a considerable increase in EVD cases. CDC representatives note that controlling the EVD outbreak in urban areas may prove more difficult than controlling the spread in rural areas, due to population density and mobility.
2014	Oct	21	Riots break out in the Kono district in Sierra Leone to prevent the quarantine of a 90-year-old woman suspected of having EVD; youths are reportedly angry that there are no treatment centers in the diamond-rich Kono district. A daytime curfew is imposed
2014	Oct	26	EVD outbreak peaks in Sierra Leone.
2014	Nov	5	The DFID is reported to be providing three new laboratories and associated staff in Sierra Leone.
2014	Dec	17	Western Area Surge is officially launched in Sierra Leone. In partnership with WFP, UNDP, UNICEF, CDC, and others, the surge is intended to bring in urgently needed supplies and equipment, and also to ramp up community mobilization, surveillance, and contact tracing.
2015	Jan	8	In Sierra Leone, cases continue to be underreported and EVD is spreading rapidly in the western parts of the country, with capital Freetown reporting 93% of the new cases.
2015	Jan	19	The second phase of the Western Area Surge in Sierra Leone starts and will last until Feb 1, 2015.
2015	Jan	22	Sierra Leone cancels all internal quarantines, citing sharp drop in EVD transmission.
2015	Jan	23	Sierra Leone’s President lifts movement restrictions.
2015	Feb	13	Sierra Leone announces that hundreds of homes in the capital have been placed under quarantine—about 700 homes—for 21 days.
2015	Feb	15	Launch of the 60-day “Zero Ebola” campaign in Sierra Leone, Guinea, Liberia, and Côte d’Ivoire, to last until April 16, 2015.
2015	Feb	18	Sierra Leone launches a door-to-door search for "hidden" EVD patients.
2015	Feb	25	In Sierra Leone, MSF announces that it will close its Ebola treatment center in Kailahun District to focus on other MSF centers that still have cases. The isolation unit will be handed over to the District Health Medical Team management, together with the case management responsibility.
2015	Feb	28	New cases across Sierra Leone prompt the government to reinstate the lifted ban.
2015	Mar	12	Sierra Leone’s Ministry of Health and Sanitation reported 15 new cases and declares that new measures need to be put into place to contain the surges.
2015	Mar	27	Shutdown is scheduled to take place from March 27 through 29, 2015. Around six million people in Sierra Leone stay indoors on these dates as the country observes a shutdown to stop the spread of EVD.
2015	Mar	28	The President of Sierra Leone declares a reinforced health emergency for a period of 45 days in the west and southwest regions of the country to prevent the spread of the virus.
2015	Apr	1	Schools are reopened.
2015	Jun	12	Curfew is imposed in Port Loko and Kambia.
2015	Jun	16	In Sierra Leone, Operation Northern Push is launched. It is designed to identify, contain, and eradicate EVD from infected areas in the districts of Kambia and Port Loko.
2015	Sep	3	Vaccine trial for frontline workers underway.
2015	Nov	7	Sierra Leone is declared Ebola-free.
2015	Dec	4	USAID/OFDA partners with the IFRC to train volunteers in eight districts in safe and dignified burials and reaches nearly 1,700 people each week through door-to-door social mobilization campaigns. With USAID/OFDA support, IFRC is manages 49 safe burial teams, with 15 teams operating in Western Area (encompassing the capital city of Freetown).
2016	Jan	14	New case cluster is identified.
2016	Mar	17	Sierra Leone declared Ebola-free again.

Figure A–1. Key coordination events of UN,WHO, other international partners, by EVD cases and deaths (WHO estimates)*
 Note: “Total Cases” reflects total reported cases



Total Deaths and sum of Total Cases for each United Nations/International Assistance Timeline broken down by WHO report date Year/WHO report date Quarter/WHO report date Month/WHO report date Day. The view is filtered as United Nations/International Assistance Timeline, which excludes Null.

Timeline Analysis of the EVD Outbreak

In Guinea, EVD is believed to have been first contracted by the human index case through zoonotic transmission in a small rural village called Meliandou, in Guékédou prefecture in late December, 2013. It spread undetected for three months. In March of 2014, it was reported that there was an unknown disease in circulation through Macenta and Guékédou prefectures, presumed to be Lassa Fever. From this point forward, EVD circulated through rural areas through common practices of traditional healing, informal healthcare, and kinship networks. The international community presumed that the disease outbreaks were highly localized and would be rapidly contained (WHO tweeted, “Ebola has always remained a localized event.”).

This assumption under-estimated the intensity of migration and mobility across regional borders with Liberia and Sierra Leone, and between rural areas in Guinea’s forest region and the capital city, Conakry. Regional and international efforts to contain the spread of EVD (e.g., MSF’s establishment of ETUs in Guékédou and Conakry) fell short. These early failures facilitated transmission of EVD to Margibi County, Liberia in March 2014, Kailahun and Kenema Districts in Sierra Leone in May 2014, Lofa County, Liberia in June 2014, and more widespread transmission through Guinea, Liberia, and Sierra Leone thereafter.

OFDA allocated targeted defined resources to a narrow range of partner NGOs with the capacity to operate in Guinea. The primary function of OFDA actions was to fill gaps in the existing response, which was largely being administered by the government of Guinea and the WHO. These largely fell within the domains of additional social mobilization, ETU construction, and border surveillance capacities. OFDA funding pathways went to IPs rather than to overall response consortia. The reach and sophistication of OFDA interventions was very rough and limited. Baseline services such as IPC trainings, distribution of chlorine, and rough social mobilization campaigns were provided in Guinea, which paled in sophistication when compared to those introduced in Liberia.

In Liberia, OFDA engagement was more aggressive and sophisticated, even prior to the formal authorization of Congressional funding in November of 2014. There was an emphasis on building ETUs in response to case management needs (rather than prevention) early in the response, but the commensurate support for training and provision of burial teams and intensive investment in state-international-local coordination capacities are generally undervalued. Any misallocation of resources was being corrected by the first quarter of 2015, and resources were aggressively reallocated to survivor needs, with the establishment of several survivor clinics, the escalation of screening and IPC capacities at primary health care centers, community surveillance, contact tracing, and social mobilization. By mid-2015, it was increasingly difficult to differentiate which actors were responsible for which specific response interventions, as multiple actors were mainstreamed into a coordinated NGO response system. An additional benefit was that OFDA’s donor capacities recognized the value of having WHO involved in both implementation and technical assistance/coordination, and a US \$35 million grant to WHO in Q4 of 2014 helped advance a number of policy initiatives.

Liberia is notable for its rapid development of and engagement with a variety of novel surveillance systems policy initiatives, and health systems strengthening activities during the epidemic. It is not evident that the skills applied by OFDA partners in Liberia were easily or readily adapted to the other two most-affected countries.

In Sierra Leone, OFDA engagement was also late in coming, relative to the scale of Sierra Leone’s epidemic response demands. The principal mode of support in Sierra Leone was through the provision of financial support to the major multilateral organizations (UNICEF, IOM) and direct support to known OFDA partners such as Medair, IMC, and Partners in Health. OFDA-funded projects in Sierra Leone were clustered in certain areas and sectors based on an understanding of gaps remaining after DFID’s earlier awards.

Table A–6. OFDA-supported, USG-resourced interventions by country (calendar year and quarter)

Note: See Figure A–2 for color coding. Referenced documents do not show the continuation of coverage over time. Therefore, if an NGO is attributed to providing a service, that does not mean that another NGO ceased to provide that service, nor that the service was never provided by anyone other than the designated NGOs.

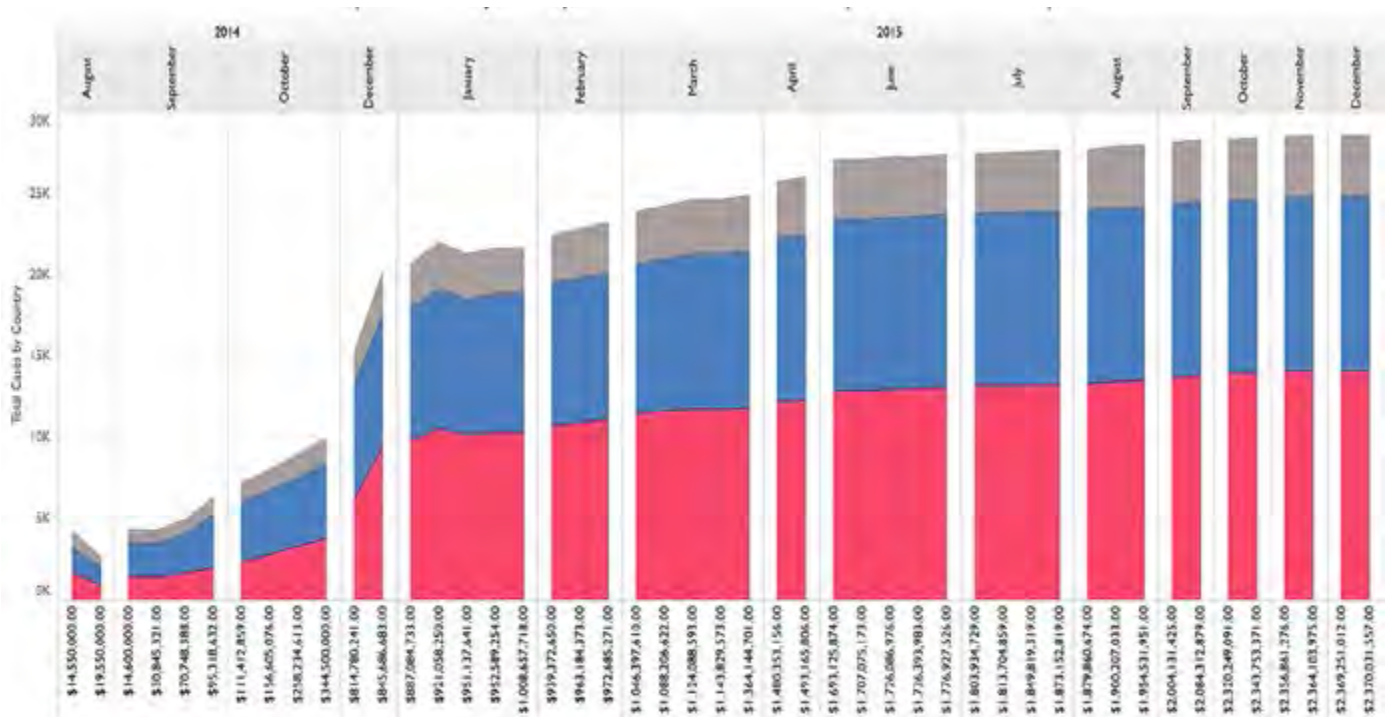
	Guinea	Liberia	Sierra Leone
Q3, 2014	<p>Case investigation, contact tracing (Plan Int'l)</p> <p>Epidemiological investigation</p> <p>Public awareness/mass media (IFRC, CDC)</p> <p>Clinical case management</p> <p>Social mobilization (Plan Int'l)</p>	<p>USAID Salary Support to Liberia HCWs (USAID)</p> <p>Health messaging (HC3, GC)</p> <p>Support to country-level health teams (GC)</p> <p>Needs assessments (DOD)</p> <p>Outbreak response planning, nat'l and local (CDC)</p> <p>EVD training (GC)</p> <p>Response support (GC)</p> <p>Supply and distribution of gloves, water storage tanks, water treatment units, plastic sheeting, body bags (UNICEF)</p> <p>Supply and distribution of HH protection kits (OFDA)</p> <p>PPE distribution (DOD, WHO)</p> <p>Tent, PPE, cot, plastic sheeting supply and distribution (OFDA, DOD)</p> <p>Establishing ETUs (IMC, WHO)</p> <p>HCW/IPC training and surveillance (CDC, IRC, National IPC Taskforce)</p> <p>Social mobilization (GC)</p> <p>Case investigation, contact tracing (IRC, PCI)</p> <p>Procurement (IRC, PCI)</p> <p>Burial teams (GC, Liberian Red Cross)</p> <p>Airport entry and exit screening (CDC)</p> <p>Household-level protection (UNICEF)</p> <p>Public awareness/mass media (CDC)</p> <p>Response support/not specified (PCI, GC)</p>	<p>Public awareness/mass media (CDC)</p> <p>Funding for PPE procurement (OFDA)</p> <p>Funding for ETUs (OFDA)</p> <p>DART provides technical assistance to EOCs</p> <p>Airport entry and exit screening (CDC)</p> <p>Response support/not specified (SLRC)</p> <p>Needs assessments (WWH, FAO, GoSL)</p>
Q4, 2014	<p>Contact tracing (SC)</p> <p>Safe burial teams, vehicles (IFRC)</p> <p>Establishing ETUs (WFP, ALIMA)</p> <p>HCW/IPC training (JHPIEGO)</p> <p>PPE distribution</p> <p>Social mobilization (SC)</p> <p>Health surveillance efforts (SC)</p> <p>Border screening (IOM)</p> <p>Guinea landscaping mission (HC3)</p> <p>UNHAS Air support (WFP)</p>	<p>Tents, PPE, cots, plastic sheeting supplies and distribution (OFDA, DOD)</p> <p>Mobile laboratory (DOD, IMC)</p> <p>Case investigation, contact tracing (IRC, PCI, ACF)</p> <p>Building, operating ETUs (DOD, IMC, IOM, PCI, HHI, PiH)</p> <p>Burial teams (GC, Liberian Red Cross)</p> <p>Health messaging (HC3, ECN)</p> <p>Social mobilization (GC, IFRC, other OFDA partners)</p> <p>First EOCs built (DART, CDC, GoL)</p> <p>Rapid assessments, KAP studies (HC3)</p> <p>Psychosocial support (HHI, BRAC)</p> <p>Response support/not specified (HHI)</p> <p>Medical waste management (UNICEF)</p> <p>Water/sanitation activities (UNICEF)</p> <p>Community health volunteer training (HC3)</p> <p>Non-HC IPC training (JSI)</p> <p>Health messaging (CDC)</p> <p>Community Care Centers [CCCs] (Samaritan's Purse, SC)</p> <p>Interim Care Centers for Children</p> <p>Airport entry and exit screenings and trainings (CDC)</p> <p>Field epidemiology training program (CDC, African Union)</p> <p>IMS Support (IOM, IRC)</p> <p>UNHAS Air support (WFP)</p>	<p>Public awareness/mass media (IFRC)</p> <p>Support for safe burial teams, training and logistics (CDC, OFDA, DFID)</p> <p>ETU construction, operations (IMC)</p> <p>New burial teams (IFRC)</p> <p>Social mobilization campaigns (IFRC)</p> <p>Supply of PPE (OFDA)</p> <p>Supply of ambulances (OFDA)</p> <p>Establishment of DOD laboratory</p> <p>Support for UNICEF response efforts, including rapid response teams</p> <p>UNHAS Air support (WFP)</p>

	Guinea	Liberia	Sierra Leone
Q1, 2015	<p>HCW/IPC, PPE training (IOM)</p> <p>Community engagement (US Peace Corps, SC, FRC)</p> <p>Public awareness- mass media (InterNews)</p> <p>EOC equipment/supply deliveries (IOM, WFP)</p> <p>Chlorine supply, distribution (Guinea Central Pharmacy)</p> <p>Community transit centers (UNICEF, FRC)</p> <p>Building and opening ETUs (FRC)</p> <p>Converting CTCs to ETUs (FRC)</p> <p>Training community educators (Peace Corps-Gui)</p> <p>Youth training on EVD Prevention (Plan Int'l)</p> <p>New social mobilization guidelines (UNICEF)</p> <p>IT systems for health surveillance efforts (CDC, IOM-CEBS initiative)</p> <p>Targeted food distributions (WFP)</p> <p>Screening and referral (IMC)</p> <p>General response support activities (IMC)</p> <p>Delivery of relief items (UNICEF)</p> <p>Logistical support to EOCs (IOM)</p>	<p>New ETUs (PiH, Goal)</p> <p>Health messaging (HC3)</p> <p>Disease surveillance (ACF, IRC, MENTOR, WHO, CDC)</p> <p>IMS Support for EPR (IRC, 7 other partners)</p> <p>Support to non-EVD facilities (MTI, CDC)</p> <p>Transfer of national burial site (GC, MoH)</p> <p>Social mobilization, ToTs (Mercy Corps, PSI)</p> <p>IT systems for social mobilization (E-CAP) (Mercy Corps)</p> <p>Rapid assessments, KAP studies (HC3, Mercy Corps)</p> <p>Border areas trainings (Mercy Corps, PSI)</p> <p>Non-HC IPC training (JSI, MTI)</p> <p>Rapid response trainings (IOM)</p> <p>Helicopter service (IMC, OFDA)</p> <p>HCW and burial team IPC training (WHO, JHPIEGO)</p> <p>Rapid specimen transport (WHO)</p> <p>National fleet management (WHO)</p> <p>Planning for 15 EOCs to be built (DART, CDC, GoL)</p> <p>Decommissioning 3 ETUs (OFDA)</p> <p>HSS activities (triage and isolation in PHFs) (CRS)</p> <p>IPC materials distributions (WHO)</p> <p>Border trainings (CDC)</p> <p>Contingency plans for rainy seasons</p> <p>Epidemiological surveillance-CEBS (GC, IOM)</p> <p>Psychosocial support (HHI, BRAC)</p>	<p>Support for UNICEF to expand case management, mapping activities, referral system, database system</p> <p>Built ETUs, operations (Medair, IFRC)</p> <p>Built CCCs (PiH)</p> <p>Built holding centers (IFRC)</p> <p>HCW IPC training (IOM)</p> <p>Establishment of HCW training center (IMC)</p> <p>Non-HCF IPC training for households (IOM)</p> <p>Support for emergency response vehicle consortium (OFDA)</p> <p>DoD laboratory begins operations</p> <p>4-day malaria campaign (UNICEF)</p> <p>Western Area Surge: Expansion of community engagement, surveillance strengthening, contact tracing (IFRC, IOM)</p> <p>1st mobile training for HCWs (IOM)</p> <p>Targeted IPC materials distributions (Medair)</p> <p>Support for coordination-Ebola Response Consortium (IRC leads 8 NGOs in all districts)</p> <p>Assistance to quarantined households (Medair, Lifeline)</p> <p>Survivor conferences (UNICEF)</p> <p>Family reunification (UNICEF)</p> <p>Psychosocial support for survivors (UNICEF)</p> <p>Three-day stay at home period (all partners)</p> <p>Support to health messaging (HC3)</p> <p>Contingency plans for rainy seasons are developed</p>

	Guinea	Liberia	Sierra Leone
Q2, 2015	<p>Door-to-door visits, active case finding (CECI, Relief Intl)</p> <p>Building and opening new transit centers (UNICEF)</p> <p>Cross-border screening evaluations (ACF, IOM)</p> <p>Mapping exercises, sub-prefectural level (CDC)</p> <p>Safe burial teams (IFRC, GRC)</p> <p>Prefectural case finding operations</p> <p>Social mobilization (CECI)</p> <p>Active case finding</p> <p>Contact tracing (WHO)</p> <p>Triage unit (IMC)</p> <p>HCW/IPC, PPE training (IMC)</p> <p>Targeted food distributions (WFP)</p> <p>Contingency plans for rainy seasons</p>	<p>HCW training at ETUs (USPHS)</p> <p>Non-EVD HCF IPC training (JSI, MTI)</p> <p>IT training for social mobilization–E-CAP (Mercy Corps, PSI)</p> <p>Ebola survivor network mapping activity, support</p> <p>Health messaging (Samaritan’s Purse)</p> <p>IPC materials distributions (Samaritan’s Purse, JSI, GC)</p> <p>CCC operations (Samaritan’s Purse)</p> <p>Support to county-level health teams (Samaritan’s Purse, JSI)</p> <p>National and local disease surveillance (GC, ACF, IRC, MENTOR, WHO, CDC)</p> <p>Decommissioning of MMU, 5 ETUs</p> <p>Restoring healthcare facilities (IRC)</p> <p>Hygiene and sanitation at EVD-affected HCFs and schools (IRC)</p> <p>New case screening (IRC)</p> <p>Psychosocial support (IRC)</p> <p>HCW/IPC, PPE training (USPHS, JSI, PiH)</p> <p>Social mobilization, ECAP (Mercy Corps, 76 NGOs, MENTOR)</p> <p>Burial, disinfection teams (GC)</p> <p>Border trainings and surveillance (GC)</p> <p>Medical waste management (GC)</p> <p>Transition to post-EVD HSS Activities, burial plans (MENTOR, GC)</p> <p>Development of post-EVD national IPC policy (JHPIEGO, DART, CDC, IOM, other NGOs)</p>	<p>Rapid assessments (DART)</p> <p>Border assessment mission (IOM, CDC)</p> <p>Border screening (CDC, IOM)</p> <p>Conversion of holding centers to ETUs (IMC)</p> <p>Social mobilization (Christian Aid, CRS, IOM, World Hope)</p> <p>Support for coordination–Ebola Response Consortium (IRC leads 8 NGOs in all districts)</p> <p>ERC works with communities to establish screening stations at PHUs</p> <p>ERC trains midwives, HCWs to conduct screenings</p> <p>IPC capacity improvement for SL hospitals (IRC)</p> <p>Qualitative studies (HC3)</p> <p>Chlorine supply, distribution (OFDA)</p> <p>Child protection services (UNICEF)</p> <p>Distribution of interim EVD care kits (Medair)</p> <p>Targeted house-to-house mobilizations and case finding campaigns (UNICEF)</p> <p>Ambulance sensitization project (CDC, Peace Corps, DFID, WHO)</p> <p>Community dialogue fora to address case hiding (Christian Aid)</p> <p>Operation Northern Push:</p> <p>Initiation of direct HH cash transfers (SC, others)</p> <p>Psychosocial support (IMC)</p> <p>Assistance to quarantined households (Medair, Lifeline, IMC)</p> <p>Vaccine campaigns initiated (UNICEF)</p>
Q3, 2015	<p>Awareness raising: Burial procedures (IFRC)</p> <p>Local EVD supervisor training (HKI)</p> <p>Social mobilization (CECI, UNICEF, CDC)</p> <p>Border screening (IOM)</p> <p>Logistical support to EOCs (IOM)</p> <p>IT systems for IPC supervision (DART/OCHA)</p> <p>HCW/IPC training (CRS)</p> <p>IPC materials distributions (CRS, Premiere Urgence)</p> <p>Water/sanitation activities (CRS)</p> <p>HSS activities (triage and isolation in PHFs) (Premiere Urgence)</p>	<p>Escalation of order surveillance</p> <p>Escalation of social mobilization</p> <p>Increased contact tracing coordination</p> <p>CHTs have taken over contact tracing and case management, with support (IMC, CDC, WHO, UNICEF, SC)</p> <p>Men’s health/EVD screening program (CDC, WHO)</p> <p>Continued support of contact tracing, case investigation, social mobilization campaigns, safe burials, and surveillance and monitoring by all response actors</p> <p>IRC receives continued funding for NGO consortium leadership.</p> <p>Planned transition of EVD assets to government of Liberia (GoL)</p> <p>Rollout of GoL HCW Safe and Quality Services (SQS) training</p> <p>Continued decommissioning of ETUs, transfer of decontaminated ETU and assets to CHTs</p> <p>Continued border surveillance</p> <p>4th EVD survivor clinic opens</p> <p>Livelihood recovery support provided</p> <p>Continued Integrated Disease Surveillance response (IDSR) systems trainings, including CEBS and sample collection guidance</p> <p>Reinforcement of IPC protocols at non-EVD health facilities</p>	

	Guinea	Liberia	Sierra Leone
Q4, 2015	Border screening: Sierra Leone (IOM) HCW/IPC training (WAHA, CRS, WHO, JHPIEGO) HSS training (WAHA) IPC materials distributions (DRC, CRS) EVD prevention, early warning systems (DRC) Water/sanitation activities (DRC) Small clinic–EVD detection and response (DART) Small clinic–IPC training (CRS) Resolving PPE problems (DART)	Continued response coordination between RRTs and CHTs Continued support of RITE strategies Training of EHTs (GC) Continued decommissioning of ETUs, transfer of decontaminated ETU and assets to CHTs Continued provision of EVD survivor care at designated clinics Operation of mobile health clinics for survivors (IOM) Continued social mobilization trainings Continued assessment of IPC protocols	
Q1, 2016	Epidemiological surveillance–CEBS (IOM, ACH-Spain, IMC) Implementation of Ring IPC approach Reinforcement of IPC protocols at health facilities Residual response and rapid response capacities (IMC) Cross-border surveillance (IOM)	National epidemic prevention and response consortium Countrywide rollout of event surveillance eDEWS system Continued border screening (IOM)	

Figure A–2. EVD reported cases by country, cross-referenced with USG expenditures for EVD response



Total Cases, Guinea, Total Cases, Liberia and Total Cases, Sierra Leone for each USG Funds to date broken down by WHO report date Year, WHO report date Quarter and WHO report date Month. Color shows details about Total Cases, Guinea, Total Cases, Liberia and Total Cases, Sierra Leone. The marks are labeled by Total Cases, Guinea, Total Cases, Liberia and Total Cases, Sierra Leone. The view is filtered by USG Funds to date, Exclusions (MONTH/WHO report date), QUARTER(Who report date), USG Funds to date, YEAR(Who report date) and WHO report date Month. The USG Funds to date filter keeps 48 of 57 members. The Exclusions (MONTH/WHO report date), QUARTER(Who report date), USG Funds to date, YEAR(Who report date) filter keeps 89 members. The WHO report date Month filter keeps 12 of 12 members.

Measure Names
 Total Cases, Guinea
 Total Cases, Liberia
 Total Cases, Sierra Leone

Summary

From the period of late August through mid-September 2014, there was a lack of adequate data to assess the rate of change in the number of cases. By October 2014, percent increases in total cases and deaths across the region were accelerating rapidly and funding was unable to keep pace with demand. The timeline analysis suggests that growth in EVD-related expenditures by the USG had no statistical association with the rate of increase in the number of EVD-related cases or the number of EVD-related deaths. However, epidemiological data about cases and deaths from this time period is unreliable.

Additional implications of this analysis are that existing resources available in the region, short-term shifts in resources from existing programs, and the smaller distributions of funds prior to

the major infusion of resources resulted in a response unable to keep pace with demands. It also suggests (although this requires further validation) that the tipping point in the relationship between funding and program implementation occurred in late November or early in December of 2014. Prior to this time, it is likely that programs were unable to keep pace with demand for resources. After this time, the majority of funds were likely allocated to the continued maintenance of programs created during this time period (and in the three months afterwards), and reinforced existing response programmatic priorities.

EVALUATION SCOPE OF WORK [SECTION C: STATEMENT OF WORK]

C.1 Purpose

USAID/OFDA seeks to award a contract to evaluate the relevance, coordination, timeliness, and effectiveness of its response to the Ebola Virus Disease (EVD) outbreak in West Africa. The aim of this evaluation is to improve the United States government's (USG) understanding of the performance of its response to the EVD outbreak in Guinea, Liberia and Sierra Leone. The evaluation will provide information for future USG large-scale public health responses to infectious disease outbreaks. The evaluation will help identify the role that OFDA should play within large-scale public health responses. The evaluation will focus on the EVD response in Liberia, Guinea and Sierra Leone.

C.2 Background

According to UN officials, the West African EVD outbreak began in December 2013 in southeastern Guinea, before spreading to the neighboring countries of Liberia and Sierra Leone. Misinformation and lack of awareness among the public regarding EVD transmission modes, combined with inadequate health care facilities and lack of health staff trained in EVD response techniques, allowed EVD to spread rapidly—resulting in more than 15,200 total confirmed cases as of December 30, 2015.

In April of 2014, OFDA provided funding to the United Nations Children's Fund (UNICEF) to respond to the EVD outbreak and then, from July 2014 onward, deployed a Health Advisor to the region to monitor the situation. On August 5, 2014, the USG deployed a Disaster Assistance Response Team (DART)—a team that over the course of the response included disaster response and public health experts from OFDA, the US Department of Defense, the Centers for Disease Control and Prevention (CDC), the National Institutes of Health (NIH), and the US Public Health Service (PHS)—to the region to assist host country governments in containing the EVD outbreak. The USG created a corresponding Response Management Team (RMT) to support the DART and enhance coordination efforts.

During more than (14) fourteen months of operation, the DART coordinated the USG's \$2.4 billion response to the EVD

outbreak in West Africa through USG support for health and humanitarian coordination, case management, surveillance and epidemiology, restoration of essential health services through infection prevention and control measures, social mobilization and communications, and logistics activities. OFDA funded over \$772 million in programs in response to the outbreak. Following the steady decrease in the EVD caseload to no active cases in late 2015, as well as strengthened in-country capacity for rapid response to new outbreaks, the DART and RMT deactivated on January 4, 2016.

C.3 Background: Programs to be Evaluated

This performance evaluation will focus on programs funded between March 1, 2014 and January 4, 2016 and actions taken under pillar one of the EVD response: controlling the outbreak.

OFDA's programming for the EVD outbreak response in West Africa in fiscal years (FYs) 2014 and 2015 was focused on the first pillar of the response, controlling the outbreak. In FY2016, OFDA continued to support the first pillar of the response with programs that focused on maintaining a residual capacity to respond to future EVD cases.

C.3.1 Goal, Objectives and Theory of Change

The goal of the first pillar of the USG's response to the EVD outbreak in West Africa initially was to control the outbreak by reducing the rate of transmission in the affected countries.

The theories of change (ToCs) behind this response were multifaceted, but all were designed to reduce the spread of the disease. Guiding the response overall were two principles of disease control: effective isolation of EVD cases and safe burials of those who died were required to decrease transmission and bring the outbreak under control; and simultaneously, massive education and outreach was required to increase population-wide understanding of the disease, how to recognize it, how to prevent transmission, and the importance of modifying behaviors that increase risk. Within these two general guiding principles, OFDA programming on the EVD response was informed by technical guidance, the experience of Médecins sans

Frontières (MSF), World Health Organization (WHO), and the CDC in responding to prior outbreaks and the application of public health principles to control the spread of a communicable disease through direct intervention and public outreach.

Some of the guidance that shaped the response included that:

1. access to relatively better quality care in ETUs would encourage people with symptoms of EVD and their caretakers to present for care;
2. tracing the contacts of infected individuals, coupled with active case finding, would allow identification of EVD patients early in their infectious period and limit opportunities for onward transmission;
3. providing safe and culturally appropriate burials would reduce transmission of EVD by reducing the number of people infected through the handling of dead bodies;
4. community-based social mobilization efforts and education to health care providers on case definition and infection prevention and control (IPC) would encourage the widespread adoption of behaviors that would limit the spread of EVD, slowing the rate of transmission;
5. community-based surveillance of potential cases of EVD would identify EVD patients early on and limit opportunities for transmission;
6. command and control support would enable national actors to make better-informed decisions in the face of the EVD outbreak and have those decisions quickly implemented by international actors in the EVD response;
7. logistics support would enable both national health structures and Ebola response actors to respond more quickly to the EVD outbreak by supplying them with the necessary medical equipment to implement IPC measures—especially through the provision of personal protective equipment (PPE)—and by creating a lab referral network to confirm and identify EVD cases;
8. strengthening infection prevention and control measures at health facilities in EVD-affected countries would ensure that EVD cases were identified for isolation and that primary health care would be able to continue during the outbreak due to the triage, safe referrals, and transport to isolation facilities of suspected EVD cases.

C.3.2 Existing performance data

The evaluation team will have access to OFDA implementing partners' (IPs') regular quarterly reporting and award agreements. The quarterly reporting should include data on outputs accomplished by the IP in line with the indicators referenced in OFDA Standard Indicators (attachment J.4). Some OFDA partners have reported some outcome-level indicators on their

programs, but the data available is often for a very limited geographic zone—for example one county in Liberia—or collected with a less-than-statistically relevant sample. Additionally, a small number of OFDA's IPs will have completed project-level evaluations that would be of use to the evaluation team. The scope of these evaluations, however, remains at the project level and are not necessarily sufficient to be extrapolated out to the overall Ebola response in West Africa.

C.4 The Evaluation

C.4.1 Purpose and Use

The purpose of this evaluation is to improve the United States government's (USG) understanding of the performance of its response to the EVD outbreak in Guinea, Liberia, and Sierra Leone. The evaluation will focus on the effectiveness and relevance of the USG's response to the outbreak, as well as OFDA's role in coordinating the USG's international response.

OFDA intends to use the results from this evaluation to inform future USG large-scale public health responses in general and infectious disease outbreaks in particular, as well as to define the role that OFDA should play within large-scale public health responses. OFDA invested more than \$700 million in responding to the EVD outbreak in West Africa in FY15, making it OFDA's largest humanitarian response in a single fiscal year. As a result, OFDA wants to ensure that the lessons learned in this response are evaluated, recorded, and capitalized upon for future responses.

C.4.2 Evaluation Objectives and Questions

This evaluation has four complementary objectives relating to the overall effectiveness, effectiveness of different programmatic components, relevance, and coordination of OFDA's response to the EVD outbreak. Each objective has multiple evaluation questions that the evaluation must answer. Data must be collected for all evaluation questions in Liberia, Sierra Leone, and Guinea.

Each of the four objectives of this evaluation should be considered as separate lines of effort within the same task order. In other words, each objective will have its own Evaluation Report deliverable. Details of the deliverables expected for each objective of the evaluation can be found in Section C.5.

OFDA does not regard these evaluation questions as final and could modify the evaluation questions through the design phase of the evaluation through conversations with the evaluation team. The evaluation questions will be considered final in the approved version of the inception report deliverable of this contract. While exact wording of evaluation questions could be modified through the design phase, the objectives of the evaluation and its intent and focus will not change.

Effectiveness of the Response:

1. To what extent did OFDA-supported activities achieve their intended objectives? Why or why not?
2. Which USG-funded activities, or combination of activities, if any, made the most significant contribution to controlling the EVD outbreak in West Africa?
3. Many activities were designed to address one aspect of a set of interrelated control measures; how well did each activity fit within the overall response and contribute to controlling the outbreak?

Effectiveness of Programmatic Components:

4. OFDA funded several different types of programs: case management, surveillance and contact tracing, social mobilization, safe burials, infection prevention and control, and command and control. What were the determining factors that contributed to the success or failure of each of the different types of programs?

Relevance:

5. Did OFDA correctly prioritize and weight the most relevant activities over the course of the response to the outbreak in relation to the outbreak's changing epidemiology?
6. Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?
7. To what extent did attempting to adhere to technical "gold standards" affect the timeliness and quality of the response?

Coordination:

8. How effectively did OFDA coordinate all USG efforts as the lead agency in this response?
9. To what extent were the activities supported by the USG well-coordinated with the broader international and national response structures and well-coordinated operationally between organizations that the USG funded?
10. How well did OFDA adjust to the changing epidemiology and priorities of the international response?

C.4.3 Evaluation Type

This evaluation is a summative evaluation. OFDA selected this evaluation type because this evaluation seeks to draw conclusions about a strategy and a set of activities that are completed. The evaluation will inform future iterations of this type of response; the evaluation will not inform mid-course corrections.

C.4.4 Evaluation Approach

This evaluation must be designed using an iterative approach, in which the evaluation will be designed through extensive consultation with OFDA, notably during feedback and discussions surrounding the inception report (C.5.4) and evaluation plan (C.5.5) deliverables.

The evaluators can use either a utilization-focused approach or a developmental evaluation approach to this evaluation. The specific approach will be proposed and approved through the inception report deliverable. The reason OFDA is considering a utilization-focused approach is because it's critical that the results and deliverables are precisely useful to the users of the evaluation. It is very important that this evaluation be conducted in a way that will help users make decisions and take actions based on the results of this work. OFDA is considering a developmental evaluation approach to this evaluation to examine a complex response that evolved organically and continues to adapt to the changing context in the region.

The evaluation will also focus on systems thinking and the interrelation of the different elements of the response.

The evaluation will be designed to ensure that the findings from the evaluation can directly inform future OFDA responses to large-scale infectious disease outbreaks. The evaluation team will need to tailor the evaluation approach to the specific context of each country in the geographic scope and analyze findings accordingly. The evaluation, however, must be designed to allow readers to draw comparisons across the three countries involved in the response.

C.4.5 Evaluation Audience

The intended users of this evaluation will include the OFDA Director and Senior Management Team, senior managers, program managers, and public health advisors.

This evaluation will be available to OFDA staff, as well as key stakeholders of the USG's response to large-scale infectious disease outbreaks within the CDC and USAID's Bureau for Global Health. The evaluation report will be available to the public on USAID's Development Experience Clearinghouse at <https://dec.usaid.gov>.

C.4.6 Evaluation Methods & Data Sources

GENERAL GUIDANCE

This evaluation must employ mixed methods: both qualitative and quantitative methods are required. Primary data must form the majority of the data collected for this evaluation; secondary data review alone will not suffice to inform the deliverables for this evaluation. The evaluation must use primary data collected

in Liberia, Guinea, and Sierra Leone to inform responses to the evaluation questions.

Any quantitative data collection that takes place as part of this evaluation must include a representative sample of the survey population and must use rigorous methods for data collection and analysis. The survey populations for any large-scale survey will be defined by country—not as an aggregate across all three—resulting in three separate surveys. The data must be representative at a sub-national level, though the exact level of representation will be determined during the design stage of the evaluation. OFDA prefers to have data with a less than 5% margin of error and more than 95% confidence level. However, the exact parameters of the survey design will be determined during the initial stages of the evaluation process. OFDA does not expect a simple random sample to be possible in this context. However, the contractor must propose other probability sample designs that are rigorous and representative.

If less rigorous quantitative methods are needed, the Contractor must submit a justification to the Contracting Officer's Representative (COR) for review and approval during the design process after the award of contract. Only after the COR has approved the less rigorous quantitative methods may they be used by the Contractor.

In the selection of methods, the contractor must include ethical considerations, do no harm precautions, and informed consent.

SPECIFIC METHODS

The exact methods to be used in this evaluation will be determined through the submission and acceptance of the Inception Report and Evaluation Plan deliverables. However, OFDA requires the set of methods described in the rest of this section to be used for certain evaluation questions. If, through the design process, the evaluation team finds that these methods are not suitable for responding to the identified evaluation questions, the Contractor must provide a clear justification. Changes to these methods requirements are subject to the review and approval of the COR. It is critical to note that for all evaluation questions, the Contractor must produce findings and conclusions for each country separately to allow users of the evaluation to compare between the three countries, as well as produce findings and conclusions for the response as a whole.

- *Which USG-funded activities, or combination of activities, if any, made the most significant contribution to controlling the EVD outbreak in West Africa?*
- *To what extent did OFDA-supported activities achieve their intended objectives? Why or why not?*

The evaluation questions stated above are the most critical questions that this evaluation will answer. The Contractor must use a creative evaluation design and a collection of

complementary methods to respond to these questions in a comprehensive manner.

Quantitative methods, such as a large-scale survey with a representative sample, must be used to answer the evaluation questions above. In the first evaluation question stated above, OFDA recognizes that attribution between a set of activities and the reduction in EVD transmission is not possible to measure in this context. However, methods for this evaluation question specifically must be designed so that OFDA can understand the contribution that a set of activities made to the reduction in transmission. In addition to the quantitative methods that the evaluation team must use to answer this question, the Contractor is also required to use qualitative methods to supplement the quantitative data. Individual interviews, focus groups, document review, and secondary data analysis are required, but the Contractor may use additional qualitative methods as well.

- *OFDA funded several different types of programs: case management, surveillance and contact tracing, social mobilization, safe burials, infection prevention and control, and command and control. What were the determining factors that contributed to the success or failure of each of the different types of programs?*

Methods to respond to this evaluation question must be qualitative and quantitative. These types of questions lend themselves to qualitative inquiry—thus, individual interviews, focus groups, and document review will formulate the majority of the data collected for this question. However, OFDA seeks to understand not only the context of the determining factors contributing to success and failure, but also the scale and depth of these factors in all three countries. To that end, the contractor must use quantitative methods to respond to this evaluation question.

Additionally for the evaluation question listed above, the Contractor must look at the causes of variance in success of each component between the three different countries involved in the response—Liberia, Guinea, and Sierra Leone.

- *Many activities were designed to address one aspect of a set of interrelated control measures; how well did each activity fit within the overall response and contribute to controlling the outbreak?*
- *Did OFDA correctly prioritize and weight the most relevant activities over the course of the response to the outbreak in relation to the outbreak's changing epidemiology?*
- *To what extent did attempting to adhere to technical "gold standards" affect the timeliness and quality of the response?*
- *How effectively did OFDA coordinate all USG efforts as the lead agency in this response?*

- *Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?*
- *To what extent were the activities supported by the USG well-coordinated with the broader international response, national response structures and well-coordinated operationally between organizations that the USG funded?*
- *How well did OFDA adjust to the changing epidemiology and priorities of the international response?*

Many of the evaluation questions above relate to the quality of coordination and the coherence of the strategy. The questions lend themselves to measuring perceptions of quality. OFDA is interested in perceptions, but this type of data cannot be the only type of data gathered to respond to the above evaluation questions. The Contractor is required to develop indicators to measure real quality and effectiveness, instead of only perceptions of quality and effectiveness.

To answer these questions, the Contractor must employ both qualitative and quantitative methods.

POST-TRAUMATIC STRESS AND DO NO HARM

In all methods designed and carried out as part of this evaluation, the Contractor must employ do no harm principles. Most of the respondents in this evaluation have experienced a significant amount of post-traumatic stress. EVD survivors were most likely traumatized by their battle with the disease; thousands of people in Liberia, Sierra Leone, and Guinea have lost family members, friends, colleagues, or acquaintances to EVD; and national and international staff members of INGOs, PIOs, and the USG responding to the emergency experienced fright and extreme levels of stress throughout the response. The evaluators must use methods and data collection protocols that do not re-traumatize respondents and respect the fact that most respondents experienced significant amounts of post-traumatic stress throughout this emergency. It is essential that Contractors keep respondents anonymous, keep data coded and stored in a way that respects confidentiality of respondents, and that clear informed consent is granted at the beginning of every interview that contributes data to this evaluation. Particular protocols must be developed to ensure the protection of children, women, and any vulnerable group of respondents in this evaluation. Above all, this evaluation must do no harm to anyone involved in it.

DATA SOURCES

It is critical that the evaluation team interview the most relevant respondents for each of the evaluation questions. While each evaluation question will have a different set of respondents deemed to be most relevant, the evaluation team must collect

data from the following groups of individuals, (contingent upon the receipt of informed consent):

1. 1. EVD survivors
2. 2. Community leaders of affected communities
3. 3. Families of EVD survivors
4. 4. Families of those deceased from EVD
5. 5. Health care workers
6. 6. Government officials
7. 7. Youth leaders
8. 8. National staff from INGOs and PIOs responding to the emergency
9. 9. International staff from INGOs and PIOs responding to the emergency
10. 10. USG staff involved in the response
11. 11. The general population of Liberia, Sierra Leone, and Guinea (for the purposes of large scale surveys)

This list of respondents may include individuals who have departed the affected countries, who no longer work on the EVD response, or who no longer work for the organizations that employed them during the response. As such, the evaluation team must find an appropriate number of these individuals to interview. In other cases, people living in the affected countries may or not may not live in the same communities they lived in during the outbreak. The evaluation team must try to find key respondents in the affected countries who may have moved from their communities.

C.4.7 Limitations

The evaluation team may only have limited access to data from USG agencies other than OFDA. Additionally, case management data from the outbreak may not be complete or in a data-readable format, which will present difficulties for the evaluation team. Baseline data, performance monitoring data, and evaluation data may be incomplete or missing for many of the OFDA awards.

The data collection phase of this evaluation will take place after most the international staff involvement in the height of the response have left the countries. It is imperative that the evaluation find an appropriate number of staff members who would be useful respondents. This exercise will be a challenge, but it is important to the quality of the evaluation results.

C.4.8 Geographic Scope

The geographic scope of this evaluation is Liberia, Guinea, Sierra Leone, Senegal, Mali, Ghana, Guinea Bissau, the United

Kingdom, Switzerland, Sweden, Germany, Belgium, France, and the United States. Primary data collection for this evaluation—and thus travel for relevant members of the evaluation team—must occur in Liberia, Guinea, and Sierra Leone. Travel to Senegal, Mali, Ghana, Guinea Bissau, the United Kingdom, Switzerland, Sweden, Germany, Belgium, and France is allowable under this contract, but not necessarily required. Travel to these countries will be allowable only if the evaluation plan deliverable demonstrates a clear need. The evaluators must also prepare to interview respondents via the telephone or internet-enabled communication in countries outside of the aforementioned countries.

The Contractor is responsible for accessing the countries contained in the geographic scope of this contract and regions within the countries within the geographic scope of this contract. The exact locations of international and regional travel will be determined by the Evaluation Plan deliverable in this contract.

C.4.9 Programming Period Covered by Evaluation

This evaluation will cover the USG response to the EVD Outbreak in West Africa from March 1, 2014 to January 4, 2016.

C.4.10 Period of Performance of the Evaluation

This evaluation must be carried out under an agreed-upon schedule of work, determined through the work plan. The period of performance of this contract is twelve (12) months.

C.5 Deliverables

Deliverable	Contract Reference	Due date
Post-Award Conference Call	C.5.1	NLT 7 days after Effective Date of Contract
Work Plan	C.5.2	NLT 14 days after Effective Date of Contract
Kick-Off Meeting	C.5.3	NLT 21 days after Effective Date of Contract
Branding and Marking and Implementation Plan	M.4	NLT 30 days after Effective Date of Contract
Inception Report	C.5.4	To be determined in the work plan

Inception Report Presentation	C.5.5	To be determined in the work plan
Evaluation Plan	C.5.6	To be determined in the work plan
Evaluation Plan Presentation	C.5.7	To be determined in the work plan
Data Collection Tools	C.5.8	To be determined in the work plan
Monthly Progress Reports and Calls	C.5.9	To be determined in the work plan
Individual Evaluation Reports	C.5.10	To be determined in the work plan
Synopsis of the Evaluation	C.5.11	To be determined in the work plan
Presentation of Evaluation Reports	C.5.12	To be determined in the work plan
Electronic Copies of Raw Data	C.5.13	To be determined in the work plan

C.5.1 Post-Award Conference Call

A teleconference call must be conducted with the Contractor and OFDA to finalize the kick/off meeting agenda and clarify all aspects of the contract's requirements, including those of key deliverables. The post-award conference call must occur no later than seven (7) days after the effective date of the contract.

C.5.2 Work plan

The contractor must submit a work plan that includes the following elements:

- A schedule for the completion of all of the deliverables listed in this contract, with due dates mentioning a specific calendar date
- An explanation of the roles and responsibilities of the contractor's team members
- A communication plan explaining the points of contact between OFDA, the Contractor, and IPs

The Contractor must submit the work plan no later than fourteen (14) days after the effective date of the contract.

C.5.3 Kick-off Meeting

A kick-off meeting must be held in Washington, D.C. to review the work plan and discuss other deliverables of the contract. At a minimum, all key personnel listed in this task order must participate the kick-off meeting. Participants may join in person

or via the telephone or internet-enabled communication.

The kick-off meeting must take place no later than twenty-one (21) days after the effective date of the contract.

C.5.4 Inception Report

Based on the kick-off meeting and desk review, the Contractor must prepare an inception report that outlines how the evaluation will be conducted. The report must outline a clear methodological approach to addressing the evaluation questions in Section C.4.2. The intent of the inception report to assist OFDA in reaching a final list of evaluation questions through a clear presentation of relevant research, proposed methods, limitations of the proposed methods, alternative evaluation questions, and trade-offs of each of the alternatives.

At a minimum, the following sections must be included in the inception report, though other sections could be added:

- Introduction
 - ◆ State the purpose and objective of the evaluation
 - ◆ Describe the collection of programs to be evaluated
 - ◆ Presentation of findings and data from desk review
- Evaluation Framework
 - ◆ Conceptual framework for the evaluation
 - ◆ Theory of change
 - ◆ Key indicators
- Stakeholder Analysis
 - ◆ Identification of different levels of stakeholders in the Ebola Response
 - ◆ Discussion of plans to ensure utilization-focused approach in evaluation design
- Methodological Design of the Evaluation
 - ◆ Data Collection: Methods summary
 - ◆ Data Analysis: Methods summary
 - ◆ How the methodological design of the evaluation will ensure the evaluation questions are answered appropriately
 - ◆ Limitations
 - ◆ Context analysis
 - ◆ Gender Considerations
- Updated Work Plan

The deadline for this deliverable will be determined in the work plan.

C.5.5 Inception Report Presentation

The Contractor must deliver an in-person presentation of the

inception report to OFDA in Washington, DC. The presentation should outline all the main elements of the inception report and provide a forum for key USG stakeholders to ask questions about the inception report and discuss key points.

The deadline for the presentation must be determined in the work plan.

C.5.6 Evaluation Plan

The Contractor must submit an evaluation plan that explains the data collection processes, considerations, and plans for the evaluation. The evaluation plan deliverable must include at a minimum four sections: (1) table format that outlines the proposed methods for each indicator in the evaluation; (2) design matrix for the evaluation that links each evaluation method to a specific evaluation question; (3) detailed description of the protocols for qualitative and quantitative data collection; and (4) data verification plan.

SECTION ONE:

In a Microsoft Excel spreadsheet, the Contractor must detail the data collection methods for each indicator in the evaluation. Specifically, this table must include the following information for each of the indicators associated with every evaluation question in this scope of work.

- Indicators (a list of all indicators created for each evaluation question)
- Precise definitions of indicators
- Data collection methods
- Data sources
- Location of data sources
- Timing of data collection
- Seasonal, political, and gender considerations
- Data analysis: disaggregation and comparison plans
- Time required

SECTION TWO:

The evaluation's design matrix should be composed of a table, drafted in either Microsoft Word or Excel, that lists all of the evaluation's questions and for each provides the following information:

- Evaluation question
- Data source
- Data collection method (including sampling methodology, where applicable)
- Data analysis method

SECTION THREE:

In a narrative Microsoft Word document, the Contractor must detail information related to the following topics and questions:

- **Qualitative protocol:** What procedures must the contractor follow to ensure the data collected through qualitative methods is collected in a systematic and ethical manner?
- **Quantitative protocol:** What procedures must the contractor follow to ensure data collected through quantitative methods is collected in a representative, systematic, and ethical manner?
- **Qualitative design:** Detail the following for the qualitative methods in the evaluation:
 - ◆ Focus group participant selection strategy
 - ◆ Focus group discussion strategy for replication and triangulation of findings
 - ◆ Limitations
 - ◆ Case study triangulation of findings strategy
 - ◆ Self-assessment strategy
 - ◆ Plans to tailor design to specific context during mobilization
- **Quantitative design:** Detail the following for the quantitative methods in the evaluation:
 - ◆ Population
 - ◆ Sampling frame
 - ◆ Sample size
 - ◆ Sampling strategy
 - ◆ Limitations
 - ◆ Plans to tailor design to specific context during mobilization
- Explanation of plans for travel and logistical arrangements for field work
- Explanation of plans for enumerator training
- Describe how seasonal, political, and conflict factors will be anticipated and addressed in the evaluations.
- Describe any protection, do no harm, and gender considerations for the evaluations, with a particular attention to do no harm considerations for Ebola survivors.

SECTION FOUR:

In a narrative Microsoft Word document, the Contractor must address the following issues related to data verification protocols for the evaluation:

- Describe the overall data verification strategy, including

procedures and processes the Contractor will use to ensure the data was:

- ◆ collected in the intended manner;
 - ◆ collected by the intended enumerator;
 - ◆ collected at the intended location;
 - ◆ collected with the intended respondent.
- Describe the process that the Contractor will follow should it discover any data was falsified or otherwise collected in a manner inconsistent with Sections 1 and 2 of the evaluation plan.

The deadline for this deliverable must be determined in the work plan.

C.5.7 Evaluation Plan Presentation

The Contractor must deliver an in-person presentation of the evaluation plan deliverable to OFDA in Washington, DC. The presentation should outline all the main elements of the evaluation plan and provide a forum for key USG stakeholders to ask questions about the evaluation plan and discuss key points of the evaluation's design.

The deadline for the presentation must be determined in the work plan.

C.5.8 Data Collection Tools

The Contractor must submit the survey tools, key informant interview guides, self-assessment guides, case study guides, focus group discussion guides, and any other data collection tools that will be used during this evaluation. The Contractor must also present plans to translate the data collection tools, tailor the questions for the three different contexts, and train enumerators on gender-sensitive approaches to interviewing women.

The deadline for these deliverables must be determined in the work plan.

C.5.9 Monthly Progress Reports and Conference Call

The Contractor must submit a report each month during the contract summarizing progress to date on deliverables and staff movements. A minimum of nine progress reports must be submitted and they must be submitted at roughly one month intervals. The Contractor must organize a monthly teleconference with USAID/OFDA to discuss the monthly report and progress made on the contract's deliverables.

This monthly report must be no longer than three pages and include the proposed agenda items for the monthly teleconference. The deadline for these deliverables must be determined in the work plan.

C.5.10 Evaluation Reports

The evaluation report must present findings for each of the evaluation questions, in accordance with section C.3 and C.4 of this task order. Since the evaluation is composed of four complementary objectives, the contractor must submit four separate evaluation reports each focused on one objective of the evaluation.

Each evaluation report must contain at a minimum the following sections:

1. Executive summary (no more than one page)
2. Introduction
3. Methodology
4. Limitations
5. Overall Results
6. Results by Country (Guinea, Liberia and Sierra Leone)
7. Analysis and Conclusions
8. Recommendations
9. Annexes
 - ◆ i. Annexes
 - ◆ ii. Scope of Work
 - ◆ iii. Survey Instruments
 - ◆ iv. Focus Group Discussion Guides
 - ◆ v. Map of Locations Evaluated

Each evaluation report must meet the following standards set out in the USAID Evaluation Policy (2011):

1. The evaluation report should represent a thoughtful, well-researched, and well-organized effort to objectively evaluate what worked, what did not, and why.
2. Evaluation reports must address all evaluation questions included in the Scope of Work.
3. The evaluation report should include the Scope of Work as an annex. All modifications to the Scope of Work, whether technical requirement, evaluation questions, evaluation team composition, methodology, or timeline need to be agreed upon in writing by the technical officer.
4. Evaluation methodology must be explained in detail and all tools used in conducting the evaluation, such as questionnaires, checklists, and discussion guides, must be included in an annex in the final report.
5. Evaluation findings must assess outcomes on males and females.
6. Limitations to the evaluation must be disclosed in the report, with particular attention to the limitations

associated with the evaluation methodology (selection bias, unobservable difference between comparison groups, etc.).

7. Evaluation findings should be presented as analyzed facts, evidence and data and not based on anecdotes, hearsay, or the compilation of people's opinions. Findings should be specific, concise, and supported by strong quantitative or qualitative evidence.
8. Sources of information need to be properly identified and listed in an annex.
9. Recommendations need to be supported by a specific set of findings.
10. Recommendations should be action oriented, practical, and specific, with defined responsibility for the action.

In addition to the basic requirements stated in the above list, OFDA uses the following checklist to review the quality of evaluation reports: http://usaidlearninglab.org/sites/default/files/resource/files/mod11_checklist_for_assessing_evaluation_reports.pdf.

Most of the standards identified in this list are applicable to OFDA evaluations. However, some of them are not. Before drafting the report, the Contractor must confirm with OFDA which standards from the checklist are applicable to OFDA evaluations and must ensure that the evaluation report meets those identified standards.

The deadline for this deliverable must be determined in the work plan.

C.5.11 Synopsis of the Evaluation

The Contractor must submit a short synopsis of no more than ten pages that summarizes the results, conclusions and recommendations of the four evaluation reports in Section C.5.10 in one succinct document. This document should be designed for consumption by the senior management of USAID and the wider U.S. Government.

The deadline for this deliverable must be determined in the work plan.

C.5.12 Presentations of Evaluation Reports

The Contractor must deliver two in-person presentations, one to OFDA staff in Dakar, Senegal and one in Washington, D.C. that covers the final results, conclusions, and recommendations of the four evaluation reports produced by this evaluation. All documentation for this presentation must be submitted to OFDA at least forty-eight (48) hours prior to each presentation.

The deadline for the presentations must be determined in the work plan.

C.5.13 Electronic Copies of Raw Data

The Contractor must deliver electronic files containing all the raw data collected through this evaluation in a clearly labeled and organized file structure. Quantitative survey data must be submitted both in Microsoft Excel format and in comma separated values (CSV) format; qualitative data must be submitted in Microsoft Word format and in plain text with non-proprietary ASCII encoding. Any changes to the submission formats must be approved by the COR. OFDA may be required to upload this data into publicly-accessible archival databases and/or use the data in the future, so the Contractor must ensure that all personally-identifiable information is removed from the data, in line with Title 18 of the United States Code, section 1028d(7).

The deadline for the presentations must be determined in the work plan.

C.6 Key Personnel

The evaluation team will be comprised of the following key personnel:

- Evaluation Team Leader
- Public Health Advisor
- Home Office Project Director

The key personnel must meet the minimum requirements outlined in the position descriptions below.

C.6.1 Evaluation Team Leader

Position description: The team lead must provide overall team management, guidance, direction, and administrative and technical support to the contract. The team lead must be the point of contact for this evaluation between OFDA and the evaluation team. The team lead must be responsible for the completion of the deliverables for this evaluation, as well as overall compliance with the contract.

Experience: The team lead must have at least (10) ten years of work experience relevant to the contract subject matter. The team lead should have previous experience managing expatriate and local staff, designing and conducting evaluations, writing evaluation reports, and conducting quantitative and qualitative field research. The team lead should have previous experience conducting performance evaluations that include questions concerning outcomes. Field experience working with humanitarian response and public health programming is highly desirable. Experience working in the Liberia, Guinea, and/or Sierra Leone is also highly desirable.

Education: The team lead must hold a Master's degree in international affairs, social science, humanitarian affairs, disaster management, or a related field.

Skills: The team lead must have excellent oral and written communication skills, analytic skills, interpersonal skills, and team management skills.

C.6.2 Public Health Advisor

Position description: The expert must provide technical direction to the evaluation in terms of the public health response to outbreaks. The expert must work together with the team lead to design the evaluation plan and tools that the evaluation will use to answer the evaluation questions. The expert must also work on the methodological design of the evaluation that will be included in the Inception Report in order to make sure the evaluation is technically sound.

Experience: The expert must have at least (10) ten years work experience relevant to the contract subject matter. The expert must have experience designing evaluations of public health interventions in developing countries. It is desirable that the expert have experience either evaluating or implementing health interventions in response to the outbreak of an infectious disease. Experience working in the Liberia, Guinea, and/or Sierra Leone is also desirable.

Education: The expert must hold at least a Master's-level degree, such as a Master's degree in Public Health (MPH), Masters of Science in Public Health (MSPH), Master of Medical Science in Public Health (MMSPH) or a related field.

Skills: The expert must have strong analytical skills and written communication skills.

C.6.3 Project Director

Position description: The Project Director will provide technical oversight of the contract and will be significantly involved in the project management aspects of the Contract to ensure that the requirements of the contract are met. The Project Director will effectively communicate with USAID staff regarding the contract. The Project Director will provide expert technical advice to the evaluation team and will work closely with Evaluation Team Leader to ensure the evaluation is implemented using rigorous, ethical methods and that the deliverables are high quality and useful to USAID.

Experience: The Project Director must have at least (10) ten years work experience relevant to the contract subject matter. The Project Director must have experience managing evaluations and managing USAID evaluation contracts. It is desirable that the Project Director understands public health evaluation and has knowledge of EVD.

Education: The expert must hold at least a Master's degree.

Skills: The Project Director must have strong analytical skills, communication skills, and project management skills.

[END OF SECTION C]

ANNEX C. HOUSEHOLD SURVEY COLLECTION SITES

HOUSEHOLD SURVEY DATA COLLECTION SITES



ANNEX D. METHODOLOGY AND LIMITATIONS

Table 1. Source of information and methods for rvaluation of OFDA, utilization questions

Evaluation Key Question	Data Collection Methods	Data Sources	Locations and Sampling/Selection	Data Analysis Method
A. Effectiveness of response				
1. To what extent did OFDA supported activities achieve intended objectives?	<ul style="list-style-type: none"> ■ Large structured surveys ■ KIIs ■ FGDs with UNICEF and all other IPs. KIIs would be held with other PIOs, and FGDs or workshops are planned for WHO 	<ul style="list-style-type: none"> ■ OFDA staff ■ Household (HH) adult (survivor) respondents ■ Contact tracers, local governments, health care professionals, and funding sources ■ EOCs, ETUs, CCCs, other evaluations 	<ul style="list-style-type: none"> ■ Selected stratified and cluster sampled areas of relevant regions of Guinea, Liberia, and Sierra Leone ■ Geneva, London, Paris, Washington, DC, Atlanta 	<ul style="list-style-type: none"> ■ Triangulation across sources of evidence ■ Review of surveillance data from secondary sources, matching against intervention timeframes ■ Analytic techniques will adjust for survivor bias of households were all adult members perished
2. Which USG-funded activities, alone or in combination, made the most significant contribution to controlling the EVD outbreak in West Africa?	<ul style="list-style-type: none"> ■ HH surveys ■ KIIs ■ FGDs ■ Desktop review of existing literature 	<ul style="list-style-type: none"> ■ NGO program and M&E officers, UNICEF, WFP, IOM, and WHO, and local authorities ■ Review of internal reporting by 25 agencies, surveillance data. UNMEER, national health institutes, CDC, and the Uniformed Services University of Health Sciences (USUHS) 	<ul style="list-style-type: none"> ■ Each region of Guinea, Liberia, and Sierra Leone ■ Geneva, London, Paris, Washington, DC, Atlanta 	<ul style="list-style-type: none"> ■ Comparison of outcome data ■ Multiple regression, adjusting for ethnicity, age, location ■ Extrapolations based on surveillance trends per target area ■ Inferences based on KIIs
3. Of the many activities designed to address specific aspects of the set of interrelated control measures, how well did each activity fit within the overall response and control outbreak?	<ul style="list-style-type: none"> ■ KIIs ■ Stakeholder roundtables 	<ul style="list-style-type: none"> ■ Surveillance data ■ Program reports from IPs ■ EOC, ETU, CCC records, administrators, and clinicians ■ OFDA staff 	<ul style="list-style-type: none"> ■ Each region of Guinea, Liberia, and Sierra Leone. ■ Geneva, London, Paris, Washington, DC, Atlanta 	<ul style="list-style-type: none"> ■ Explicit tests of assumptions and hypotheses ■ Scale and actual implementation (versus delays or barriers)
B. Effectiveness of programmatic components				
4. What were the determining factors that contributed to success or failure of each of the different types of programs that OFDA supported?	<ul style="list-style-type: none"> ■ In-depth interviews with IPs, UNICEF, Centers for Disease Control (CDC), local clinic managers ■ Stakeholder roundtables 	<ul style="list-style-type: none"> ■ OFDA staff; DART teams; all relevant NGOs ■ Literature including after-action reviews IP/UNICEF/ CDC/local program and local clinic managers ■ Social mobilization, water, sanitation, and hygiene (WASH), livelihood, and other OFDA-funded activities 	<ul style="list-style-type: none"> ■ Each region of Guinea, Liberia, and Sierra Leone ■ Geneva, London, Paris, Washington, DC, Atlanta ■ Skype interviews with NGO officers 	<ul style="list-style-type: none"> ■ Summative across a range of data sources, largely quantitative ■ Expert Delphi judgments about the utility of each model of intervention, with explicit tests of their assumptions, hypotheses, scale, and actual implementation (versus delays or barriers)

Evaluation Key Question	Data Collection Methods	Data Sources	Locations and Sampling/Selection	Data Analysis Method
4(a). Case management	<ul style="list-style-type: none"> ■ KIs ■ Clinic records, treatment protocols ■ Stakeholder roundtables 	<ul style="list-style-type: none"> ■ HH adult (survivor) respondents ■ Local governments, health care professionals, and funding sources and MSF, IMC, Medair, Heart to Heart, IOM, and WHO 	<ul style="list-style-type: none"> ■ West Africa, US, UK, Geneva ■ Structured surveys ■ KIs ■ Stakeholder roundtables ■ Purposive and random sampling 	<ul style="list-style-type: none"> ■ Patterns of case-fatality rates per area, per program, per IP, and per treatment method ■ Treatment outcome rates-odds ratio by age and location ■ Cost/benefit analysis and return on investment (ROI) calculations
4(b). Surveillance	<ul style="list-style-type: none"> ■ Records, interviews 	<ul style="list-style-type: none"> ■ Government officials, WHO, IPs, MSF, CDC ■ HH adult (survivor) respondents, local governments, health care professionals, and funding sources 	<ul style="list-style-type: none"> ■ Review of existing data where it is, including each region of Guinea, Liberia, Sierra Leone ■ Geneva, London, Paris, Washington, DC, Atlanta 	<ul style="list-style-type: none"> ■ Meta-analysis of IP population reporting, trend analysis ■ Regression using SPSS ■ Comparison with our large survey results
4(c). Contact tracing	<ul style="list-style-type: none"> ■ Small sample stratified survey ■ FGDs, KIs ■ Stakeholder roundtables at CDC 	<ul style="list-style-type: none"> ■ Survey of contact tracers, CDC medical personnel assigned to the field ■ HH adult (survivor) respondents, local governments, health care professionals, and funding sources 	<ul style="list-style-type: none"> ■ Structured surveys of 100 per country stratified sampling ■ KIs, Atlanta, GA. In West Africa ■ Snow ball or Response Driven Sampling (RDS) through clinics 	<ul style="list-style-type: none"> ■ Quantitative and qualitative analysis ■ Matching extent of outreach with chain of transmission of diseases as inferred from health outcomes
4(d). Social mobilization	<ul style="list-style-type: none"> ■ IPs' KAP surveys ■ IBTCI structured surveys and KIs ■ Stakeholder roundtables 	<ul style="list-style-type: none"> ■ HH adults ■ Local governments health care professionals, and funding sources ■ IPs and local counterparts ■ OFDA 	<ul style="list-style-type: none"> ■ West Africa, US, UK, and Geneva ■ Purposive sampling among civil society organizations (CSOs) 	<ul style="list-style-type: none"> ■ Quantitative (comparative analysis by region, age, gender, location using chi square test) and qualitative analysis ■ Synthesis of findings from IPs' activity and output reporting
4(e). Safe burials	<ul style="list-style-type: none"> ■ Structured surveys, community FGDs, KIs ■ Direct observations 	<ul style="list-style-type: none"> ■ OFDA staff ■ Burial personnel ■ Community, commercial, private, health clinic, governments, Red Cross, Global Communities, World Vision, and any other IP 	<ul style="list-style-type: none"> ■ Guinea, Sierra Leone, and Liberia, one FGD in each target district ■ Cluster-sampled surveys ■ Red Cross offices ■ Government authorities 	<ul style="list-style-type: none"> ■ Quantitative and qualitative analysis, including breakdown by gender ■ Synthesis of findings from IPs' activity and output reporting
4(f). Infection prevention and control (IPC) (including WASH)	<ul style="list-style-type: none"> ■ Document reviews, ■ Skype interviews ■ Field KIs ■ Surveillance data 	<ul style="list-style-type: none"> ■ Structured surveys ■ Surveillance reports ■ IP program reports 	<ul style="list-style-type: none"> ■ Purposive sampling of key medical experts ■ Stratified to incorporate different responding organizations 	<ul style="list-style-type: none"> ■ Quantitative and qualitative analysis, including breakdown by gender ■ Synthesis of findings from IPs' activity and output reporting

Evaluation Key Question	Data Collection Methods	Data Sources	Locations and Sampling/Selection	Data Analysis Method
4(g). Command and control	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops 	<ul style="list-style-type: none"> ■ OFDA (mix of senior and operational staff at OFDA), USAID, Bureau for Democracy, Conflict and Humanitarian Assistance (DCHA), CDC, DOD, HHs, UNMEER, governments, WHO, UNICEF, DFID, ECHO 	<ul style="list-style-type: none"> ■ West Africa, US, UK, Geneva ■ Purposive sampling among civil society organizations 	<ul style="list-style-type: none"> ■ Synthesis of key decision points, options and communications ■ Pattern analysis from KIIs
C. Relevance				
5. Did OFDA correctly prioritize and weight the most relevant activities over the course of the response in relation to the outbreak's changing epidemiology?	<ul style="list-style-type: none"> ■ KIIs with DART team members, counterparts at WHO, etc. ■ HH-based sampling 	<ul style="list-style-type: none"> ■ Surveillance data ■ Large surveys conducted during this evaluation ■ Other secondary data, e.g. case studies (West Point) ■ Tracking internal OFDA reporting 	<ul style="list-style-type: none"> ■ Convenience sample of key players in West Africa, US, UK, Geneva ■ Selected cluster sampled areas of each region of Guinea, Liberia, Sierra Leone 	<ul style="list-style-type: none"> ■ Timelines that merge epidemiologic data about risks, transmission, and health outcomes against program options, IP discussions, grant proposals submitted, and estimates of ROI
6. Were OFDA funding mechanisms and in-kind support appropriate to respond to the EVD outbreak in a timely and targeted manner in affected areas?	<ul style="list-style-type: none"> ■ Documentary review ■ Communications with IPs ■ Interviews at OFDA 	<ul style="list-style-type: none"> ■ Appeals, budgets in awards ■ Grant documents, OFDA funding records, timing of release of funds, appeals by WHO and UNICEF, NGO reporting 	<ul style="list-style-type: none"> ■ Selected cluster sampled areas of each region of Guinea, Liberia and Sierra Leone. ■ Convenience sample of key players in West Africa, US, UK, and Geneva 	<ul style="list-style-type: none"> ■ Economic analysis of ROI ■ Case study analysis, ■ Comparisons of natural controls ■ Program-by-program comparison of benefits from support for isolation, ETUs, interim measures, human remains management, etc.
7. To what extent did attempting to adhere to technical "gold standards" affect the timeliness and quality of the response?	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops ■ Surveillance data 	<ul style="list-style-type: none"> ■ Nationwide surveys in Guinea, Sierra Leone, and Liberia ■ Documentation from (e.g.) WHO, MSF, CDC, MDM, Epicentre, Belgian Institute, Tropical Medicine, London School of Hygiene & Tropical Medicine (LSHTM), HHs, DOD 	<ul style="list-style-type: none"> ■ Convenience sample of key players in West Africa, US, UK, Geneva, Paris, Amsterdam, Brussels 	<ul style="list-style-type: none"> ■ Qualitative analysis using Atlas.Ti and weight of evidence
D. USG Coordination				
8. How effectively did OFDA coordinate all USG efforts as the lead agency in this response?	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops 	<ul style="list-style-type: none"> ■ OFDA, Global Health Bureau, Food for Peace ■ CDC managers and Epidemic Intelligence Service (EIS) officers, and USPHS ■ DOD physicians and US Africa Command (AFRICOM) 	<ul style="list-style-type: none"> ■ Washington, DC, Atlanta, Bethesda ■ Purposive sample within target countries UK, Geneva, US, Paris, and Belgium 	<ul style="list-style-type: none"> ■ Qualitative analysis using Atlas.Ti and weight of evidence ■ Document coherency of intra-USG efforts and alignment among bureaus

Evaluation Key Question	Data Collection Methods	Data Sources	Locations and Sampling/Selection	Data Analysis Method
9. To what extent were the activities supported by USG well-coordinated with the broader international response, national response structures and well-coordinated operationally between organizations that the USG funded?	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops ■ Review of program literature among IPs 	<ul style="list-style-type: none"> ■ Experts, analysts, and decision-makers at OFDA, DFID, EC, ECHO, Government of France, MSF, WHO, UNICEF, UN Population Fund (UNFPA), IOM, UN Office for the Coordination of Humanitarian Affairs (OCHA) 	<ul style="list-style-type: none"> ■ London, Brussels, Paris, Geneva, New York ■ Purposive sample within target countries UK, Geneva and US 	<ul style="list-style-type: none"> ■ Review of umbrella grants from OFDA ■ Triangulation among WHO, DFID, World Bank decision-makers
10. How well did OFDA adjust to the changing epidemiology and priorities of the international response?	<ul style="list-style-type: none"> ■ KIIs ■ Surveillance data, EOC records ■ Stakeholder workshops 	<ul style="list-style-type: none"> ■ OFDA, Global Health Bureau ■ CDC managers and EIS officers ■ DOD physicians and AFRICOM ■ WHO, UNICEF, DFID, World Bank, and local governments 	<ul style="list-style-type: none"> ■ Purposive sample within target countries UK, Geneva and US 	<ul style="list-style-type: none"> ■ Qualitative analysis using Atlas.Ti and weight of evidence. Consideration of OFDA's past involvement in cholera, influenza, Lassa Fever, SARS, etc.
E. International Coordination				
8. How effectively did OFDA coordinate all USG efforts as the lead agency in this response?	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops 	<ul style="list-style-type: none"> ■ OFDA, Global Health Bureau, Food for Peace ■ CDC managers and EIS officers, and USPHS ■ DOD physicians and AFRICOM 	<ul style="list-style-type: none"> ■ Washington, DC, Atlanta, Bethesda ■ Purposive sample within target countries UK, Geneva, US, Paris, and Belgium 	<ul style="list-style-type: none"> ■ Qualitative analysis using Atlas.Ti and weight of evidence ■ Document coherency of intra-USG efforts and alignment among bureaus
9. To what extent were the activities supported by USG well-coordinated with the broader international response, national response structures and well-coordinated operationally between organizations that the USG funded?	<ul style="list-style-type: none"> ■ KIIs, FGDs ■ Stakeholder workshops ■ Review of program literature among IPs 	<ul style="list-style-type: none"> ■ Experts, analysts, and decision-makers at OFDA, DFID, EC, ECHO, Government of France, MSF, WHO, UNICEF, UNFPA, IOM, OCHA 	<ul style="list-style-type: none"> ■ London, Brussels, Paris, Geneva, New York ■ Purposive sample within target countries UK, Geneva and US 	<ul style="list-style-type: none"> ■ Review of umbrella grants from OFDA ■ Triangulation among WHO, DFID, World Bank decision-makers
10. How well did OFDA adjust to the changing epidemiology and priorities of the international response?	<ul style="list-style-type: none"> ■ KIIs ■ Surveillance data, EOC records ■ Stakeholder workshops 	<ul style="list-style-type: none"> ■ OFDA, Global Health Bureau ■ CDC managers and EIS officers; DOD, AFRICOM, WHO, UNICEF, DFID, World Bank, and local governments 	<ul style="list-style-type: none"> ■ Purposive sample within target countries UK, Geneva and US 	<ul style="list-style-type: none"> ■ Qualitative analysis using Atlas.Ti and weight of evidence. Consideration of OFDA's past involvement in cholera, influenza, SARS, etc.






Table 2. Limitations

Limitation	Mitigation measures
Limited availability of IP performance measurement data restricted the ability to evaluate achievement of program outcomes or conduct trend analysis.	<ul style="list-style-type: none"> ■ Key informants were used to understand IP implementation and performance measurement strategies and concordance with the theory of change. The household survey provided data directly from program beneficiaries.
The presence of multiple actors and programs, limited the ability to attribute outcomes to individual interventions.	<ul style="list-style-type: none"> ■ Contribution analysis was used to understand whether certain ToCs were effective pathways to results, and enable associations to be drawn or lack of associations to be explained.
Limited availability of data on individuals who worked as CHWs and CTs restricted the ability to draw a representative sample for the quantitative surveys.	<ul style="list-style-type: none"> ■ Using the available data, convenience samples were drawn for the CHW and CT surveys that will still provide valuable insights into the experiences of these individuals, despite the lack of result generalizability.
Many of the key individuals involved in the EVD response had since left the countries.	<ul style="list-style-type: none"> ■ With the assistance of the IPs, every feasible effort was made to locate and contact key respondents for remote interviews.
The time period between the end of the response and data collection was long, which may have resulted in recall bias.	<ul style="list-style-type: none"> ■ Survey questions were designed using anchor dates to facilitate recall, general time periods were discussed rather than specific dates, and respondents were given time to reflect before answering.
Some respondents provide what they deem to be a ‘correct’ answer, known as halo bias, or social desirability bias.	<ul style="list-style-type: none"> ■ The survey teams were made aware of this potential bias, and trained extensively on interviewing skills and avoidance of leading questions, or prompting with close-ended questions.
Using multiple interviewers can lead to a lack of consistency, or subjective influence on interviews.	<ul style="list-style-type: none"> ■ All interviewers participated in tool design, pre-testing and in-depth discussions on interviewing. During data collection, weekly debriefs provided a forum to discuss interview format and findings.
Numerous respondents, including senior USG officials, focused their recollections and comments disproportionately on the response in Liberia.	<ul style="list-style-type: none"> ■ 82 FGDs and 77 KIs were conducted in Sierra Leone and 46 and 72 in Guinea to ensure the experiences of those countries were well represented.
Little data was evident about gender dimensions. Although IBTCI interviewed roughly equal proportions of female and male respondents, how outcomes varied by gender is difficult to discern.	<ul style="list-style-type: none"> ■ IBTCI asked key informants about gender dynamics and all quantitative survey data was disaggregated by gender in order to identify any differences.
IBTCI observed a tendency (known as Optimism Bias) for key stakeholders to feel and say that they did a good, successful or better than average job.	<ul style="list-style-type: none"> ■ IBTCI spoke to key informants in many different roles to obtain a range of views to help triangulate, and used a combination of interview data, literature findings, and survey data.






ANNEX E. IMPLEMENTATION PARTNER AND FUNDING DETAIL

1. Listing of implementing partners, period of performance, dollar value, region, and primary activity category






GUINEA






Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
Action Against Hunger (ACF) AID-OFDA-G-16-00002	Aug 1, 2015 – June 30, 2016	\$1,681,043	Forecariah		✓			
Catholic Relief Services (CRS) AID-OFDA-G-16-00001	July 23, 2015 – June 30, 2016	\$1,846,005	Conakry, Macenta, and Nzerekore				✓	
Center for International Studies and Cooperation (CECI) AID-OFDA-G-15-00250	July 30, 2015 – Jan 29, 2016	\$1,404,928	Boke and Boffa					✓
Child Fund AID-OFDA-G-15-00026	Dec 1, 2014 – Aug 31, 2015	\$1,500,000	Dinguiraye, Dabola, Dalaba, Mamou, Pita, Faranah, Telimele, and Kindia					✓
Danish Refugee Council (DRC) AID-OFDA-G-15-00271	Aug 15, 2015 – March 31, 2016	\$750,000	Kindia, Telimele, Boke, and Fria					✓
Foundation Terre Des Hommes AID-OFDA-G-15-00027	Dec 15, 2014 – Sept 14, 2015	\$875,000	Forecariah, Coyah, Dubreka, and Telimele					✓
French Red Cross (FRC) AID-OFDA-G-15-00035	Dec 1, 2014 – April 15, 2016	\$5,185,445	Forecariah and Macenta		✓	✓	✓	✓
HC3	Apr-15	\$114,850	N/A (Digital Outreach)					✓
Helen Keller International (HKI) AID-OFDA-G-15-00030	Dec 1, 2014 – Nov 30, 2015	\$1,719,455	Kankan, Siguiri, and Kouroussa					✓

Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
IFRC AID-OFDA-IO-14-00072	Oct 1, 2014 – Dec 31, 2015	\$5,999,552	Border areas with Sierra Leone – Forecariah and Boke	✓	✓	✓	✓	✓
IMC AID-OFDA-G-15-00080	Feb 1, 2015 – Jan 31, 2016	\$14,854,760	Coyah, Dubreka, Boffa, Forecariah, Kindia, Fria, Boke, Telimele, Pita, and Dalaba		✓		✓	✓
Internews AID-OFDA-G-15-00008	Oct 17, 2014 – April 15, 2016	\$1,999,846	All prefectures					✓
IOM AID-OFDA-IO-15-00053	May 1, 2015 – Jan 31, 2016	\$1,500,000	Boke, Kindia, and Conakry	✓				
IOM AID-OFDA-A-15-00025	May 28, 2015 – Feb 29, 2016	\$5,475,000	Kindia, Faranah, Kissidougou, Yomou, Lola, Macenta, and Nzerekore	✓	✓		✓	✓
IOM AID-OFDA-IO-15-00010	Jan 19, 2014 – Feb 15, 2016	\$5,792,220	Conakry		✓	✓	✓	
Plan International – Documentation Missing	N/A	N/A	N/A					
Premiere Urgence – Aide Medicale Internationale AID-OFDA-G-15-00260	Sept 1, 2015 – June 30, 2016	\$1,295,000	Kindia region- Coyah, and Dubreka districts				✓	✓
Relief International (RI) AID-OFDA-G-15-00018	Nov 10, 2014 – Sept 30, 2015	\$4,000,000	Kindia, Forecariah, Boffa, Boke, Coyah, Pita, Dalaba, and Labe					✓
Save the Children – Documentation Missing	N/A	N/A	N/A					
UNICEF AID-OFDA-IO-15-00009	Dec 18, 2014 – Aug 31, 2015	\$1,000,000	Boke, Kindia, Faranah, Nzerekore, Labe, Mamou, and Kankan				✓	✓
UNICEF AID-OFDA-IO-15-00034	March 20, 2015 – Sept 30, 2015	\$5,000,400	Western Guinea Prefectures				✓	✓
WHO AID-OFDA-IO-15-00051	April 14, 2015 – March 31, 2016	\$19,626,849	All prefectures				✓	✓
WFP – Documentation Missing	N/A	N/A	N/A					


Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
Women and Health Alliance (WAHA) International AID-OFDA-F-16-00001	Aug 17, 2015 – March 31, 2016	\$712,046	Kindia, Forecariah, and Boke		✓		✓	✓
Total Spent in Guinea		\$ 82,332,399						

SIERRA LEONE






Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
Catholic Relief Services – Documentation Missing	N/A							
Christian Aid AID-OFDA-G-15-00056	Feb 1, 2015 – July 30, 2015	\$945,690	Bombali, Tonkolili, Kambia, Bo		✓			✓
GOAL AID-OFDA-G-15-00060	Feb 1, 2015 – October 31, 2015	\$2,005,780	Bombali District		✓		✓	
IFRC AID-OFDA-IO-15-00007	Dec 5, 2014 – June 30 2015	\$9,500,000	All districts		✓	✓		✓
IMC AID-OFDA-G-15-00006	Oct 1, 2014 – Feb 29, 2016	\$13,376,573	Port Loko, Kambia, Bombali, Kambia, Koinadugu		✓	✓	✓	✓
IOM AID-OFDA-IO-15-00059	May 1, 2015 – Feb 29, 2016	\$2,230,000	Western Area Urban, Port Loko, Kambia, and Bombali	✓	✓			
IOM AID-OFDA-IO-15-00019	Jan 15, 2015 – Dec 15, 2015	\$1,900,000	All districts		✓		✓	
IOM AID-OFDA-IO-15-00017	Jan 15, 2015 – July 14, 2015	\$1,000,000	Bombali and Kono		✓			✓
IOM AID-OFDA-IO-15-00008	Dec 1, 2014 – Dec 31, 2015	\$1,469,410	Western Area Rural, Western Area Rural, Port Loko, and Bombali		✓		✓	
IRC AID-OFDA-G-15-00025	Nov 15, 2014 – July 31, 2015	\$4,400,000	Kambia, Bombali, Port Loko, Tonkolili, Bo, Kono, Moyamba, Kenema, Kailahun, Western Area Urban, Western Area Rural, Pujehun, Bonthé				✓	

Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
IRC AID-OFDA-G-15-00098	Feb 16, 2015 – Feb 15, 2016	\$5,288,573	Kambia, Bombali, Port Loko, Tonkolili, Bo, Kono, Moyamba, Kenema, Kailahun, Western Area Urban, Western Area Rural, Pujehun				✓	
IRC AID-OFDA-G-15-00237	Aug 1, 2015 – Dec 31, 2015	\$2,729,036	Bo, Bombali, Kailahun, Kambia, Kenema, Kono, Moyamba, Pujehun, and Tonkolili		✓			
IRC AID-OFDA-G-15-00281	July 1 2015 – May 15, 2016	\$5,369,850	All districts				✓	
MedAir AID-OFDA-G-15-00039	Dec 1, 2014 – Dec, 31 2015	\$5,349,216	Western Area Rural, and Western Area Urban		✓		✓	✓
Oxfam AID-OFDA-G-15-00054	Jan 1, 2015 – Dec 31, 2015	\$690,656	Koinadugu		✓			✓
PIH AID-OFDA-G-15-00050	Jan 1, 2015 – Nov 30, 2015	\$5,461,489	Kono and Kambia		✓		✓	✓
UNICEF AID-OFDA-IO-15-00003	Oct 1, 2014 – April 30, 2015	\$4,496,000	All districts		✓			✓
UNICEF AID-OFDA-IO-15-00014	Jan 22, 2015 – July 31, 2015	\$10,000,000	All districts		✓			
UNICEF AID-OFDA-IO-15-00002	Oct 29, 2014 – April 30, 2015	\$1,584,214	All districts		✓		✓	
WFP AID-OFDA-IO-15-00022	Jan 29, 2015 - Dec 31, 2015	\$19,144,028	Western Area Urban, Bo, Port Loko, Bombali, Moyamba, Kenema, Kailahun	✓				
WHO AID-OFDA-IO-15-00011	Dec 19, 2014 – June 30, 2015	\$4,000,000	All districts		✓			
WHO AID-OFDA-IO-15-00066	June 24, 2015 – Jan 31, 2016	\$8,000,000	All districts		✓			
World Vision AID-OFDA-A-15-00015	Dec 15, 2014 – Sept 30, 2015	\$2,472,525	Bo, Bombali, Bonthe, Kailahun, Kambia, Kenema, Kono, Koinadugu Moyamba, Port Loko, Pujehun and Tonkolili	✓				
Total Spent in Sierra Leone		\$ 111,431,040						






LIBERIA

Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
Action Contra le Faim – Documentation Missing	N/A	N/A	N/A					
American Refugee Committee (ARC) AID-OFDA-G-15-00017	Nov 1, 2014– Dec 31, 2015	\$6,666,646	River Gee		✓			✓
BRAC AID-OFDA-G-15-00022	Dec 11, 2014– Sept 10, 2015	\$1,177,902	Montserrado, Lofa, Nimba, Margibi, Bong, Grand Bassa and Grand Cape Mount					✓
CARE AID-OFDA-G-15-00016	Dec 3, 2014– June 2, 2015	\$1,652,992	Grand Gedeh, Grand Kru, Maryland, River Ghee, and Sinoe		✓			✓
Catholic Relief Services AID-OFDA-G-15-00019	Oct 20, 2014– Oct 20, 2015	\$960,447	Montserrado		✓			
Concern Worldwide AID-OFDA-G-15-00015	Nov 1, 2014– Dec 31, 2015	\$5,422,492	Grand Bassa, and Montserrado		✓		✓	
Child Fund – Documentation Missing	N/A	N/A	N/A					
Global Communities AID-OFDA-G-14-00177	Aug 13, 2014– April 30, 2016	\$34,039,820	All 15 counties/ Liberia			✓	✓	✓
GOAL AID-OFDA-A-15-00012	Nov 1, 2014– Dec 31, 2015	\$7,281,500	Lofa		✓		✓	✓
Heart to Heart AID-OFDA-A-15-00004	Sept 21, 2014– May 31, 2015	\$7,001,161	Nimba		✓			✓
IFRC – Documentation Missing	N/A	N/A	N/A					
IMC AID-OFDA-G-14-00202	Aug 29, 2014– Dec 31, 2015	\$21,563,849	Bong, Margibi, and Nimba		✓			✓
IMC AID-OFDA-G-15-00007	Oct 8, 2014– Dec 31, 2015	\$8,962,622	Bong, Margibi, Grand Bassa, River Cess, Sinoe, Grand Geddah, Bomi, Nimba, Grand Cape Mount, and Montserrado/ Liberia				✓	✓
IOM AID-OFDA-IO-15-00001	Sept 15, 2014– Sept 30, 2015	\$32,877,989	Grand Bassa, Grand Cape Mount, Bomi/ Liberia	✓	✓		✓	✓
IRC AID-OFDA-A-15-00002	Oct 1, 2014– March 31, 2016	\$12,097,587	Monrovia		✓		✓	✓

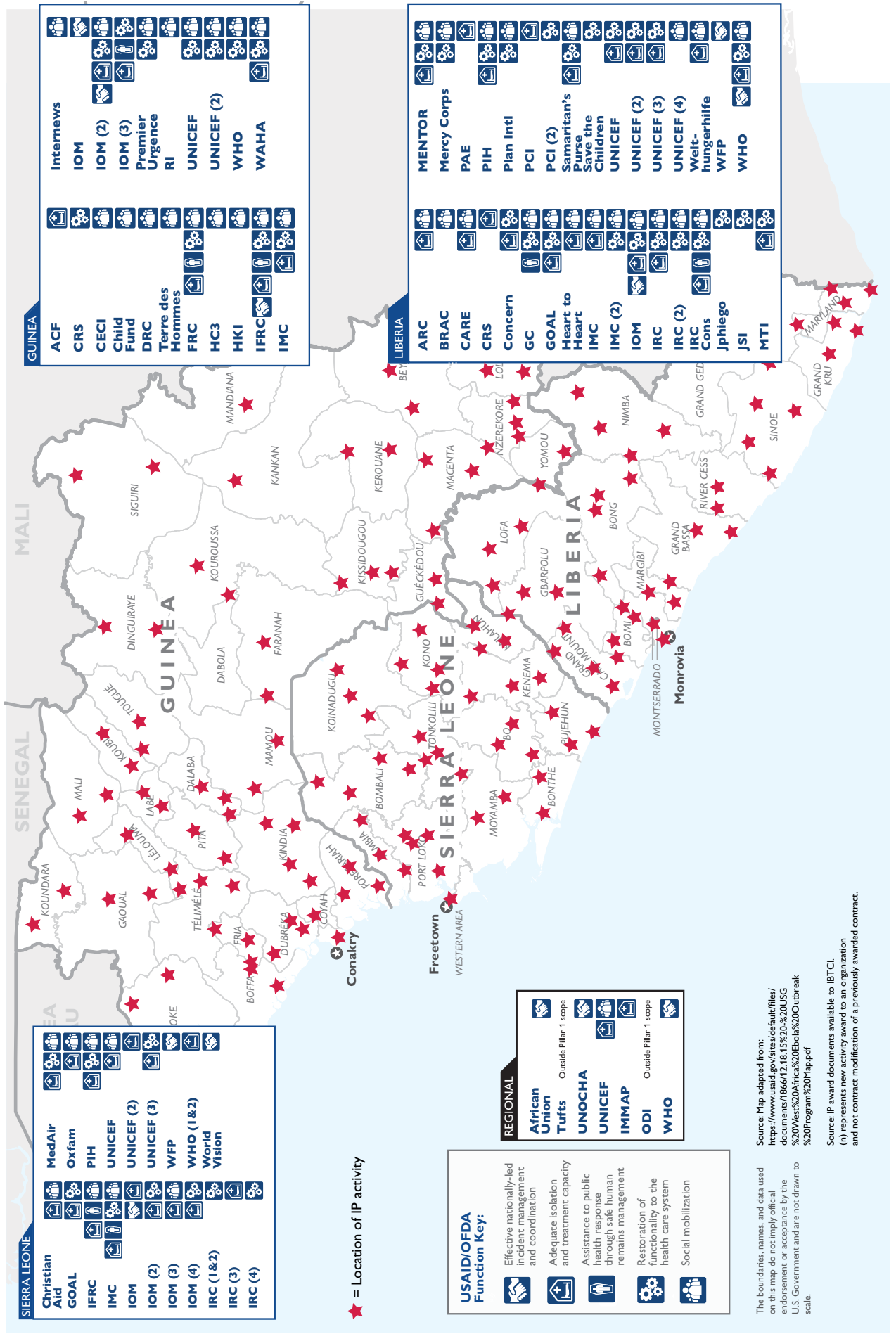
Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
IRC AID-OFDA-G-15-00109	April 1, 2015– Oct 31, 2015	\$978,397	Monteserrado, Lofa, and Nimba				✓	✓
Jphiego AID-OFDA-G-15-00028	Dec 9, 2014– Dec 8, 2015	\$2,814,287	Bong, Grand Bassa, Grand Gedeh, Lofa, Margibi, Maryland, Montserrado, and Nimba/ Liberia				✓	
John Snow International (JSI) AID-OFDA-G-15-00010	Dec 4, 2014– Dec 30, 2015	\$7,233,653	All 15 counties				✓	
Medical Teams International (MTI) AID-OFDA-G-15-00037	Dec 15, 2014– Dec 31, 2015	\$4,702,901	Bomi, Grand Cape Mount, and Sinoe		✓		✓	
MENTOR Initiative AID-OFDA-G-15-00003	Nov 19, 2014– Mar 31, 2016	\$3,926,216	Monrovia		✓		✓	✓
Mercy Corps AID-OFDA-G-15-00005	Sept 13, 2014– April 12, 2015	\$12,000,000	All 15 counties				✓	✓
PAE	Oct 1, 2014– Aug 2015	\$89,000,000	Lofa, Nimba, Grand Cru, Maryland, Sinoe, Rver Cess, Grand Gedeh, and Gbarpolu		✓			
Partners in Health (PIH) AID-OFDA-G-15-00014	Oct 15, 2014– Dec 31, 2015	\$10,213,088	Grand Gedeh, Maryland, Rivercess, and Grand Cru		✓		✓	✓
Plan International USA AID-OFDA-G-00011	Nov 7, 2014– Aug 6, 2015	\$1,508,821	Montserrado, Bomi, Lofa, Grand Cape Mount, and Gbarpolu				✓	✓
Project Concern International (PCI) AID-OFDA-G-00021	Dec 16, 2014– Dec 31, 2015	\$5,675,372	Nimba		✓			
Project Concern International (PCI)	Oct 29, 2014– April 30, 2015	\$4,128,390	Bong and Nimba				✓	
Samaritan's Purse AID-OFDA-G-15-00005	Sept 16, 2014– June 30, 2015	\$7,782,027	Lofa and River Gee		✓		✓	✓
Save the Children AID-OFDA-G-15-00274	July 8, 2015– Dec 16, 2015	\$2,357,933	Margibi county				✓	

Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
UNICEF AID-OFDA-IO-14-0005	Aug 20, 2014 – June 15, 2015	\$6,993,104	Grand Bassa, Lofa, Nimba, Bong, Margibi, Bomi and Montserrado to start, eventually the entire country, Greater Monrovia		✓		✓	
UNICEF AID-OFDA-IO-15-00006	Dec 9, 2014 – June 30, 2015	\$30,802,089	Nimba and Bong		✓		✓	
UNICEF AID-OFDA-IO-14-00070	Sep 15, 2014 – Dec 31, 2014	\$2,224,044	Monrovia, Lofa, Rural Montserado, Margibi, Nimba, Bong, Grand Bassa		✓		✓	
UNICEF AID-OFDA-IO-15-00023	Feb 20, 2015 – Nov 30, 2015	\$3,492,720	All counties					✓
<i>Welthungerhilfe</i> AID-OFDA-A-15-00001	Oct 6, 2014 –April 5, 2015 NCE to April 5, 2015	\$1,302,322	Grand Gedeh, River Gee, Sinoe, Maryland		✓			✓
WFP AID-OFDA-IO-15-00005	Oct 15, 2014 – June 30, 2016	\$39,324,526	Montserrado, Monrovia, All 15 counties (see proposal for list of 65 CCCs)	✓				
WHO AID-OFDA-IO-15-00035	March 25, 2015– June 30, 2016	\$32,212,528	All regions of Liberia	✓	✓		✓	✓
Total Spent in Liberia		\$ 419,610,895						

REGIONAL AWARDS

Implementing partner	Period of performance	Dollar value	Region	Program Area				
				 Management & coordination	 Isolation & treatment	 Safe burial	 Restoration of health systems	 Social mobilization
African Union	Sept 28, 2014 – March 31, 2015	\$10,000,000	All Three Countries	✓				
Tufts University	June 1, 2015 – June 1, 2016	\$558,504	Global	(research)				
UNOCHA	Unknown	\$400,000	West Africa	✓				
UNOCHA	Aug 19, 2015 – July 31, 2016	\$2,400,000	West and Central Africa	✓				
UNICEF	Aug 19, 2015 – June 31, 2016	\$1,000,000	Global	✓				✓
Information Management & Mine Action Programs (iMMAP)	Jan 10, 2014 – April 7, 2014	\$385,990	All three countries		✓			
Overseas Development Institute (ODI)	July 2, 2013 – June 28, 2016	\$629,359	All three countries	(research)				
UNHAS WFP – Documentation Missing	N/A	N/A	N/A		✓			
USAID/OFDA Airlifted Relief Commodities – Documentation Missing	N/A	N/A	N/A					
WHO	Aug 1, 2015 – Jan 31, 2016	\$477,721	All Countries	✓				
Total Spent in Regional Awards		\$ 15,851,574						

2. Map of implementing partner activity



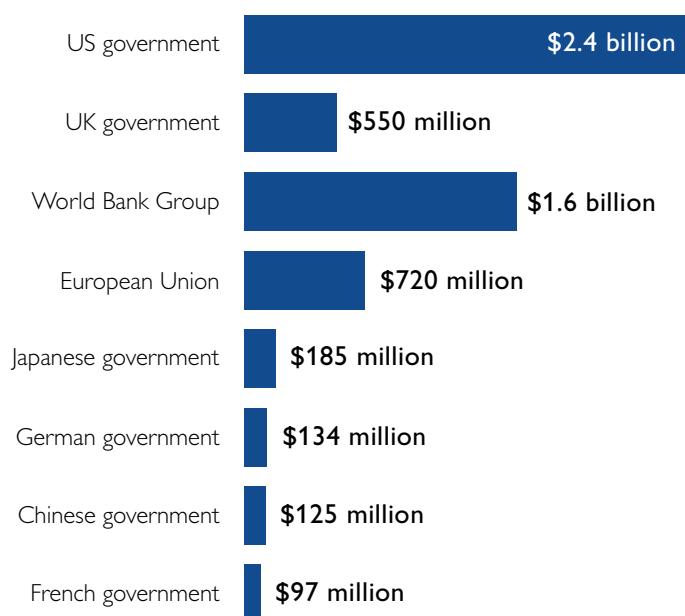
Source: Map adapted from: <https://www.usaid.gov/sites/default/files/documents/1866/12.18.15%20-%20USG%20West%20Africa%20Ebola%20Outbreak%20Program%20Map.pdf>

The boundaries, names, and data used on this map do not imply official endorsement or acceptance by the U.S. Government and are not drawn to scale.

Source: IP award documents available to IBTCI. (n) represents new activity award to an organization and not contract modification of a previously awarded contract.

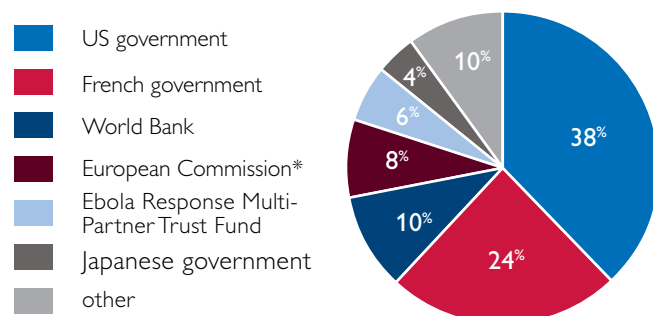
3. Funding distribution by response country and donor

Figure E1. Funding for the EVD outbreak response, 2014–2016



Sources Figure 3:
 Source of US government funding total: USAID/OFDA Fact Sheet #12 FY2016 September 30, 2016
 Source of UK government funding total: <https://www.gov.uk/government/news/the-end-of-the-ebola-outbreak> converted from GBP to USD at a rate of 1.29 dollars for 1 pound
 Source of World Bank Group funding total: World Bank Group Ebola Response Fact Sheet, <http://www.worldbank.org/en/topic/health/brief/world-bank-group-ebola-fact-sheet>
 Source of data for all other donors: "Resources for Results V" Office of the UN Special Envoy on Ebola, 1 September 2014 to 31 October 2015

Figure E2. Percentage funding distribution by donor in Guinea



*European Commission's Humanitarian Aid and Civil Protection Department

Figure E3. Percentage funding distribution by donor in Sierra Leone

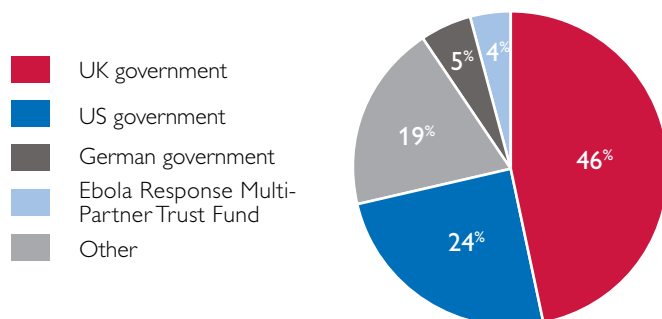
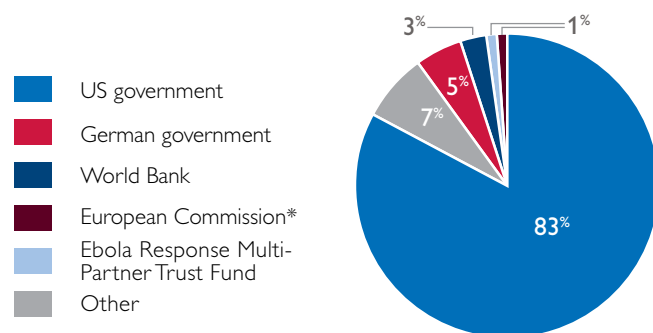


Figure E4. Percentage funding distribution by donor in Liberia



*European Commission's Humanitarian Aid and Civil Protection Department

4. Funding and program area detail

Figure E5. Response by program area and country, all

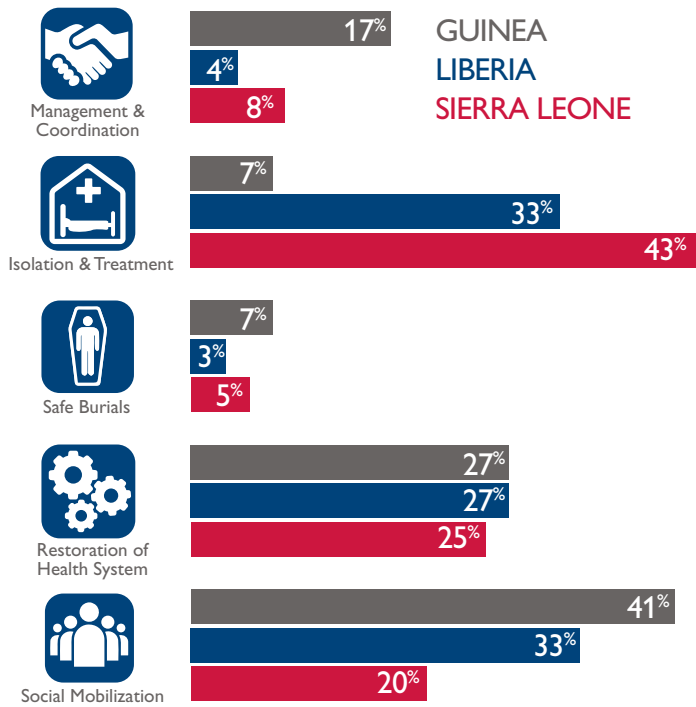
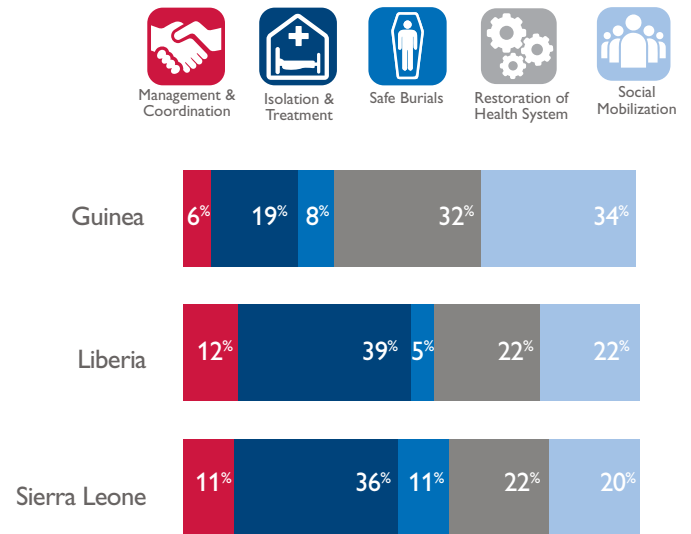


Figure E6. Funding by program area and country, all



5. OFDA-supported program areas and funding detail, Guinea

Figure E7. Guinea, distribution of program areas by activity

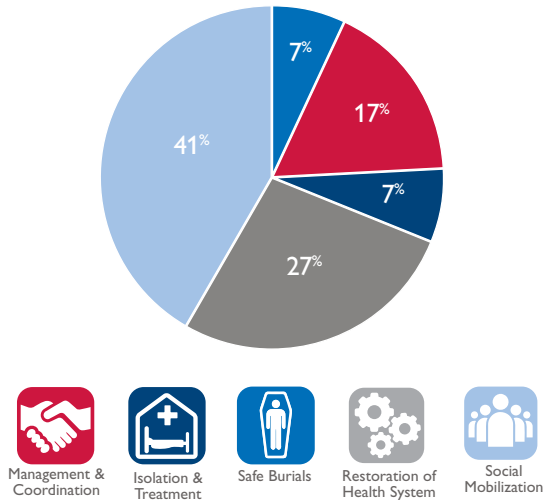


Figure E8. Guinea, distribution of program areas by funding

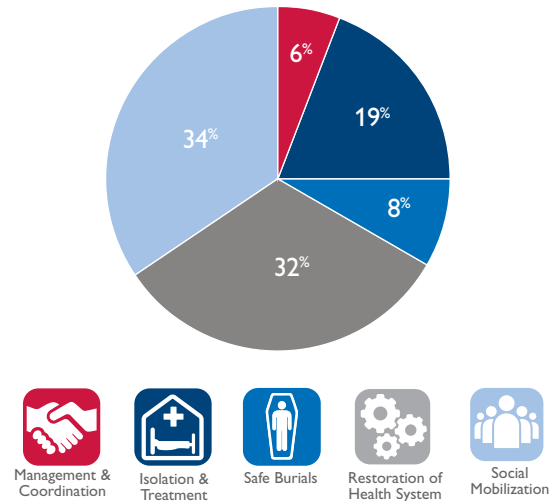


Figure E9. Guinea, number of interventions by region

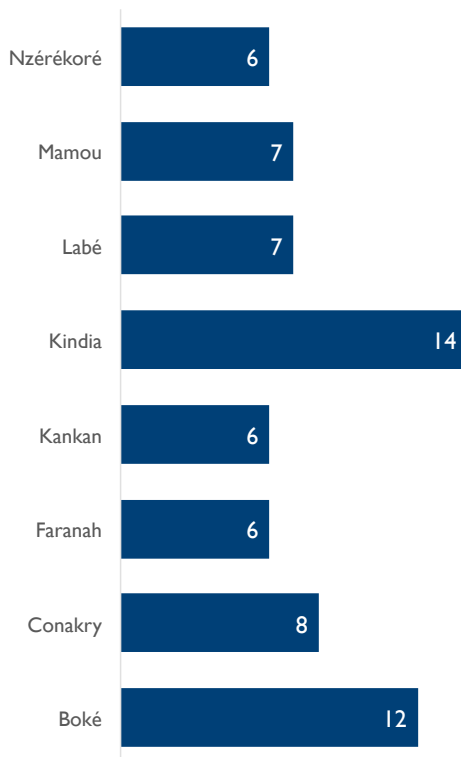
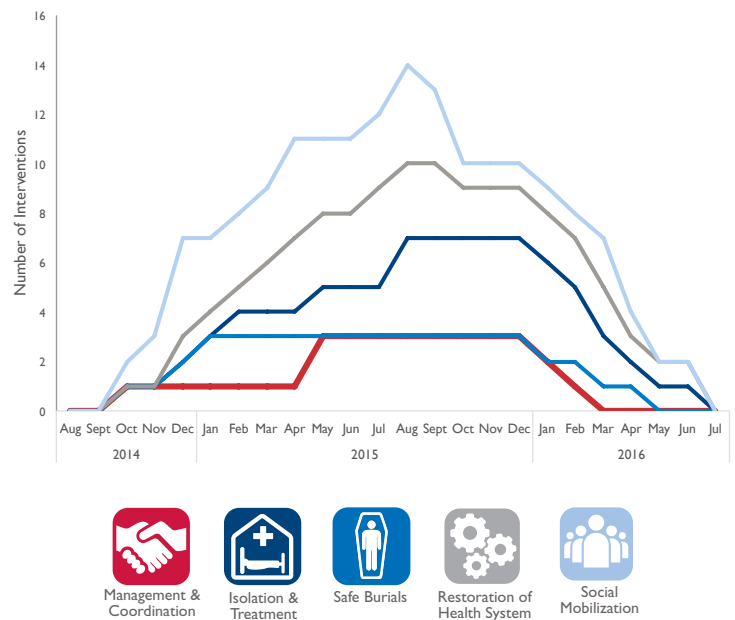


Figure E10. Guinea, number of interventions by activity and year/month



6. OFDA-supported program areas and funding detail, Sierra Leone

Figure E11. Sierra Leone, distribution of program areas by activity

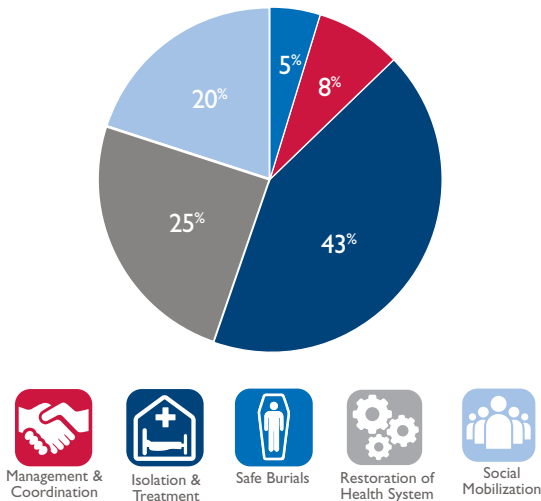


Figure E12. Sierra Leone, distribution of program areas by funding

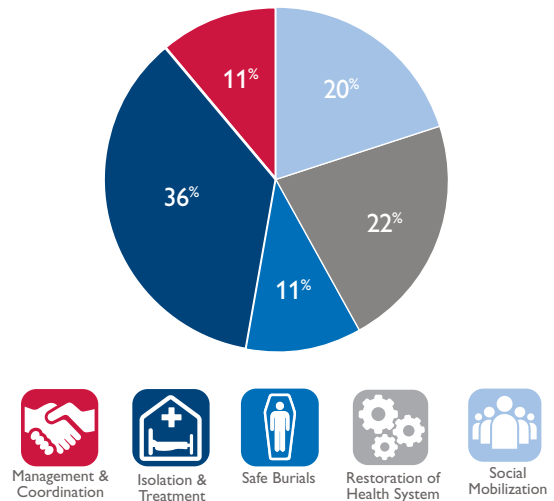


Figure E13. Sierra Leone, number of interventions by region

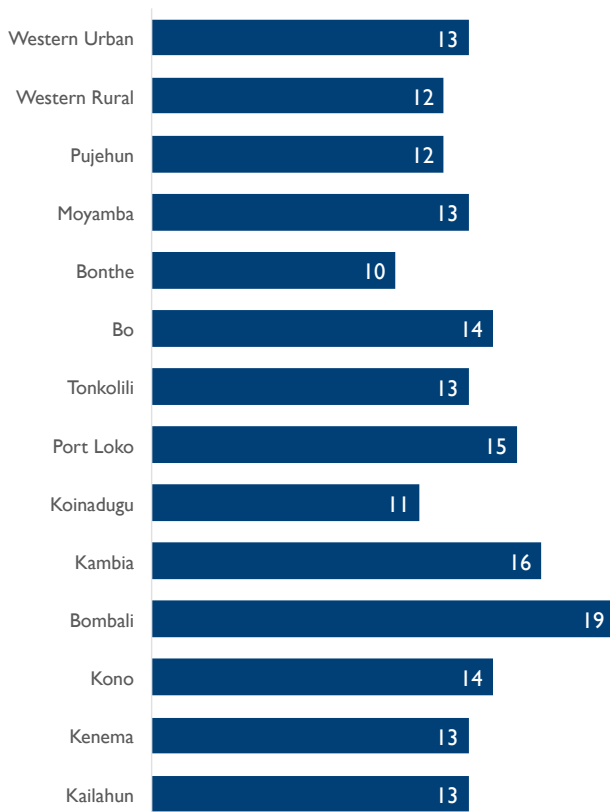
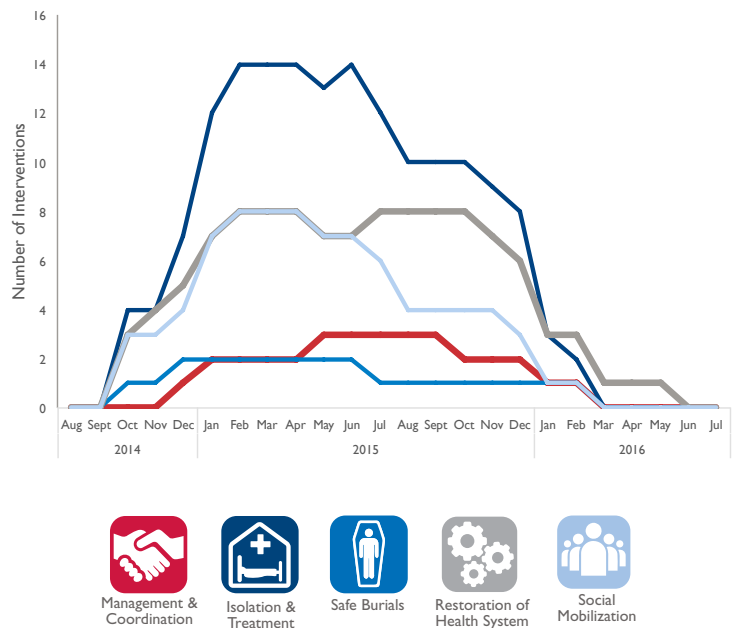


Figure E14. Sierra Leone, number of interventions by activity and year/month



7. OFDA-supported program areas and funding detail, Liberia

Figure E15. Liberia, distribution of program areas by activity

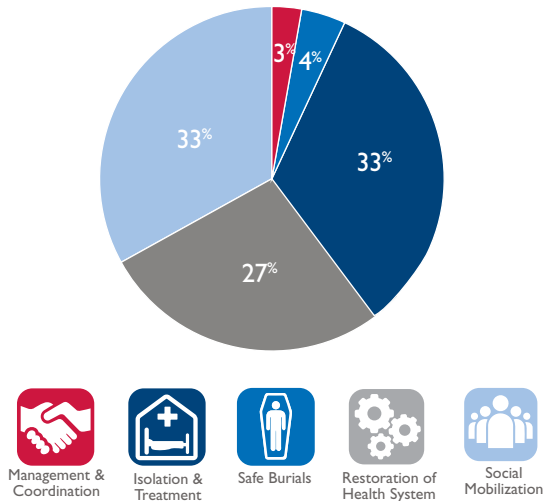


Figure E16. Liberia, distribution of program areas by funding

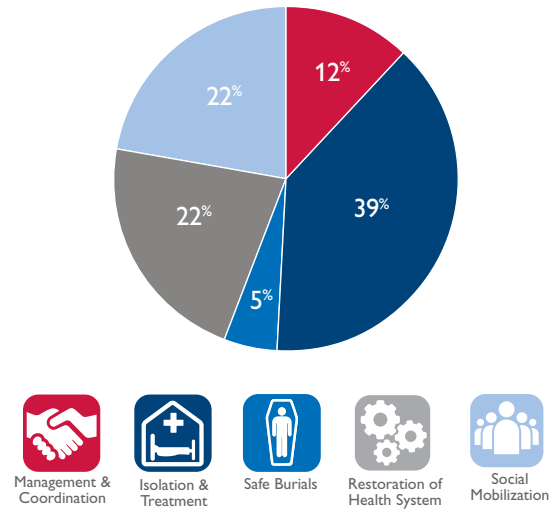


Figure E17. Liberia, number of interventions by region

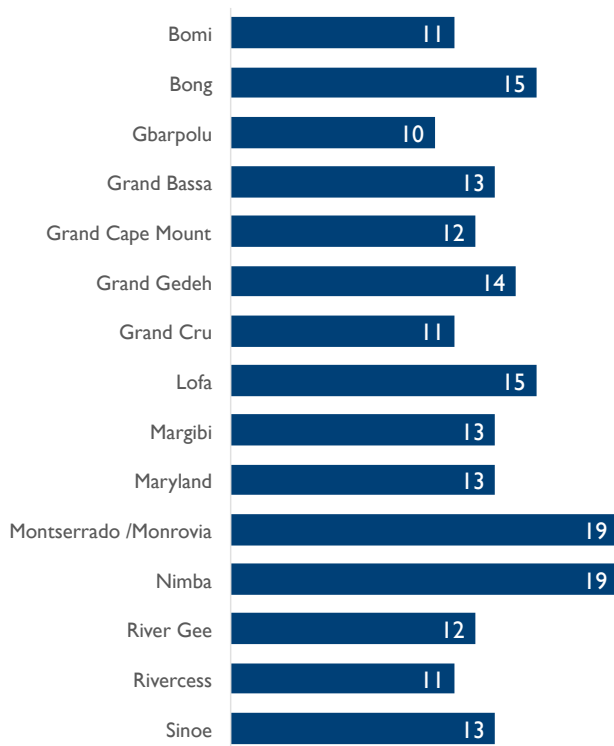
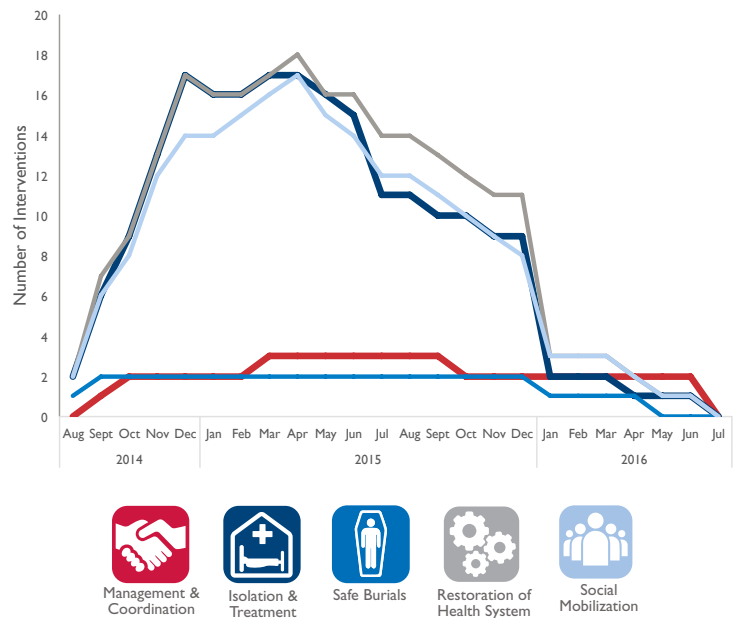


Figure E18. Liberia, number of interventions by activity and year/month



1. Introduction

This document provides the data collection tools and instruments, as annexes to the Evaluation Plan, wherein International Business & Technical Consultants, Inc. (IBTCI). It describes tools for use globally and specifically in West Africa and additionally a set for use by different implementing partners (IPs), their subs, local stakeholders, West African households, Community Health Workers (CHWs), safe burial diggers, the US. Department of Defense (DOD), the U.S. Centers for Disease Control and Prevention (CDC), the United States Agency for International Development (USAID), and others. It also describes plans to train enumerators and gender-sensitive approaches to interviewing women.

This submission expands on the Evaluation Plan by giving more detail about actual research modalities. It addresses questions that came up at the time of the presentation of the Evaluation Plan and Tools, namely, translations of tools, weather and logistics, and self-assessment. This document also updates OFDA about sampling methods, in particular the two-stage cluster sampling for the large-scale structured survey at households.

Key Design Aspect of Tools

Throughout most surveys, a critical aspect of the design is the sequence of questions and the ideas behind them. In particular, in both quantitative and qualitative tools, the order of questions carefully determines when issues are introduced.

In any survey, questions or terms that are introduced early in a sequence may influence answers given afterward. For instance, in this large structured household (HH) survey, respondents will

not hear or use the term “Ebola” at all during the first part of the survey, to allow them to bring it up themselves as a health event in their family before being prompted by any questions. Among aid workers, questions that may lead them to worry about a “right” organizational answer, or which may put them “on the spot,” are pushed toward the end. Sometimes, two or more questions are included that are intended to get at the same idea, but in different ways (with separate biases associated), and thus are separated so that one does not force cognitive dissonance on the answer for another.

Similarly, the overall length of the surveys will intentionally be kept to a reasonable time period in any given usage, so that the respondent does not become overly fatigued and give answers that may introduce error from a lack of thoughtful attention. For most of our structured surveys and KIIs, the target length is 40 minutes. The target duration for most of the FGDs is between one hour and 90 minutes.

All of the tools/instruments will be pre-tested (PT, or “pilot tested”) and may be revised based on feedback. In some instances, this will mean the adjustment of specific words to avoid ambiguity or anxiety. In other cases, this may require changing the order of questions, combining questions, removing questions, or introducing new questions that capture points that respondents feel they need to state for clarity or relevance. Pilot testing of instruments in the field will occur at roughly the same time that enumerators are trained. OFDA will be informed and given opportunity to review in real-time during the period PT period. IBTCI will communicate details of changes and the evidentiary basis from the PT to the COR.

2. Visual Observation and Inspection

Where feasible and appropriate, the evaluation teams, will take advantage of opportunities to directly observe records, facilities, and systems in West Africa. The teams will employ a combination of record inspection (e.g., M&E data from project awardees, district health offices, archived data from regional ETUs, hospitals as available and appropriate), and more general

visual observation (see below).

Subcontractors will also take dozens of photographs related to programs, infrastructure, laboratories, and systems wherever they travel, covering 100 or more locations. Photographs will not be used in a manner to identify survey or FGD respondents. They are meant to establish context only. Key personnel and

local survey coordinators will also visit health facilities to inspect surveillance records, lab and surveillance systems, quality and stocks of PPEs, communications equipment, and any remaining existing isolation infrastructure. Direct observation and photography allow the Team to evaluate whether “lessons learned” can be observed, and therefore provide evidence of effectiveness, institutionalization, and sustainability of institutional and human capacities supported by USG-funded

financial and technical assistance. Such remaining sustainable activities as supply chain management systems, training programs, financial systems, communication systems, M&E reporting structures, and other proofs of sustainability can be observed.

Visual Observation and Inspection	Sites	Sample	Content
Treatment and isolation facilities, if functional	Ebola treatment units (ETUs), hospitals, community care centers (CCCs), isolation centers	5 locations x 3 countries=15	Visual understanding of the dimensions, location, scale, and access issues.
Local health coordination	District health offices	4 locations x 3 countries=12	Same as above
Laboratory facilities	Health offices, hospitals, (ETUs)	4 locations x 3 countries=12	Confirmation of equipment transfer and types, including from different donors
Command and control	National command centers	3+ locations	Understanding the context of meetings
Surveillance system	DHOs, MOHs, hospitals	6 locations x 3 countries=18	Physical nature of the system
Surveillance records		Where made available by DHOs, MOHs, CCCs, NGOs, local surveillance officers, etc.	Identify potential sources of relevant data
IP activity records	IP field offices	20–30	Same as above

3. Evaluation Explanations to Respondents’ Personal Information and Confidentiality

Team members (including enumerators of sub-contractors) will give a standardized introduction explaining the purpose of the interviews, and request the respondent’s permission to proceed. The Team will explain the confidentiality of the process, that they are free to not respond if any question potentially upsets them, and will ask respondents to sign informed consent forms.

The Team has no policy respecting the use of audio recordings; individual team members may use them at their discretion. If used, however, each recording must be given a number rather than a name in order to preserve respondent privacy. In each case, results of KIIs, FGDs, record review, and visual observations will be summarized into written form in terms of key evidence into a database which can asynchronously be added to by each team member on an ongoing basis. The Team will share this information with each other within days of collection to mitigate any shared collection issues and support Team preparedness for subsequent data analysis and interpretation. It also adds to the basis of verifiable observation of sustainable “lessons learned,” as discussed in Annex I.

Background questions, such as location, interviewer, etc.,

appear at the start (or “front end”) of all surveys, as follows. KIIs of global staff, donors, expatriate IP staff, experts, national authorities in West Africa, UN/NGO staff in West Africa, journalists, and other involved persons. All surveys among experts, IP personnel, officers, or former staff at USAID, DOD, or CDC will include the same meta-data which includes name, position when he or she was active in the EVD outbreak, location of his or her work or deployment, type of program he or she worked in, and duration of involvement. More specifically, the information will include:

1. 1. Date of interview
2. 2. Full name
3. 3. Mode of interview (e.g., in person, Skype, phone, correspondence)
4. 4. Organizational affiliation today
5. 5. Role and title today
6. 6. Organizational affiliation(s) during outbreak response
7. 7. Role and title during the outbreak response

8. 8. Location(s) (countries and counties) during response
9. 9. Gender
10. 10. Expertise with EVD prior to 2014
11. 11. Expertise with communicable disease outbreaks prior to 2016
12. 12. Publications (if any) about the 2014–2016 EVD outbreak

KIIs among local HHs or other local stakeholders. These interviews will NOT ask for nor record surnames nor, if local citizens, their organizational affiliations, publications, title, nor record the specific household address. Each interview with a HH or random citizen in West Africa will still include common, background metadata, including the enumerator’s name, the geographic location (i.e. village or urban area), the date of the interview, observations about the physical environment, and, if

HH, type of dwelling, more specifically:

1. 1. Date of interview
2. 2. Enumerator observations of physical environment
3. 3. Enumerator observations and categorization of dwelling
4. 4. Location (GPS tag)
5. 5. First name
6. 6. KII category (e.g., citizen, CSO leader, Imam, pastor, burial digger, ambulance driver, DHO)
7. 7. Gender
8. 8. Location of interview
9. 9. Mode of interview
10. 10. Approximate age of respondent (16-21 years; 21-30 years; 30-50 years; >50 years)

4. Self-Assessment Forms

The Evaluation Team was not certain what was meant by the contract language about a “Self-Assessment” form. Following discussions with USAID at the Evaluation Plan presentation, the following approach was prepared.

Strategic use of Self-assessment Forms

The Team is aware of the names of a great many people who worked in the response, among IPs, among CDC EIS officers, and even among USAID officers. Although the Team expects to conduct up to two hundred KIIs overall, there will be many more individuals with whom it will not be able to talk due to capacity and/or because these individuals are unavailable. Recognizing that the Team cannot personally interview every individual who has a relevant background, we will make use of several self-assessment survey forms to reach them. These forms

may be delivered through a combination of SurveyMonkey (online survey), email, or other expeditious outreach that allows the respondent to reply at their own convenience.

Most of the questions asked will be framed in terms of Likert (1-5) scales.

The data generated by the self-assessment will be cross-cutting and contribute to indicators for more than one evaluation question. Evaluation indicators impacted by the self-assessment include but are not limited to Evaluation Questions 1, 3, 5, 6, 7, 8, and 9.

IP self-assessments will not be conducted. We plan to conduct in-depth key informant interviews with a sample of OFDA supported IPs.

SURVEY QUESTIONNAIRE

Questionnaire number
 Date completed DD MM YY

N°	Question	Coding Categories	Linked with EQ
1	Please specify your name, and name of your organization	NAME ORGANIZATION	
2	In which unit or department were you deployed during Ebola response during the outbreak period, 2014-2015? (e.g., DART, RMT, Field Mission, GH Bureau, Africa Bureau, HHS) <i>(check all that apply)</i>	1=DART MEMBER 2=RMT MEMBER 3=OTHER (SPECIFY) 4=OTHER (SPECIFY) 5=OTHER (SPECIFY)	
3	a) How many rotations did you complete? b) Please provide the total time-period for each rotation you worked during Ebola response outbreak period, 2014-2015.	TOTAL NUMBER OF ROTATIONS: _____ DK=DON'T REMEMBER ROTATION 1: TOTAL DURATION OF THE LONGEST ROTATION: _____Months DK=DON'T REMEMBER ROTATION 2: TOTAL DURATION OF THE LONGEST ROTATION: _____Months DK=DON'T REMEMBER ROTATION 3: TOTAL DURATION OF THE LONGEST ROTATION: _____Months MONTH(S) DK=DON'T REMEMBER	n/a
4	In which West African countries did you serve, including remote work? <i>(check all that apply)</i>	1=SIERRA LEONE 2=LIBERIA 3=GUINEA 4=OTHER (SPECIFY) 5=OTHER (SPECIFY) 6=OTHER (SPECIFY)	n/a

N°	Question	Coding Categories	Linked with EQ
5	What was/were your main role(s) or task(s)? Please specify.	MAIN ROLE (S)/TASK(S): 1. 2. 3.	1-10
6	Did you participate in any interagency coordination meetings?	1. YES 2. NO <SKIPTO 9> 3. DECLINE TO ANSWER <SKIP TO 9> 4. DON'T KNOW <SKIPTO 9>	8-9
7	From your experience, what were the most valuable mechanisms – formal or informal – that you used and observed for how OFDA coordinated among USG agencies, offices, or bureaus, including at the Mission level? (check all that apply)	1. COORDINATING MEETINGS 2. COMMUNICATION PROTOCOLS 3. VIRTUAL MEETINGS 4. EMAIL CORRESPONDENCE 5. TASK ORDERS 6. OTHER (SPECIFY) _____ 7. DON'T KNOW	n/a
8	How often did you call in to or meet in any of the National Emergency Command Centres (with different names) for interagency coordination?	a) Liberia 1. WEEKLY 2. SEMI-MONTHLY 3. MONTHLY 4. OTHER (SPECIFY) _____ 5. NEVER b) S Leone 1. WEEKLY 2. SEMI-MONTHLY 3. MONTHLY 4. OTHER (SPECIFY) _____ 5. NEVER c) Guinea 1. WEEKLY 2. SEMI-MONTHLY 3. MONTHLY 4. OTHER (SPECIFY) _____ 5. NEVER	1-10
9	To what extent did you make decisions about which implementing partner (IP) activities were funded?	1= AT ALL TIMES 2=SOMETIMES 3=NOT AT ALL 4=OTHER (SPECIFY) _____	1-10
10	How often did you receive activity reports from IPs?	1= MONTHLY 2=QUARTERLY 3=ANNUALLY 4=NOT AT ALL 5=OTHER (SPECIFY) _____	1-10
11	To what extent did you verify performance of IP activities	1= AT ALL TIMES 2=SOMETIMES 3=NOT AT ALL 4=OTHER (SPECIFY) _____	

In the next set of questions, rate your perception of the relative effectiveness of different interventions in containing or reducing the rate of transmission in the affected countries.

Provide answers to the following to the extent that you had experiences or observations. Otherwise, select n/a for any that do not apply to your experience or observations.

On a scale of 1 – 5, with 1 being least, 5 being most, and n/a being does not apply, select the number from the scale.

N°	Intervention	Least						Most	Linked with EQ
12	Isolation of suspected cases?	1	2	3	4	5	N/A	1, 2, 3, 8	
13	Construction of Ebola Treatment Centers (ETUs)?	1	2	3	4	5	N/A	3-5	
14	Training of medical personnel: doctors and nurses, working in health facilities	1	2	3	4	5	N/A	1-6	
15	Provision of Personal Protective Equipment, including suits/masks?	1	2	3	4	5	N/A	1-5	
16	Training of burial workers?	1	2	3	4	5	N/A	2-6	
17	Funding of surveillance systems?	1	2	3	4	5	N/A	4	
18	Decontamination and cleaning of health facilities?	1	2	3	4	5	N/A	4, 5	
21	Water, Sanitation and Hygiene education at community levels?	1	2	3	4	5	N/A	3	
22	Food and nutritional support to families facing quarantine, isolation of family members or market disruptions.	1	2	3	4	5	N/A	1, 2, 4, 5	
23	Support to national emergency command centers?	1	2	3	4	5	N/A	1, 2, 4, 5	
24	Creation of Community Care Centers (CCCs)?	1	2	3	4	5	N/A	10, 2, 4	
25	Community social mobilization through mass media, community health workers and the like?	1	2	3	4	5	N/A	10, 2, 4	
26	Contact tracing?	1	2	3	4	5	N/A	1, 2, 3, 4	
27	Creating lab referral network?	1	2	3	4	5	N/A	1, 2, 3, 4	

Please answer the following questions based on your own experience or observations, to be the best of your ability. Otherwise, select n/a for any that do not apply to your experience or observations.

On a scale of 1 – 5 ,with 1 being least, 5 being most, and n/a being does not apply, select the number from the scale.

N°	Intervention	Least						Most	Linked with EQ
28	How would you rate OFDA's ability to prioritize the most relevant activities in response to changes in epidemiologic data?	1	2	3	4	5	N/A	2, 8-9	
29	How would you rate OFDA's ability to measure the performance of funded activities over the course of the response to the Ebola Virus Disease (EVD) outbreak?	1	2	3	4	5	N/A	2, 8-9	
30	How would you rate OFDA's ability to adjust relevant activities in response to the activity monitoring reports received from IPs?	1	2	3	4	5	N/A	2, 8-9	
31	During your period of involvement, how clear would you say was the USG strategy for reducing transmission of EVD?	1	2	3	4	5	N/A	2, 8-9	
32	How would you rate the work of UNMEER facilitating coherence in the multi-agency response to EVD?	1	2	3	4	5	N/A	2, 8-9	
33	How effective were the national command centres run by national officials in providing information to OFDA and other key actors?	1	2	3	4	5	N/A	10	
34	How effective was OFDA's coordination across other USG agencies?	1	2	3	4	5	N/A	7	

The next three questions are open-ended for you to expand on any observations you have			
35	What were the most important roles that the US Embassies and USAID Missions in West Africa played in the EVD response?		2, 8, 9
36	Please share any other thoughts, including how to improve future responses to public health emergencies due to infectious disease outbreaks.		1-10
37	What other written reports, documents, or dataset (other than the OFDA documents or data) would you suggest for review by the Ebola Response Evaluation team?		n/a

The final question requests your availability to meet for an interview and/or focus group discussion on the following days in the month of May at OFDA's offices in the National Press Club Building at 529 14th St. NW, Washington, DC.

38	On which of the following days would you be available to participate in an interview and/or focus group discussion?	MAY 4, AFTERNOON _____ MAY 11, AFTERNOON _____ MAY 18, AFTERNOON _____ MAY 25, AFTERNOON _____ OTHER (SPECIFY) _____	
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5. Structured Surveys

Structured Surveys	Unit of Analysis	Sampling Method	Sample Size	Key Questions
A. Household and siblings	HHs and siblings	Two-stage cluster sample, per country	Total sample size for 3 countries = 15,000 (Liberia: 6,000, SL: 5,500, Guinea: 3,500)	Health outcomes at the population level, relative risks and other associations
B. CHWs and community mobilizers (as identified by district health office)	Community mobilizers, CHWs	Random and opportunistic, from each IP's list, with only rough balance between countries	70–120 × 3 = 300	What health messages did each individual actually convey? What misconceptions or resistance did they observe?
C. Local contact tracers (as identified by CDC and OFDA awardee Project Managers and/or awardee documents)	Locals who were trained to investigate EVD cases	Combination of stratified selection from the CDC and other training lists, and purposive.	~100 overall	How effective was the linkage between their field work and centralized surveillance? What resistance did they encounter?

Population-based, Structured Quantitative Survey at the HH Level

When administering the questionnaire below, the enumerators will frequently refer to a calendar of key local events or commonly recognized milestones to ground the conversation and the respondents' memories of "before" and "after" phases, and improve respondents' recall and accuracy of reported events between the start of 2014 until the end of 2015. These local events will be tailored to each survey approach, based on the country and region, and will vary from region to region. They will specifically avoid circular links to the EVD Outbreak,

but refer to holidays, school year markers, local newsworthy events, memorable political or economic occurrences, etc., will be specified in advance by regional enumerator teams, and integrated into the enumerator surveys. These will triangulate with memories report by "month."

The data generated by the HH survey will be cross-cutting and contribute to indicators for more than one evaluation question. Evaluation indicators impacted by the HH survey include but are not limited to Evaluation Questions 1, 2, 4, 5, 6, 8, and 9.

SURVEY A: HOUSEHOLD

USAID/OFDA EBOLA Response Evaluation Quantitative Household Survey Questionnaire

Note for the enumerator: This questionnaire should be administered to the head of the household. If the head of the household is not present, interview another member of the household who is capable of providing information needed to fill in the questionnaire. If an adult is not available, do not interview a minor; instead, go on to the next household, and call back at the first household later. If the second time an adult is not available to interview, find a replacement household.

	Question	Answer codes	Question format																					
MODULE 1 - PRESURVEY																								
P1	Interviewer number		Autofill																					
P2	Interview date		Autofill																					
P3	Interview start time		Autofill																					
P4	Country	1. Liberia 2. Guinea 3. Sierra Leone	Select one																					
P5	GPS Coordinates		Autofill																					
CONTACT SECTION																								
<ul style="list-style-type: none"> If no one is at home (i.e., premises empty) after two visits, note 5 on the table below and continue with household selection according to the skip pattern. If the selected respondent refuses to participate, note 2 on the table below and continue with household selection according to the skip pattern. 																								
<table border="1"> <thead> <tr> <th>P6. Interim Outcome</th> <th>Visit # 1</th> <th>Visit # 2</th> </tr> </thead> <tbody> <tr> <td>Date (MM/DD/YYYY)</td> <td></td> <td></td> </tr> <tr> <td>Time (HH:MM:SS)</td> <td></td> <td></td> </tr> <tr> <td>Interim outcome code</td> <td></td> <td></td> </tr> <tr> <td colspan="3"> SCRIPTER: IF CODE 1, CONTINUE TO RESPONDENT SELECTION 1. Contact made (go to Respondent selection P7) </td> </tr> <tr> <td colspan="3"> SCRIPTER: IF CODE 2, SAVE AS INCOMPLETE (MUST BE ABLE TO BE RESUMED LATER); SAVE AS CODE 2 IN VISIT # 2. No reply / No one at home (=> Put Code 2 for the visit and plan re-visit) </td> </tr> <tr> <td colspan="3"> SCRIPTER: IF CODE 3, SAVE AS CODE 3 IN VISIT #, 3. Ineligible address (=> Put Code 3 for the visit; code 6 in P10) </td> </tr> </tbody> </table>				P6. Interim Outcome	Visit # 1	Visit # 2	Date (MM/DD/YYYY)			Time (HH:MM:SS)			Interim outcome code			SCRIPTER: IF CODE 1, CONTINUE TO RESPONDENT SELECTION 1. Contact made (go to Respondent selection P7)			SCRIPTER: IF CODE 2, SAVE AS INCOMPLETE (MUST BE ABLE TO BE RESUMED LATER); SAVE AS CODE 2 IN VISIT # 2. No reply / No one at home (=> Put Code 2 for the visit and plan re-visit)			SCRIPTER: IF CODE 3, SAVE AS CODE 3 IN VISIT #, 3. Ineligible address (=> Put Code 3 for the visit; code 6 in P10)		
P6. Interim Outcome	Visit # 1	Visit # 2																						
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SCRIPTER: IF CODE 3, SAVE AS CODE 3 IN VISIT #, 3. Ineligible address (=> Put Code 3 for the visit; code 6 in P10)																								
MODULE 2 – CONSENT AND INTRODUCTION																								
If Contact Made:	P7. My name is I am with a team that is in your community talking to people to learn more about your experiences with Ebola and services provided during Ebola outbreak. Can I speak to the head of household or another member of the household who is capable of providing information about this household?																							
	1	YES	→P8																					
	2	NO																						
	P7b.	Can I come back later to talk?																						
	1	Yes	→Make an appointment and save the interview																					
	2	No	→Code as 3, end interview																					
P8.																								

	<p>Read: My name is I am with a team that is in your community talking to people to learn more about your experiences with Ebola and services provided during Ebola outbreak. The information we collect will be used by aid agencies to evaluate their performance in the outbreak response, and the performance of their partners. Participation in this interview is voluntary; you do not have to participate if you don't want to. You may skip any question that you don't want to answer, and you can stop at any time. Your responses are private and will not be used to identify you or any member of your family. You will not receive any benefits for participating in the survey. We hope that you will be willing to share your experiences so we can help improve future services.</p> <p>What questions do you have about what I have explained?</p>		
P9.	Do you want to take part in this study by answering our questions?	(1) Consents <Go to MODULE 3> (2) Does not Consent < Go to MODULE 3A>	Select One
P10. Final Outcome.			
	Successful interview	1	Code if the last questions is answered
	Refused to be interviewed	2	Code if P9 = 2
	Refused by head of household/caretaker/other family member/person who opened door	3	Code if P7 and P7b = 2
	Person selected was never at home after at least 2 visits	4	Code if: First visit P7b=1 and Second visit P7 =2
	Household/Premises empty after 2 visits	5	Code if P6=2 twice
	Ineligible Address/Did not speak a survey language	6	Code if P6=3
	Incomplete interview / breakoff	7	
MODULE 3 – TO BE COMPLETED BY ENUMERATOR			
1	District/County/Region (Country specific)		Select One – list will be provided
2	Country specific, if: 1. Liberia 2. Guinea 3. Sierra Leone : Chiefdom		Select One – list will be provided
3	PSU (Country specific)		Select One – list will be provided
4	Place of interview	(1) Home (2) Other (specify): _____	Select one
5	Name of community/location		Dropdown list
6	Urban/rural	(1) Urban (2) Periurban (3) Rural	Precode based on the sample
7	Gender expression of respondent	(1) Female (2) Male (3) Other	Select one
MODULE 3A – TO BE COMPLETED BY ENUMERATOR			
8	Gender expression of the person who refused	(1) Female (2) Male (3) Other	Select one
E2	Interview end time		Autofill
<END SURVEY>			
MODULE 4 – DEMOGRAPHICS			
9	How old are you?		Numerical entry
10	What is the highest level of education you have	7L: If P4 = 1 (Liberia)	Select one

	<i>are mentioned. Prompt 'Anything else?'</i>	<ul style="list-style-type: none"> (3) By air (4) Bad odor or smell (5) Mosquito bites (6) Preparing bush meat as a meal (7) Eating bush meat (8) Eating fruits likely to have been bitten by bats (9) Saliva of an infected person (10) Blood of an infected person (11) Sweat of an infected person (12) Urine of an infected person (13) Feces of an infected person (14) Breast milk of an infected person (15) Sperm or vaginal fluid of an infected person (16) Other infected contact with an infected person (17) God's will (18) Witchcraft (19) Other (specify): _____ (88) Don't know (99) Declined to answer 	
17	<p>What are some of the signs and symptoms of someone infected with Ebola?</p> <p><i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i></p>	<ul style="list-style-type: none"> (1) Any fever (2) Sudden onset of high fever (3) Severe headache (4) Muscle pain (5) Weakness (6) Diarrhea (with or without blood) (7) Vomiting (with or without blood) (8) Abdominal (stomach) pain (9) Lack of appetite (10) Difficulty breathing (11) Bleeding (internal or external) (12) Hiccups (13) Delirium/confusion (14) Other (specify): _____ (88) Don't know (99) Declined to answer 	Select all that apply
18	Is it possible to prevent oneself from getting Ebola?	<ul style="list-style-type: none"> (1) Yes (2) No <skip to Q19> (88) Don't know (99) Declined to answer 	Select one
19	Can I prevent myself from getting Ebola by avoiding contact with the blood and bodily fluids of someone infected with Ebola?	<ul style="list-style-type: none"> (1) Yes (2) No (88) Don't know (99) Declined to answer 	Select one
20	Can I prevent myself from getting Ebola by bathing with salt and hot water?	<ul style="list-style-type: none"> (1) Yes (2) No (88) Don't know (99) Declined to answer 	Select one
21	Can I prevent myself from getting Ebola by avoiding funeral or burial rituals that involve directly touching the body of someone who died from Ebola?	<ul style="list-style-type: none"> (1) Yes (2) No (88) Don't know (99) Declined to answer 	Select one
MODULE 6 – SOURCES OF INFORMATION			
22	We would like to know how you learned about Ebola. I'm going to read you a list of sources, and for each, please tell me whether you remember	<ul style="list-style-type: none"> (1) Yes (2) No (88) Don't know/Not sure 	Select yes/no for each option

	<i>are mentioned. Prompt 'Anything else?'</i>	(3) By air (4) Bad odor or smell (5) Mosquito bites (6) Preparing bush meat as a meal (7) Eating bush meat (8) Eating fruits likely to have been bitten by bats (9) Saliva of an infected person (10) Blood of an infected person (11) Sweat of an infected person (12) Urine of an infected person (13) Feces of an infected person (14) Breast milk of an infected person (15) Sperm or vaginal fluid of an infected person (16) Other infected contact with an infected person (17) God's will (18) Witchcraft (19) Other (specify): _____ (88) Don't know (99) Declined to answer	
17	What are some of the signs and symptoms of someone infected with Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Any fever (2) Sudden onset of high fever (3) Severe headache (4) Muscle pain (5) Weakness (6) Diarrhea (with or without blood) (7) Vomiting (with or without blood) (8) Abdominal (stomach) pain (9) Lack of appetite (10) Difficulty breathing (11) Bleeding (internal or external) (12) Hiccups (13) Delirium/confusion (14) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
18	Is it possible to prevent oneself from getting Ebola?	(1) Yes (2) No <skip to Q19> (88) Don't know (99) Declined to answer	Select one
19	Can I prevent myself from getting Ebola by avoiding contact with the blood and bodily fluids of someone infected with Ebola?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
20	Can I prevent myself from getting Ebola by bathing with salt and hot water?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
21	Can I prevent myself from getting Ebola by avoiding funeral or burial rituals that involve directly touching the body of someone who died from Ebola?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
MODULE 6 – SOURCES OF INFORMATION			
22	We would like to know how you learned about Ebola. I'm going to read you a list of sources, and for each, please tell me whether you remember	(1) Yes (2) No (88) Don't know/Not sure	Select yes/no for each option

	<p>learning about Ebola from that source.</p> <p>(A) Radio (B) Television (C) Megaphone public announcement (D) Church/mosque/other religious venues (E) Family members, friends, and community members/neighbors (F) Newspapers (G) Flyers/brochures/other printed materials (H) Internet/blog/website/social media (I) Mobile phone/text message (J) House to house visits by health educators (K) House visits by contact tracers (L) Traditional/community leaders (M) Government /District health team (N) Call center/hot line (O) Burial team that was in your community (P) Community organizations (specify): _____ (Q) International aid agency (specify): _____ (R) Other (specify): _____</p>	<p>(99) Decline to answer (88) Don't know/Don't remember (99) Declined to answer</p>	
23	Did a health worker or any other health educator come to your house or speak with you directly about Ebola?	<p>(1) Yes (2) No <skip to 22> (88) Don't know/Don't remember <skip to 22> (99) Declined to answer <skip to 22></p>	Select one
24	When did they first come to your house? <i>Read answer choices</i>	<p>(1) Before Ebola came to my community (2) During the Ebola outbreak in my community (3) After Ebola left my community (88) Don't know (99) Declined to answer</p>	Select one
25	Who gave you accurate health information about Ebola? <i>Read list, and select all that are mentioned. Prompt 'Anything else?'</i>	<p>(1) Government/Ministry of Health (2) The mass media-TV/radio/newspaper (3) Doctor (4) Nurse (5) Community health worker/educators (6) Family and friends (7) Religious leaders (8) Traditional healers (9) Community organizations (specify): _____ (10) International aid agency (specify): _____ (11) Other (specify): _____ (12) No one (DO NOT READ) (88) Don't know (99) Declined to answer</p>	Select all that apply
MODULE 7 – ATTITUDES			
<i>Read: For each of the following statements, tell me whether you agree, disagree, or are not sure.</i>			
26	Anyone can get Ebola (even healthy people).	<p>(1) Agree (2) Disagree (88) Don't know/Not sure (99) Decline to answer</p>	Select one
27	I am worried about getting Ebola.		
28	I am afraid of people with Ebola.		
29	I am afraid of people who live with Ebola patients.		

30	I would know if I had Ebola symptoms.		
31	I know how to protect myself from getting Ebola.		
32	If I got Ebola symptoms, I would seek treatment.		
33	If I got Ebola symptoms, I would be afraid of going to a treatment center.		
34	If I got Ebola symptoms, I would go to a traditional healer.		
35	If I got Ebola symptoms, I would hide away in my house.		
36	If a friend or family member gets Ebola, I would take them to a treatment center.		
37	If a friend or family member gets Ebola, I would take them to a traditional healer.		
38	If a friend or family member gets Ebola, I would keep them in my house.		
39	I am afraid to live with someone who have been cured of Ebola.		
40	If a shopkeeper survived Ebola, I would buy fresh vegetables from them.		
41	If a neighbor survived Ebola, I would welcome them back into my community/neighborhood.		

MODULE 8 – BEHAVIORS

42	In what ways have you changed your behavior or what actions have you taken to avoid being infected with Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(0) None <skip to 42> (1) Wash hands with soap and water more often (2) Wash hands with disinfectant more often (3) Avoid crowded places (4) Drink BitterCola (5) Drink a lot of water or juice (6) Take traditional herbs (7) Take antibiotics (8) Wear gloves (9) Avoid touching people I suspect have Ebola (10) Avoid touching everyone (11) Do not touch dead bodies during or preparing for burial ceremonies (12) Wash with salt and hot water (13) Other (specify): _____ (88) Don't know <skip to 42> (99) Declined to answer <skip to 42>	Select all that apply
43	What prompted you to make those changes? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) After I spoke to health worker(s)/community health educator(s) (2) After I listened to radio program(s) (3) After I watched TV program(s) (4) After I read billboard message(s) or educational material(s) (5) After I received advice from my family member(s) or friend(s) (6) After I received instruction(s) at my workplace or school (7) Other (specify)----- (88) Don't know (99) Declined to answer	Select all that apply
44	What actions have you taken to protect your family members and friends from Ebola? <i>Do not read list. Listen to reply, and select all that</i>	(0) None (1) Telling them about hand washing and hygiene (2) Telling them what to do when someone in the	Select all that apply

	<i>are mentioned. Prompt 'Anything else?'</i>	community is sick (3) Telling them not to touch a sick person or dead body (4) Preparing chlorine water every day for bad washing and bathing (5) Buying protection like medicines, plastic bags, gloves (6) Informing local leader, health facility, or hotline if someone is sick in the community (7) Informing local leader, health facility, or hotline if someone has died (8) Other (specify): _____ (88) Don't know <skip to 42> (99) Declined to answer <skip to 42>	
45	If you have a high fever, for any reason, will you go to a health facility?	(1) Yes <skip to 44> (2) No (88) Don't know <skip to 44> (99) Decline to answer <skip to 44>	Select one
46	Why not? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) I have no money/can't afford to pay (2) There is no health facility nearby that I can get to (3) The health facility is contaminated by Ebola (4) People will think I have Ebola (5) I prefer to go to a pharmacy (6) I prefer to go to a traditional healer (7) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
47	What will you do if you suspect someone in your family has Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Nothing (2) Care for them at home (3) Care for them at home using personal protective gear (4) Call the hospital/Ebola line (5) Take the person to a health facility (6) Take the person to an Ebola Treatment Unit (7) Take the person to a Community Care Center (8) Bring a healthcare worker to the home (9) Seek assistance from a traditional healer (10) Seek assistance from a spiritual healer (11) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
48	Has anyone in your household been suspected of having Ebola?	(1) Yes (2) No (88) Don't know (99) Decline to answer	Select one
49	Has anyone in your household been diagnosed with Ebola by a health care professional?	(1) Yes (2) No <skip to Module 9> (88) Don't know <skip to Module 9> (99) Decline to answer <skip to Module 9>	Select one
50	What did you do to care for that person(s)? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	<same answer choices as Q44>	Select all that apply
51	How many people in your household had Ebola and recovered fully?	(1) <enter number> (88) Don't know (99) Decline to answer	

52	How many people in your household have a disability resulting from Ebola?	(1) <enter number> (88) Don't know (99) Decline to answer	
53	How many people in your household died from Ebola?	(1) <enter number> <if 0 skip to Module 9> (88) Don't know <skip to Module 9> (99) Decline to answer <skip to Module 9>	
54	What did you do with the body after they died? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Called for burial team to collect the body (2) Wore gloves while preparing the body (3) Wore protective clothes when preparing the body (4) Did not clean the body (5) Did not touch the body during funeral (6) Wore gloves while burying the body (7) Wore protective clothes when burying the body (8) Wrapped body in provided bag (9) Wrapped body in other protective layer (10) Other (Specify): _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
MODULE 9: EXPOSURE TO THE RESPONSE			
55	Was an Ebola Treatment Unit established near enough to your home for you to get to?	(1) Yes (2) No (88) Don't know (99) Decline to answer	Select one
56	Was a Community Care Center established near enough to your home for you to get to?	(1) Yes (2) No (88) Don't know (99) Decline to answer	Select one
57	Have you ever called the Ebola hotline?	(1) Yes (2) No <skip to 56> (88) Don't know/Don't Remember <skip to 56> (99) Decline to answer <skip to 56>	Select one
58	What was the reason for calling the hotline? <i>Read list, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Get health information on Ebola (2) Report a death (3) Report a suspected case (4) Want to know if the number is working (5) Other (Specify): _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
59	Did you or any member of your family have to be isolated or quarantined for 3 weeks (21 days) due to contact with someone who was known or suspected to have Ebola?	(1) Yes (2) No <skip to 64> (88) Don't know/Not sure <skip to 64> (99) Decline to answer <skip to 64>	Select one
60	When did this first occur?	(1) <enter month and year> (88) Don't know (99) Declined to answer	
61	Were you or any member of your family given information about the quarantine?	(1) Yes (2) No (88) Don't know/Not sure (99) Decline to answer	Select one
62	Who (what organization) provided the information?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	
63	Were you or any member of your family given food support while in isolation?	(1) Yes (2) No <skip to 62>	Select one

		(88) Don't know/Not sure<skip to 62> (99) Decline to answer<skip to 62>	
64	Who (what organization) provided the food support?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
65	Were you or any member of your family given financial support while in isolation?	(1) Yes (2) No <skip to 64> (88) Don't know/Not sure<skip to 64> (99) Decline to answer <skip to 64>	Select one
66	Who (what organization) provided the financial support?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
67	Did you provide any kind of assistance (information, food, or finance support) to others who experienced isolation or quarantine?	(1) Yes (2) No (88) Don't know (99) Decline to answer	Select one
68	Was your household visited by a professional looking for Ebola cases or investigating contacts of Ebola cases?	(1) Yes (2) No <skip to 67> (88) Don't know <skip to 67> (99) Decline to answer <skip to 67>	Select one
69	What organization were they with?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
70	Did your household receive any protective clothing or kits of special cleaning materials to help protect against Ebola?	(1) Yes (2) No <skip to 72> (88) Don't know <skip to 72> (99) Decline to answer <skip to 72>	Select one
71	What organization was it from?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
72	Did your household receive any protective clothing or kits of special cleaning materials to aid in preparing and burying the bodies of people who died from Ebola?	(1) Yes (2) No <skip to 71> (88) Don't know <skip to 71> (99) Decline to answer <skip to 71>	Select one
73	What organization was it from?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
74	Did your household receive any food assistance, coming from international organizations at any point during the Ebola outbreak?	(1) Yes (2) No <skip to 73> (88) Don't know <skip to 73> (99) Decline to answer <skip to 73>	Select one
75	What organization was it from?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
76	Have you participated in any community activities to stop Ebola in your community?	(1) Yes (2) No <skip to MODULE 10> (88) Don't know/ Don't Remember <skip to MODULE 10> (99) Decline to answer <skip to MODULE 10>	Select one
77	Which of the following activities did you participate in? <i>Read list, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Spread awareness (2) Demonstrated prevention activities (3) Attended meetings about Ebola (4) Gave instructions to/supervised others (5) Distributed materials for protection (6) Distributed materials for education	Select all that apply

		(7) Contact tracing and case finding (8) Conducting safe burials as part of burial teams (9) Other (Specify): _____ (88) Don't know/Don't Remember (99) Decline to Answer	
78	What organization did you do this with?	Specify: _____ (88) Don't know/Don't Remember (99) Decline to Answer	Select all that apply
MODULE 10 – END			
<p><i>Read:</i> Thank you for taking the time to talk with us today. Do you have any questions?</p> <p>We understand that it may have been difficult for you to answer some of these questions. If you would like to talk with someone about how you are feeling, please let me know and I can help you to do so.</p> <p>As a reminder, your responses are confidential - we will not include your name, and no one will know what your individual responses were. Thanks again.</p>			
E1	Referral given?	(1) Not requested (2) Gave referral information to respondent (3) Made phone call to referral organizations (4) Made arrangement to take respondent to referral organizations (5) Someone from referral organization came to the respondent	
E2	Interview end time		Autofill
<END SURVEY>			

SURVEY B: CHWS AND COMMUNITY MOBILIZERS

USAID/OFDA Ebola Response Evaluation CHW/CHV Survey Questionnaire

	Question	Answer codes	Question format
MODULE 1 - PRESURVEY			
P1	Interviewer number		Enter Number
P2	Interview date		Autofill
P3	Interview start time		Autofill
P4	Country	7. Liberia 8. Guinea 9. Sierra Leone	Select one
P5	District/County/Region		Select one
MODULE 2 – CONSENT AND INTRODUCTION			
	<p><i>Read:</i> My name is I work with an organization called IBTCI which is conducting an evaluation of the U.S. government’s involvement in the response to the Ebola epidemic. The information we collect will be used to evaluate their performance in the outbreak response, and the performance of their implementing partners. We are talking to individuals who worked as community health workers (CHWs) or community health volunteers (CHVs) during the response. We hope that you will be willing to share your experiences doing this work with us. Participation in this interview is voluntary; you do not have to participate if you don’t want to. If you decide to participate, you may skip any question that you don’t want to answer, and you can stop at any time. You will not receive any benefits for participating in the survey. We hope that you will be willing to share your experiences so we can help improve future services.</p> <p>This interview will be confidential. Your responses will be combined with those of other contact tracers. While the organization you worked for may see the combined results, they will not see the responses from you in particular or from any individual.</p> <p>What questions do you have about what I have explained?</p>		
P6	Do you want to take part in this study by answering our questions?	(1) Consents (2) Does not Consent <Go to END>	Select One
MODULE 3 – DEMOGRAPHICS			
1	How old are you? <i>Round to the nearest whole year.</i>	<record whole number>	
2	What is your gender?	(1) Female (2) Male (3) Other (99) Declined to answer	Select one
3	What is the highest level of education you have completed?	<p>3L: If P4 = 1 (Liberia)</p> <p>(1) No formal education (2) Some primary (3) Completed primary (4) Middle or Junior High (5) Secondary or Senior Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don’t know (99) Declined to answer</p> <p>3G: If P4 = 2 (Guinea)</p> <p>(1) No formal education (2) Some primary (3) Completed primary</p>	Select one

		<p>(4) Middle or Lower Secondary (5) Secondary to Academic Upper Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don't know (99) Declined to answer</p> <p>3SL: If P4 = 3 (Sierra Leone) (1) No formal education (2) Some primary (3) Completed primary (4) Middle or junior secondary (5) Senior Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don't know (99) Declined to answer</p>	
4	Prior to the Ebola epidemic, did you work as a health worker or health volunteer?	<p>(1) Yes (2) No (88) Don't know (99) Declined to answer</p>	Select one
5	Prior to the Ebola epidemic, did you have experience in community health education (raising awareness, or peer education)?	<p>(1) Yes (2) No (88) Don't know (99) Declined to answer</p>	Select one
MODULE 4 – EMPLOYMENT DETAILS			
1	For what organization did you work as community health worker or volunteer?	<p>(1) Local government clinic (2) Local private clinic (3) Local community organization (4) I am a general community volunteer, not employed with any organization<skip to 3> (5) Other (specify)____ (88) Don't know<skip to 3> (99) Declined to answer<skip to 3></p>	Select all that apply
2	Did you work for this organization prior to the Ebola epidemic?	<p>(1) Yes (2) No (99) Declined to answer</p>	Select one
3	For how long (in months) did you work as a community health worker or volunteer during the Ebola outbreak?	<p>---(number of months) (88) Don't know (99) Declined to answer</p>	Select one
4	Did you receive compensation (money or otherwise) for your work?	<p>(1) Yes (2) No <skip to 6> (88) Don't know <skip to 6> (99) Declined to answer <skip to 6></p>	Select one
5	What did you receive? <i>Read list. Select all that apply.</i>	<p>(1) Money (2) Food (3) Health supplies (4) Other (specify): _____ (88) Don't know (99) Declined to answer</p>	Select all that apply

6	Did you receive any specific training related to Ebola?	(1) Yes (2) No <skip to I0> (88) Don't know <skip to I0> (99) Declined to answer <skip to I0>	Select all that apply
7	“Did you receive the training on each of the following topics? YES/NO”	(1) Community education/behavior change communication about Ebola (2) Community surveillance for detecting Ebola cases (3) General hygiene and health promotion (4) Other (specify): _____ (88) Don't know (99) Declined to answer	
8	What agency/organization trained you? <i>Do not read list. Listen to reply, and select all that are mentioned.</i>	(1) MSF (2) WHO (3) US CDC (4) MoH (x) <list of IPs> (x) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
9	How many days of training did you receive? <i>Round to the nearest whole number.</i>	<record whole number>	
10	Were you given standardized guidelines (in written form such as guidebook, charts, check-lists etc.) for your work?	(1) Yes (2) No <skip to I5> (88) Don't know <skip to I5> (99) Declined to answer <skip to I5>	Select one
11	What organization provided the guidelines? <i>Do not read list. Listen to reply, and select all that are mentioned.</i>	(1) MSF (2) WHO (3) US CDC (4) MoH (x) <list of IPs> (x) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
12	Did the guidelines change over time?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
13	Did you follow all CHW guidelines all of the time?	(1) Yes <skip to I5> (2) Sometimes (3) No (88) Don't know <skip to I5> (99) Declined to answer <skip to I5>	Select one
14	Why not? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) They were not appropriate for the setting in which I worked (2) They changed and I continued following previous guidelines (3) Conditions changed so it was no longer appropriate to follow the guidelines (4) I was instructed to do my job differently by the organization I worked for (5) They were too difficult to follow (6) It did not seem important (7) Other (specify): _____ (88) Don't know	Select all that apply

		(99) Declined to answer	
15	How did you travel in the course of your work? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Organization vehicle (2) Public transportation (3) Taxi (4) Private car (5) Motorbike (6) Bicycle (7) Walking (8) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
16	Did you travel to geographic areas requiring you to be away from your residence for at least one night for this work each week?	(1) Yes (2) No (88) Don't know (99) Declined to answer	
17	Were you given any equipment or supplies to aid in your work as a community health worker or volunteer?	(1) Yes (2) No <skip to 19> (99) Declined to answer <skip to 19>	Select one
18	For each of the following, please tell me whether you received it.	(1) Notebook (2) Forms/logs (3) Digital device (4) Identifying clothing/hat/apron (5) ID card/name badge (6) Personnel Protective Equipment (7) Medications (8) Other health supplies (9) Posters/banners/visual displays (10) Pamphlets/booklets/flyers for distribution (88) Don't know (99) Declined to answer	Select all that apply
19	What was your most important tool as a community health worker or volunteer? <i>Do not read list.</i>	<same answer choices as 18> <x> (Other specify): _____	Select one
20	What did you not have that would have aided your work? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	<same answer choices as 18> <x> (Other specify): _____	Select all that apply
21	Did you use an app on a digital device as part of your work?	(1) Yes (2) No <skip to 23> (88) Don't know <skip to 23> (99) Declined to answer <skip to 23>	Select one
22	What was the name of the app?	(1) Ebola Care (2) CommCare (8) Other (specify): _____ (88) Don't know (99) Declined to answer	
23	How often did you meet and coordinate with other community health workers or volunteers?	(1) Daily (2) Every few days (3) Weekly (4) Every two weeks (5) Monthly (6) A few times, not regularly (7) Never – I did not meet and coordinate with other community health workers	Select one

		(88) Don't know (99) Declined to answer	
24	How closely linked or coordinated was your work with the efforts of contact tracers?	(1) Not coordinated (2) Mostly uncoordinated (3) Somewhat coordinated (4) Very well coordinated (88) Don't know (99) Declined to answer	Select one
25	How often did you meet with or coordinate government health authorities (such as District Health Officers)?	(1) Daily (2) Every few days (3) Weekly (4) Every two weeks (5) Monthly (6) A few times, not regularly (7) Never - I did not meet and coordinate with government health authorities (88) Don't know (99) Declined to answer	Select one
26	How often did you receive supervision support from your supervisor?	(1) Daily (2) Every few days (3) Weekly (4) Every two weeks (5) Monthly (6) A few times, not regularly (7) Never - I did not receive supervision support (88) Don't know (99) Declined to answer	Select one
MODULE 5 – EBOLA KNOWLEDGE			
1	What causes Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Virus (2) Bacteria (3) Bats/ Monkeys/ Other wild animals (4) God or higher power (5) Witchcraft (6) Evildoing/sin (7) Curse (8) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
2	How does a person get Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Bad hygiene (2) From travel (3) By air (4) Bad odor or smell (5) Mosquito bites (6) Preparing bush meat as a meal (7) Eating bush meat (8) Eating fruits likely to have been bitten by bats (9) Saliva of an infected person (10) Blood of an infected person (11) Sweat of an infected person (12) Urine of an infected person (13) Feces of an infected person (14) Breast milk of an infected person	Select all that apply

		(15) Sperm or vaginal fluid of an infected person (16) Other infected contact with an infected person (17) God's will (18) Witchcraft (19) Other (specify): _____ (88) Don't know (99) Declined to answer	
3	What are some of the signs and symptoms of someone infected with Ebola? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Any fever (2) Sudden onset of high fever (3) Severe headache (4) Muscle pain (5) Weakness (6) Diarrhea (with or without blood) (7) Vomiting (with or without blood) (8) Abdominal (stomach) pain (9) Lack of appetite (10) Difficulty breathing (11) Bleeding (internal or external) (12) Hiccups (13) Delirium/confusion (14) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
MODULE 6 – PERCEPTIONS			
1	What is your best estimate of the number of households you interacted with in this role?	<record whole number>	
2	When working as a community health worker or volunteer, did you feel respected by community members?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
3	When working as a community health worker or volunteer, did you feel trusted by community members?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
4	Do you feel that the compensation you received for your work as a community Health worker or volunteer was adequate?	(1) Yes (2) No (3) I did not receive compensation (88) Don't know (99) Declined to answer	Select one <display logic: don't display if answered no to Q5 in M4>
5	What were the most difficult hurdles you faced in your work as a community health worker or volunteer? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Transportation (2) Lack of cooperation from community (3) Rains (4) Inadequate training (5) Inadequate tools/supplies (6) Inadequate support/compensation (7) Lack of support from my organization (8) Lack of information (9) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
6	How often did you feel threatened in any communities	(1) Never	Select one

	where you worked? <i>Read answer choices.</i>	(2) Sometimes (3) Often (99) Declined to answer	
7	How often did you experience stigma or discrimination because of your work as a community health worker or volunteer? <i>Read answer choices.</i>	(1) Never (2) Sometimes (3) Often (99) Declined to answer	Select one
MODULE 7 – OPEN ENDED			
<i>Read:</i> Now I'm going to ask you a series of questions without answer choices. Please answer each question in one sentence if possible.			
1	As a community health worker or volunteer, what is the most important message that you communicated to communities?	1.----- 2. Don't know 3. Declines to answer	
2	In your work, what was the top question asked to you by community members?	1.----- 2. Don't know 3. Declines to answer	
3	In your opinion, what was the <u>most common</u> example of misinformation/misunderstanding/myth that you heard?	1.----- 2. Don't know 3. Declines to answer	
4	What was the most common <u>source</u> of misinformation/misunderstanding/myth that you heard?	1.----- 2. Don't know 3. Declines to answer	
5	In your opinion, what message do you think had the biggest influence on changing peoples' behavior?	1.----- 2. Don't know 3. Declines to answer	
6	What is your top suggestion for improving outbreak response in the future?	1.----- 2. Don't know 3. Declines to answer	
MODULE 8 – END			
<i>Read:</i> Thank you for talking the time to talk with us today. Do you have any questions? We understand that it may have been difficult for you to answer some of these questions. If you would like to talk with someone about how you are feeling, please let me know and I can help you to do so. As a reminder, your responses are confidential - we will not include your name, and no one will know what your individual responses were. Thanks again.			
E1	Requested Referral?	(1) Yes (2) No	
E2	Interview end time		Autofill
<END SURVEY>			

SURVEY C: CONTACT TRACERS

USAID/OFDA Ebola Response Evaluation Contact Tracers Survey Questionnaire

	Question	Answer codes	Question format
MODULE 1 - PRESURVEY			
P1	Interviewer number		Enter Number
P2	Interview date		Autofill
P3	Interview start time		Autofill
P4	Country	4. Liberia 5. Guinea 6. Sierra Leone	Select one
P5	District/County/Region		List
MODULE 2 – CONSENT AND INTRODUCTION			
	<p><i>Read:</i> My name is I work with an organization called IBTCI which is conducting an evaluation of the U.S. government's involvement in the response to the Ebola epidemic. We are talking to individuals who worked as contact tracers during the response. We hope that you will be willing to share your experiences doing this work with us.</p> <p>Participation in this interview is voluntary; you do not have to participate if you don't want to. If you decide to participate, you may skip any question that you don't want to answer, and you can stop at any time. You will not receive any benefits for participating in the survey. We hope that you will be willing to share your experiences so we can help improve future services.</p> <p>This interview will be confidential. Your responses will be combined with those of other contact tracers. While the organization you worked for may see the combined results, they will not see the responses from you in particular or from any individual.</p> <p>What questions do you have about what I have explained?</p>		
P6	Do you want to take part in this study by answering our questions?	(1) Consents (2) Does not Consent <Go to END>	Select One
MODULE 3 – DEMOGRAPHICS			
1	How old are you? <i>Round to the nearest whole year.</i>	<record whole number>	
2	What is your gender?	(1) Female (2) Male (3) Other (99) Declined to answer	Select one
3	What is the highest level of education you have completed?	<p>3L: If P4 = 1 (Liberia)</p> <p>(1) No formal education (2) Some primary (3) Completed primary (4) Middle or Junior High (5) Secondary or Senior Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don't know (99) Declined to answer</p> <p>3G: If P4 = 2 (Guinea)</p> <p>(1) No formal education (2) Some primary (3) Completed primary</p>	Select one

		(4) Middle or Lower Secondary (5) Secondary to Academic Upper Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don't know (99) Declined to answer 3SL: If P4 = 3 (Sierra Leone) (1) No formal education (2) Some primary (3) Completed primary (4) Middle or junior secondary (5) Senior Secondary (6) Vocational/Technical degree (7) Tertiary/University (8) Professional/Advanced degree (88) Don't know (99) Declined to answer	
4	Prior to the Ebola epidemic, did you work as a health worker or for an organization doing health related work?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
5	Prior to the Ebola epidemic, did you have experience in community work, raising awareness, or peer education?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
MODULE 4 – TRAINING AND TOOLS			
1	For what organization did you work as a contact tracer?	<list of IPs in that area>	Select all that apply
2	Did you work for this organization prior to the Ebola epidemic?	(1) Yes (2) No (99) Declined to answer	Select one
3	Did you receive compensation (money or otherwise) for your work as a contact tracer?	(1) Yes (2) No <skip to 5> (88) Don't know <skip to 5> (99) Declined to answer <skip to 5>	Select one
4	What did you receive? <i>Read list. Select all that apply.</i>	(1) Money (2) Food (3) Health supplies (4) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
5	What month did you begin working as a contact tracer?	<List months in 2014 and 2015>	Select one
6	What month did you conclude working as a contact tracer?	<List months in 2014 and 2015>	Select one
7	When were you trained in contact tracing?	(1) Never <skip to 10> (2) During prior employment (x) <List months in 2014 and 2015> (88) Don't know <skip to 10> (99) Declined to answer <skip to 10>	Select all that apply
8	What agency/organization trained you?	(1) MSF	Select all that

	<i>Do not read list. Listen to reply, and select all that are mentioned.</i>	(2) WHO (3) US CDC (4) MoH (x) <list of IPs> (x) Other (specify): _____ (88) Don't know (99) Declined to answer	apply
9	How many days of training did you receive? <i>Round to the nearest whole number.</i>	<record whole number>	
10	Were you given standardized guidelines (in written form such as guidebook, charts, check-lists etc.) for contact tracing?	(1) Yes (2) No <skip to 15> (88) Don't know <skip to 15> (99) Declined to answer <skip to 15>	Select one
11	What organization provided the guidelines? <i>Do not read list. Listen to reply, and select all that are mentioned.</i>	(1) MSF (2) WHO (3) US CDC (4) MoH (x) <list of IPs> (x) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
12	Did the guidelines change over time?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
13	Did you follow all contact tracing guidelines for every contact?	(1) Yes, for all <skip to 15> (2) Yes, for some (3) No (88) Don't know <skip to 15> (99) Declined to answer <skip to 15>	Select one
14	Why not? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) They were not appropriate for the setting in which I worked (2) They changed and I continued following previous guidelines (3) Conditions changed so it was no longer appropriate to follow the guidelines (4) I was instructed to do my job differently by the organization I worked for (5) They were too difficult to follow (6) It did not seem important (7) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
15	How did you travel in the course of your work? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Organization vehicle (2) Public transportation (3) Taxi (4) Private car (5) Motorbike (6) Bicycle (7) Walking (8) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
16	Did you travel to geographic areas requiring you to be away from your residence for at least one night for	(1) Yes (2) No	Select one

	this work each week?	(88) Don't know (99) Declined to answer	
17	Were you given any equipment or supplies to aid in your work as a contact tracer?	(1) Yes (2) No <skip to 19> (99) Declined to answer <skip to 19>	Select one
18	For each of the following, please tell me whether you received it.	(1) Notebook (2) Forms/logs (3) Digital device (4) Identifying clothing/hat/apron (5) ID card/name badge (6) Personnel Protective Equipment (88) Don't know (99) Declined to answer	Select all that apply
19	What was your most important tool as a contact tracer? <i>Do not read list.</i>	<same answer choices as 18> <x> (Other specify): _____	Select one
20	What did you not have that would have aided your work? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	<same answer choices as 18> <x> (Other specify): _____	Select all that apply
21	Did you use an app on a digital device to record contact information?	(1) Yes (2) No <skip to 23> (88) Don't know <skip to 23> (99) Declined to answer <skip to 23>	Select one
22	What was the name of the app?	(1) eDetection (2) WHO's Field Information Management System (FIMS) (3) Epi Info's Viral Hemorrhagic Fever (VHM) (4) Contact Tracing (5) Ebola Contact Tracing (ECT) (6) Sense Followup (7) CommCare (8) Other (specify): _____ (88) Don't know (99) Declined to answer	
23	How often did you provide contact tracing report to your supervisor?	(1) Daily (2) At least once in a week (3) At least once in a month (4) A few times, not regularly (5) Never (88) Don't know (99) Declined to answer	Select one
24	How often did you meet and coordinate with other contact tracers?	(1) Daily (2) Every few days (3) Weekly (4) Every two weeks (5) Monthly (6) A few times, not regularly (7) Never - I did not meet and coordinate with other contact tracers (88) Don't know (99) Declined to answer	Select one
MODULE 5 – EBOLA KNOWLEDGE			

1	<p>What causes Ebola? Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</p>	<p>(1) Virus (2) Bacteria (3) Bats/ Monkeys/ Other wild animals (4) God or higher power (5) Witchcraft (6) Evildoing/sin (7) Curse (8) Other (specify): _____ (88) Don't know (99) Declined to answer</p>	Select all that apply
2	<p>How does a person get Ebola? Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</p>	<p>(1) Bad hygiene (2) From travel (3) By air (4) Bad odor or smell (5) Mosquito bites (6) Preparing bush meat as a meal (7) Eating bush meat (8) Eating fruits likely to have been bitten by bats (9) Saliva of an infected person (10) Blood of an infected person (11) Sweat of an infected person (12) Urine of an infected person (13) Feces of an infected person (14) Breast milk of an infected person (15) Sperm or vaginal fluid of an infected person (16) Other infected contact with an infected person (17) God's will (18) Witchcraft (19) Other (specify): _____ (88) Don't know (99) Declined to answer</p>	Select all that apply
3	<p>What are some of the signs and symptoms of someone infected with Ebola? Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</p>	<p>(1) Any fever (2) Sudden onset of high fever (3) Severe headache (4) Muscle pain (5) Weakness (6) Diarrhea (with or without blood) (7) Vomiting (with or without blood) (8) Abdominal (stomach) pain (9) Lack of appetite (10) Difficulty breathing (11) Bleeding (internal or external) (12) Hiccups (13) Delirium/confusion (14) Other (specify): _____ (88) Don't know (99) Declined to answer</p>	Select all that apply
MODULE 6 – JOB KNOWLEDGE			
1	<p>For each of the following, please tell me whether it was one of your job responsibilities as a contact tracer.</p>	<p>(1) Look for sick people (2) Interview sick people about contacts (3) Locate contacts</p>	Select all that apply

		(4) Find out where visitors in the community have come from (5) Find dead bodies (6) Educate the community about Ebola (88) Don't know (99) Declined to answer	
2	What did you do during your first meeting with a new contact? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Assess the health status of the contact (2) Alert the contact of his/her status (3) Interview the contact (4) Explain the follow-up procedures (5) Identify an appropriate meeting place and time for follow-up (6) Make a list of their contacts (7) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
3	What did you do during follow up visits with contacts? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Observe the contact's general condition for signs of illness (2) Interview the contact regarding health status (presence or absence of specific symptoms) (3) Fill out contact follow-up form/log (4) Ask if the contact knows of anyone else who is sick. (5) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply
4	For each of the following, please tell me whether they should be recorded as contacts of an Ebola case? (1) Someone who touched the case directly since symptom onset (2) Someone who had sex with the case since symptom onset (3) Someone who lived in the same household with the case since symptom onset (4) Someone who visited the case since symptom onset (at any location) (5) Staff at healthcare facilities visited by the case since symptom onset (6) If the case is a health worker, someone who has been their patient since symptom onset (7) If the case has died, someone who touched the deceased person (8) If the case has died, someone who attended burial ceremonies	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select all that apply
5	What information do you need to collect about contacts? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) A contact's relationship to the case (2) Date of last interaction (3) Type of interaction (4) Contact information (address, phone number) (88) Don't know (99) Declined to answer	Select all that apply
6	How often do you follow up with each contact?	(1) every day (2) every few days (3) once a week	Select one

		(4) one time (88) Don't know (99) Declined to answer	
7	For how many days do you follow a contact?	<record whole number>	
8	What did you do if you encountered someone who was showing signs of Ebola? <i>Read list, and select all that apply</i>	(1) Contact a supervisor (2) Contact a transportation team (3) Tell them to go to a health facility (4) Bring them to a health facility yourself (5) Provide information about Ebola (6) Trace their contacts (7) Isolate (quarantine) their contacts (88) Don't know (99) Declined to answer	Select all that apply
MODULE 7 – PERCEPTIONS			
1	What is the approximate number of identified contacts you followed over time during the Ebola outbreak?	<record whole number> (88) Don't know <skip to 4> (99) Declined to answer <skip to 4>	
2	Of all the identified contacts you followed over time, what is your best estimate of the percentage that you successfully followed up with for the full 21 day period?	<record whole number>	
3	Of all the identified contacts you followed over time, what is your best estimate of the percentage that were lost to follow-up because of illness?	<record whole number>	
4	Did you encounter households that intentionally prevented contact tracing?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
5	What is your best estimate of the number of Ebola cases identified through your tracing work?	<record whole number> (88) Don't know (99) Declined to answer	
6	When working as a contact tracer, did you feel respected by community members?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
7	When working as a contact tracer, did you feel trusted by community members?	(1) Yes (2) No (88) Don't know (99) Declined to answer	Select one
8	Do you feel that the compensation you received for your work as a contact tracer was adequate?	(1) Yes (2) No (3) I did not receive compensation (88) Don't know (99) Declined to answer	Select one <display logic: don't display if answered no to Q3 in M4>
9	What were the most difficult hurdles you faced in your work as a contact tracer? <i>Do not read list. Listen to reply, and select all that are mentioned. Prompt 'Anything else?'</i>	(1) Transportation (2) Lack of cooperation from community (3) Rains (4) Inadequate training (5) Inadequate tools/supplies (6) Inadequate support/compensation (7) Other (specify): _____ (88) Don't know (99) Declined to answer	Select all that apply

I0	How often did you feel threatened in any communities where you worked? <i>Read answer choices.</i>	(1) Never (2) Sometimes (3) Often (99) Declined to answer	Select one
I1	How often did you experience stigma or discrimination because of your work as a contact tracer? <i>Read answer choices.</i>	(1) Never (2) Sometimes (3) Often (99) Declined to answer	Select one
MODULE 8 – OPEN ENDED			
I	Do you have any suggestions on how to improve contract tracing activity in the future?		
MODULE 9 – END			
	<p><i>Read:</i> Thank you for talking the time to talk with us today. Do you have any questions?</p> <p>We understand that it may have been difficult for you to answer some of these questions. If you would like to talk with someone about how you are feeling, please let me know and I can help you to do so.</p> <p>As a reminder, your responses are confidential - we will not include your name, and no one will know what your individual responses were. Thanks again.</p>		
E1	Requested Referral?	(1) Yes (2) No	
E2	Interview end time		Autofill
<END SURVEY>			

6. Roundtable Meetings

Roundtables will be an infrequent yet distinctive method to be used in only a few circumstances, where there is a local density of potential participants interested to join a larger conversation that compares evidence about the EVD outbreak, not only their own work experience. They do not replace KIIs or FGDs. But they offer another route to discovering relevant stakeholders and unexpected information.

The data generated by the roundtable discussions will be cross-cutting and contribute to indicators for more than one evaluation question. Evaluation indicators impacted by the roundtables include but are not limited to Evaluation Questions 1, 2, 3, 4, 7, 8, 9.

Instructions to organizers:

- No roundtable is designed to bring people from afar. The Team expects all target participants to manage their own travel and other arrangements to attend.
- Refreshments or lunch may be provided, but the goal is to try to make each event a “half day,” to strike a balance in how much of a distraction it becomes.
- All roundtables are intended to follow Chatham House rules, in that participants are welcome and encouraged to candidly represent their own views and observations, and need not strictly adhere to any party line. Chatham House rules means that participants agree in advance that no specific comments, points of view, or quotes will be attributed to any specific individual or agency.
- Organizers can introduce the key questions formally in advance, and explain that the distinct purpose of the roundtable is to hear cross-fire and debate from people from different organizations, offices or perspectives.

ROUNDTABLE AND KEY INFORMANT INTERVIEW GUIDES

Facilitated by Core Evaluation Team / Field Coordinators

Types of RT/KII respondents and RT/KII Guide Number

1. WHO country team: RT/KII Guide 1
2. CDC country team: RT/KII Guide 2
3. OFDA DART/RMT: RT/KII Guide 3

State the ground rules

- Speak honestly, one at a time, no “right or “wrong” answers, ask questions if you need to. (obtain group consensus on the rules)
- Ask the group to suggest some ground rules. After they brainstorm some, make sure the following are on the list.
- Everyone should participate to share their observations and experiences.
- You will not receive any kind of cash incentive to participate in the group.
- Information provided in the focus group must remain private to the group.
- Stay with the group and please don't have side conversations
- Turn off cell phones if possible
- Have fun

Assure participants on the confidentiality.

Roundtable and Key Informant Interview Guides
Informed consent form:
GREETING: (Introduction & Informed Consent)

Good morning/Good afternoon:

My name is _____, and my colleague (s) is (are) _____.

I am/we are part of the evaluation team that is examining the performance of the USG-funded response to Ebola outbreak in West Africa countries- Guinea, Sierra Leone and Liberia. This performance evaluation focuses on programs and activities funded between the start of 2014 and end of 2015. The goal of the USG-funded response was to control the outbreak by reducing the rate of transmission in the affected countries. I/we would like to learn about the effectiveness of the overall response and its program components, relevance, and coordination of the response activities in the target areas. The information you provide help inform future U.S. responses to health emergencies.

This interview will take approximately 45 minutes to one hour. The information you will provide will remain confidential, the information you provide will not be linked to you personally in the report. You may choose to refuse to participate or not answer all the questions or stop the interview any time. Therefore, we request that you feel comfortable telling us what you know or have observed about the project performance, including the support the project has provided to the project areas in the target provinces and the related facilities.

Please let us know if you have any objection to participating in this interview and also if you have any questions before we start. If you have any questions after you have completed the interview, you can always contact a study team member like me, or you can call the -----(Country Coordinator), whose names and phone numbers are on this form.

Please check the box below and sign to show you agree to participate in this interview.

I understand this information and agree to participate fully under the conditions stated above:

Signature:-----Date: -----

Thank you very much.

Let the participants introduce themselves.

Round table/KEY INFORMANT INTERVIEWS AT WORLD HEALTH ORGANIZATION AT COUNTRY/REGIONAL OFFICES (RT/KII Guide I)

Our target respondents will include WHO teams- Team leader, Technical Advisor, Data Manger, Surveillance Officer.

Facilitated by Country Coordinator, Core Evaluation Team Member

Instructions to Facilitator: Conduct KIIs with WHO country team at WHO Country HQ.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of interview: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Name and Position:	

SECTION B: QUESTIONS

IMPLEMENTATION EXPERIENCE AND CHALLENGES FACED BY WHO

#	EQ # Designation	Question	Instruction for Facilitator
1	9, 6	<p>What sources did you put into place to collect epidemiological information during the outbreak?</p> <p>What geographic areas, specifically, were covered by your work?</p> <p>How was the data flow? Can you talk about the quality of these sources?</p>	<p><i>Probe, if not mentioned</i> <i>What were the sources of information or data about cases that you recorded?</i> <i>Confirmed cases of Ebola</i> <i>Suspected cases of Ebola</i> <i>Case fatality</i> <i>Population at risk</i></p> <p><i>In your view, what were any gaps in the coverage of the surveillance system?</i> <i>How much confidence did you have in your sources?</i> <i>How did you cross-check incoming epidemiologic data?</i></p>
2	9	<p>What was your experience as a WHO rep in communicating with other stakeholders?</p>	<p><i>Probe if not mentioned:</i> <i>1. Communicating with the leaders of national governments?</i> <i>2: communicating with international government and non-government agencies?</i> <i>3: communicating with donor agencies about the EVD outbreak situation?</i> <i>4: Accessing resources?</i></p>

3	9	As a WHO rep, what facilitated or constrained your own work, and how did it differ between beginning and end of outbreak?	
4	9	What is your opinion of WHO's strategic objectives in contributing to the overall international response to the EVD outbreak, and the specific outbreaks in Guinea, Liberia, and/or Sierra Leone?	<i>After understanding overall objectives, guide discussion towards what roles and specific activities WHO carried out. Where these carried out in phases and were they unique to each country?</i>
WHAT PROGRAMS SHOULD HAVE BEEN SCALED UP MORE OR EARLIER?			
#	EQ # Designation	Question	Instruction for Facilitator
5	4, 5, 6, 8	As, a WHO rep, what is your observation regarding the effectiveness of training health care workers implemented during the Ebola outbreak?	
6	4, 5, 6, 8, 10	As, a WHO rep, what is your observation regarding the effectiveness of programs of behavior change communication implemented during the Ebola outbreak?	
KEY BENEFITS AND CONSTRAINTS IN WORKING WITH NATIONAL AND REGIONAL COUNTERPARTS?			
#	EQ # Designation	Question	Instruction for Facilitator
7	9	Tell me about your coordination with local partners? National Government- MOH? National non-government partners? Tell me about your coordination with WHO Head Quarter? What worked well? What didn't work well?	<i>If not discussed, ask participants what made these groups efficient and effective. Oppositely have participants discuss which were inefficient and why.</i>
HOW EFFECTIVE WAS OFDA IN ASSISTING WHO'S RESPONSIBILITIES FOR COORDINATING EBOLA RESPONSE EFFORTS?			
#	EQ # Designation	Question	Instruction for Facilitator
8	9	What was your experience in working with OFDA DARTs, and with other non-US donors?	<i>Probe; OFDA method of prioritization and adjustment to interventions</i>
9	1, 2	In your opinion, what were the services/activities that contributed to reducing the number of Ebola cases in ---- (country)?	

10	1, 2	What advice would you give on how WHO's role can be improved in case of a future public health emergency of similar magnitude and severity?	
----	------	---	--

Round table/KEY INFORMANT INTERVIEWS OF CDC PROFESSIONALS AT COUNTRY/REGIONAL OFFICES (RT/KII Guide 2)

Our target respondents will include CDC team members- Team leader, Technical Advisor, Data Manager/ Surveillance Officer.

Facilitated by Country Coordinator, Core Evaluation Team Member

Instructions to Facilitator: Conduct KII with CDC country team at CDC Country HQ.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of interview: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Name and Position:	

SECTION B: QUESTIONS

KEY BENEFITS AND CONSTRAINTS IN WORKING WITH LOCAL PARTNER AGENCIES

#	EQ # Designation	Question	Instruction for Facilitator
1	8, 9	Tell me about your coordination with local partners? National Government- MOH? National non-government partners? Tell me about your coordination with CDC Head Quarter? What worked well? What didn't work well?	<i>If not mentioned, have participants describe which not worked well. and reasons</i>

EVIDENCE FROM CDC ABOUT WHAT SEEMED TO WORK BEST IN REDUCING EVD TRANSMISSION

#	EQ #	Question	Instruction for Facilitator
2	1, 2, 3, 4, 5, 6, 10	Tell me about the CDC interventions in ---- (country)? What worked best to reduce EVD transmission? Why you say so? In your opinion, what worked the least and why?	<i>Have participants discuss which interventions did not work, and/or what challenges/obstacles affected interventions in Guinea, Liberia, and Sierra Leone. Ask the participants to define what they mean by "best". What was their evidence for ascribing "best" or 'least' to any individual or combined</i>

			<i>intervention(s)?</i>
3	5, 6, 8	In your opinion, what was CDC's involvement in providing technical advice for improving the quality of the services during the Ebola Outbreak?	<i>Probe, if not mentioned: Ebola Treatment Units (ETUs), Community Care Centers (CCCs), Contact Tracer or Surveillance Teams, Command and control, Logistics</i>
4	4, 5, 6, 8	As, a CDC worker, what is your observation regarding the effectiveness of training of health care workers implemented during the Ebola outbreak?	<i>Probe, if not mentioned: On the principles and practice of IPC in health care facilities as implemented by CDC (4a) and other IPs (4b)?</i>
5	4, 5, 6, 8, 10	As, a CDC worker, what is your observation regarding the effectiveness of behavior change communication programs implemented during the Ebola outbreak?	
6	9	What was your experience in working with OFDA? And with other non-US donors?	<i>Probe; OFDA method of prioritization and adjustment to interventions</i>
7	1, 2	What advice would you give on how CDC's role can be improved in case of a future public health emergency of similar magnitude and severity?	

Round table/KEY INFORMANT INTERVIEWS AT OFDA DART and RMT (RT/KII Guide 3)

Facilitated by Core Evaluation Team Member

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of interview: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Name and Position:	

SECTION B: QUESTIONS

#	EQ # Designation	Question	Instruction for Facilitator
1	4, 5,9	<p>What were the OFDA’s strategic objectives in the overall USG response to the EVD outbreak?</p> <p>Any differences in strategies to the specific outbreaks in: A) Guinea, B) Liberia, and C) Sierra Leone?</p>	<p><i>After understanding overall objectives, guide discussion towards what roles and specific activities OFDA carried out. Where these carried out in phases and were they unique to each country?</i></p>
2	5, 10	<p>How did you prioritize different activities?</p> <p>What methods or sources did you use to prioritize or make adjustments to activities during the outbreak?</p> <p>Did the strategies/activities change with time? If yes, how?</p>	<p><i>Probe, if not mentioned</i></p> <p><i>What were the sources of information or data?</i></p> <p><i>How much confidence did you have in your data sources?</i></p> <p><i>How did you cross-check incoming epidemiologic data or program activity reports?</i></p> <p><i>In your view, what were any gaps in the coverage of the surveillance system?</i></p>
3	4, 6	<p>What do you think about the nature of OFDA’s funding mechanism to implementing partners?</p>	<p><i>Probe: Was it timely, accessible and targeted for affected areas?</i></p> <p><i>What can you tell about the adequacy of funding?</i></p>

4	7	Can you tell me about the extent to which OFDA funded implementing partners adhered to technical gold standard guidelines?	<i>Probe: What technical guidelines did IPs use? Whether attempting to adhere to technical gold standard guidelines lead to any challenges? Was there any effect on the timeliness and quality of response?</i>
5	9	As an OFDA DART/RMT member, what facilitated or constrained your own work, and how did it differ between beginning and end of outbreak?	
6	9	Tell me about your coordination with partners? National Government- MOH? International implementing partners? International non-USG response partners? What worked well? What didn't work well?	<i>If not discussed, ask participants what were the coordination mechanisms? Were the mechanisms efficient and effective? Oppositely have participants discuss which were inefficient and why.</i>
7	8,9	What was your experience as an OFDA DART/RMT member in coordinating/communicating with other USG agencies?	<i>Probe if not mentioned: Communicating roles and tasks Coordinated implementation of activities</i>
8	1, 2	In your opinion, what were the services/activities that contributed most to reducing the number of Ebola cases in West Africa?	
9	1, 2	What advice would you give on how OFDA's role can be improved in case of a future public health emergency of similar magnitude and severity?	

7. Key Informant Interviews

The primary research tools to which the Evaluation Team will allocate their time will be original KIIs and FGDs. For local informants, IBTCI will make every effort to reach a combination of different individuals representing rural and urban areas and different parts of each country. The following table provides indicative targets for people who are intended to be reached either by KIIs or FGDs, or both.

The data generated by the KIIs and FGDs will be cross-cutting and contribute to indicators for more than one evaluation question. Evaluation indicators impacted by these interviews include but are not limited to Evaluation Questions 1, 4, 5, 6, 8, and 10.

Qualitative Research	Sampling Method	Sample Size	Content
DART/RMT	Purposive	100-120	Range of observations and reflections about how they/OFDA made strategic decisions and coordinated
Food for Peace	Self-defined	5-10	Perceptions of what worked and what leads to further evidence
Other USAID	Purposive	10-15	Perceptions of what worked and what leads to further evidence
DOD	Purposive	20-40	Culling from a range of After Action Reviews
CDC	Purposive	20-40	Understanding of both EIS officer and senior manager strategies
IP M&E officers	Purposive	~50	Project metrics and surveys
IP health personnel	Purposive	~70	What worked, epidemiologically
IP headquarters managers	Purposive	~70	Coordination with OFDA
IP humanitarian managers	Purposive	~30	Coordination with OFDA
IP trainers	Purposive	~30	Skills transferred and retained
IP sub-award personnel	Purposive	~120	Local partner experiences
Traditional healers	Heterogeneous	8	Health-seeking behavior of EVD-affected populations
National or local command and control support	Purposive	15	Details of command/control; participation and contributions by different actors; what worked?
Local ETU, hospital or CCC nurses	High proportion	15	Effectiveness of quarantine, therapeutics, and timing of outside assistance, including training
Local ETU, hospital or CCC physicians	As available	15	Effectiveness of quarantine, therapeutics, and timing of outside assistance, including training
ETU or health facility administrators	As available	15	Factors affecting utilization and adequacy of equipment, cleaning, etc.
Private practice medical workers	Convenience	8	Health-seeking behavior of EVD-affected populations
Local laboratory workers	Convenience	10	Utilization or limits of their findings
MOH or DOH officials	Purposive	20	Command and control and surveillance
Bikers and merchants	Convenience	5	Roles in adapting or spreading EVD
Religious leaders	Convenience	12	Decisions about how, where, and when to communicate to flocks about EVD
Village heads	Convenience	10	Decisions about how, where, and when to communicate to flocks about EVD
Ambulance drivers	Convenience	6	How role evolved over time and links to safe burials and community cooperation

Qualitative Research	Sampling Method	Sample Size	Content
Burial workers	From lists	25	How role evolved over time and existing links to safe burials and community cooperation
Radio & TV stakeholders	Purposive	12	Testing and metrics about messaging
Social media stakeholders	Any found	12	Testing and metrics about messaging
...and other stakeholders cited in the Evaluation Plan and Inception Report			

A wide range of KII instruments will be used, the majority tailored to the individual in question, based on their involvement in the outbreak, their role, level, agency, background expertise, country, sector, etc. Some KIIs will be at the local community level, but, again, targeting a range of community leaders, merchants, thought-leaders, and members of CSOs and associations.

KIIs methods are “semi-structured” in that the conversations are framed to allow pursuit of topics that are idiosyncratic to that individual’s experience and domain of knowledge. Therefore, the questions posed from here onward are indicative of the questions to be mixed and reconfigured for each KI.

Informed consent must be signed by every respondent.

Semi-structured KIIs at community Level, Performed by the Sub-contractor and IBTCI field team: the following questions are in order of priority:

PRIORITY

1. During the outbreak, what contact did your family have, if any, with persons representing any other agencies, like the Red Cross or aid agencies, including visits by Community Health Workers?
2. When did social mobilization programs (in Guinea, they say “sensitization”) for Ebola start in your village? (anchoring event/calendar options)
3. If you listened to or heard about important messages about Ebola and how to avoid it, when did you first hear?
4. Please describe the content of this message as you remember it.
5. Please describe whether and in what ways you modified your behavior as a result of that message.
6. From among those messages that you took most seriously, how did you first hear of Ebola? (Clarify: social media, word of mouth, neighbors, billboards, radio, CHWs, etc.)
7. What services do you feel were the most needed during the 2014–2015 period to protect your community from Ebola?

8. How did these programs affect village behavior and practices? (Probes: How did this affect burials, social mobilization, hygiene, prevention, and understanding of the virus?)
9. Can you describe the source of the information you most relied upon for news about the Ebola epidemic throughout the epidemic? Did your information sources vary from the beginning (2014), to the middle (2015), or to the end (2016)?
10. During the outbreak, what contact did your family have, if any, with persons representing the Ministry of Health, or District Health Officers?
11. What did this community (or village) do when they found a family member or friend was sick with Ebola? Probe for any occurrence of:
 - a. Take them to an ETU or health care center
 - b. Call hotline and wait for health care workers to transport them
 - c. Take care of them at home
 - d. Engage ambulance service
 - e. Seek a traditional healer
 - f. Seek a private medical provider
 - g. See an off-duty nurse

SECONDARY PRIORITY

1. Was there any time when the instructions you were given about protecting yourself from Ebola conflicted with your religious beliefs or customs? Can you give examples?
2. In general, what did you and your family feel about the response to the epidemic by your local and national government officials? Were there any specific issues you would like to tell us about and discuss here?
3. At what point (during what month) during the epidemic did you think that you really understood how Ebola was transmitted, and how to protect your family from Ebola?

TERTIARY PRIORITY

4. What do wish you had known more about, at the beginning of the epidemic in your area? Knowing what you know now, would you have done anything differently?
5. What kinds of resources did your household pay for, out of pocket, to protect yourself from Ebola or to respond to it in your community, directly or indirectly? How much money did you spend on these resources? Can you describe the economic losses you experienced as a result of the epidemic?
6. Have you, your neighbors, or anyone in your community received financial, educational, or health care support for orphan(s) of Ebola survivors, to contribute to a) their short-term needs (education, clothes, housing, food); or b) their long-term care (long-term educational expenses)?
7. Were there any success stories you care to share? Were there responders and services that you found extremely helpful to you, your family, or community? Can you describe or list them?
8. Overall, in what other ways did the Ebola epidemic affect you, your family, or your household?
- 9.

KII GUIDES

Guides for Key Informant Interviews

Types of KII respondents and KII Guide Number

1. OFDA Supported IPs: KII Guide 1
2. USG Response Partners: KII Guide 2
3. International Response (non-USG) Partners: KII Guide 3
4. Ministry of Health At National/Regional Levels: KII Guide 4
5. National/Regional Hospitals or Country Health Team Leadership: KII Guide 5
6. Community Leaders: KII Guide 6

Facilitated by Core Evaluation Team / Field Coordinators

Key Informant Interview Consent Form I (administered to all types of KII respondents)

GREETING: (Introduction & Informed Consent)

Good morning/Good afternoon:

My name is _____, and my colleague (s) is (are) _____.

I am/we are part of the evaluation team that is examining the performance of the USG-funded response to Ebola outbreak in West Africa countries- Guinea, Sierra Leone and Liberia. This performance evaluation focuses on programs and activities funded between the start of 2014 and end of 2015. The goal of the USG-funded response was to control the outbreak by reducing the rate of transmission in the affected countries. I/we would like to learn about the effectiveness of the overall response and its program components, relevance, and coordination of the response activities in the target areas. The information you provide help inform future U.S. responses to health emergencies.

This interview will take approximately 45 minutes to one hour. The information you will provide will remain confidential, the information you provide will not be linked to you personally in the report. You may choose to refuse to participate or not answer all the questions or stop the interview any time. Therefore, we request that you feel comfortable telling us what you know or have observed about the project performance, including the support the project has provided to the project areas in the target provinces and the related facilities.

Please let us know if you have any objection to participating in this interview and also if you have any questions before we start. If you have any questions after you have completed the interview, you can always contact a study team member like me, or you can call the -----(Country Coordinator), whose names and phone numbers are on this form.

Please check the box below and sign to show you agree to participate in this interview.

I understand this information and agree to participate fully under the conditions stated above:

Signature:-----Date: -----

Thank you very much.

KEY INFORMANT INTERVIEW with OFDA Supported IMPLEMENTING PARTNERS (KII Guide I)

Facilitated by Core Evaluation team members or Field Coordinator
The following is a guide. Try to ask all the questions below in the order given. Suggested probes have been included.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
Discussion date:	DD <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> MM <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> YY <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/> <input style="width: 40px; height: 20px; border: 1px solid black;" type="text"/>
Time of Interview: <i>(24 hour clock)</i>	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
Name of Organization:	
Name of Interviewee and Gender	Name: _____ Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Name of Subcontractor Organization:	
Type of Interviewee	<input type="checkbox"/> Project Director- HQ/ Chief of Party----- (country) <input type="checkbox"/> Health Technical Lead/Advisor <input type="checkbox"/> Humanitarian Assistance Technical Lead/Advisor <input type="checkbox"/> M&E Lead/Advisor <input type="checkbox"/> Other (specify)----- <input type="checkbox"/> Subcontractor Organization Representative

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	1	<p>a. What role did [your organization*] play during the Ebola outbreak between the start of 2014 and end of 2015? <i>(* substitute the appropriate IP name)</i></p> <p><i>Probe: what type of OFDA funded program/activities were implemented by your organization? What were the strategic objectives? What were the expected results of the program/activity? Who were the target population(s) and geographic areas of coverage?</i></p> <p style="padding-left: 40px;">b. In your opinion, to what extent did [OFDA funded program/activities implemented by your organization*] achieved its/their intended objectives? <i>Probe: Can you please elaborate by giving examples or are there any data to support achievements?</i></p>

2	1, 3	<p>a. What changes did your organization intend or expect when implementing OFDA-funded activities? In other words, what ‘theories of change’ were intended for those OFDA supported intervention(s) managed by your organization?</p> <p><i>OFDA funded several different types of inter-related control measures such as 1. Management of cases in Ebola Treatment Units (ETUs), 2. Contact tracing, 3. Infection prevention and control through Isolation of suspected cases, triage and community care centers (CCC), 4. Community-based surveillance, 5. Safe burials, 6. Social mobilization, 7. Logistics support-equipment for infection control (personal protective equipment) and creating lab referral network, 8. command and control support for better informed decision</i></p> <p>b. How did the [OFDA funded program/activities implemented by your organization*] fit in the overall response to Ebola outbreak? (* substitute the mentioned OFDA funded IP activities)</p>
3	1, 2	<p>In your opinion, which [OFDA funded program/activities implemented by your organization*] alone or in combination, contributed the most to reducing the number of Ebola cases in your area? <i>Probe: and why do you think so?</i></p>
4	3, 4	<p>Can you tell me which [OFDA funded activities implemented by your organization*] was/were successful? If yes, what factors contributed to its success?</p> <p><i>Probe: What specifically made the named experiences successful?</i> <i>Probe (only if needed): health system related factors, environmental factors, social factor, political factors</i></p>
5	3, 4, 7	<p>Can you tell me which [OFDA funded activities implemented by your organization*] was/were not successful? If yes, what specifically made those occurrences challenging?</p> <p><i>Probe: What standardized guidelines did you follow? Whether adherence to technical gold standard guidelines lead to any challenges? Was there any effect on the timeliness and quality of services?</i></p> <p><i>Probe (only if needed): health system related factors, environmental factors, social factor, political factors</i></p>
6	6, 10	<p>a. What was [your organization*] experience working with OFDA in terms of technical and management support? (* substitute the appropriate IP name)</p> <p><i>Probe: What do you think about the appropriateness of OFDA’s funding mechanism and/or in-kind support? Was it timely, and accessible?</i> <i>What can you tell about the adequacy of funding?</i></p> <p>a. Tell me about your experiences with OFDA’s feedback on your progress reports?</p> <p><i>Probe: How often did you submit activity/program progress report? How often did you receive any feedback on reports?</i> <i>Probe: Was the feedback from OFDA timely, and targeted?</i> <i>Did you make any adjustments to program/activities based on the OFDA feedback?</i></p>

7	9	<p>a. What do you think about the coordination by OFDA with [your organization*]?</p> <p>b. What do you think about the coordination by OFDA with national government/national Ebola response?</p> <p>c. What do you think about the coordination by OFDA with other non-USG donors?</p> <p><i>Probe on:</i> <i>What were the communication mechanisms between organizations?</i> <i>Any examples of coordinated implementation of activities?</i> <i>What worked well to facilitate coordination?</i></p>
8	5, 10	<p>What do you think about OFDA's prioritization of its supported program/activities in response to the changes in disease epidemiology such as increase or decrease in the number of Ebola cases?</p> <p><i>Probe on: Did the priorities match with other international responders?</i> <i>Did the priorities match with national responders?</i></p>
9	1, 2	<p>What would your organization do differently in a response to a future public health emergency of similar magnitude and severity?</p>
10	1, 2	<p>What would you suggest to USG to do differently in a response to a future public health emergency of similar magnitude and severity?</p>

KEY INFORMANT INTERVIEW with USG Partners (KII Guide 2)

Facilitated by Core Evaluation team members

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of Interview: (24 hour clock)	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
Name of Organization:	
Name of Interviewee and Gender	Name: _____ Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Type of Interviewee	<input type="checkbox"/> DOD <input type="checkbox"/> USAID/GH <input type="checkbox"/> USAID/FFP <input type="checkbox"/> USAID/Mission------(country) <input type="checkbox"/> CDC HQ <input type="checkbox"/> HHS <input type="checkbox"/> NIH <input type="checkbox"/> Other (specify)-----

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	n/a	<p>a. What role did [your organization*] play during the Ebola outbreak between the start of 2014 and end of 2015 in West Africa? (* substitute the appropriate organization name)</p> <p><i>Probe: what type of program/activities did you implement in West Africa? What were the strategic objectives? What were the expected results of the program/activity? Who were the target population(s) and geographic areas of coverage?</i></p> <p>b. What changes did your organization intend or expect when implementing activities? In other words, what 'theories of change' were intended for those OFDA supported intervention(s) managed by your organization?</p>

2	2, 4	<p>In your opinion, which USG supported program or activities, alone or in combination, contributed the most to reducing the number of Ebola cases in West Africa?</p> <p><i>Probe: and why do you think so?</i></p>
3	8	<p>What do you think of OFDA as the leader of the USG response? What was [your organization*] experience working with OFDA?</p> <p>(* substitute the appropriate name)</p> <p><i>Probe:</i></p> <p><i>Did you have clear understanding of your role while being led by OFDA?</i></p> <p><i>Did you received specific scope of work or terms of reference for the tasks assigned while being led by OFDA?</i></p>
4	3, 4	<p>OFDA funded several different types of inter-related control measures such as 1. Management of cases in Ebola Treatment Units (ETUs), 2. Contact tracing, 3. Infection prevention and control through Isolation of suspected cases, triage and community care centers (CCC), 4. Community-based surveillance, 5. Safe burials, 6. Social mobilization, 7. Logistics support- equipment for infection control (personal protective equipment) and creating lab referral network, 8. command and control support for better informed decision</p> <p>How did the [OFDA funded program/activities*] fit in the overall response to Ebola outbreak?</p> <p>What can you tell us about the effectiveness of the intervention? <i>Probe determining factors for success or failure</i></p> <p>(* list each type of OFDA funded program/activities)</p> <p><i>Probe (only if needed): health system related factors, environmental factors, social factor, political factors</i></p>
5	6	<p>What do you think about the nature of OFDA's funding mechanism and/or in kind support?</p> <p><i>Probe: Was it timely, accessible and targeted for affected areas?</i></p> <p><i>What can you tell about the adequacy of funding?</i></p>
6	7	<p>Can you tell me about the extent to which OFDA funded implementing partners adhered to technical gold standard guidelines?</p> <p><i>Probe: What technical standards did IPs follow? Whether attempting to adhere to technical gold standard guidelines lead to any challenges? Was there any effect on the timeliness and quality of response?</i></p>

7	8, 9	<p>d. What do you think about the coordination by OFDA with [your organization*]?</p> <p>e. What do you think about the coordination by OFDA- funded implementing partners with [your organization*]?</p> <p>f. What do you think about the coordination by OFDA with other non-USG donors?</p> <p><i>Probe on:</i> <i>What were the communication mechanisms between organizations?</i> <i>Any examples of coordinated implementation of activities?</i> <i>What worked well to facilitate coordination?</i></p>
8	5, 10	<p>What do you think about</p> <p>a. OFDA’s prioritization of its supported program/activities in response to the changes in disease epidemiology such as increase or decrease in the number of Ebola cases?</p> <p><i>Probe on: Did the priorities match with other international responders?</i> <i>Did the priorities match with national responders?</i></p> <p>b. OFDA’s adjustment to its supported program/activities in response to the changes in disease epidemiology?</p> <p><i>Probe on: Did OFDA adjust appropriately using monitoring and evaluation of its supported program/activity? Examples?</i> <i>Were the adjustments timely?</i></p>
9	1, 2	<p>What would your organization do differently in a response to a future public health emergency of similar magnitude and severity?</p>
10	1, 2	<p>What would you suggest to OFDA to do differently in a response to a future public health emergency of similar magnitude and severity?</p>

**KEY INFORMANT INTERVIEW with INTERNATIONAL RESPONSE PARTNERS-
Other non-USG Donors and Non-USG funded Technical Partners (KII Guide 3)**

Facilitated by Core Evaluation team members

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of Interview: (24 hour clock)	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
Name of Organization:	
Name of Interviewee and Gender	Name: Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Type of Interviewee	<input type="checkbox"/> MSF <input type="checkbox"/> DFID <input type="checkbox"/> UNMEER <input type="checkbox"/> WHO <input type="checkbox"/> Other (specify)-----

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	n/a	What role did [your organization*] play during the Ebola outbreak between the start of 2014 and end of 2015 in West Africa? (* substitute the appropriate organization name) <i>Probe: what type of program/activities did you implement in West Africa? What were the strategic objectives? What were the expected results of the program/activity? Who were the target population(s) and geographic areas of coverage?</i>

2	2	<p>a. What types of Ebola response programs or activities supported by the USG agencies are you aware of? USG agencies included OFDA, CDC, DOD, FFP, USAID country mission.</p> <p>b. In your opinion, which USG supported program or activities, alone or in combination, contributed the most to reducing the number of Ebola cases in West Africa?</p> <p><i>Probe: and why do you think so?</i></p>
3	3, 4	<p>OFDA funded several different types of inter-related control measures such as 1. Management of cases in Ebola Treatment Units (ETUs), 2. Contact tracing, 3. Infection prevention and control through Isolation of suspected cases, triage and community care centers (CCC), 4. Community-based surveillance, 5. Safe burials, 6. Social mobilization, 7. Logistics support- equipment for infection control (personal protective equipment) and creating lab referral network, 8. command and control support for better informed decision</p> <p>How did the [OFDA funded program/activities*] fit in the overall response to Ebola outbreak?</p> <p>What can you tell us about the effectiveness of the intervention? <i>Probe determining factors for success or failure</i></p> <p>(* list each type of OFDA funded program/activities)</p> <p><i>Probe (only if needed): health system related factors, environmental factors, social factor, political factors</i></p>
4	6	<p>What do you think about the nature of OFDA's funding mechanism and/or in kind support?</p> <p><i>Probe: Was it timely, accessible and targeted for affected areas? What can you tell about the adequacy of funding?</i></p>
5	7	<p>Can you tell me about the extent to which OFDA funded implementing partners adhered to technical gold standard guidelines?</p> <p><i>Probe: What technical standards did IPs follow? Whether attempting to adhere to technical gold standard guidelines lead to any challenges? Was there any effect on the timeliness and quality of response?</i></p>

6	9	<p>g. What do you think about the coordination by OFDA with [your organization*]?</p> <p>h. What do you think about the coordination by OFDA- funded implementing partners with [your organization*]?</p> <p>i. What do you think about the coordination by OFDA with other non-USG donors?</p> <p><i>Probe on:</i> <i>What were the communication mechanisms between organizations?</i> <i>Any examples of coordinated implementation of activities?</i> <i>What worked well to facilitate coordination?</i></p>
7	5, 10	<p>What do you think about</p> <p>c. OFDA’s prioritization of its supported program/activities in response to the changes in disease epidemiology?</p> <p><i>Probe on: Did the priorities match with other international responders?</i> <i>Did the priorities match with national responders?</i></p> <p>d. OFDA’s adjustment to its supported program/activities in response to the changes in disease epidemiology?</p> <p><i>Probe on: Did OFDA adjust appropriately using monitoring and evaluation of its supported program/activity? Examples?</i> <i>Were the adjustments timely?</i></p>
8	1, 2	<p>What would your organization do differently in a response to a future public health emergency of similar magnitude and severity?</p>
9	1, 2	<p>What would you suggest to USG to do differently in a response to a future public health emergency of similar magnitude and severity?</p>

**KEY INFORMANT INTERVIEW with NATIONAL RESPONSE PARTNERS-
MOH/DOH Officials (KII Guide 4)**

Facilitated by Core Evaluation team members or Field Coordinator
The following is a guide. Try to ask all the questions below in the order given. Suggested probes have been included.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of Interview: (24 hour clock)	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
Name of Organization:	
Name of Interviewee and Gender	Name: Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Type of Interviewee	<input type="checkbox"/> Ministry of Health – National Level Director/Manager <input type="checkbox"/> Ministry of Health – National Level Technical Advisor <input type="checkbox"/> Ministry of Health – Regional/County/District Level Director/Manager <input type="checkbox"/> Ministry of Health – Regional/County/District Level Technical Advisor <input type="checkbox"/> Other (specify)-----

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	2	What kind of services or support did [your organization*] receive from USG during the Ebola outbreak between the start of 2014 and end of 2015? (* substitute the appropriate MOH name) <i>Probe: What types of support were received from different USG agencies? Different USG agencies included OFDA, CDC, DOD, FFP, USAID country mission. Who were the target population(s) and geographic areas of coverage? What were the expected results of the program/activity?</i>

2	2	<p>In your opinion, which USG supported program or activities, alone or in combination, contributed the most to reducing the number of Ebola cases in your -----(name of country)?</p> <p><i>Probe: and why do you think so?</i></p>
3	3, 4	<p>OFDA funded several different types of inter-related control measures such as 1. Management of cases in Ebola Treatment Units (ETUs), 2. Contact tracing, 3. Infection prevention and control through Isolation of suspected cases, triage and community care centers (CCC), 4. Community-based surveillance, 5. Safe burials, 6. Social mobilization, 7. Logistics support- equipment for infection control (personal protective equipment) and creating lab referral network, 8. command and control support for better informed decision</p> <p>How did the [OFDA funded program/activities*] fit in the overall response to Ebola outbreak?</p> <p>What can you tell us about the effectiveness of the intervention? <i>Probe determining factors for success or failure</i></p> <p>(* list each type of OFDA funded program/activities)</p> <p><i>Probe (only if needed): health system related factors, environmental factors, social factor, political factors</i></p>
4	5, 10	<p>What do you think about</p> <p>e. OFDA’s prioritization of its supported program/activities in response to the changes in disease epidemiology?</p> <p><i>Probe on: Did the priorities match with other international responders?</i> <i>Did the priorities match with national responders?</i></p> <p>a. OFDA’s adjustment to its supported program/activities in response to the changes in disease epidemiology?</p> <p><i>Probe on: Did OFDA adjust appropriately using monitoring and evaluation of its supported program/activity? Examples?</i> <i>Were the adjustments timely?</i></p>
5	6	<p>What was [your organization*] experience working with OFDA in terms of technical and management support? (* substitute the appropriate MOH name)</p> <p><i>Probe: What do you think about the appropriateness of OFDA’s funding mechanism and/or in kind support? Was it timely, accessible and targeted for affected areas?</i> <i>What can you tell about the adequacy of funding?</i></p>

6	9	<p>j. What do you think about the coordination by OFDA with [your organization*]?</p> <p>k. What do you think about the coordination by OFDA- funded implementing partners with [your organization*]?</p> <p>l. What do you think about the coordination by OFDA with other non-USG donors?</p> <p><i>Probe on:</i> <i>What were the communication mechanisms between organizations?</i> <i>Any examples of coordinated implementation of activities?</i> <i>What worked well to facilitate coordination?</i></p>
7	1, 2	<p>What would you or your organization do differently in a response to a future public health emergency of similar magnitude and severity?</p>
8	1, 2	<p>What would you suggest to USG to do differently in a response to a future public health emergency of similar magnitude and severity?</p>

KEY INFORMANT INTERVIEW with NATIONAL RESPONSE PARTNERS- National Hospital or Regional Health Facility Staff (KII Guide 5)

Facilitated by Core Evaluation team members or Field Coordinator
 The following is a guide. Try to ask all the questions below in the order given. Suggested probes have been included.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of Interview: (24 hour clock)	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
Name of Organization:	
Name of Interviewee and Gender	Name: _____ Male: <input type="checkbox"/> Female: <input type="checkbox"/>
GPS Coordinates	Longitude: _____ Latitude: _____
Type of Interviewee	<input type="checkbox"/> National Hospital- Director/Manager <input type="checkbox"/> District/County/Regional Hospital- Director/Manager <input type="checkbox"/> Other (specify)-----

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	1, 2, 5, 10	<p>a. Did this health facility see cases during the Ebola outbreak between the start of year 2014 and end of 2015?</p> <p><i>Probe: If EVD cases were present, when was the first time Ebola case reported?</i> _____(approximate date/month)</p> <p><i>How many total cases were registered with this health facility? -----</i> (approximate number of total cases)</p> <p><i>When was the last case registered? _____(approximate date/month)</i></p> <p><i>Were you prepared to respond to the Ebola outbreak?</i></p> <p>b. How did you monitor the number of cases over time? Did you see any changes in Ebola case load with time?</p>

2	4, 5, 6	<p>What skills did you learn that you feel were critical to your work?</p> <p><i>If yes, probe KI to describe who provided the training and when.</i> <i>If yes, When did you receive the support?</i> Name of organization provided the training</p> <table border="1" data-bbox="496 348 1328 804"> <thead> <tr> <th>Type of skills</th> <th>Training-yes/no</th> <th>Who provided?</th> <th>When?</th> </tr> </thead> <tbody> <tr><td>Community Education and information</td><td></td><td></td><td></td></tr> <tr><td>Case management at ETUs</td><td></td><td></td><td></td></tr> <tr><td>Isolation procedures/quarantine</td><td></td><td></td><td></td></tr> <tr><td>Case triage and referral</td><td></td><td></td><td></td></tr> <tr><td>Lab diagnosis</td><td></td><td></td><td></td></tr> <tr><td>Facility waste management</td><td></td><td></td><td></td></tr> <tr><td>Infection control and PPE use</td><td></td><td></td><td></td></tr> <tr><td>Contact tracing</td><td></td><td></td><td></td></tr> <tr><td>Safe burial services</td><td></td><td></td><td></td></tr> <tr><td>Surveillance and reporting</td><td></td><td></td><td></td></tr> </tbody> </table>	Type of skills	Training-yes/no	Who provided?	When?	Community Education and information				Case management at ETUs				Isolation procedures/quarantine				Case triage and referral				Lab diagnosis				Facility waste management				Infection control and PPE use				Contact tracing				Safe burial services				Surveillance and reporting			
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Safe burial services																																														
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3	3, 6	<p>What type of services were available to Ebola cases in this health facility? <i>If yes, probe KI to describe who provided the technical support and/or in-kind support and when?</i></p> <table border="1" data-bbox="496 1010 1349 1604"> <thead> <tr> <th>Type of services</th> <th>Service available-yes/no</th> <th>Who provided technical and/or in-kind support?</th> <th>When?</th> </tr> </thead> <tbody> <tr><td>Community Education and information</td><td></td><td></td><td></td></tr> <tr><td>Case management at ETUs</td><td></td><td></td><td></td></tr> <tr><td>Isolation procedures/quarantine</td><td></td><td></td><td></td></tr> <tr><td>Case triage and referral</td><td></td><td></td><td></td></tr> <tr><td>Lab diagnosis</td><td></td><td></td><td></td></tr> <tr><td>Facility waste management</td><td></td><td></td><td></td></tr> <tr><td>Infection control and PPE use</td><td></td><td></td><td></td></tr> <tr><td>Contact tracing</td><td></td><td></td><td></td></tr> <tr><td>Safe burial services</td><td></td><td></td><td></td></tr> <tr><td>Surveillance and reporting</td><td></td><td></td><td></td></tr> </tbody> </table> <p>Do you think that the technical or training/ in-kind support provided to your district/health facility were sufficient, timely and appropriate?</p>	Type of services	Service available-yes/no	Who provided technical and/or in-kind support?	When?	Community Education and information				Case management at ETUs				Isolation procedures/quarantine				Case triage and referral				Lab diagnosis				Facility waste management				Infection control and PPE use				Contact tracing				Safe burial services				Surveillance and reporting			
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4	3, 7	<p>What, if any challenges, did you face while dealing with Ebola cases in your facility?</p> <p><i>If not discussed, guide the KI to discuss what specifically made those named challenging and why.</i></p> <p><i>Any effect on health workers- illness, recovery, or death?</i></p> <p><i>Did you feel safe working with Ebola patients?</i></p> <p><i>Were you able to manage other non-Ebola routine cases in your health facility during the outbreak?</i></p> <p><i>Did you face any challenges in adhering to in any of the following: case management/ infection control/ isolation/ surveillance/ case referral/safe burial guidelines?</i></p>																																																							
5	9	<p>Tell me about the coordination with other stakeholders? What were the communication mechanisms?</p> <p><i>Probe, if not mentioned:</i></p> <p><i>How did you coordinate with organizations providing technical or in-kind support to your facility?</i></p> <p><i>How did you coordinate with higher-level authorities such as MOH at national/regional level?</i></p> <p><i>Any coordination with community leaders?</i></p> <p><i>Roles (if any) of private, commercial or traditional health care providers during the outbreak?</i></p>																																																							
6	3, 4	<p>In your view, what factors facilitated access to Ebola services in your district/catchment areas?</p> <table border="1" data-bbox="500 1094 1455 1654"> <thead> <tr> <th data-bbox="500 1094 873 1234">Type of services</th> <th data-bbox="873 1094 1013 1234">Health-system related factors?</th> <th data-bbox="1013 1094 1182 1234">Environment factors?</th> <th data-bbox="1182 1094 1321 1234">Social factors?</th> <th data-bbox="1321 1094 1455 1234">Political factors?</th> </tr> </thead> <tbody> <tr> <td data-bbox="500 1234 873 1304">Community Education and information</td> <td data-bbox="873 1234 1013 1304"></td> <td data-bbox="1013 1234 1182 1304"></td> <td data-bbox="1182 1234 1321 1304"></td> <td data-bbox="1321 1234 1455 1304"></td> </tr> <tr> <td data-bbox="500 1304 873 1339">Case management at ETUs</td> <td data-bbox="873 1304 1013 1339"></td> <td data-bbox="1013 1304 1182 1339"></td> <td data-bbox="1182 1304 1321 1339"></td> <td data-bbox="1321 1304 1455 1339"></td> </tr> <tr> <td data-bbox="500 1339 873 1409">Isolation procedures/quarantine</td> <td data-bbox="873 1339 1013 1409"></td> <td data-bbox="1013 1339 1182 1409"></td> <td data-bbox="1182 1339 1321 1409"></td> <td data-bbox="1321 1339 1455 1409"></td> </tr> <tr> <td data-bbox="500 1409 873 1444">Case triage and referral</td> <td data-bbox="873 1409 1013 1444"></td> <td data-bbox="1013 1409 1182 1444"></td> <td data-bbox="1182 1409 1321 1444"></td> <td data-bbox="1321 1409 1455 1444"></td> </tr> <tr> <td data-bbox="500 1444 873 1480">Lab diagnosis</td> <td data-bbox="873 1444 1013 1480"></td> <td data-bbox="1013 1444 1182 1480"></td> <td data-bbox="1182 1444 1321 1480"></td> <td data-bbox="1321 1444 1455 1480"></td> </tr> <tr> <td data-bbox="500 1480 873 1516">Facility waste management</td> <td data-bbox="873 1480 1013 1516"></td> <td data-bbox="1013 1480 1182 1516"></td> <td data-bbox="1182 1480 1321 1516"></td> <td data-bbox="1321 1480 1455 1516"></td> </tr> <tr> <td data-bbox="500 1516 873 1551">Infection control and PPE use</td> <td data-bbox="873 1516 1013 1551"></td> <td data-bbox="1013 1516 1182 1551"></td> <td data-bbox="1182 1516 1321 1551"></td> <td data-bbox="1321 1516 1455 1551"></td> </tr> <tr> <td data-bbox="500 1551 873 1587">Contact tracing</td> <td data-bbox="873 1551 1013 1587"></td> <td data-bbox="1013 1551 1182 1587"></td> <td data-bbox="1182 1551 1321 1587"></td> <td data-bbox="1321 1551 1455 1587"></td> </tr> <tr> <td data-bbox="500 1587 873 1623">Safe burial services</td> <td data-bbox="873 1587 1013 1623"></td> <td data-bbox="1013 1587 1182 1623"></td> <td data-bbox="1182 1587 1321 1623"></td> <td data-bbox="1321 1587 1455 1623"></td> </tr> <tr> <td data-bbox="500 1623 873 1654">Surveillance and reporting</td> <td data-bbox="873 1623 1013 1654"></td> <td data-bbox="1013 1623 1182 1654"></td> <td data-bbox="1182 1623 1321 1654"></td> <td data-bbox="1321 1623 1455 1654"></td> </tr> </tbody> </table> <p><i>Probe: health system related factors, environmental factors, social factor, political factors</i></p>	Type of services	Health-system related factors?	Environment factors?	Social factors?	Political factors?	Community Education and information					Case management at ETUs					Isolation procedures/quarantine					Case triage and referral					Lab diagnosis					Facility waste management					Infection control and PPE use					Contact tracing					Safe burial services					Surveillance and reporting				
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7	3, 4	In your view, what factors <i>inhibited</i> access to Ebola services in your district/catchment areas?				
		<i>Type of services</i>	<i>Health-system related factors?</i>	<i>Environment factors?</i>	<i>Social factors?</i>	<i>Political factors?</i>
		<i>Community Education and information</i>				
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		<i>Contact tracing</i>				
		<i>Safe burial services</i>				
		<i>Surveillance and reporting</i>				
<i>Probe: health system related factors, environmental factors, social factor, political factors</i>						
8	1, 2	In your opinion, what were the services/activities that contributed to reducing the number of Ebola cases in your district/catchment area?				
9	1, 2	What advice would you give improve health facility services in case of future outbreaks?				

KEY INFORMANT INTERVIEW with COMMUNITY LEADERS (KII Guide 6)

Facilitated by ORB Facilitators

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	□ □ □ □
Discussion date:	DD □ □ MM □ □ YY □ □
Time of Interview: (24 hour clock)	
Name Of Facilitator:	
Place of Interview:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
GPS Coordinates	Longitude: _____ Latitude: _____
Name of Interviewee and Gender	Name: _____ Male: <input type="checkbox"/> Female: <input type="checkbox"/>
Type of Interviewee	<input type="checkbox"/> Village chief/ Traditional leader <input type="checkbox"/> Women's group leader <input type="checkbox"/> Youth group leader <input type="checkbox"/> Civil society representative/local politician <input type="checkbox"/> Religious leader- Imam <input type="checkbox"/> Religious leader- Pastor <input type="checkbox"/> Business/Merchant leader

SECTION B: QUESTIONS

#	EQ # Designation	Questions and Instructions for Facilitator
1	1, 2,	<p>Tell me about how [your community*] was affected by Ebola outbreak between the start of 2014 and end of 2015? (* substitute the appropriate group as per the type of participant e.g. women's group for women's group leader)</p> <p>As their leader, what type of help were people seeking from you?</p> <p><i>Probe: what information was available to you at that time? Did the messages or information change over time and how?</i></p> <p>Tell me why and when people came or didn't come to seek your help?</p> <p><i>Probe: What advice did you provide? Did the advice change over time and why?</i></p>
2	8	<p>Tell me what role, as a leader, you played to help get goods and services out to community members?</p>

3	3, 4	<p>Can you tell me about successful experience(s) you had working with aid groups?</p> <p><i>(* substitute the appropriate group as per the type of participant e.g. women's group for women's group leader)</i></p> <p><i>Probe: Was it a governmental group or nongovernmental group?</i></p> <p><i>Probe: What specifically made the named experiences successful?</i></p>
4	3, 4	<p>What challenges did you face as a leader when Ebola affected your community during Ebola outbreak?</p> <p>or</p> <p>If your community was not affected by Ebola, were there still any challenges?</p> <p><i>Probe: What specifically made those occurrences challenging?</i></p> <p><i>Probe: Was there any effect on routine services?</i></p>
5	3, 4, 6	<p>What services were available to [your community*] during the outbreak?</p> <p><i>Probe for type and time of provision of the support and by which agency (name of organization)</i></p> <p><i>Communities without cases may have received support (healthcare, vaccine campaigns, food distributions, community health education, etc.) even if they didn't have cases.</i></p> <p><i>Possible Health Services received:</i></p> <ul style="list-style-type: none"> <i>Education and behavior change messages</i> <i>Case treatment management</i> <i>Isolation/quarantine</i> <i>Contact tracing</i> <i>Community/border surveillance</i> <i>Safe burial services</i> <p><i>In-kind services: personal hygiene equipment, food, financial support</i></p>
6	7	<p>What do you think about the quality of services provided to [your community*]?</p> <p><i>Probe on timeliness, sufficiency and appropriateness</i></p> <p><i>Probe: Did your community advocate for or against the particular way a service was provided?</i></p> <p><i>Please explain.</i></p>
7	1, 2	<p>In your opinion, what assistance or services contributed the most to reducing the number of Ebola cases in your community?</p>
8	1, 2	<p>What advice would you give to improve assistance or services in case of future outbreaks?</p>

KEY INFORMANT INTERVIEW OF CDC PROFESSIONALS

Depending on interview, and the specific individuals participating, a subset of the following questions will be moderated:

SECTION A: ADMINISTRATIVE INFORMATION

KII Questionnaire number:	□ □ □ □
Interview date:	DD □ □ MM □ □ YY □ □
Time of Interview: (24 hour clock)	
Name of Interviewer:	
Place of Interview:	
Country:	

SECTION B: QUESTIONS

IMPLEMENTATION EXPERIENCE AND CHALLENGES FACED BY CDC

#	EQ # <i>Designation</i>	Question
1	6	Please describe your area of intervention or work in the outbreak response? Including your role and where you were posted.
2	6, 7, 8	If you wrote up any of your findings, observations or lessons, can you share these or point to where they might have been published?
3	4, 6	Whom did you interact with as your CDC supervisor? Your local supervisor/counterpart? With what other implementing agencies did you coordinate, cooperate, or collaborate?
4	1, 2, 3	Did you have any opportunities to collaborate with OFDA or USAID? Can you describe its nature?
5	1, 2, 3	Did you receive a clearly stated Scope of Work in writing (as for a copy)? Did you receive a pre-departure briefing (if so, what were the key components)? What roles and specific activities did you carry out or accomplish? Did you participate in an After-Action Briefing (If so, did you submit an After-Action-Report – ask for a copy)?
6	1, 2, 3, 10	What were the biggest challenges you faced? For each challenge mentioned, describe how you responded.

EVIDENCE FROM CDC ABOUT WHAT SEEMED TO WORK BEST IN REDUCING EVD TRANSMISSION

#	EQ # <i>Designation</i>	Question
7	1, 2, 3, 5, 6, 10	To what extent did you feel your work reduced EVD transmission in [Name where worked]
8	5, 6, 8	What factors did you, or CDC more generally, encounter that constrained (8a) or enhanced (8b) interventions to reduce EVD transmission in [where worked]
9	5, 6, 8	What can you describe about the performance and quality of the work environment (9a), equipment (9b), supplies (9c), professional staff (9d), and support staff (9e) in the setting in which you worked – i.e., in District Health Offices, laboratories, Ebola Treatment Units (ETUs), the Community Care Centers (CCCs), Contact Tracer Teams, or Burial Teams?
10	5, 6, 8	What evidence did CDC obtain regarding the effectiveness of training health care workers on the principles and practice of IPC in health care facilities as

		implemented by CDC (10a) and other IPs (10b)?	
11	5, 6, 8, 10	What evidence did CDC obtain regarding the effectiveness of programs of behavior change communication to reduce EVD transmission in communities as implemented by CDC (11a) and other implementing partners (11b)?	
KEY BENEFITS AND CONSTRAINTS IN WORKING WITH LOCAL PARTNER AGENCIES			
#	EQ # Designation	Question	Instruction for Interviewer
12	8, 9	What were your experience in working with and communicating with the OFDA DARTs (12a) and with other donors (12b)?	
13	8,9	To the extent that you observed OFDA or USAID decision-making, please can you comment about how well they based their decisions on previously published scientific principles (13a) , evidence and information from local epidemiologic surveillance data (13b) , or other sources to be specified (13c) .	
14	8,9	Did you observe examples of a whole-of-government (DoD, DoS, DHHS, DHS, etc.) approach in the USG response to the Ebola outbreak (14a)? If so, please describe examples of what you observed (14b), and comment on the effectiveness of such an approach in controlling the outbreak (14c).	

8. Focus Group Discussion Guide & Questions

Focus Group Discussion Guide: FGDs are not intended as necessarily to be in place of KIIs. In some instances, such as at WHO, UNICEF or FFP, a FGD is useful to engender the cross-stimulation among participants, and discovery from that of issues that would not otherwise be known to the KII interviewer. In any instances, a KII can be used as follow up.

Types of FGD respondents and FGD Guide Number

1. Community Youth Volunteers/Burial Team Members: FGD, 1
2. Families of Ebola Deceased and Survivors: FGD, 2
3. Community members in Ebola affected areas- Women group: FGD, 3
4. Community members in Ebola affected areas- Men group: FGD, 3
5. Community members living in bordering areas not affected by Ebola: FGD, 4

INTRODUCTION & WARM UP FOR ALL FOCUS GROUPS

1. Introduce yourself *and* fill Section A: Administrative information

- *Who we are, and what we are trying to do*
- *What will be done with this information*
- *Why we asked you to participate*

2. Explain focus group discussion

- *Ask the group if anyone has participated in a focus group before. Explain that focus groups are being used more and more often in health and human services research.*

About focus groups

- *We learn from you (positive and negative)*
- *Not trying to achieve consensus, we are gathering information that you have observed or experienced*
- *In this project, we are doing both surveys and focus group discussions. We will be asking you questions related to your experience and observation. The reason for using both of these tools is that we can get more in-depth information from a smaller group of people in focus groups. This allows us to understand the context behind the answers given in the written survey, and helps us explore topics in more detail than we can do in a written survey.*

Logistics

- *Focus group will last about from one hour to 90 minutes.*

3. Introduce the topic of discussion

I am with a team that is in your community talking to people to learn more about your experiences with Ebola and services provided during Ebola outbreak, as part of a study for the U.S. Government.

4. State the ground rules

- *Speak honestly, one at a time, no “right or “wrong” answers, ask questions if you need to. (obtain group consensus on the rules)*
- *Ask the group to suggest some ground rules. After they brainstorm some, make sure the following are on the list.*
- *Everyone should participate to share their observations and experiences.*
- *You will not receive any kind of cash incentive to participate in the group.*
- *Information provided in the focus group must remain private to the group.*
- *Stay with the group and please don't have side conversations*
- *Turn off cell phones if possible*
- *Have fun*

5. Introduce equipment to be used (tape recorder, if used when appropriate) and why.

- We would like to tape the focus groups (when appropriate), so we can make sure to capture the thoughts, opinions, and ideas we hear from the group. No names will be attached to the focus groups and the tapes will be destroyed as soon as they are transcribed.
- Sign-in sheet (when appropriate)
- Consent forms (one copy for participants, one copy for the team) (when appropriate)
- Focus Group Discussion Guide for Facilitator
- Notebook for note-taking
- Refreshments

6. Read the consent form and assure participants on the confidentiality

Informed consent form:

You have been asked to participate in a focus group discussion. The information learned in the focus groups will be used by aid agencies to evaluate their performance in the Ebola outbreak response, and the performance of their partners. It will also be used to help inform future U.S. responses to health emergencies. You can choose whether or not to participate in the focus group and stop at any time. Your responses will remain anonymous and no names will be mentioned in the report. There are no right or wrong answers to the focus group questions. We want to hear many different viewpoints and would like to hear from everyone. We hope you can be honest even when your responses may not be in agreement with the rest of the group. In respect for each other, we ask that only one individual speak at a time in the group and that responses made by all participants be kept confidential.

If you have any questions now or after you have completed the discussion, you can always contact a study team member like me, or you can call the _____(Country Coordinator), whose names and phone numbers are on this form.

Please check the boxes below and sign to show you agree to participate in this focus group.

I understand this information and agree to participate fully under the conditions stated above:

Signature: _____ Date: _____

Let the participants introduce themselves (age, occupation, family status).

5. Introduce equipment to be used (tape recorder, if used when appropriate) and why.

- We would like to tape the focus groups (when appropriate), so we can make sure to capture the thoughts, opinions, and ideas we hear from the group. No names will be attached to the focus groups and the tapes will be destroyed as soon as they are transcribed.
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Please check the boxes below and sign to show you agree to participate in this focus group.

I understand this information and agree to participate fully under the conditions stated above:

Signature: _____ Date: _____

Let the participants introduce themselves (age, occupation, family status).

FGD1: FOCUS GROUP DISCUSSION OF BURIAL TEAMS INCLUDING YOUTH VOLUNTEERS/BURIAL TEAM MEMBERS

Our target respondents will include all burial workers, professional and youth/community workers recruited for burial services, some of whom may do cremation or ambulance work as well.
Facilitated by ORB Facilitators

Instructions to Facilitator: Burial teams were composed of 6-8 persons, each having a distinct role such as one disinfectant, four burial diggers, one ambulance driver, and one family liaison. The aim is to have similar composition for the focus group. When meeting with burial teams, selection should aim to meet two types of groups (one group professional burial teams, and the second group to include youth/community members who were recruited for burial services). Having homogenous groups is a first priority.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

FGD Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of discussion: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
GPS Coordinates	Longitude: _____ Latitude: _____
Name of village/clan/chiefdom:	
Number of participants, Gender distribution	Number: _____ Male: _____ Female: _____

SECTION B: QUESTIONS

#	EQ # Designation	Question	Instruction for Facilitator
1	2, 5, 10	Can we go around the room and learn from each of you what kind of work you did as a member of a burial team during the Ebola epidemic, and when did you get involved? _____ _____ _____ _____	
2	5, 6, 10	What key skills did each of you learn that you feel were critical to your work? _____ _____ _____ _____	<i>If not brought up, guide the group to discuss: Why they felt the skills mentioned were critical? Probe the group to describe who provided the skills trainings, materials and when. Did you receive any formal training to work during Ebola outbreak response? Did you receive any materials to assist in your work? To keep you safe from Ebola and educate others in the community about Ebola?</i>

3	3	<p>How did people feel about how Ebola burials were conducted?</p> <hr/> <hr/> <hr/> <hr/>	<p><i>If not discussed, guide the group to discuss examples of experience dealing with family members of the Ebola deceased</i></p> <p><i>Were there any challenges for you to be able to do safe and dignified burials?</i></p> <p><i>What specifically made those named challenging and why?</i></p>
4	3, 7	<p>What did you think of the safe burial guidelines?</p> <hr/> <hr/> <hr/> <hr/>	<p><i>Probe: on availability and use of PPE, time management and workload</i></p> <p><i>Did you receive safe burial guidelines and necessary equipment? Who provided these?</i></p> <p><i>Which parts of safe burial procedures were good and easy to do? Which parts were difficult, essential?</i></p>
5	1, 2	<p>In your opinion, what were the services/activities that contributed to reducing the number of Ebola cases in the communities you have worked?</p> <hr/> <hr/> <hr/> <hr/>	

6	1, 2	<p>What advice would you give to improve services to community in case of future outbreaks?</p> <hr/> <hr/> <hr/> <hr/>	
7	1, 2	<p>Are there any negative consequences for you now for having done your work during Ebola outbreak?</p> <hr/> <hr/> <hr/> <hr/>	

FGD2: FOCUS GROUP DISCUSSION OF FAMILIES AFFECTED BY EBOLA

Our target respondents will include adult household members affected by Ebola- Families of Ebola survivor and Ebola deceased
Facilitated by ORB Facilitators

Instructions to Facilitator: Conduct FGD with a group of adult member of families affected by Ebola, organized in consultation and assistance with community leader/village head.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

FGD Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of discussion: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
GPS Coordinates	Longitude: _____ Latitude: _____
Name of village/clan/chiefdom	
Number of participants, Gender distribution	Number: _____ Male: _____ Female: _____

SECTION B: QUESTIONS

#	EQ # Designation	Question	Instruction for Facilitator
1	1, 2, 5, 10	What did each of you know about Ebola before your family member got sick? _____ _____	Probe of following, if not described during the discussion: Where did you learn what you knew? How did you learn your family member was sick due to Ebola?

			<p>Do you know of a situation when family members of Ebola patients did not inform authority or take patients to a health facility?</p>
2	3, 4, 5, 6, 7, 10	<p>Tell me about the services or help your family member received when s/he was ill?</p> <hr/> <hr/> <hr/> <hr/>	<p>Probe: on availability, timeliness and quality of services Probe group to describe the service What type? Services such as : Ebola education and services information messages In-kind support- personal hygiene equipment, Food support Case treatment management Isolation/quarantine Contact tracing/community surveillance Safe burial services</p> <p>Can you remember the names of organizations that provided the support/services?</p> <p>Did the help that you were given match the needs of you and your family? Did the help you needed come in time? Did you receive any in-kind</p>

			<i>support or services for Ebola before your family member got sick? During the sickness? After the sickness?</i>
3	3, 4	<p>What helped you get assistance for your families?</p> <hr/> <hr/> <hr/> <hr/>	<p><i>Probe: Who gave you the best information when your family member was sick, and afterwards? What organizations or groups were the most helpful?</i></p>
4	3	<p>What, if any challenges, did you face while seeking health care for family members?</p> <hr/> <hr/> <hr/> <hr/>	<p><i>If not discussed, guide the group to discuss what specifically made those named challenging and why.</i></p> <p><i>Probe- stigma and discrimination</i></p> <p><i>Any refusal for assistance</i></p> <p><i>Any challenges from other community members, neighbors</i></p>
5	1, 2	<p>In your opinion, what were the services/activities that contributed to reducing the number of Ebola cases in your community?</p> <hr/> <hr/> <hr/> <hr/>	
6	1, 2	<p>What advice would you give to improve aid to people and families affected by Ebola in case of future outbreaks?</p>	

FGD 3: FOCUS GROUP DISCUSSION OF COMMUNITY MEMBERS (community with Ebola case)

Our target respondents will include adult community members in community affected by Ebola
Facilitated by ORB Facilitators

Instructions to Facilitator: Conduct FGD with **two separate group of adult member of community (one FGD for women and other FGD for men, all ages above 18 years)**. The FGD to be organized in consultation and assistance with community leader/village head.

Informed consent must be signed by every respondent.

SECTION A: ADMINISTRATIVE INFORMATION

FGD Questionnaire number:	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
Discussion date:	DD <input type="text"/> <input type="text"/> MM <input type="text"/> <input type="text"/> YY <input type="text"/> <input type="text"/>
Time of discussion: (24 hour clock)	
Name Of Facilitator:	
Place of Discussion:	
Country:	
Prefecture (Guinea)/District (SL) /County (Liberia):	
GPS Coordinates	Longitude: _____ Latitude: _____
Name of village/clan/chiefdom	
Number of participants, Gender distribution	Number: _____ Male: _____ Female: _____

SECTION B: QUESTIONS

#	EQ # Designation	Question	Instruction for Facilitator
I	1, 2, 5, 10	What did you know about Ebola before <i>your</i> community was particularly affected? _____ _____ _____ _____	<i>Probe of following, if not described during the discussion: If you listened to or heard about important messages about Ebola and how to avoid it, when did you first hear? Please describe the content of this message as you remember it. Did the messages or information change over time and how?</i>
I	1, 2, 5	In what ways were members of this community particularly affected? _____ _____ _____ _____	<i>Probe of following, if not described Any effect on employment? School/education? Trade? Agriculture? Movement of people within communities?</i>

2	3, 4, 5, 6, 7, 10	<p>Tell me about the services or help your community received during the outbreak.</p> <hr/> <hr/> <hr/> <hr/>	<p><i>Probe: on availability, timeliness and quality of services</i></p> <p><i>Probe group to describe the service</i></p> <p><i>What type?</i></p> <p><i>Services such as :</i></p> <p><i>Ebola education and services information messages</i></p> <p><i>In-kind support- personal hygiene equipment, Food support</i></p> <p><i>Case treatment management</i></p> <p><i>Isolation/quarantine</i></p> <p><i>Contact tracing/community surveillance</i></p> <p><i>Safe burial services</i></p> <p><i>Can you remember the names of organizations that provided the support/services?</i></p>
3	3	<p>Tell me about whether there was any effect on other routine health services for the community during the outbreak.</p> <hr/> <hr/> <hr/> <hr/>	<p><i>If not discussed, guide the group to discuss on availability, timeliness and quality of services</i></p> <p><i>Any changes in routine maternal, newborn, and child health services?</i></p> <p><i>Any challenges?</i></p>

4	1, 2	<p>In your opinion, what were the services/activities that contributed to reducing the number of Ebola cases in your community?</p> <hr/> <hr/> <hr/> <hr/>	
5	1, 2	<p>What advice would you give to improve aid to people and families affected by Ebola in case of future outbreaks?</p> <hr/> <hr/> <hr/> <hr/>	

FGD4: FOCUS GROUP DISCUSSION OF COMMUNITY MEMBERS (community with no Ebola case)			
Our target respondents will include adult community members in community with no Ebola cases reported during the Ebola outbreak Facilitated by ORB Facilitators			
<i>Instructions to Facilitator: Conduct FGD with adult member (men and women) of community. The FGD to be organized in consultation and assistance with community leader/village head.</i>			
Informed consent must be signed by every respondent.			
SECTION A: ADMINISTRATIVE INFORMATION			
FGD Questionnaire number:	□ □ □ □		
Discussion date:	DD □ □	MM □ □	YY □ □
Time of discussion: (24 hour clock)			
Name Of Facilitator:			
Place of Discussion:			
Country:			
Prefecture (Guinea)/District (SL) /County (Liberia):			
GPS Coordinates	Longitude: _____ Latitude: _____		
Name of village/clan/chieftom			
Number of participants, Gender distribution	Number: _____ Male: _____ Female: _____		
SECTION B: QUESTIONS			
#	EQ # Designation	Question	Instruction for Facilitator

1	1, 2, 5, 10	What did you know about Ebola before <i>your neighboring</i> community was particularly affected? _____ _____ _____ _____	<i>Probe of following, if not described during the discussion: If you listened to or heard about important messages about Ebola and how to avoid it, when did you first hear? Please describe the content of this message as you remember it. Did the messages or information change over time and how?</i>
1	1, 2, 5	In what ways were members of this community particularly affected? _____ _____ _____ _____	<i>Probe of following, if not described Any effect on employment? School/education? Trade? Agriculture? Movement of people within communities?</i>

2	3, 4, 5, 6, 7, 10	<p>Tell me about the services or help your community received when your neighboring community had the Ebola outbreak.</p> <hr/> <hr/> <hr/> <hr/>	<p><i>Probe: on availability, timeliness and quality of services</i> <i>Probe group to describe the service</i> <i>What type?</i> <i>Services such as :</i> <i>Ebola education and services</i> <i>information messages</i> <i>In-kind support- personal hygiene equipment, Food support</i> <i>Case treatment management</i> <i>Isolation/quarantine</i> <i>Contact tracing/community surveillance</i> <i>Safe burial services</i></p> <p><i>Can you remember the names of organizations that provided the support/services?</i></p>
3	3	<p>Tell me about whether there was any effect on other routine health services for the community.</p> <hr/> <hr/> <hr/> <hr/>	<p><i>If not discussed, guide the group to discuss on availability, timeliness and quality of services</i> <i>Any changes in routine maternal, newborn, and child health services?</i> <i>Any challenges?</i></p>

4	1, 2	<p>In your opinion, what were the services/activities that prevented an Ebola outbreak in your community?</p> <hr/> <hr/> <hr/> <hr/>	
5	1, 2	<p>What advice would you give to improve aid to people and families affected by Ebola in case of future outbreaks?</p> <hr/> <hr/> <hr/> <hr/>	

ANNEX G. DOCUMENTS CONSULTED

General

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World Vision (2015). Improved Management of EVD Response Fleet (Ambulances and Decontamination). (Final Narrative Report)

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ANNEX H. INTERVIEWS & DISCUSSIONS

1. KEY INFORMANT INTERVIEWS

N°	Interviewee(s)	Association
Guinea (42)		
1	Mme Rachel Honorine Camara (Mrs Gomez)	CECI
2	Mamadou Lamine Sonko	Child Fund
3	Professor Yolande Hyjazi	Jhpiego
4	Mr Fode Tass Sylla	CNLE
5	Dr Jean-Marie Bihizi	CRS
6	Stéphane Lobjois	IMC
7	Ibrahim Forgotten Bamba	HKI
8	Michael Asima	IOM
9	Thierno Maka Barry	Plan Guinea
10	Dr Aboubacar Sakoba	CNLE
11	Mme Tamar Bah	USAID
12	Lise Martel	CDC
13	Guillame Bakadi Mukenge	HC3
14	Dr Robert Camara	MoH
15	Dr Pepe Bilivogui	MoH
16	Dr Moumie Barry	CNLE
17	Pr Lamine Koivogui	National Institute of Public Health
18	Dr Issiaga Konate	WHO
19	Dr Joseph Miburo	IFRC
20	Dr Alpha Diallo	Clinic Pasteur
21	Mamadou Kaba Barry	Terre des Hommes
22	Marc Rubin	Unicef
23	Thomas Mauget	French Red Cross
24	Dr Mariama Cire/Dr Gaku Tata (Conakry Health Director)	Health Directorate of Conakry - DSVCO
25	Dr Saïmatou Toure	Communal Health Directorate of Matam
26	Professor Madiou Diakite	Donka Nat'l Hospital Lab
27	Dr Abdourahamane Bachili	Ebola Coordination
28	Dr Catherine Loua	Communal Health Directorate of Matoto
29	Dr Karamo Cherif	Guinea Red Cross
30	Dr Lansana Kerouane Camara	Prefectural Directorate of Forecariah
31	Dr Moustapha Toure	Prefectural Hospital Lab
32	Dr Kaly Youla	Youla Private Clinic
33	Dr Jules Aly Koundouno	Association of Ebola Survivors

N°	Interviewee(s)	Association
34	Dr Teoro Koikoi Gnome	Prefectural Directorate of Coyah
35	Dr David Azoko	Prefectural Hospital of Coyah
36	Dr Naby Sekou Conte	Prefectural Hospital of Coyah
37	Dr Sekou Keita	Communal Health Center of Matam - CMC Matam
38	Dr Bangaly Soumah	Communal Health Center of Miniere - CMC Miniere
39	Dr Boubacar Diallo	RTI
40	Professor Alpha Amadou Bano	General Lansana Conte University - UGLC
41	Dr Fatoumata Binta Diallo	Communal Health Center of Flamboyant - CMC Flamboyant
42	Dr Doussou Toure	Communal Health Center of Coleah - CMC Coleah
Liberia (44)		
1	Malnuddin Ahmed	BRAC
2	Augustin Koryon	IRC
3	Nimah Candy	Liberian Red Cross
4	Rev. Sumo	MOH
5	Mervyn Johnson	Ebola Holding Ctr & Nursing Dir., Redemption Hosp.
6	Thomas Knue Nagbe	MOH
7	Elizabeth Geddeh	Global Communities
8	Dr. Anthony S. Chan	USAID/L
9	Philippe Accilien	USAID/L
10	Mervyn Farroe	
11	Tolbert Nyensuah	MOH
12	Dr. Alex Gasasira	WHO
13	Dr. Desmond Williams	CDC
14	Lisha McCormick	Last Mile Health
15	Dr. Beatrice Kirubi	IOM & MSF
16	Penny Andrews	Mercy Corps
17	Judith Oakey	JSI
18	Timothy Owhochukwu	Concern Worldwide
19	Kevin W. Fleming	Peace Corps
20	Cate Oswald	Partners in Health
21	Amanda Boachie	USAID
22	Bev Kauffeldt	Samaritan's Purse
23	Emily Caudwell	Samaritan's Purse
24	Yvonne Kodl	JSI
25	Monica Dea	CDC
26	Regina Parham	USAID/OFDA
27	Martha Keselly ETU staff	ELWA ETU/MSF-ETU
28	Nehwon Suah Youth Leader	YMCA
29	Mohammed Hussein Religious Leader	Imma Plumko Mosque
30	Harris S. Darkpah	Tradittional Council Of Liberia
31	Felecia Toe	County Health Team Montserrado
32	Richard Dolo	Community leader
33	Victor Nadoe	Global Communties /IOM/Red Cross/Concern

N°	Interviewee(s)	Association
34	Othello Contowor	Global Communties /IOM/Red Cross/Concern
35	Martha Kangar	Global Communties /IOM/Red Cross/Concern
36	Pastor McCauley	Global Communties /IOM/Red Cross/Concern
37	Zondeh Duo	Global Communties /IOM/Red Cross/Concern
38	Gabriel B. Kassay	Global Communties /IOM/Red Cross/Concern
39	Siaffa J. Perry	Global Communties /IOM/Red Cross/ITM
40	Salfula Sonnie	Global Communties /IOM/Red Cross/ITM
41	Soko S. Kamara	Global Communties /IOM/Red Cross/ITM
42	Patrick L. Kamara Sr.	Global Communties /IOM/Red Cross/ITM
43	Alihaji Zordua	Global Communties /IOM/Red Cross/ITM
44	Moses T. Geffie Jr.	Global Communties /IOM/Red Cross/ITM
Sierra Leone (48)		
1	John Kalokoh	ChildFund
2	Musa Sano Kontach	Munafa M'Pate Federation
3	Zuliatu Cooper	Ministry of Health and Sanitation
4	Amara Jambai	Ministry of Health and Sanitation
5	Yabom T Sesay-Koroma	Office of the President
6	Madina Rahman	Ministry of Health and Sanitation
7	Sarian Kamara	Ministry of Health and Sanitation
8	Rajiv Shrivayasa	Oxfam
9	Sara Hersey	CDC
10	Eilidh Higgins	IRC
11	Dr. Brima Kamara	Ministry of Health and Sanitation
12	Dr.A. Pekezou	IOM
13	Darren Hertz	IRC
14	Mohamed Kakay	WHO
15	Sandra Lattouf	Unicef
16	Kshitij Joshi	Unicef
17	Alfred Kamara	Ministry of Health and Sanitation
18	Ibrahim Turay	Ministry of Health and Sanitation
19	Mohamed Konteh	Ministry of Health and Sanitation
20	Umaru Dumbuya	Ministry of Health and Sanitation, Sierra Leone
21	Kadiatu Koromo	Community Leader, Kabala, Sierra Leone
22	Maada Alpha B. Ndoleh	Community Leader, Kailahun, Sierra Leone
23	Isata Ndoleh	Community Leader, Kailahun, Sierra Leone
24	Davidson Jonah	Child Fund
25	Rev. Chief Fengai Nyandemoh	District Ebola Response Committee, Deputy Coordinator
26	Finda Aminata Sinnah	Traditional leader, Kono
27	Steven Ansumana	Religious Leader - Pastor
28	Sheik Amadou Mattia	Religious Leader - Imam
29	Sahr Richard Fears	Traditional leader, Kono
30	Richard Gborie	Ministry of Health and Sanitation, Sierra Leone
31	Jonathan Ellie	Ministry of Health and Sanitation, Sierra Leone

N°	Interviewee(s)	Association
32	John Abu Rakarr Contef	Youth Leader
33	Rev John Keifala	Religious Leader- Pastor/ Community Organizer - Bo
34	Dr. Foday Sesay	Ministry of Health and Sanitation, Sierra Leone
35	Sheikh Abdulai A. Koroma	Chief Imam- Central Mosque, Mile 91
36	Santigie Kamara	Community Leader/Business Man
37	Osman Conteh	Community Leader/
38	Ibrahim K. Fullah	Community Leader, Mile 91
39	Albert Foday Kamara	Ministry of Health and Sanitation, Sierra Leone
40	Mohamed Hassan Kanu	Ministry of Health and Sanitation, Sierra Leone
41	Carrie Jo Kindi	World Hope International
42	Dr. Santigie Sesay	Ministry of Health and Sanitation, Sierra Leone
43	Daniel S. Turay	Kalasogoia Chiefdom, Bumbuna
44	Yayah A. Conteh	Ministry of Health and Sanitation, Sierra Leone
45	Dr. Brima Kargbo	Ministry of Health and Sanitation, Sierra Leone
46	Rev. Alimamy A. Bangura	Emmanuel Baptist conference, Sierra Leone
47	Theresa Bagray	Christian Aid, Sierra Leone
48	Kevin Weseni	World Vision International, SL
US & Europe (99)		
1	John Redd	CDC
2	Brian Wheeler	CDC
3	Dan Jernigan	CDC
4	Mark Anderson	CDC
5	Pratima Raghunathan	CDC
6	Satish Pillai	CDC
7	Ezra Barzilay	CDC
8	Barbara Marston	CDC
9	Jeff Bryant	CDC
10	Ed Rouse	CDC
11	Athalia Christie	CDC
12	Inger Damon	CDC
13	Mark Anderson	CDC
14	Jordan Tappero	CDC
15	Thomas Friedan	CDC
16	Kristen Debord	HHS
17	Jimmy Kolker	HHS
18	Jeff Lightsey	DOD – 101st Airborne
19	Paul Reed	DOD – USUHS
20	Thomas Kirsch	DOD – USUHS
21	Eric P Nikolai	DOD – TransCom
22	Leroy Juenger	DOD – TransCom
23	Iraq Gharagouzloo	DOD
24	Matthew Doan	DOD
25	Jose Sanchez	DOD

N°	Interviewee(s)	Association
26	Juanita Rilling	RMT
27	Giselle Zimmerman	RMT
28	John Zavales	RMT
29	Cara Christie	RMT
30	Karey Haywood	RMT
31	Jonathan Kennedy	RMT
32	Samuel F Sells	RMT – DOD
33	Al Gembara	RMT
34	James Nuttle	DART
35	Ethan Arnholm	DART
36	Tim Callaghan	DART
37	Chi-Poe (CP) Hsia	DART
38	Laura Shevchik	DART
39	Dori Gebregziabher	DART
40	Justin Pendarvis	DART
41	Linda Mobula	DART
42	Metta Karlsen	DART
43	Dina Esposito	FFP
44	Jeremy Haldeman	American Refugee Committee (ARC)
45	Benjamin Phillis	ChildFund International
46	Piet DeVries	Global Communities (currently FHI360)
47	Rachel Silverman	Center for Global Development
48	Susan Morawetz	Global Communities
49	Brett Sedgewick	Global Communities
50	Pia Wanek	Global Communities
51	Else Kirk	GOAL
52	Fay Ballard	GOAL
53	Sophie Messan	InterNews
54	Pierre Mignault	InterNews
55	Adrienne Villani	Global Communities
56	Sean Casey	IMC
57	Natalie Sarles	Global Communities
58	Laura Stana	IMC
59	Stephen Hatch	IMC
60	Emmanuel d’Harcourt	IRC
61	Laura Miller	IRC
62	Ruwan Ratnayake	IRC
63	Dr. SA McMahan	IRC
64	Erin Stone	IRC
65	Armand Sprecher	MSF
66	Jim DiFrancesca	Project Concern International
67	Jesse Hartness	Save the Children
66	Gagik Karapetyan	World Vision USA

N°	Interviewee(s)	Association
69	Daniel Lucey	Georgetown University Medical Center
70	John Monahan	Global Health Institute, Georgetown University
71	Amira Roess	George Washington University
72	Beth Ann Plowman	UNICEF
73	Paul Pronyk	UNICEF
74	Imran Mirza	UNICEF
75	Kristen Barredo	World Vision
76	Bruce Aylward	WHO
77	Richard Brennan	WHO
78	Robin Dartell	WHO
79	Samuel Plasmati	Harvard Humanitarian Initiative
80	Richard Cash	Harvard School of Public Health
81	Sinead Walsh	Irish Ambassador to Sierra Leone
82	Thierry Delbreuve	OCHA
83	Anne Golaz	University of Geneva
84	Leonard Doyle	IOM
85	Peter Jan Graaf	UNMEER
86	Anonymous	UNAIDS
87	David Nabarro	UNDP
88	Adrien Adams MAJ	DoD
89	Jordan Simmers MAJ	DoD
90	Ross Coffey LTC	DoD
91	Amy Ehmann	DoD
92	Ian Norton	WHO
93	Tom Kenon	CDC and Project Hope International
94	Eugene Richardson	Harvard University
95	Ali Khan	WHO; University of Nebraska Medical School
96	Brian McClosky	Public Health England
97	Emma Ross	Chatham House Centre on Global Health Security
98	Victoria Parkinson	OBE – Formerly Senior Governance advisor-National Ebola Advisor for Tony Blair African Governance Initiative, Sierra Leone
99	Chris Walker	Former consultant to DFID CHASE

2. FOCUS GROUP DISCUSSIONS

N°	Group	Location	Gender
Guinea (19)			
1	Medicine Faculty – Female Students	Conakry	F
2	Medicine Faculty - Male Students	Conakry	M
3	Community Youth Group	Conakry	M/F
4	Community Group of Fishermen	Conakry	M/F
5	Religious Leaders	Conakry	M/F
6	Community Housewives Association	Conakry	F
7	Young girls of professional saloon	Conakry	F
8	Male Health Agents	Conakry	M
9	Female Health Agents	Conakry	F
10	Religious Leaders	Conakry	M/F
11	Social Action Members	Forecariah	M/F
12	Community Youth Group	Forecariah	M/F
13	Female Health Agents	Forecariah	F
14	Red Cross Volunteers	Forecariah	M/F
15	Male Health Agents	Forecariah	M
16	Female Health Agents	Coyah	F
17	Male Health Agents	Coyah	M
18	Community Housewives	Coyah	F
19	Community Youth Group	Coyah	M/F
Liberia (21)			
1	UNICEF Staff	Monrovia	M/F
2	National Traditional Council of Chiefs & Elderes	Monrovia	M/F
3	USAID Staff	Monrovia	M/F
4	CARE Staff	Monrovia	M/F
5	Save the Children Staff	Marghibi	M
6	WFP Staff	Monrovia	M
7	Ministry of Health (Female)	Monrovia	F
8	Global Communities/MOH	Monrovia	M/F
9	Burial Team (GC & MoH)	Monrovia	M/F
10	Community Residents (Beneficiaries of MoH, Red Cross, & Global Communities)	Besonville City	F
11	Community Residents (Beneficiaries of MoH, Red Cross, Global Communities, & ZOAH)	Besonville City	F
12	Community Residents (Beneficiaries of GC, MOH, & Red Cross)	Monrovia	M
13	Community Leaders	Monrovia	M/F
14	Female Community Leaders	Monrovia	F
15	Community Residents (Beneficiaries of MoH, Red Cross, & Concerned World Wide)	Monrovia	M
16	Community Residents (Beneficiaries of MoH, Red Cross, & Concerned World Wide)	Monrovia	
17	IREX/MoH Project Staff	Buchanan City	M/F
18	Red Cross/IFRC Project Staff	Buchanan City	M/F
19	Burial Team (Red Cross/GC)	Grand Bassa County	M
20	Burial Team (Red Cross/GC)	Grand Bassa County	M
21	Families Affected by Ebola	Buchanan City	M/F

N°	Group	Location	Gender
Sierra Leone (19)			
1	IMC – CHWs	Lunsar, Port Loko	M/F
2	Community Members (Community without Ebola)	Kabala	M/F
3	Youth Burial Team	Kabala Town	M/F
4	Ebola Survivors and Family Members	Makeni/Petbana	M/F
5	Women – Ebola Affected Community	Kailahun Town	F
6	Men – Ebola Affected Community	Kailahun Town	M
7	Burial Team	Kenema Town	M/F
8	Ebola Survivors and Family Members	Kenema Town	M/F
9	Ebola Survivors and Family Members	Bumpe, Kono	M/F
10	Men – Ebola Affected Community	Port Loko Town	M
11	Women – Ebola Affected Community	Bumpe, Kono	F
12	Men – Ebola Affected Community	Bumpe, Kono	M
13	Burial Team	Koidu, Kono	M/F
14	Community Members (Community without Ebola)	Koidu, Kono	M/F
15	Burial Team	Port Loko Town	M/F
16	Community Members (Community without Ebola)	Makeni/Mena	M/F
17	Men – Community Members (Ebola Affected Community)	Macdonald, Freetown	M
18	Women - Community Members (Ebola Affected Community)	Macdonald, Freetown	F
19	Ebola Survivors and Family Members	Macdonald, Freetown	M/F

3. DATA COLLECTED BY ORB INTL.

IBTCI subcontracted ORB International, based in Charlottesville, VA, to conduct large numbers of surveys and focus groups in West Africa as part of this evaluation. The table below presents the numbers of key informant interviews and group discussions held by group and by location, in addition to the structured surveys described elsewhere.

LIBERIA	Cape Mount	Lofa	Margibi	Bong	Grand Bassa	Nimba	Bomi	Gbarpolu	River Cess	Sinoi
Focus Group Discussions										
Burial Teams	1	1	1	1	1	1	1	1	0	0
Families of Ebola survivor and deceased in affected areas	1	1	1	1	1	1	1	1	0	0
Community-level male groups from Ebola-affected communities	1	1	1	1	1	1	1	1	1	0
Community-level female groups from Ebola-affected communities	1	1	1	1	1	1	1	1	0	1
Community-level in bordering areas not affected by Ebola (mixed gender)	1	1	1	1	1	0	0	0	0	1
Total	5	5	5	5	5	4	4	4	1	2
Key Informant Interviews										
Village chief/ traditional leader	1	1	1	1	1	1	1	1	1	1
Religious leader-pastor	1	0	1	1	0	0	0	0	0	1
Religious leader-Imam	0	0	0	0	0	0	0	0	0	0
Women's group leader	1	0	1	1	1	0	0	0	1	0
Youth group leader	0	1	0	0	1	0	0	1	0	0
Merchant/business leader	0	1	0	0	1	1	0	0	0	0
Other civic association representative	1	1	1	1	0	0	1	0	0	0
Total	4	4	4	4	4	2	2	2	2	2

SIERRA LEONE	Kenema	Kailahun	Port Loko	Kambia	Bombali	Tonkolili	Bo	Moyamba	Western Area Rural 1	Western Area Rural 2
Focus Group Discussions										
Burial Teams	1	1	1	1	0	1	0	0	0	0
Families of Ebola survivor and deceased in affected areas	1	1	1	0	1	1	0	0	0	0
Community-level male groups from Ebola-affected communities	0	1	0	1	1	1	1	0	1	0
Community-level female groups from Ebola-affected communities	1	1	1	0	1	1	0	1	0	0
Community-level in bordering areas not affected by Ebola (mixed gender)	1	0	0	1	0	0	0	1	1	1
Total	4	4	3	3	3	4	1	2	2	1
Key Informant Interviews										
Village chief/ traditional leader	1	1	1	1	1	1	1	1	1	1
Religious leader-pastor	1	0	0	0	0	0	1	0	0	0
Religious leader-Imam	0	0	1	0	0	1	0	1	0	0
Women's group leader	1	0	1	0	1	0	0	0	0	0
Youth group leader	0	1	0	1	0	0	0	0	1	1
Merchant/business leader	1	0	0	1	1	1	0	0	0	0
Other civic association representative	1	1	1	0	0	1	0	0	0	0
Total	5	3	4	3	3	4	2	2	2	2

GUINEA	All
Focus Group Discussions	
Burial Teams	5
Families of Ebola survivor and deceased in affected areas	5
Community-level male groups from Ebola-affected communities	6
Community-level female groups from Ebola-affected communities	6
Community-level in bordering areas not affected by Ebola (mixed gender)	5
Total	27
Key Informant Interviews	
Village chief/ traditional leader	10
Religious leader-pastor	1
Religious leader-Imam	3
Women's group leader	4
Youth group leader	4
Merchant/business leader	4
Other civic association representative	4
Total	30

ANNEX I. STATEMENTS OF DIFFERENCE

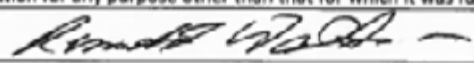
After collection of data and analysis, the IBTCI evaluation team did not find differences of opinion.

ANNEX J. CONFLICT OF INTEREST FORMS

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Ronald Waldman, M.D.
Title	Senior Science Advisor
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If yes answered above, I disclose the following facts: <small>Real or potential conflicts of interest may include, but are not limited to:</small> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	<p>1. I am the recipient of an IPA agreement from USAID that includes reimbursement of 50% of my salary from June 2017 - October 2017, then 36% from November 2017 - May 2019.</p> <p>I received 25% from May 2016 - April 2017. None of these funds come from USAID/OFDA</p> <p>2. I served as technical advisor to Save the Children from April 2014 - August 2015, including during the Ebola outbreak</p>

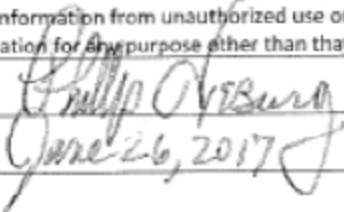
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	July 10, 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Phillip Nieburg, M.D.
Position	Senior Policy Advisor
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
AID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
Are there any real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If answered above, I disclose the following facts: <i>(or potential conflicts of interest may include, are not limited to:</i> <ul style="list-style-type: none"> <i>close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated.</i> <i>financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation.</i> <i>current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project.</i> <i>current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated.</i> <i>current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated.</i> <i>preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation.</i> 	


I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	June 26, 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Richard Stuart Olson, Ph.D.
Title	OFDA Historian Expert
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
If yes answered above, I disclose the following facts: <i>Real or potential conflicts of interest may include, but are not limited to:</i> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

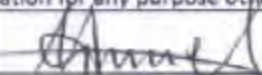
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	6/26/19

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Samuel Delito Turay, MPH
Title	Sierra Leone Field Coordinator
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above, I disclose the following facts:</p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

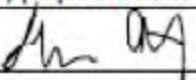
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	June 27 th , 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Sharon Abramowitz, Ph.D., M.D.
Title	Qualitative Researcher
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>If yes answered above. I disclose the following facts:</p> <p><i>Real or potential conflicts of interest may include, but are not limited to:</i></p> <ol style="list-style-type: none"> 1. Close family member who is an employee of the USAID operating unit managing the project(s) being evaluated or the implementing organization(s) whose project(s) are being evaluated. 2. Financial interest that is direct, or is significant though indirect, in the implementing organization(s) whose projects are being evaluated or in the outcome of the evaluation. 3. Current or previous direct or significant though indirect experience with the project(s) being evaluated, including involvement in the project design or previous iterations of the project. 4. Current or previous work experience or seeking employment with the USAID operating unit managing the evaluation or the implementing organization(s) whose project(s) are being evaluated. 5. Current or previous work experience with an organization that may be seen as an industry competitor with the implementing organization(s) whose project(s) are being evaluated. 6. Preconceived ideas toward individuals, groups, organizations, or objectives of the particular projects and organizations being evaluated that could bias the evaluation. 	

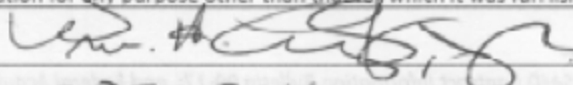
I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	
Date	27 June 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	William Lyerly, MPH
Title	Senior Humanitarian Aid and Emergencies Advisor
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak In West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Signature	
Date	15 DEC 2016

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Deborah Rugg, Ph.D.
Title	Senior Evaluation Specialist
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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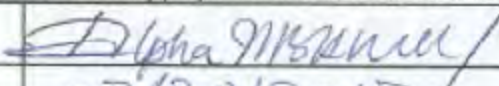
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Signature	Deborah Rugg
Date	26 June 2016

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Barry Mahmoud, MD
Title	Guinea Field Coordinator
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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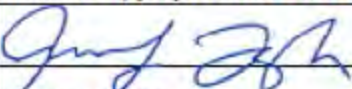
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Signature	
Date	07/20/2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Jennifer Leigh, MPH
Title	Public Health Advisor
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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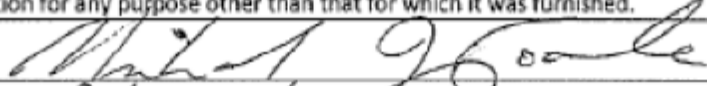
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Signature	
Date	13 July 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Michael Toole, M.D.
Title	Senior Evaluation & Public Health Specialist
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
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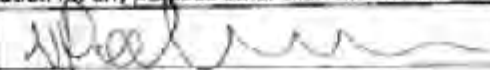
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Signature	
Date	6/27/2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Natalie P. Andersen, MPH
Title	Public Health Specialist
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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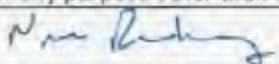
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Signature	
Date	27 June 2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Naomi Rutenberg, Ph.D.
Title	Senior Analyst / Writer
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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Signature	
Date	06/26/2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Philip Graitcer, MPH, <i>DMD</i>
Title	Senior Public Health Specialist
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
I have real or potential conflicts of interest to disclose.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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I certify (1) that I have completed this disclosure form fully and to the best of my ability and (2) that I will update this disclosure form promptly if relevant circumstances change. If I gain access to proprietary information of other companies, then I agree to protect their information from unauthorized use or disclosure for as long as it remains proprietary and refrain from using the information for any purpose other than that for which it was furnished.

Signature	<i>Philip Graitcer</i>
Date	<i>27 June 2017</i>

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Gayla Cook, M.Sc.
Title	Project Director
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
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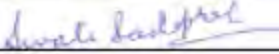
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Signature	
Date	07/01/2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Dr. Swati Sadaphal, M.D.
Title	Team Leader
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input checked="" type="checkbox"/> Team Leader <input type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
USAID Project(s) Evaluated (Include project name(s), implementer name(s) and award number(s), if applicable)	Performance Evaluation of OFDA's Response to Ebola Virus Disease (EVD) Outbreak in West Africa, IDIQ TO AID-OAA-I 15-00022/Aid-OAA-TO-16-00034 with IBTCI
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Signature	
Date	07/01/2017

Disclosure of Conflict of Interest for USAID Evaluation Team Members

Name	Steve Harsch, MPH
Title	Senior Humanitarian Aid and Emergency Advisor
Organization	International Business & Technical Consultants, Inc. (IBTCI)
Evaluation Position?	<input type="checkbox"/> Team Leader <input checked="" type="checkbox"/> Team member
Evaluation Award Number (contract or other instrument)	IDIQ TO AID-OAA-I-15-00022/AID-OAA-TO-16-00034
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Signature	
Date	07/01/2017

ANNEX K. SUMMARY OF TEAM MEMBERS

The core evaluation team included Dr. Swati Sadaphal, Team Leader; Jennifer Leigh, Public Health Advisor (PHA); Gayla Cook, Project Director; Steven Hansch, Senior Evaluation Specialist; and Dr. Michael Toole, Senior Evaluation Specialist. Fieldwork was supported by Dr. Barry Alpha Mahmoud (Guinea Coordinator); Kokpar Wohwoh (Liberia Coordinator); Samuel Turay (Sierra Leone Coordinator); and ORB International

(quantitative surveys and community-level qualitative data collection). Short-term technical consultants provided focused technical assistance per needs and requests by the core evaluation team. Data management, logistics, and administrative support was provided by program administrative staff, and technical quality assurance support was provided by the senior technical staff in the IBTCI home office.

Dr. Swati Sadaphal, MBBS, MHS - Team Leader

Dr. Swati Sadaphal is a monitoring and evaluation (M&E) and public health expert with over 17 years of experience conducting research, evaluating, and managing health interventions. Dr. Sadaphal played a major role in the proposal for the US Office of Foreign Disaster Assistance (OFDA) Ebola Response Evaluation and was instrumental in the initial design of the evaluation. She has worked in diverse settings, including clinical management of infectious diseases in primary care; specialty care and with targeted interventions; training and mentoring of health workers; epidemiological and clinical research; quality assurance; M&E; and creating and reviewing guidelines and policies for disease prevention and control. Currently, Dr. Sadaphal is a Director of M&E for IBTCI in the Global Health Practice, where she has served as Project Director for a number of projects, including the US Agency for International Development (USAID)/Kenya Evaluation Services and Program Support project, Performance Evaluation of the USAID-funded Integrated Health Project in the Democratic Republic of Congo (DRC/IHP), Impact Evaluation of the DRC/IHP pilot Results-based Financing (RBF) intervention, Mid-term evaluation of the USAID/Malawi Support for Service Delivery Integrated (SSDI) Project, and a Final Evaluation of USAID/Zambia HIV prevention Project. She has extensive expertise leading both performance and impact evaluations and conducting qualitative and quantitative

data analysis. Dr. Sadaphal also has eight years of experience in analyzing complex multi-stage survey data and population-based household surveys, and extensive knowledge and experience with sampling methodologies and conducting complex statistical analysis, such as multivariate analysis, factor analysis, and cluster analysis. At IBTCI, Dr. Sadaphal served as Evaluation Specialist and Data Analyst for a quasi-experimental prospective impact evaluation study of pilot RBF and before-after performance evaluation of USAID funded DRC/IHP. In the past, she served as an M&E expert for the Elizabeth Glaser Pediatric AIDS Foundation for the PEPFAR-funded Help Expand Antiretroviral Therapy for Children and Families (Project HEART), and described the level and trends in HIV palliative and ART care in treatment facilities in South Africa, Mozambique, Zambia, Tanzania, and Côte d'Ivoire. She served as the primary author of four evaluation reports on USAID DRC health projects. Dr. Sadaphal also conducted field research on public health issues in Cambodia, India, the DRC, and much of Southern Africa. She completed her undergraduate medical education and post-graduate training in Dermatology, Venereology and Leprology from University of Delhi, India and earned her Master's in Health Science from the Johns Hopkins Bloomberg School of Public Health with a focus on epidemiology, bio-statistics, and evaluation research.

Jennifer Leigh, MPH - Public Health Advisor

Jennifer Leigh is a public health expert with over ten years of experience providing technical assistance, project management, and M&E for global health programs. Currently, Ms. Leigh is a Research Fellow at the Harvard Global Health Institute (HGHI), providing research support to the HGHI/London

School of Hygiene and Tropical Medicine Independent Panel on the Global Response to Ebola. Ms. Leigh has excellent skills in qualitative and quantitative research design, data collection and analysis, and program design, management, and M&E. She has designed and implemented evaluations and baseline

assessments of public health interventions in Brazil, Nepal, Russia, and Ukraine, among others. She is a contributing author to a number of peer-reviewed publications on public health, particularly in complex humanitarian emergencies and conflict settings. Ms. Leigh has a Master's in Public Health with a focus

on humanitarian assistance and health and human rights from Johns Hopkins Bloomberg School of Public Health. She is currently pursuing a Doctor of Public Health degree from the Harvard T.H. Chan School of Public Health.

Gayla Cook, MSc - Project Director

Ms. Gayla Cook is an M&E specialist who has led or overseen M&E teams and development programs throughout Africa and the Middle East for over 35 years in sectors including education and training; individual and institutional capacity development; private sector investment supporting economic development; the impacts of HIV and AIDS; youth, agriculture and the environment; democracy and governance; humanitarian assistance; and gender equity. She has served as Chief of Party for USAID's Mission-Wide M&E and learning contracts for USAID/Somalia, the USAID/OFDA humanitarian portfolio in Yemen, and USAID's Regional Center for Southern African, working with the Southern Africa Development Community

(SADC). She has overseen M&E for USAID's Africa Education Initiative, covering M&E activities in 40 countries. Ms. Cook has led or participated in public health evaluations, including serving as Project Director for the performance evaluation of the Azerbaijan Strengthening Health Systems through Integrated Programs project and that of the Government of Lesotho Health Reform Project with the World Bank. Ms. Cook has performed various other evaluations and assessments in Africa on behalf of USAID, NGOs, and the private sector. She holds a Master's in Communications from Syracuse University and a B.A. in English Literature and Africana Studies from Cornell University.

Steven Hansch, MPH - Senior Humanitarian Aid and Emergencies Advisor

Mr. Steven Hansch is a humanitarian aid analyst with over 35 years of experience working in over 65 countries with implementing agencies to cull and document lessons. He has technical expertise in conducting field-based program evaluations, designing surveys, gathering evidence, and conducting interviews. Mr. Hansch is a trained epidemiologist, and has extensive experience designing, implementing, and evaluating programs regarding their effects on malaria, cholera, malnutrition, and other health-related challenges to vulnerable populations, specifically within the context of complex emergencies and in fragile states. He has worked in most countries of Eastern, Central, Western, and Southern sub-Saharan Africa, as well as in crisis zones in Latin America, Asia, the Middle East, and the Balkans. He has been published in books, peer reviewed articles, and industry grey literature reports about the statistics of health outcomes in emergencies

and about the organization of humanitarian architecture within the US Government (USG) and United Nations (UN). He is familiar with the program strategies and tactics of the top 30 nonprofit organizations, having worked on emergency programming, design, evaluations, or boards with most of the main humanitarian NGOs, in addition to the UN Children's Fund (UNICEF), World Health Organization (WHO), the International Federation of Red Cross and Red Crescent Societies (IFRC), and the International Committee of the Red Cross (ICRC). In recent years, he has specialized in evaluation designs, team leading, and project management for OFDA, Food for Peace, and USAID. Mr. Hansch holds a Master's in Public Health in Epidemiology and Biostatistics from Boston University, and a B.A. in Human Biology from Stanford University.

Kokpar Wohwoh, MPH - Liberia Field Coordinator

Mr. Kokpar Wohwoh has five years of experience in global health and M&E, with experience working in Liberia, Somalia, Kenya, Sierra Leone, Senegal, Nigeria, South Africa, and the US. Most recently, he served as the Monitoring and Evaluation Specialist for eHealth Africa, providing technical support on research assessments, M&E systems, data quality and management, and disease surveillance. Prior to that, he served as the M&E Coordinator for the USAID/OFDA-funded International Ebola Response project, coordinating the design and implementation

of the M&E system and supporting the district health teams in conducting effecting monitoring activities and collecting qualitative and quantitative data. He has broad experience in managing data collection, ensuring data quality control, and training partners and government officials in M&E best practices in the public health sector. He earned his Master's in Public Health from Moi University in Kenya and a B.S. degree in zoology and chemistry from the University of Liberia.

Samuel Delito Turay, MPH, MEd - Sierra Leone Field Coordinator

Mr. Samuel Turay is an experienced research coordinator, particularly for large-scale surveys, and a background in public health. He has over 15 years of experience working and collaborating with governmental institutions, agencies, and nongovernmental organizations in conducting surveys, evaluating programs, and formulating policy on health care and human services. His recent experience includes conducting numerous household and institutional surveys throughout all twelve districts of Sierra Leone to evaluate government programs implemented by different ministries and departments for the Office of the Chief of Staff of the President of Sierra Leone,

preparing the survey tools for a household health financing survey carried out by the Sierra Leone Ministry of Health and Sanitation, and serving as the team leader for an evaluation of the obesity prevention program for young African and Caribbean immigrant children and their families in the Greater Philadelphia area. Mr. Turay possesses extensive knowledge of the geography and cultural practices of the people of Sierra Leone and has traveled to every district in the country. Mr. Turay holds a Master's in Public Health from the University of the Sciences in Pennsylvania and a Master's in Education from Njala University College in Sierra Leone.

Dr. Barry Mahmoud, M.D., Ph.D., MPH - Guinea Field Coordinator

Dr. Barry Mahmoud has more than 14 years of experience managing public health programs and community health interventions, particularly for USAID projects. From 2009 to 2010, he served as the Chief of Party for the USAID/Guinea Project ESPOIR. He also has experience conducting M&E of public health projects and served as the M&E Technical Leader for a USAID project in Guinea, developing an M&E system, designing monitoring tools, and overseeing data collection. He

served as an independent consultant during the Ebola outbreak in Guinea, supporting projects through the Ministry of Health, UNICEF, and Plan International Guinea. Dr. Mahmoud earned his M.D. from the University of Conakry, holds a Doctor of Public Health degree from the University of Montreal, and a Master's in Public Health in epidemiology from the University of Oklahoma.

Dr. Michael Toole, MBBS - Senior Evaluation & Public Health Specialist

Dr. Mike Toole has 40 years of experience working in the health sector in low- and middle-income countries in Asia, Africa, the Middle East, and the Pacific. He is a medical epidemiologist and public health physician, with expertise in maternal and child health, including nutrition; communicable diseases control, including HIV prevention and care; primary health care program design and evaluation; sexual and reproductive health; and public health in conflict-affected and refugee populations. He has served as a team leader or member on numerous evaluations of public health interventions and provided technical expertise to develop and review national health strategies. He

is currently Deputy Director (International Health Strategy) of the Burnet Institute. Between 1995 and 2012, he was the Head of the Institute's Centre for International Health, providing technical and management leadership to this 150-person unit based in Melbourne, and supervised a number of overseas offices supporting a range of community health projects in the Asia-Pacific region and Southern Africa. He earned his Bachelor of Medical Science and Surgery from Monash University and earned a Diploma of Tropical Medicine and Hygiene from the London School of Hygiene and Tropical Medicine.

Dr. Deborah Rugg, Ph.D. - Senior Evaluation Specialist

Dr. Deborah Rugg has over 33 years of experience in international public health and research, with practical knowledge of infectious disease, chronic disease, HIV/AIDS, sexual and reproductive health, and adolescent health. Her technical expertise includes behavioral intervention research, global and country M&E systems, large scale impact evaluations, and national evaluation capacity building. Dr Rugg is now a professor at Claremont Graduate University, and serves as the Founder and Executive Director of the Claremont Evaluation

Center- New York (CEC-NY). CEC-NY is the New York City flagship expansion of the main Claremont Evaluation Center at Claremont Graduate University located in Claremont, CA, which offers tailored evaluation leadership trainings and coaching, organizes thought-leadership events that connect the dots between sectors, and actively participates in evaluation studies of international significance. Dr. Rugg has significant experience in providing technical assistance to UN member states, national governments, and both bilateral and multilateral donor agencies.

Since 2012, she has chaired the UN Evaluation Group, which is responsible for producing evaluation guidelines and strategies for building national evaluation capacity. As a Team Leader for the Monitoring, Operations and Evaluation Team for the Joint United Nations Programme on HIV/AIDS (UNAIDS), Dr. Rugg led a team of 55 M&E professionals by developing a strategic vision and executing the implementation of a work

plan. She additionally served as the Associate Director and Team Leader for Monitoring and Evaluation for the CDC, where she designed and oversaw a global strategy to monitor and evaluate the effectiveness of the CDC's \$484 million Global AIDS Program in over 25 countries. Dr. Rugg earned her Ph.D. from the University of California San Francisco's School of Medicine.

Senior Technical Advisors

Dr. Sharon Abramowitz, Ph.D., MA - Qualitative Researcher

Dr. Sharon Abramowitz is a medical anthropologist with over 10 years of experience in public health, particularly in developing countries. She specializes in humanitarian intervention and health sector transitions and has technical expertise in evaluation and qualitative and quantitative research. Dr. Abramowitz has served as a Consultant for UNICEF in Sierra Leone, where she led a qualitative research-based analysis of 48 UNICEF Ebola Community Centers. She additionally led the Emergency Ebola Anthropology Initiative for the American Anthropological Association, coordinating 300 anthropologists, social scientists, and practitioners in contributing information to actors in the West African Ebola outbreak. Dr. Abramowitz has worked in Guinea, Côte d'Ivoire, and Liberia, where she led a field-based evaluation of Save the Children Ebola Community Care Centers. Dr. Abramowitz earned her Ph.D. in Sociocultural and Medical Anthropology from Harvard University and her Master's degree in Medical Sociology from Rutgers University. She speaks French in addition to her native English.

Dr. Gilbert Burnham, M.D., Ph.D., MSc - Senior Survey Advisor

Dr. Gilbert Burnham is a public health expert and experienced evaluator with over 30 years of experience. He has significant knowledge of emergency preparedness and response, particularly in humanitarian needs assessment, program planning, and evaluation arenas that address the needs of vulnerable populations, and the development and implementation of training programs. He also has extensive experience in the development and evaluation of community-based health program planning and implementation, health information system development, management and analysis, and health system analysis. Additionally, Dr. Burnham has worked with numerous humanitarian and health development programs for multilateral and non-governmental organizations, regional health departments, ministries of health (national and district level), and communities in sub-Saharan Africa, Asia, and Eastern Europe. Dr. Burnham earned his M.D. at Loma Linda

University, has a Ph.D. in medicine from the University of London, and an Master's in Science from the London School of Hygiene and Tropical Medicine.

Philip Graitcer, MPH - Senior Public Health Specialist

Philip Graitcer served as a medical epidemiologist for the Centers for Disease Control and Prevention (CDC) for 22 years, serving assignments in sub-Saharan Africa focused on immunization. He created, developed, and directed CDC's computer-based national epidemiology surveillance/disease reporting system for the collection, reporting, and analysis of state morbidity data. During the Ebola outbreak from 2015 to 2016, he served as the laboratory director for the CDC Ebola Response Team in Guinea and was responsible for the introduction of a simple laboratory test for the Ebola virus. He currently serves as an Adjunct Professor at the Rollins School of Public Health with a special focus on injury epidemiology. He also serves as a freelance radio reporter on news, culture, and health, developing reports for National Public Radio, Voice of America, and BBC's The World, among others. Mr. Graitcer has an Master's in Public Health from Harvard University's School of Public Health and speaks fluent English and French.

William Lyerly, MPH - Senior Humanitarian Aid and Emergencies Advisor

Mr. William Lyerly is an expert on disasters and emergency management and humanitarian response with over 30 years of experience working in Africa, Central Europe, Central Asia, and the Middle East. He is a medical doctor and epidemiologist with significant expertise working with public health emergencies and global health security. He currently serves as Director of International Affairs, as Director of Strategic Foresight and Global Partnerships, and also as Lead Executive for Risk Management in the US Department of Homeland Security Office of Health Affairs. From 1999 until late 2001, Mr. Lyerly served as Senior Advisor for Crisis Mitigation, Transition and Recovery at USAID for all crisis/emergency management issues. Mr. Lyerly worked for USAID for more than 12 years,

coordinating USAID's responses to crises in Africa, including epidemics such as HIV/AIDS and malaria. During several crises, Mr. Lyerly worked for the OFDA serving as a Disaster Assistance Response Team (DART) Advisor; he also helped to develop crisis-mitigation strategies in more than 25 African countries and post-conflict transition strategies in Rwanda, Angola, Liberia, and the Democratic Republic of Congo. Mr. Lyerly graduated from the US Air Force Academy with a B.S. and earned his Master's in Public Health from Johns Hopkins University.

Dr. Phillip Nieburg, M.D., MPH - Senior Policy Advisor

Dr. Phillip Nieburg is a public health professional with over 30 years of experience in supporting national and global health programs, specifically regarding disease surveillance systems, outbreak investigations, epidemiologic research, and program design and evaluation. He has expertise in HIV/AIDS, tuberculosis, vaccine-preventable diseases, nutrition, and the teaching of field epidemiology. Dr. Nieburg has worked extensively in Africa, Asia, Latin America, and the Middle East. He has held various positions for the CDC, including Team Leader for an HIV/AIDS assessment in China and Field Epidemiology Resident Advisor in Mexico City. Dr. Nieburg has consulted on various USAID programs and evaluations, such as the evaluation of USAID/Ethiopia's Emergency Feeding Program. Dr. Nieburg earned his Master's in Public Health from Johns Hopkins Bloomberg School of Public Health, in addition to his M.D. from Case Western Reserve University. He speaks both English and Spanish.

Dr. Richard Stuart Olson, Ph.D., MA - OFDA Historical Expert

Dr. Richard Stuart Olson is an experienced researcher and Project Director with over 30 years of experience in managing health and foreign disaster programs. He has served as the Project or Co-Director on various OFDA-funded projects, such as the Disaster Risk Reduction project as well as the Assessment of Risk Management in Latin American and Caribbean Higher Education. Dr. Olson has led several studies as the Principal Investigator for The Mexico City 1985 Disaster and Emergent Organizations: A 10-Case Study, as well as several other National Science Foundation-funded studies. Dr. Olson has his Ph.D. in Political Science from the University of Oregon, in addition to an M.A. from the University of California Los Angeles.

Natalie Pedersen, MPH - Public Health Specialist

Ms. Natalie Pedersen is an experienced public health specialist with over nine years of experience in humanitarian response and development. She has significant experience leading multi-

disciplinary teams of clinicians and public health specialists in health service delivery, program design, implementation, M&E, and high-level representation, particularly in maternal health and community-based health care in fragile states. She has significant knowledge of both implementing and evaluating public health programs in Sierra Leone, where she served as the Senior Health Coordinator for IRC/Sierra Leone and served as an evaluation team member for a mixed-methods evaluation of an Early Childhood Development and Health Promotion program. Ms. Pedersen has a Master's in Public Health from the London School of Hygiene and Tropical Medicine.

Dr. Naomi Rutenberg, Ph.D., MA - Senior Analyst / Writer

Dr. Naomi Rutenberg is an experienced and strategic leader of complex global health and development programs. She is an expert in sexual and reproductive health, including HIV and adolescent programming. Her skills and experience include research, evaluation, and strategy development. She served as the Vice President and Director of the HIV and AIDS Program at the Population Council, where she led a portfolio of 60+ behavioral and biomedical research studies and capacity building projects in 14 countries, developed organization-wide strategy documents, and significantly grew and diversified the Population Council's staff and portfolio. Previously, she worked as a senior researcher and survey expert, where she conducted M&E activities for reproductive health programs and provided technical assistance and training in survey design and implementation. She has published more than 40 peer-reviewed articles. Dr. Rutenberg earned her Ph.D. and Master's in Sociology and Demography from Princeton University.

Dr. Ronald Waldman, M.D., MPH - Senior Policy Advisor

Dr. Ron Waldman is a seasoned policy advisor with over 30 years' experience in public health. He began his career at the WHO working on the Global Smallpox Eradication Program in Banglades. He has since worked with several international actors including USAID and CDC, where he worked for 20 years, and WHO, investigating disease outbreaks all over the world. More recently, in 2010 he served as the USG's Health Sector Coordinator during the Haiti earthquake relief effort. He later served as the Senior Health Advisor to the UN Humanitarian Coordinator during the Pakistan flood response. Dr. Waldman earned his M.D. from the University of Geneva and also holds a Master's in Public Health from Johns Hopkins University.

ANNEX L. DEMOGRAPHIC PROFILES

1. HOUSEHOLD SURVEY RESPONDENTS' DEMOGRAPHIC PROFILE, BY COUNTRY (SOURCE: HH SURVEY)

Demographic Profile	Sierra Leone	Guinea	Liberia
	5,855 (100%)	4,134 (100%)	6,376 (100%)
Mean age of respondent (SD) M/F = M4, Q9	F= mean- 36.17/sd (13.8), n= 2,510 M= mean- 40.95/ sd (16.0), n= 3,345	F= mean - 35.5/sd (14.4), n=1,009 M= mean- 42.5/ sd (16.2), n=3,135	F= mean - 32.6/sd (11.6), n=3,140 M= mean – 35.6/ sd (12.9), n=3,236
Gender distribution, M3, Q7	F= 2,510 (42.87) M= 3,345 (58.94)	F= 1,009 (24.41) M=3,125 (75.59)	F= 3,140 (49.25) M=3,236 (50.75)
Place of residence (urban/ rural) M3, Q6	U= 2,404 (41.06) R= 3,451 (58.91)	U= 1,536 (37.16) R= 2,598 (62.84)	U= 3,061 (48.01) R= 3,315 (51.99)
Household size distribution M4, Q13	mean (9.4), sd (6.3), N (5,855), min (1) max (80)	mean (10.7), sd (8.7), N (4,134), min (1) max (100)	mean (8.4), sd (5.1), N (6,376), min (1) max (73)
Level of Education distribution M4, Q10 (for P1=LB, P2=GU & P3=SL)	No Formal Edu = 2,192 (37.44) Some primary = 390 (6.66) Completed primary = 401 (6.85) Jr. Secondary = 587 (10.03) Secondary = 471 (8.04) Sr. Secondary = 1,204 (20.56) Vocational/Tech = 125 (2.13) Tertiary/University = 429 (7.33) Professional/Advance = 30 (0.51) Declined =26 (0.44) N= 5,855 (100.00)	No Formal Edu= 1,508 (36.48) Some primary= 292 (7.05) Completed primary= 287 (6.94) Jr. Secondary= 620 (15.00) Secondary= 425 (10.30) Sr. Secondary= 176 (4.27) Vocational/Tech= 274 (6.64) Tertiary/University= 476 (11.54) Declined= 76 (1.84) N= 4,134 (100.00)	No Formal Edu= 1,165 (18.27) Some primary= 654 (10.26) Completed primary= 393 (6.16) Jr. Secondary= 1,354 (21.24) Secondary= 2,052 (32.18) Sr. Secondary= 292 (4.58) Vocational/Tech= 381(5.98) Tertiary/University= 84 (1.32) Declined= 1 (0.02) N= 6,376 (100.00)
% HH surveyed had at least one suspected or confirmed Ebola case M8, Q48=yes or Q49=yes	Suspected Case= 353 (6.03) Confirmed Case= 254(4.34) N = 5,855 (100.00)	Suspected Case= 165 (4.00) Confirmed Case= 88 (2.13) N = 4,134 (100.00)	Suspected Case= 454 (6,365) Confirmed Case= 259 6,364) N = 6,376 (100.00)

2. CHW SURVEY RESPONDENTS' DEMOGRAPHIC PROFILE, BY COUNTRY (SOURCE: CHW SURVEY)

Demographic Profile	Sierra Leone	Guinea	Liberia
	N (81, 28.13%)	N (85, 29.51%)	N (122, 42.36%)
Mean age of respondent (sd) M3, Q1	35.72 (10.38)	36.73 (10.43)	36.73 (9.27)
Gender distribution Female Male M3, Q2	F: 23 (28.40) M: 58 (71.60)	F: 23 (27.06) M: 62 (72.94)	F: 29 (23.77) M: 93 (76.23)
Place of residence Urban Rural M1, P5	U: 45.49% R: 54.51%	U: 96.47% R: 3.53%	U: 10.66% R: 89.34 %
Level of Education M3, Q3 (for P1=LB, P2=GU & P3=SL)	No Formal Edu.: 6.17% Some Primary: 7.41% Completed Pri.: 0.00% Junior High: 13.58% Sec or Sr. Sec: 20.99% Vocational/Tech.: 29.63 % Tertiary/Uni.: 2.47% Prof./Adv. degree: 19.75%	No Formal Edu.: 3.53% Some Primary: 1.18 % Completed Pri.: 2.35% Junior High: 10.59% Sec or Sr. Sec: 23.53% Vocational/Tech.: 3.53% Tertiary/Uni.: 11.76% Prof./Adv. degree: 43.53%	No Formal Edu.: 0% Some Primary: 0.82% Completed Pri.: 7.38% Junior High: 7.38 % Sec or Sr. Sec: 34.43% Vocational/Tech.: 27.05% Tertiary/Uni.: 18.85% Prof./Adv. degree: 4.10%
% CHW worked previously as CHW M3, Q4	91.36%	81.18%	78.69%

3. CONTACT TRACER SURVEY RESPONDENTS' DEMOGRAPHIC PROFILE, BY COUNTRY (SOURCE: CT SURVEY)

Demographic Profile	Sierra Leone (n=61)	Guinea (n=65)	Liberia(n=124)
	N (%)	N (%)	N (%)
Mean age of respondent (range) M3, Q1	37.11 (20-68)	37.78 (20-65)	33.52 (19-58)
Gender distribution M3, Q2			
Female	15 (24.59%)	10 (15.38%)	41 (33.06%)
Male	46 (75.41%)	55 (84.62%)	83 (66.94%)
Place of residence M1, P5			
Urban	28 (45.90%)	50 (76.92%)	48 (38.71%)
Rural	33 (54.10%)	15 (23.08%)	76 (61.29%)
Level of Education M3_1_O1	Female/Male/Total	Female/Male/Total	Female/Male/Total
No formal education	20.0/ 0.0/ 4.92	10.0/5.45/6.15	0.0/ 0.0/ 0.0
Some primary	6.67 4.35/ 4.92	0.00/3.64/3.08	0.0/ 0.0/ 0.0
Completed Primary	6.67/ 0.0/ 1.64	0.0/0.0/0.0	2.44/ 3.61/ 3.23
Junior/Middle/Lower	6.67/ 15.22/ 13.11	10.00/9.09/9.23	12.20/ 16.87/ 15.32
Secondary	26.67/ 10.87/ 14.75	20.00/9.09/10.77	36.59/ 31.33/ 33.06
Vocational/Technical	20.0/ 45.65/ 39.34	10.00/10.91/10.77	31.71/ 20.48/ 24.19
Tertiary	0.0/ 0.0/ 0.0	10.00/1.82/3.08	17.07/ 26.51/ 23.39
Professional/Advanced Degree	13.33/ 23.91 / 21.31	40.00/60.00/56.92	0.0/ 1.20/ 0.81
% reporting work as a health worker or for an organization doing health related work prior to the EVD epidemic M3, Q4	78.69	76.92	56.45
Female	86.67	60.0	63.41
Male	76.09 (0.3933)	80.0 (0.1725)	53.01 (0.2754)
Urban	82.14	84.00	45.83
Rural	75.76 (0.5517)	53.33 (0.0130)	63.16 (0.0588)
% reporting work in community work, raising awareness, or peer education prior to the EVD epidemic M3, Q5	91.80	76.92	79.84
Female	100.00	70.0	73.17
Male	89.13 (0.1886)	78.18 (0.5792)	83.13 (0.1964)
Urban	92.86	84.0	75.00
Rural	90.91 (0.7866)	53.33 (0.0130)	82.89 (0.2896)

ANNEX M. LITERATURE REVIEW

The literature review findings presented below describe the epidemiology of the EVD outbreak in Guinea, Sierra Leone, and Liberia and key background events in the outbreak response in each country from December, 2013 to January, 2016. The review provided insight into the individual country contexts, to allow a more thorough understanding and interpretation of evaluation data related to the effectiveness of the overall response.

The West African EVD outbreak was the largest Ebola outbreak in history, for the first time occurring predominantly in an urban setting. Liberia has the largest urban population (50%) of the three countries and the highest literacy rate (48%) for the total population. Guinea is the most populous of the three countries and has the largest rural population, at 62.8%. Sierra Leone also has a large rural population, at 60% of total population (World Bank Development Indicators, 2016). According to WHO reports, EVD infected an estimated 28,616 people

(including confirmed, probable, and suspected cases) and caused an estimated 11,310 deaths across Guinea, Sierra Leone, and Liberia—the three worst-affected countries (WHO, 2016a).¹ Of the three countries, the EVD case fatality rate (CFR) was the highest in Guinea, at 66.7% (EVD deaths:total cases, 2,544:3,814). The CFR in Sierra Leone was lowest at 28% (EVD deaths: total cases, 3,956:14,124). Liberia's CFR was 45% (Ebola deaths:total cases, 4,810:10,678). The evaluation team observed that it was invalid to compare the CFRs in the three affected countries, because the denominators (number of EVD cases) were differently defined; both Liberia and Sierra Leone included large numbers of suspected cases, whereas Guinea did not. If only confirmed and probable cases are included in the calculation, the CFR in Sierra Leone was 42% rather than the 28% that has been widely reported. It is not possible to do this analysis for Liberia, as data on the number of deaths in probable and suspected cases are not available.

Guinea

EVD in West Africa was first reported during early March, 2014 in Guinea's three southeastern prefectures (Gueckedou, Macenta, and Kissidougou), which border Liberia and Sierra Leone. However, retrospective investigations indicate EVD transmission might have occurred in Guinea almost three months earlier. On December 2, 2013, a 2-year-old boy in the remote Guinean village of Meliandou fell ill with a mysterious illness characterized by fever, black stools, and vomiting. He died two days later. Retrospective case-finding by the WHO would later identify that child as West Africa's first case of EVD (WHO, 2015a).² Meliandou is in Guéckédou prefecture in the Forest Region of Guinea, where the borders of Liberia, Sierra Leone, and Guinea intersect. The retrospective analysis conducted by WHO found that there were likely 14 undiagnosed cases of EVD who all died in January or February, 2014, one of whom died in Sierra Leone. One of these patients was admitted to Gueckedou Hospital, followed by another nine similar cases that led to blood samples being sent to the *Institut Pasteur* in Paris, which confirmed the diagnosis of EVD.

WHO published the official notification of EVD on its website on March 23, 2014. By that time, WHO had already shipped supplies of personal protective equipment (PPE) to Conakry. EVD rapidly spread through much of Guinea, where it was eventually reported in 32 of 34 prefectures. The first medical teams under the WHO Global Outbreak Alert and Response

Network (GOARN) umbrella were on the ground by March 25. On March 27, cases were confirmed in Conakry—and thus began the world's first urban EVD epidemic. Dr. Sakoba Keita from the Guinean Ministry of Health (MOH) was appointed Ebola Coordinator in April, 2014.

Social resistance to the EVD response was widespread in Guinea. In the Forest Region, where it was most violent, anthropologists have described how efforts to isolate those infected and conduct safe burials were insensitive to traditional beliefs about the importance of observing proper funeral practices (touching and washing the body) for intergenerational family well-being and continuity. Communication messages from MOH that linked the EVD infection with certain death were not helpful, and made people fearful of seeking treatment. There was also a political dimension, wherein local ethnicities in the Forest Region and the Manding savannah empire conflicted with Conakry-centered political networks, which have extensions in the north and west of the country. In some prefectures, especially Forecariah, there was considerable support for the previous President, and resentment and suspicion of the current government. For local populations, epidemic containment activities in health facilities and health messaging campaigns in local communities were closely aligned with previous experiences of political and social repression (A. Wilkinson, 2017).

The Guinean government and the international community were slow to recognize the source of these issues, and failed to take timely efforts to engage in preemptive social mobilization. As a result, social resistance resulted in violent attacks on responders. *Médecins sans Frontières* (MSF) opened the first Ebola Treatment Center (ETC) in Macenta on March 24, 2014, within days of EVD's being formally identified.³ Only a week later, on April 4, urban youth attacked it and threatened the 50 or more newly arrived expatriates, arguing that the threat of EVD was “false” or that it was being spread by outsiders (J. Fairhead, 2016). Twenty-two people were wounded in a riot in Nzerekore city, triggered when public health officials sprayed disinfectant in the market. In June and July, 2014, twenty-six villages in Guéckedou prefecture isolated themselves from the EVD response, cutting bridges and felling trees to prevent vehicle access and stoning intruding vehicles (J. Fairhead, 2016). On August 13, President Alpha Condé declared a National Public Health Emergency, and on September 4, appointed Dr. Sakoba Keita as head of the newly established National Coordination Cell (CNLE). On September 16, eight members of a high-level educational delegation of doctors, politicians, and journalists were murdered in the administrative “sous-prefecture” headquarters of Womey. Nationwide, an average of ten attacks per month were reported against Red Cross volunteers in Guinea in the last six months of 2014, ranging from verbal to physical assaults (J. Fairhead, 2016). Overall, this hostile reaction to control measures discouraged people from seeking health care and contributed to the epidemic gaining a grip in the region.

In Guinea, the number of new confirmed cases never went beyond 200 per week, less than half the peak figures in Liberia and Sierra Leone, yet case numbers remained steady over a long period, both persistent and dispersed. According to published literature (and also reported by the respondents of KIIs and FGDs conducted during this evaluation), the initial response was marked by weak coordination, inadequate community surveillance, ineffective contact tracing, inappropriate and

mostly ineffective communication messages, and extensive community resistance to the EVD response (O. Cenciarelli, 2015).⁴ Moreover, financial support from major donors was slow to arrive (beginning around September, 2014). Another reason for the slow response was the epidemiology of reported early transmission. During April and May, 2014, there were periods of up to 21 days when no new EVD cases were reported, leading to a relaxation in control efforts. In part because earlier EVD outbreaks had been relatively easy to quickly contain, the international community presumed that these outbreaks would follow the same pattern (WHO tweeted, “Ebola has always remained a very localized event.”) (Sack et al, 2014).⁵ However, this presumption did not account for the intensity of migration and mobility across regional borders with Liberia and Sierra Leone, and between rural areas in Guinea's Forest Region and its capital city, Conakry.

In terms of USG engagement, the first response was a five-person CDC team which arrived in Guinea in late March, 2014 to support MOH and WHO in controlling the outbreak. For most of the period between March 25 and mid-July, CDC maintained a staff presence in Guinea, ranging from two to ten persons. In parallel, CDC sent staff to Liberia and Sierra Leone as cases were reported as early as late March. Following a further increase in EVD cases in Guinea, Sierra Leone, Liberia, and its spread to Nigeria, the CDC Emergency Operations Center (EOC) in Atlanta was activated on July 9 and CDC deployments surged in all EVD-affected countries during August and September, 2014. In mid-August 2014, Guinea declared a National Public Health Emergency and the United States Chargé d'Affaires Ervin Massinga issued a USG disaster declaration focused on Guinea's EVD outbreak. The first DART deployment to Guinea occurred in late August. OFDA-supported IPs began their operations in October, 2014. Guinea was first declared EVD-free on December 26, 2015; it had two subsequent flare ups between March and April, 2016 and was declared EVD-free again on June 1, 2016.

Sierra Leone

Sierra Leone's first EVD case was confirmed on May 25, 2014 in the Kailahun district of the Eastern Province. The epidemiological investigation identified a link between this index case and the burial of a traditional healer, who had treated EVD patients from Guinea. Further investigations by epidemiologists identified 13 additional cases, all females who had attended a burial in Guinea (S. Gire, 2014).⁶ EVD spread rapidly from Eastern districts to Freetown, the nation's capital, where the first case was identified on July 11, 2014. By this time, over 300 confirmed cases with 99 deaths had been reported throughout the country. The Ministry of Health and Sanitation (MOHS) established an EOC, co-led with the WHO.⁷ Sierra Leone's

health system was already weak and the government was unable to mount a robust response.

Sierra Leone's government declared a State of Emergency on July 30, 2014 and announced the establishment of a Presidential Task Force on Ebola, to which the EOC would report.⁸ On August 13, United States Chargé d'Affaires Kathleen FitzGibbon declared a disaster due to the effects of Sierra Leone's EVD outbreak. The CDC team arrived in Sierra Leone in early August, 2014 and began supporting the EOC. In early September, the UK, through a joint civilian/military operation, took a leading role in coordination and operations among Sierra Leone's international partners.

Similar to the situation in Guinea, there were episodes of violence and outright community resistance to the outbreak control measures. In July, 2014, there was a large riot in Kenema, when crowds threatened to burn the hospital where an EVD treatment center was located. There was also a political dimension to resistance, with traditional mistrust between the ethnicities in the Eastern Province and the Western-ruling government. A common belief was that the outbreak was allowed to get out of control by the government, in order to depopulate opposition areas. In addition to riots, early communication messages were ineffective. Families refused to allow their loved ones to be taken to EVD wards. To overcome resistance and mistrust, extraordinary authoritarian interventions such as forced quarantines were enacted under the State of Emergency regulations (A. Wilkinson, 2017).⁹

The number of confirmed cases continued to increase, peaking in early November, 2014, after a three-day nationwide quarantine on September 19–21, 2014 and a one-week quarantine in October, 2014. The Sierra Leone government heavily used national and regional state-enforced quarantine measures, compared with Liberia and Guinea. During the quarantine campaign, community workers and volunteers went door-to-door looking for active EVD cases and bringing suspected cases to treatment facilities (L. Fang, 2016).¹⁰ New bylaws for EVD prevention and treatment were created to fight the outbreak, and criminalized a range of acts and omissions, many of which carried a penalty of imprisonment. By October, 2014, the EOC was transformed into a separate structure, the National Ebola Response Center (NERC). The Minister of

Defense and former military officer Alfred Palo Conteh was appointed Chief Executive of the NERC on special assignment, and its governing body was overseen by President Ernest Koroma. District Ebola Response Centers (DERCs), with district EVD situation rooms and EVD response components, each with a district coordinator, were established at the district level.

By late November, the number of cases reported was around 500 cases per week. By this time, EVD cases were reported in all 14 districts and 114 of 150 chiefdoms in Sierra Leone. Case numbers started to decline in late December, 2014, but flared up again in Porto Loko and Kambia districts in April and May, 2015. Operation Northern Push was initiated in mid-June, 2015 with 21-day in-country travel restrictions on the movement of citizens and quarantines. A major part of Operation Northern Push was the implementation of strong efforts to find, isolate, and track people who did not report their suspected illness to a health center or worker and an increase in community surveillance, enhanced by stricter enforcement of the safe burial procedures and bylaws in Kambia and Porto Loko districts (MOHS, 2015).¹¹

OFDA-supported IPs began their operations in October, 2014. In coordination with international and national response partners, services, and resources were targeted for districts in need, and afterward only a few cases were confirmed each day. On November 7, 2015, WHO declared transmission had been stopped in Sierra Leone. In January, 2016, the NERC and DERCs were decommissioned, and their responsibilities transferred to other governmental departments.

Liberia

The EVD outbreak first spread to Liberia from neighboring Guinea in March, 2014 and Liberia experienced very high transmission rates, peaking at over 300 new cases per week during August and September, 2014 (WHO situation reports, August and September 2014). Rates of transmission began to slow in mid-September and by early December, 2014, Liberia's EVD case numbers were below those of Sierra Leone. However, at that point, Liberia still had West Africa's highest number of EVD deaths. By November, 2014, all counties were reporting a drop in transmission rates, with Montserrado, which includes the capital Monrovia, accounting for the majority of new cases in the country.

On August 4, 2014, the US ambassador to Liberia declared a disaster, on August 6, the President of Liberia declared a state of emergency, and on August 8, the WHO called Ebola in West Africa a public health emergency of international concern. These emergency declarations signaled the gravity of the situation, as did the subsequent closure of land borders with neighboring Sierra Leone and Guinea. Entry and exit screening at airports

had already started in late July, 2014, and domestic movement of ill persons was restricted.¹² OFDA-supported IPs began their operations in Liberia in mid-August, 2014.

Liberian communities (similar to those in Sierra Leone and Guinea) were unfamiliar with EVD, and many had never heard of it before the 2014 outbreak. Drivers of high-risk behavior related to the virus included lack of information and low levels of trust in the initial warning messages, contributing to resistance to behavior change. In Monrovia, swampy topography and heavy rains in early August, 2014 led to the surfacing of recently buried bodies, causing public outrage (Nyenswah, 2016).¹³ The President of Liberia decreed mandatory cremation, a practice that was accepted reluctantly, incompletely, and disproportionately affecting poor populations. The decree was lifted in late December, 2014, when a public cemetery for people who had died of EVD was opened outside the capital.

In Liberia, Phase 1 of the response (August to December, 2014) focused on rapid scale-up of treatment beds, safe and dignified

burial teams, and building capacity to deliver BCC messages. Phase 2 (January to July, 2015) was directed at enhanced the capacity for case finding, contact tracing, and community engagement. The key objectives of Phase 3, beginning August, 2015, were first, to accurately define and rapidly interrupt all remaining chains of EVD transmission and second, to identify, manage, and respond to the consequences of residual EVD risks. This involved full community engagement in implementation.

On May 9, 2015, WHO declared Liberia free of EVD. However, on June 29, 2015, a postmortem diagnosis of EVD was made

for a 17-year-old boy, and five other cases were subsequently confirmed among his contacts. No further spread was noted. Liberia was again declared EVD-free on September 3, 2015. Then, a 15-year-old-boy in Montserrado county tested positive for EVD on November 22, 2015 and died the next day. Two other family members subsequently tested positive and survived. Rapid response and containment were achieved, using the containment strategies and procedures put in place by national and international response efforts. Liberia was again declared EVD-free on January 14, 2016.

Ebola Emergency Action Plan

In late July 2014, in response to the severity of the EVD outbreak, WHO along with the leaders of Guinea, Sierra Leone, and Liberia, activated a \$100 million dollar Ebola Emergency Action Plan to contain the already rapid spread of the virus and to assure continuation of critical outreach and clinical services to underserved and directly affected communities.¹⁴ The action plan included school closures, furloughs for non-essential government staff, and additional support to expanding disinfection and sanitization efforts across all public institutions through health worker training and access to medical and hygiene supplies.

However, in all three countries, the effectiveness of action planning initiatives was tempered by slow mobilization of resources, limited reach into rural communities, failure to mobilize existing local leadership structures, and persistent lack of access to information and education among the general public—often leading to increased risk in impoverished and isolated communities, where traditional healing practices and poorly run health facilities amplified the potential of exposure to the virus.

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ANNEX N. GENDER ANALYSIS OF QUALITATIVE DATA

1 Five Strategy Areas

EFFECTIVE NATIONALLY-LED INCIDENT MANAGEMENT AND COORDINATION

1. Border control
2. Warehouse-level logistics (not handing out)

ADEQUATE ISOLATION AND TREATMENT CAPACITY

1. Quarantine/isolation and treatment
2. ETUs and staffing
3. Contact Tracing/Surveillance
4. Case management

ASSIST PUBLIC HEALTH RESPONSE THROUGH SAFE HUMAN REMAINS MANAGEMENT

1. Safe Burials

RESTORE FUNCTIONALITY TO THE HEALTH CARE SYSTEM

1. Logistics to local Health Centers
2. IPC – Facility-based
3. Training Facility Staff

SOCIAL MOBILIZATION

1. Behavior change
2. Media initiatives
3. Training CHWs

2 Key Findings

This gender analysis focuses on points of difference between genders in qualitative data collected during the IBTCI study. It is not a sociocultural analysis of all aspects of the response, nor does it address issues where there is consistent agreement between genders.

STRATEGY AREA 1: FUNDING & COORDINATION

1. It does not seem as though variation by gender was factored into funding decisions.
2. Social mobilization activities included women's groups and women's leaders, but seemed to have a lack an awareness of how the response operated along gender/age/vulnerability axes.
3. Women's groups reported a lack of responsiveness to locally-driven suggestions for improving programs.
4. Ministries of gender in Liberia and Sierra Leone were integrated into the response through targeted programs [e.g., cash distributions] associated with national social safety net programs.
5. Locally trusted women's groups and networks flagged by NGOs should be prioritized in social mobilization outreach strategies.

STRATEGY AREA 2 AND 4: ADEQUATE IPC/RESTORING HEALTH SYSTEMS FUNCTIONING

1. Pregnant women, lactating mothers, and women in labor were denied health care due to Ebola. They also avoided care due to fears about EVD risk.
2. In contexts in which health care systems are collapsing or individuals are being denied care, family members, close relations, and traditional midwives should be prioritized among the first intervention targets for home-based hygiene kits, home protection kits, and trainings. This is because they are among the most likely to provide care to a possibly infected pregnant woman when health care providers refuse access to health care or clinics or hospitals are closed. This kind of care will be provided even when PPE and access to other materials is delayed.

STRATEGY AREA 3: THERE WERE NO OBSERVED DIFFERENCES BY GENDER IN REPORTS ABOUT SAFE BURIALS.

1. In unsafe burials, men and women were likely to have played different, but equally high-risk roles. For traditional burials, men were transporters of corpses or officiants of ceremonies; women were the preparers of bodies.
2. For conventional burials, both women and men were involved in private mortuary practice businesses.

STRATEGY AREA 5

1. Communications
 - a. Women in rural communities reported having been educated about EVD prevention during distributions or in interactions with social mobilizers more often than men. Many reported having access to radio early on, but not believing the radio messages.
 - i. e.g., Guinea: Women would have had less access to first modes of information delivery in this scenario: *“Here was an information change, at first the information was transmitted through radios, next the youth were trained to sensitize people door to door. They taught people how to wash hands village to village. Because some villages were not reached by medias.”*¹
 - b. Men reported learning through word of mouth, informal social networks, or via radio about outbreaks elsewhere (in Gbarpolu or Lofa county), and admonitions on the radio to avoid eating bushmeat and to avoid people with a range of symptoms. Men were more likely to report having seen earlier outbreaks in the Democratic Republic of Congo on television.
 - c. There may be a gender difference in which methods of communication were most likely to have been experienced as persuasive or effective, especially in rural areas.
 - d. In rural areas, women were more likely to report that direct social mobilization activities were important in changing their attitudes and practices about EVD, while men may have been more likely to report other sources of information.

1. Guinea_Transcript_FGD_Type 3_Kindia_District of Kindia

3 Strategy Area 1. Gender in the context of coordination

WOMEN AND LEADERSHIP/COMMUNITY

Failure to acclimate to local conditions

National coordination officials in Liberia commented, *“He cited that the technical or training provided was sufficient, appropriate and timely. However, he said the funding agencies were unwilling to take advice from the local partners or counterparts, and they failed miserably to acclimate to the local context.”*²

In Liberia, A KII with Mercy Corps suggested that efforts to ramp up mobilization benefitted from women’s groups’ advice to use known, existing, trusted groups. *“Some women’s groups, women’s secret societies, agriculture group – said use the groups you already have and are known and trusted. Some groups [were] in same area, but afforded different entry points.”* It is worth reflecting upon the fact that the reason that many (not all, but many) of those known and trusted groups were present at all is due in part to intensive OFDA investments in gender equity, civil society, women’s economic and educational advancement, and gender violence from the post-war period through the present. A trusted, gendered infrastructure might not have otherwise been available for rapid mobilization in order to address issues of community trust.

LACK OF RESPONSIVENESS OF LOCAL IMPLEMENTATION PARTNERS

One woman leader in Grand Bassa reported that local partners were held closely accountable, that priorities were aligned with national priorities, and that their activities were successful. However,

The leader BAWODA said her experience working with funding agencies was that the aid agencies were not willing to accept suggestions from the local counterparts or adjust the planned activities.³ AND The Head of the women said we will strongly advise that the international organizations supported by the USG/ OFDA/USAID should be a bit flexible to accept our suggestions wherever necessary since we are the end-users.

GENDER AND DATA COLLECTION

Food insecurity: Women consistently reported issues with food insecurity due to collapse of food markets, collapse of meat/hunting trade, and lack of access to farms. But according to OFDA staff, *“Re FFP: certain degree of skepticism if food insecurity was as widespread as reported but certainly there were affected areas and WFP repurposed some food.”*⁴ Eventually, food distributions

2. KII_7 Liberia MOH Montserrado County

3. FGD_Liberia Woman leader IP Grand Bassa County02

4. KII_USAID-Liberia_Farroe_24May_GC

were used as a way to stabilize communities to prevent food crises.

Epidemiology: Data about the gender of patients was not systematically collected until November and December, 2014, making it difficult to identify differences by gender in rates of transmission, networks/contacts, and utilization of ETU/hospital services.

GENDER AND FUNDING (e.g., UN WOMEN, DOS OFFICE OF GLOBAL WOMEN'S ISSUES)

Liberia and Sierra Leone's Ministries of Gender were involved in the response.

- Sierra Leone's Ministry of Children and Gender Affairs contributed psychosocial support to IMC-supported community/health facility.
- Liberia's Ministry of Gender took a role in addressing community-level conflicts
- With partners like WFP,⁵ Liberia's Ministry of Gender⁶ supported distributions of IPC, blankets, mattresses during quarantines,⁷ food, financial support,⁸ and ran trainings.⁹
- Liberia Ministry of Gender activities were coordinated through the task force.
- In Liberia, financial aid was coordinated through a cash transfer program in the Liberia Ministry of Gender as part of the social safety net program.¹⁰ A similar program existed in Sierra Leone: Rapid Ebola Social Safety Net (RESSN).
- Liberia's Ministry of Gender engaged in gender-based violence activities to support psychosocial interventions for EVD.¹¹

5. Liberia_Transcript_KII_CivicSocietyRep_RobertSports_#1

6. Liberia_Transcript_KII_CivicSocietyRep_RobertSports_#1

7. Liberia_Note_KII_CivicSocietyRep_Robertsports_#1

8. Liberia_Note_KII_CivicSocietyRep_Robertsports_#1; Liberia_Transcript_FGD_FemaleGroup_Voinjaman_#4

9. Liberia_Note_KII_VillageChief_Kakata_#2

10. KII_Liberia_Mercy Corps_Andrews_GCook

11. Liberia_Note_KII_VillageChief_Kakata_#2

4 Strategy Area 2 & 4. Gender and access to health care

PREGNANCY, DELIVERY, AND BIRTH

Qualitative evidence confirms that demonstrates that there was widespread lack of access to prenatal, labor and delivery, and antenatal care during the EVD epidemic in Sierra Leone, Guinea, and Liberia.

While pregnant women were admitted to ETUs, there was a lack of continuity of care and referral between hospitals, clinics, and ETUs for pregnant women.¹²

*My brother's wife was in pain, taken to the ELWA Hospital and was rejected, at that time, Good Will Clinic was now closed and we were forced to take the pregnant home there she delivered.*¹³

Reports from Liberia indicate that pregnant women with EVD were at times not taken to ETUs.

*One discussant said a lady came down with the fever in their community; four persons interacted with her including her three children got sick and died. The lady was taken to the ELWA ETU but and died later. According to the discussant, the three children were not taken to the ETU. He said one was pregnant and later died, while the kids died at home. According to him, calling the ambulance was very difficult for them due to the communication gap and distance to their community.*¹⁴

Patients and health care workers were both afraid of contracting the virus from each other, leading to a collapse of prenatal and antenatal care. In some situations, the denial of care was precipitated by the death of health care workers on staff or by HCW's fears of infection.

*Five participants said that from the onset, delivery, child care and other manor sicknesses were treated, but when the hospital doctor died, the hospital was not receiving any pregnant women and other treatment went down very slowly. However, other nearby clinics were not closed to the public.*¹⁵

Access to care in local clinics varied widely. In Liberia, clinics were closed to prevent the spread of infection. It remains unclear if clinics that stayed open provided services to pregnant women. Some private facilities refused care.

A lactating mother in the FGD said that maternal and child health service was greatly affected. She said I was refused by a health worker to enter his private facility because I was about to give birth to my baby. She said, "I missed death by an inch during

12. FGD__09_Liberia_Families of Ebola

13. FGD__01_Liberia_Families of Ebola

14. FGD__04_Liberia_Community men group

15. Five participants said that from the onset, delivery, child care and other manor sicknesses were treated, but when the hospital doctor died, the hospital was not receiving any pregnant women and other treatment went down very slowly. However, other nearby clinics were not closed to the public.

my labor pain” This can be assumed that maternal, newborn and child health services was affected during the outbreak because the care provided refused to cater to pregnant mothers and children.¹⁶

Some clinics did provide care to pregnant women.

They also said that maternal and child care services were available in their community, and it rendered services to pregnant women during the crisis.¹⁷

[At Phebe hospital]: Yes. Especially the pregnant women. The midwife used to take the pregnant women from here and do the delivery themselves.¹⁸

[In Robertsport Liberia]: **RESPONDENT:** Whenever I go to the hospital, during the Ebola, I still used to see pregnant women.

MODERATOR: Were there any changes in maternal, newborn, and child health services?

RESPONDENT: No.

MODERATOR: No, what?

RESPONDENT: There were no changes. Women still gave birth at the hospital like the way they did under normal condition, when there was no Ebola. They were taking care of people.¹⁹

Perceptions about the continuity of access to care conflicted in the same locations. For example, in a Western Rural FGD, one person said, “The pregnant women gave birth as usually in hospitals and the children that went were given their routine vaccines.”²⁰

Another person in the same group, however, said “Pregnant women were afraid and the children under five years old too were not taken for their regular vaccines for fear of contacting the virus.”

In Kailahun, key informants reported that pregnant women avoided attending clinics to prevent infection; while other responses indicated that “Pregnant women were left to deliver on their own because nurses were afraid. Plenty died in labour.”²¹

Other reports indicate that pregnant women with bleeding, pain, or other symptoms were denied care or were turned away at the door of clinics. Regular check-ups were disrupted.

*She started to vomit and began to experience pain in her stomach. She said, the movement her daughter started vomiting and was helpless, the nurses refused to cater to her. Later, the Ebola team came and decided to transfer her daughter to the ELWA ETU. While on their way, she dies.*²²

She said that one day, one of her friends got infected but was also pregnant and later she died at the ELWA ETU.

She also registered her disappointment over the manner in which pregnant women were treated by community clinic’s staff. She stated

that pregnant women were often refused to enter clinic facilities when in labor pain. She further said “I assumed that some pregnant women died at the doors of most community clinics.”²³

*The problem, it was a tough time. Because we all know normally when a person sick, you depend on the clinic or hospital, especially pregnant women need to go to the clinic for regular check-up but nothing was done that way. That was really a tough time for us. As I rightly said, it was just by the grace of God.*²⁴

[At CH Rennie Hospital]: **RESPONDENT:** It happened right in front of me, right to CH Rennie hospital, I went to visit my friend, this big belle (pregnant woman) was in pain, I don’t know which destination they took her from, but she was in the car in pain, the nurse that was at the hospital was afraid, the woman left in the car and she was not feeling well, and she left in the car and she died right in front of me. It’s not they say. You see people were getting sick and not going to the hospital. That was one of the reasons.²⁵

*For my own observation, everything was normal, but our pregnant women who went to give birth, many of them were deny, especially those that was involve with bleeding, I had a girl who was living here, she went to give birth, they rejected her and she left bleeding until she died.*²⁶

GENDER AND TRADITIONAL HEALERS/ MIDWIVES

When women were denied care during delivery, they delivered at home with the help of family members, friends, traditional midwives, or they delivered alone. This was perceived to be associated with a surge in maternal mortality.

[Home, TBAs] *Pregnant women resorted to giving birth at home or with TBAs. A lot of women and children died during delivery because of lack of care.*²⁷

[No care] *She stated that pregnant women were often refused to enter clinic facilities when in labor pain. She further said “I*

16. FGD_3_ Liberia_Ebola affected community02

17. FGD_4 Liberia_ Community with no Ebola_Montserrado County10

18. Liberia_Transcript_FGD_BorderinCommunitynotaffectedbyEbola_SKT_#4

19. Liberia_Transcript_FGD_FemaleGroup_Robertsport_#5

20. FGD_Sierra Leone_Men Group_Western Rural_Samuel Turay_05072017_transcript

21. FGD_Community without_Kabala_Samuel Turay_05062017_transcript

22. FGD_05_Liberia_Families of Ebola

23. FGD_3 Liberia_ Community Men Group Montserrado County

24. Liberia_Transcript_FGD_BorderingAreaNotAffectedbyEbola_Kakata_#1

25. Liberia_Transcript_FGD_MaleGroup_Kakata_#2

26. Liberia_Transcript_FGD_MaleGroup_Kakata_#2

27. KII_Women Group Leader_Queen Isata Ndoleh_Kailahun_Samuel Turay_08062017

*assumed that some pregnant women died at the doors of most community clinics.*²⁸

[Parental/Home care] *Life was upside down. It was very a tough time we went through. No clinic or hospital was opened. I had my daughter; she was pregnant at that time, during the heat of the crisis, no clinic at all. The information hit me when pain cut her, at that time, I was in the garden. I was discouraged. Where do I carry her at that time? So as I previously said, it was just by God's grace, so I had no alternative, but I put the problem in God's hand. I said God! This is the problem for you and not for me. You know the tough time we were going through; you take control of the situation. And definitely God was on my side and everything was fine for us here.*²⁹

[Midwife] *It happened my sister daughter was pregnant, she was in Kakata, she was in labour pain, they carried her to the hospital there, and they refused her and end up bringing her here, and that's our chairman's daughter. And the midwife here said that, they people say we must not touch anybody. The girl's mother said in God and work on this girl, if we leave her like that, either she dies or the child die. So the woman trust God and took care of the girl, and she delivered. So we were only depending on God, and we continue to depend on him.*³⁰

[Midwife] **MODERATOR:** *So going through your pregnancy at the time, you had a midwife that was taking care of you, because you said you were rejected by the hospital?*

RESPONDENT: *Yes, it was only an old lady who I visited and explained my problem to her and she took an herbal chalk and gave it to me, but to be checked the way hospitals check patient I didn't get that.*

MODERATOR: *So there were no medical facilities around within your community here?*

RESPONDENT: *Even if they are around, will they want to touch you?*

RESPONDENT: *They were all over, but no one wants to touch you.*³¹

Health care workers and traditional midwives tried to navigate the risk of providing care to pregnant women by implementing “no-touch” during care. This was problematic, and could result in a lack of health care access and poor communication with patients.

*Well it really changed, like for now if you are pregnant and you go to the hospital, like Cottage, the nurses will talk nicely to you, but during the Ebola, even if you are in labour, they will not touch you at all, even to talk to you it was a problem, because when the Ebola had spread, everyone was afraid of each other.*³²

Initially, traditional birth attendants (TBAs) were afraid to

provide care to women due to EVD. They referred them to hospitals.

*When the Ebola started, the TBA people too were afraid, so they stopped. They were referring the pregnant women to go to hospital.*³³

However, in some situations, traditional midwives and country medicine healers were the only source of health care for pregnant women.³⁴

RESPONDENT: *The problem there, the hospital was not open, so we were just doing our country medicine.*

RESPONDENT: *Yes, that time I was pregnant myself, it was country medicine my mother use to boil and I will drink it, different leaves. And I will drink them and by the grace of God, I will get well.*

RESPONDENT: *As the old ma said, they refused the big belle. That was not hospital problem she was having, she stayed with the people the whole day, and it was one of the midwife knew the leave to give her and she was able to give birth.*

RESPONDENT: *Yes! We had midwife, they use to come to us in the morning to check on us. Yes! I allowed her to touch me; she was available at all times.*

RESPONDENT: *As for me, when I was in pain, she was on her farm and they called her, but before she touched me, she told my mother to pray and she left there until I gave birth.*

Providing care to a pregnant woman during the EVD epidemic could result in social stigma.

*She said where she sat, everybody left that bench and they even refused to accept because she was taking care of a pregnant woman who was in pain delivery pain. The woman delivered safely.*³⁵

RESPONDENT: *At that time it was not easy because I was pregnant and sister in-law died and when I cooked people will not eat my food. When we are even going in the market and bring out lecture they would go far from me, but when they cooked and want to give me I would also say no to them too.*

MODERATOR: *People stopped eating from you because your sister in-law died?*

RESPONDENT: *At that time I was pregnant to even cook there was no way, when you are pregnant to get to the hospital use to be a problem, because the hospital used to also refused pregnant women and it was not easy it was only by the grace of God.*³⁶

Family members, friends, and midwives often justified their interventions by invoking faith in God, [“Let God protect me”]. This suggests that family members, close relations, and traditional midwives should be among the first intervention targets for home-based hygiene kits, home protection kits, and trainings, because they are among the least likely to refuse care to a possibly infected pregnant woman when health care providers

28. FGD 3_Liberia_Ebola affected community01

29. Liberia_Transcript_FGD_BorderingAreaNotAffectedbyEbola_Kakata_#1

30. Liberia_Transcript_FGD_BorderingAreaNotAffectedbyEbola_Kakata_#1

31. Liberia_Transcript_FGD_FemaleGroup_Kakata_#3

32. Sierra Leone_Transcript_FGD_Type5_West Rural_#1

33. Sierra Leone_Transcript_FGD_Type5_West Rural_#1

34. Liberia_Transcript_FGD_BorderingAreaNotAffectedbyEbola_Kakata_#1

35. FGD_09_Liberia_Families of Ebola

36. Liberia_Transcript_FGD_FemaleGroup_Kakata_#3

refuse access to health care or clinics or hospitals are closed. This kind of care will be provided even when PPE, access to other materials is delayed.

MODERATOR: *So looking at you now as women, I would want another person to respond to this question that I am asking. Looking at you as a woman who is humanitarian and you got feeling for your friend woman when she is in labor pain, how you feel sometimes when your friend is in a pain or did you managed because I guessed that doing the Ebola outbreak we have women here that were still pregnant how did you people managed because normally sometimes when a woman is in pain women would go there to show sorrow how you people really went along with that, how you think you really went along with that?*

RESPONDENT: *During that time some midwives were in the community. They were helping some women. This was by the grace of God. Some people when they are dying when they get to the hospital they will not touch you. Why some people going to deliver would delivered in the room and the women would surrounded the lady with cloths in their hands around her we did all of those during the Ebola outbreak disgrace by Ebola.*

MODERATOR: *So meaning that when the woman is pregnant with the exception of you getting sick but when the woman is pregnant and about to deliver nurses can't wear the PPE or doctors there to carry on a saved delivery?*

RESPONDENT: *That was lately they started doing that when they started bringing their supply.³⁷*

Community messages about pregnancy were interpreted as follows:

As far as am concerned, they said Ebola was going to affect more people, pregnant women and this and that. They said we should be careful of ourselves, the children and wives so that Ebola will not give anybody problem. So we said okay that we will take care of ourselves. ... Then the main thing is they said no pregnant woman should deliver at home. If you are pregnant, go straight to the hospital to go and deliver. That was among the warning they gave. And we did not play over it at all.³⁸

Attitudes toward providing health care to pregnant women changed over time, after social mobilization and community interventions. This resulted in expanded access to health care.

We now take every pregnant woman to the hospital, we refer them all to the hospital, and we don't allow any woman to give birth at home.³⁹

[HCWs] *But the nurse did some sensitization, reminding the people of how she had always been caring and helpful to the community. Community people built confidence in the nurse and started sending their pregnant women to deliver at the clinic.⁴⁰*

[County Health Teams] **RESPONDENT:** *Well, during that time they used to go to Gbatala even though when they used to go to Gbatala, there was a man there who used to separate them and when the county health team got there, they got mad about the idea and wanted to punish them.⁴¹*

In Sierra Leone, people attributed the EVD-related closure of schools to a surge in new pregnancies.⁴²

5 Gender and health care workers' experiences

No observed differences.

However, there are moving passages about how the communities perceived health care workers' exposure to EVD as a kind of stigma. The passage below also highlights the kind of decision making that individuals were confronted with when dealing with a sick child:

One day I stayed at the CTE, my wife called me where your child is like this, he is doing diarrhea accompanied by blood, I was sitting, I had just left in the high-risk area, I was sitting in the room, I got the call, directly I did not discuss, I asked permission to my leader, he agreed, I went home. Arrived home, even the neighbours there were informed that really I contaminated my daughter. And there I took my daughter on my two hands. Only my family, my wife and I, even the neighbours, have all withdrawn. Conscientiously I took my daughter, saying, my daughter that you follow me and if it is true that it is Ebola that contaminated you, it is not you, it is sought, it is me myself who sent the disease. If it is true that it is Ebola, you will not go alone. There I said that.⁴³

6 STRATEGY AREA 3: Gender and funerary practices

No observed differences.

37. Liberia_Transcript_FGD_FemaleGroup_Kakata_#3

38. Liberia_Transcript_KII_TraditionalLeader_BigJoeTown_#2

39. SierraLeone_Transcripts_KII_VillageChiefType1_WesternRural_2

40. FGD_Community without_Kabala_Samuel_Turay_05062017_transcript

41. Liberia_Transcript_FGD_MaleGroup_SKT_#2

42. Sierra Leone_Transcript_FGD_Type5_West Urban_#1

43. Guinea_transcript_FGD_Type 1_Nzerokore_District of Nzerokore Anonymized

7 Strategy Area 5. Gender and social mobilization (strategy area V)

FGDs suggest that women and men were both recognized as legitimate sources of information and services about EVD.

GENDER AND ACCESS TO INFORMATION

Men in focus groups reported that their first point of access to information was in March, 2014, mainly through radio, flyers, and posters; information was rapidly backed up by announcements from political leaders and the social mobilization activities of NGOs. This was followed by distributions of hygiene materials. Information, reporting, and referral phone numbers were not provided until later. Men reported that contact tracers were strangers to local communities and were therefore unable to differentiate between locals and strangers (this had implications for the trustworthiness of individual reports).

In contrast, women in rural communities reported having been educated about EVD prevention during distributions or in interactions with social mobilizers more often than men. Women in FGD groups also reported learning about EVD through radio and word of mouth, but accounts emphasize “everyone’s” disbelief in early information about EVD and community denial of the virus. They started to believe in the virus only when people began to die.⁴⁴

In most FGDs, at least one FGD respondent reported that their first report EVD came from family members (both male and female) who were health care workers. Most reported that the health care workers died due to EVD.

Men reported learning through word of mouth through informal social networks or via radio about outbreaks elsewhere (in Gbarpolu or Lofa county), and admonitions on the radio to avoid eating bushmeat and to avoid people with a range of symptoms. Men reported being most affected by restrictions in movement, employment, restricted mobility between homes and urban centers, change in social practices (not practicing football anymore).

44. Liberia_Transcript_FGD_FemaleGroup_Kakata_#3

8 Risks and vulnerabilities, by gender

GENDER AND CAREGIVING ROLES [STRATEGY AREA 2]

People preferred to care for the sick at home and bury their dead according to customs and traditions—rather than leave them at the mercy of the hospital staff, with no record of their loved ones’ movements or places of burial. The lack of care and concern in the hospitals and nurses, too, deterred people from releasing their sick loved ones into their care.⁴⁵

*Sick family members were not kept away from the non-sick members and friends at home because the community never received enough education about the Ebola Virus and had fear.*⁴⁶

Restrictions on mobility, social isolation, quarantine, and stigma caused hunger and famine in communities without access to food and water sources.⁴⁷

GENDERED DISTRIBUTION OF LABOR

At the outset of the outbreak, men in Liberia reported accelerated movement in order to reunite with spouses and children—to relocate them from high-risk areas to lower-risk areas. Men also reported being separated from spouses and children for long periods of time due to restrictions on mobility (they were away for work/were unable to return, etc.).⁴⁸

Women involved in market and food supply changed business practices (restricted credit, stopped selling food supplies) due to uncertainty about food emergencies. Men were also affected by this because they lacked access to food credit.⁴⁹ Food distributions were inconsistent and incomplete.

There were several reports in Liberia and Guinea of gendered relationships [intra-household relationships, marriages, conflicts between spouses or co-wives] that impacted the use of information about EVD.

One FGD of Liberian women talked about the difficulties they experienced managing child care after schools were closed.

They closed the schools and to keep the children home because the children are used to walking about. Keeping them home is nothing easy, we the parents, when we talk to the children they don’t want to listen, so you’re afraid. You can’t restrict their movement. This Ebola thing you’re just scare, if your child goes out and you don’t know who or she they’re going to meet with and they are going to come back home and that was very scaring. You’re home and trying to keep them, no way. Even the younger ones, they want to get out

45. FGD_Women Group _Makeni_Samuel Turay_06062017_transcript

46. FGD_Women Group _Makeni_Samuel Turay_06062017_transcript

47. Guinea_Transcript_FGD_Type 4_Kankan_ District of Kankan

48. Liberia_Transcript_FGD_MaleGroup_Tubmanberg_0003

49. Liberia_Transcript_FGD_MaleGroup_Tubmanberg_0003

*there to play. The whole thing was just scaring, especially that part of it for the children.*⁵⁰

In Guinea, one woman reported that restrictions on mobility were easier for men because they did not travel to their farms [?]. For her, she could not travel between communities to make market and her whole business was interrupted.⁵¹

Among families of survivors in Guinea, women reported performing the following kinds of home-based health care without sufficient support at the time of infection of a family member:

- Asked to take individuals who were sick to hospitals and clinics
- Home-based feeding and cleaning
- Assuming caregiving roles when other family members abandoned patients
- Advocating for patients at hospitals
- Inquiring about the status of patients
- Massaging patients
- Being fired from jobs due to time lost for quarantines, caregiving
- [after death] Paying expenses for funerals
- [after death] Leaving professional careers to run family farms, take over head-of-household businesses⁵²

HH PRACTICES (e.g., Household IPC, Access To HH IPC)

In FGDs, both men and women reported the widespread distribution of bleach, buckets, and soap. Women reported that food and IPC material distributions were insufficient, late, and inconsistent. They did not reference the distribution of PPE, and gloves were occasionally reported by women with reference to providing home-based health care, and by men for public activities (such as marketing).

Within the household, women were likely to be selected as primary health care providers for sick individuals. The following quote recounts the efforts taken by a health care worker who became infected, and had his niece provide care for him. He later died.

After 3 days he was not able to come outside the house; he said all his joints were hurting. He told his niece to treat him but when she's treating him, she should wear gloves and dress-up. Whenever she took medicine to him, he used to tell her to drop the medicine on the bed. Whenever you go to speak to him, he'll tell you not to go close to him. He called his friend from the county health team to come for him but some people hid him and refused for him to go.

50. Liberia_Transcript_FGD_FemaleGroup_Tubmanberg_0004

51. Guinea_Transcript_FGD_Type 4_Kankan_District of Kankan

52. Guinea_Transcript_FGD_Type 2_Forecariah_district of Kindia Anonymized

9 Gender-based Violence

*A group came to train on gender based violence which I was part of so they brought drinking cups for us to distribute in the community. Most times, when they come, they go to the community chairman and the chairman has co-workers and wing leaders to distribute the goods. People were selected by the zonal head also to do the distribution. Mostly when they come they go straight to the community chairman and this chairman and the eventually the community participated in the distribution.*⁵³

MODERATOR: *What made you feel successful in working with this people for your community?*

RESPONDENT: *I was one of the member of the gender based violence that was trained by the people, so the reports we gave from here was highly commended on compared to other areas so this made me know that I am successful. Also by talking, educating and sensitizing people because people heeded to the advice which made them not be affected with Ebola and they survived and up till now we can still mingle with one another.*⁵⁴

10 Children

CHILDREN AS COMPONENTS OF THE RESPONSE

In Grand Kru, Liberia, IPs were too far removed from the field to provide direct response to communities, so the policy was “stay in place.” Children were identified as at high risk and were targeted for direct training, and for participating in CHW work through “hygiene clubs.” This was a successful strategy for social mobilization. Later examples of direct child engagement in the response might include Plan International’s in-school WASH project, which was coordinated across multiple partners.

53. Liberia_Transcript_KII_TradditionalLeader_Kakata_#2

54. Liberia_Transcript_KII_TradditionalLeader_Kakata_#2

In Guinea, one example of training by ALIMA resulted in the following statement:

*In our different families, we made every effort to ensure that parents, girls, children, at least the whole family, had the courage to apply hygiene measures. Hygiene to prevent children from becoming infected. Here. OK.*⁵⁵

CHILD VULNERABILITY

According to KII with CARE in Grand Kru, Liberia, a gap in the response was addressing the long-term caregiving needs of children whose parents died or were removed for EVD.

Women provided deep descriptions of parental acknowledgment or denial of children's sicknesses or symptoms that help explain the spread of the epidemic.⁵⁶ Women also reported resisting sending sick children to hospitals and clinics for treatment, for fear that they would be taken away from them.

*Another challenge was when parents notice their children with the virus and then vomiting and you're fighting to save the life of that child and others. You don't want to turn you child over to the health team and at the same time you are risking other family members. That was really challenging.*⁵⁷

Others reported that they did not receive support while family members were sick. Instead, they received help after—at least some—family members had died.

*We benefited from support but not when our son was sick, it is when deceased. At the beginning we were firmly opposed to send him to hospital. But when, before their son died, from the moment he was talking, he was able to speak, they came many times to try to send him to the center of djekedou for treatment, but they were strongly opposed to that, they had to even send militaries to totally circle/cover this area with pickups and everyday pickups were coming and going.*⁵⁸

CHILDHOOD HEALTH CARE AND VACCINATIONS

Children who became sick for any reason during the epidemic lacked access to health care. This was mainly attributed to widespread closures of pharmacies (not clinics or hospitals), and thus parents could not purchase medicine. The epidemic resulted in widespread declines in child and maternal (during-pregnancy) vaccinations.

*No one goes for ante-natal clinics or take children for vaccinations. No one trusted the other (providers and patients).*⁵⁹

TRADITIONAL PRACTICES

Male children were not being circumcised according to custom and traditions, for fear of contacting or spreading the virus.⁶⁰

Clashes at Womey were sparked by interruption of excision rituals.⁶¹

59. KII_Women Leader_Kadiatu Koroma_Kabala_Samuel Turay_05062017

60. FGD_Sierra Leone_Women Group_Kono_Samuel Turay_15062017_transcript

61. Guinea_transcript_FGD_Type 1_Nzerekore_District of Nzerekore Anonymized

55. Guinea_transcript_FGD_Type 1_Nzerekore_District of Nzerekore Anonymized

56. Liberia_Transcript_FGD_FemaleGroup_SKT_#3

57. Liberia_Transcript_FGD_FemaleGroup_SKT_#3

58. Guinea_Transcripts_FGD_Type 2_Faranah_District of Faranah_2

ANNEX O. CHART DETAIL, OBJECTIVE 3

1. Objective 3, Relevance of the Response

	Households with suspected or confirmed EVD cases			Households with NO suspected or confirmed EVD cases		
	Guinea (n=188)	S. Leone (n=410)	Liberia (n=492)	Guinea (n=3,850)	S. Leone (n=5,418)	Liberia (n=6,357)
% of HH reporting ETU accessibility	26.1%	34.6%	32.5%	8.7%	19.0%	23.1%
% of HH reporting CCC accessibility	37.2%	37.0%	44.5%	28.1%	26.8%	34.0%
% of HH visited by a contact tracer	29.8%	76.0%	51.6%	11.2%	55.6%	29.33
% of HH receiving any PPE	43.1%	52.7%	70.7%	41.5%	47.8%	56.4%
% HH experiencing isolation or quarantine	27.7%	53.7%	47.2%	1.5%	5.7%	6.58
% of HH quarantined that reported receiving food support	69.2%	72.6%	59.1%	55.2%	64.3%	55.18
% of HH quarantined that reported receiving financial support	48.1%	24.2%	26.3%	41.4%	15.4%	23.83
% of HH with at least one Ebola death	24.5% (46)	46.8% (192)	40.2% (198)			
% of HH with an Ebola death that reported practicing safe burial	80.4% (37)	95.8% (184)	98.0% (194)			
% of HH with an Ebola death that reported receiving any PPE for body preparation and safe burial	21.7%	20.8%	37.9%			

	Households with suspected or confirmed EVD cases			Households with NO suspected or confirmed EVD cases			Overall comparison
	Overall (n=188)	Urban (n=64)	Rural (n=124)	Overall (n=3,850)	Urban (n=1,450)	Rural (n=2,400)	p-value
% of HH reporting ETU accessibility	26.1% ⁺	29.7%	24.2%	8.7% ⁺	13.6% ⁺	5.8% ⁺	<0.001
% of HH reporting CCC accessibility	37.2%*	34.4%	38.7%*	28.1%	24.3% ⁺	30.3% ⁺	<0.05
% of HH visited by a contact tracer	29.8% ⁺	32.8%	28.2%	11.2% ⁺	10.7%*	11.5%*	<0.001
% of HH receiving any PPE	43.1% ⁺	51.6%	38.7%	41.5% ⁺	43.9%	40.0%	<0.001
% HH experiencing isolation or quarantine	27.7%	25.0%	29.0%	1.5%	1.3%	1.6%	0.571
% of HH quarantined that reported receiving food support	69.2%	87.5%	61.1%	55.2%	52.6%	56.4%	0.130
% of HH quarantined that reported receiving financial support	48.1%	62.5%	41.7%	41.4%	21.1%*	51.3%*	0.480
% of HH with at least one EVD death	24.5% (46)	17.2%	28.2%				
% of HH with an EVD death that reported practicing safe burial	80.4% (37)	81.8%	80.0%				
% of HH with an EVD death that reported receiving any PPE for body preparation and safe burial	21.7%	45.5%*	14.3%*				

NOTE: Statistical significance, *at .05 level, ⁺at .001 level

	Households with suspected or confirmed EVD cases			Households with NO suspected or confirmed EVD cases			Overall comparison
	Overall (n=410)	Urban (n=192)	Rural (n=218)	Overall (n=5,418)	Urban (n=2,196)	Rural (n=3,222)	p-value
% of HH reporting ETU accessibility	34.6% ⁺	35.9%	33.0%	19.0% ⁺	25.1%	14.9%	<0.001
% of HH reporting CCC accessibility	37.0% ⁺	43.8%*	31.2%*	26.8% ⁺	35.3%	22.8%	<0.001
% of HH visited by a contact tracer	76.0% ⁺	78.1%	74.3%	55.6% ⁺	56.1%	55.3%	<0.001
% of HH receiving any PPE	52.7%	51.6%	54.1%	47.8%	51.7%	45.1%	<0.001
% HH experiencing isolation or quarantine	53.7%	55.73%	51.8%	5.7%	5.3%	6.0%	0.055
% of HH quarantined that reported receiving food support	72.6%*	77.6%	68.2%	64.3%*	76.9%	56.7%	<0.05
% of HH quarantined that reported receiving financial support	24.2%*	23.4%	25.7%	15.4%*	17.1%	14.4%	<0.05
% of HH with at least one EVD death	46.8% (192)	46.4%	47.3%				
% of HH with an EVD death that reported practicing safe burial	95.8% (184)	94.4%	97.1%				
% of HH with an EVD death that reported receiving any PPE for body preparation and safe burial	20.8%	18.0%	23.3%				

NOTE: Statistical significance, *at .05 level, ⁺at .001 level

	Households with suspected or confirmed EVD cases			Households with NO suspected or confirmed EVD cases			Overall comparison
	Overall (n=492)	Urban (n=221)	Rural (n=271)	Overall (n=6,357)	Urban (n=2,836)	Rural (n=3,029)	p-value
% of HH reporting ETU accessibility	32.5% ⁺	34.8%	30.1%	23.1% ⁺	25.4%	20.9%	<0.001
% of HH reporting CCC accessibility	44.5% ⁺	46.6%	42.8%	34.0% ⁺	33.2%	34.7%	<0.001
% of HH visited by a contact tracer	51.6% ⁺	48.4%	54.2%	29.33 ⁺	29.4%	29.2%	<0.001
% of HH receiving any PPE	70.7% ⁺	73.8%	68.3%	56.4% ⁺	53.6%	59.1%	<0.001
% HH experiencing isolation or quarantine	47.2% ⁺	50.2%	44.7%	6.58% ⁺	5.8%*	7.3%*	<0.001
% of HH quarantined that reported receiving food support	59.1%	60.4%	57.9%	55.18%	54.6%	55.7%	0.347
% of HH quarantined that reported receiving financial support	26.3%	27.0%	25.6%	23.83%	24.9%	23.1%	0.493
% of HH with at least one EVD death	40.2% (198)	39.8%	40.6%				
% of HH with an EVD death that reported practicing safe burial	98.0% (194)	97.7%	98.2%				
% of HH with an EVD death that reported receiving any PPE for body preparation and safe burial	37.9%	35.23%	40.00%				

NOTE: Statistical significance, *at .05 level, ⁺at .001 level

	Guinea		Sierra Leone		Liberia	
	CTs (n=65)	CHWs (n=85)	CTs (n=61)	CHWs (n=81)	CTs (n=124)	CHWs (n=122)
% reporting receipt of standardized guidelines	93.9%	82.4%	91.8%	88.9%	89.5%	87.7%
Top sources of guidelines	<ul style="list-style-type: none"> ■ ACF 20.0% ■ WHO 15.4% ■ MSF 13.9% ■ MOH 13.9% 	<ul style="list-style-type: none"> ■ UNICEF 34.7% ■ MOH 26.5% ■ MSF 18.4% 	<ul style="list-style-type: none"> ■ MOH 29.8% ■ WHO 18.0% ■ IRC 14.8% 	<ul style="list-style-type: none"> ■ IRC 36.7% ■ MOH 33.3% ■ MSF 11.7% 	<ul style="list-style-type: none"> ■ MOH 54.0% ■ WHO 12.1% ■ PIH 11.3% 	<ul style="list-style-type: none"> ■ MOH 36.6% ■ WHO 19.6% ■ GC 14.3%
% reporting changes in the guidelines over time	41.0%	55.7%	44.6%	43.1%	27.0%	33.6%
% reporting following all of the guidelines all of the time	91.8%	85.7%	92.9%	94.4%	93.7%	97.2%

Table O3–6. Utilization of technical guidelines, Guinea				
	Contact Tracers (n=65)			CHWs (n=85)
	Urban	Rural	p-value	
% reporting receipt of standardized guidelines	92.0%	100.0%	(0.2651)	82.4%
Top sources of guidelines	<ul style="list-style-type: none"> ■ IFRC 20.0% ■ WHO 15.4% ■ MSF 13.9% ■ MOH 13.9% ■ UNICEF 13.9% ■ US CDC 10.8% 			<ul style="list-style-type: none"> ■ UNICEF 34.7% ■ MOH 26.5% ■ MSF 18.4%
% reporting changes in the guidelines over time	43.5%	33.3%	(0.4960)	55.7%
% reporting following all of the guidelines all of the time	Overall	91.8%		85.7%
Yes for all	93.5%	86.7%		
Yes for some	6.6%	2.2%		
No	1.7%	0		
Reasons reported for not following the guidelines	Overall counts only			
They were not appropriate for the setting in which I worked	3			
They changed and I continued following previous guidelines	0			
Conditions changed so it was no longer appropriate to follow them	1			
I was instructed to do my job differently by the org I worked for	0			
They were too difficult to follow	3			
It did not seem important	1			

Table O3–7. Utilization of technical guidelines, Sierra Leone				
	Contact Tracers (n=61)			CHWs (n=81)
	Urban	Rural	p-value	
% reporting receipt of standardized guidelines	92.9%	90.9%	(0.7866)	88.9%
Top sources of guidelines	<ul style="list-style-type: none"> ■ MOH 29.5% ■ WHO 18.0% ■ MSF 8.2% 			<ul style="list-style-type: none"> ■ IRC 36.7% ■ MOH 33.3% ■ MSF 11.7%
% reporting changes in the guidelines over time	34.6%	53.3%	(0.1658)	43.1%
% reporting following all of the guidelines all of the time	Overall	92.9%		94.4%
Yes for all	88.5%	96.7%		
Yes for some	7.7%	3.3%		
No	3.9%	0		
Reasons reported for not following the guidelines	Overall counts only			
They were not appropriate for the setting in which I worked	1			
They changed and I continued following previous guidelines	0			
Conditions changed so it was no longer appropriate to follow them	0			
I was instructed to do my job differently by the org I worked for	1			
They were too difficult to follow	3			
It did not seem important	0			

Table O3–8. Utilization of technical guidelines, Liberia				
	Contact Tracers (n=124)			CHWs (n=122)
	Urban	Rural	p-value	
% reporting receipt of standardized guidelines	85.4%	92.1%	(0.2398)	87.7%
Top sources of guidelines	<ul style="list-style-type: none"> ■ MOH 54.0% ■ WHO 12.1% ■ PIH 11.3% 			<ul style="list-style-type: none"> ■ MOH 36.6% ■ WHO 19.6% ■ GC 14.3%
% reporting changes in the guidelines over time	26.8%	27.1%	(0.9717)	33.6%
% reporting following all of the guidelines all of the time	Overall	93.7%		97.2%
Yes for all	96.1%	92.9%		
Yes for some	6.3%	4.9%		
No	0	0		
Reasons reported for not following the guidelines	Overall counts only			
They were not appropriate for the setting in which I worked	1			
They changed and I continued following previous guidelines	0			
Conditions changed so it was no longer appropriate to follow them	0			
I was instructed to do my job differently by the org I worked for	0			
They were too difficult to follow	3			
It did not seem important	0			

Table O3–9. Comparison of response exposure between high prevalence (HP) and low prevalence (LP) areas* by country

Indicator	Guinea			Sierra Leone			Liberia		
	LP	HP	P-value ⁺	LP	HP	P-value	LP	HP	P-value
HH reporting ETU accessibility (M9, Q55)	10.3	7.2	0.0026	6.8	23.4	0.0000	22.4	26.3	0.0003
HH reporting CCC accessibility (M9, Q56)	23.6	40.5	0.0000	15.3	30.5	0.0000	32.6	38.7	0.0000
HH visited by a contact tracer (M9, Q68)	12.0	11.4	0.5866	44.6	60.1	0.0000	29.0	34.6	0.0000
HH receiving any PPE (M9, Q70)	44.4	30.8	0.0000	44.9	48.9	0.0157	50.30	70.1	0.0000
HH experiencing isolation or quarantine (M9, Q59)	2.7	2.5	0.7682	4.5	10.2	0.0000	7.0	14.5	0.0000
HH quarantined that reported receiving food support (M9, Q63, HHs with Q59=yes)	68.3	42.9	0.0166	66.7	68.1	0.8409	59.2	54.5	0.2354
HH quarantined that reported receiving financial support (M9, Q65, HHs with Q59=yes)	48.8	32.1	0.1285	21.6	19.1	0.6702	31.6	19.1	0.0003
HH with at least one Ebola death (M8, Q53, HHs with Q53>0)	1.1	1.1	0.9270	1.1	3.8	0.0000	2.4	4.3	0.0000
HH with an Ebola death that reported practicing safe burial (M8, Q54, HHs with M8, Q53>0)	88.2	58.3	0.0247	100.0	96.1	0.4890	99.0	98.0	0.5749
HH with an Ebola death that reported receiving any PPE for body preparation and safe burial (M9, Q72, HHs with M8, Q53>0)	17.7	33.3	0.2673	25.0	20.6	0.7153	45.9	30.0	0.0209

*Counties (Liberia), Provinces (Sierra Leone), and Regions (Guinea) were assigned into the high- or low-prevalence group, according to whether Ebola occurrence was above or below the mean value for that country.

⁺P-levels in **bold** are significant at the ≤ 0.05 level.