Assessing Public Knowledge, Attitudes, Practices, and Behaviors Relating to Ebola Virus Disease (EVD) in Sierra Leone

Preliminary Report

12th September 2014

Table of Contents

Executive Summary

Introduction

As of August 7th 2014, Sierra Leone has recorded a total of 631 confirmed cases of Ebola virus disease (EVD) with 163 cumulative survivors and 223 laboratory confirmed deaths[1]. The epidemic which has ravaged Sierra Leone, Guinea and Liberia has been characterized by the World Health Organization (WHO) as one of the most challenging Ebola epidemics to date. With Nigeria now confirming two new cases and one death, the epidemic has shown clear signs of spreading to other countries in the West Africa region and beyond. There have been 1711 cumulative cases attributed to EVD in these four countries, and 932 deaths as of August 6th 2014 according to the WHO[2]. The Government, development partners, and civil society continue to place a major focus on educating the public on how to prevent the transmission of EVD as well as encouraging people to promptly seek medical care in the event that they experience signs and symptoms associated with the disease. Despite these efforts, public education campaigns have been met with varied resistance from communities up to this point. Myths, misconceptions, and misinformation about the disease continue to put a strain on the fight against it. There have been widespread stories of people fearing to seek medical treatment and reporting suspected cases of EVD.

Reuters documented an instance in July when the family of a woman suspected to have EVD forcefully removed her from the King Harman Government Hospital against the advice of medical professionals[3]. That patient later died of the disease as confirmed by MoHS. During radio discussion programs, some listeners would call in and express their disbelief that Ebola exists. One potential barrier in effectively educating the public on EVD is the fact that its signs and symptoms are similar to those of other common diseases in the country such as malaria, typhoid fever, and cholera. The outbreak which was initially concentrated in Kahailahun and Kenema districts has now spread to several other parts of the country, with 6 confirmed cases now being reported in the capital city of Freetown (Western Area) according to MoHS.

Given its urban setting and dense population, the gradual increase in EVD cases in Freetown poses an even more serious public health challenge to an already complex situation. In Kailahun and Kenema, the International Federation of Red Cross and Red Crescent Societies had conducted a KAP study which revealed that public perceptions and attitudes were influencing EVD prevention and medical care seeking behaviors. For instance, it highlighted that only 26.7% of respondents in Kailahun and 21.4% in Kemena knew that avoiding the dead remains of an infected individual is a way of preventing the transmission of EVD[4]. In addition, the same study illustrated that only 13.3% of respondents in Kailahun and 7.1% in Kenema knew isolating a family member or neighbor suspected to have contracted EVD is a method limiting the transmission of the disease. These findings point to some key gaps in knowledge in these two districts. A limitation of the study is that its sample size is not large enough to be

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[1] Sierra Leone Ministry of Health and Sanitation, *Ebola Update.* August 7th 2014.

[2] World Health Organization, Ebola virus disease update - West Africa, http://www.who.int/csr/don/2014_08_04_ebola/en (Aug 6, 2014).

[3] Reuters, *Sierra Leone Ebola patient, recovered from family, dies in ambulance*, http://uk.reuters.com/article/2014/07/27/uk-health-ebola-africa-idUKKBN0FV0NR20140727 (July 27 2014).

[4] International Federation of Red Cross and Red Crescent Societies, *Knowledge, Attitudes and Practices (KAP Survey on the Ebola Virus Disease (EVD) – Kailahun and Kenema Districts, Sierra Leone* (June 2014).

representative of Kailahun and Kenema, and may not hold true for other parts of the country. Nonetheless, the study provides areas for further research investigation with a larger sample size.

To the best of our knowledge, there has not been a national study conducted to understand the public's knowledge, perceptions, attitudes, and behaviors related to EVD prevention and medical care. We plan therefore plan to conduct the study in Western Area and all three provinces of Sierra Leone. Kailahun and Kenema are selected from the Eastern Province; Kambia, Koinadugu, and Port Loko are selected from the Northern Province; Bo and Moyamba are selected from the Southern Province. The rationale being that the Western Area is the most densely populated with growing number of confirmed, probably, and suspected cases. Kambia is a border district with Guinea where the epidemic started within the region. Bo shares a border with Kenema and has the third highest number of cases so far. Koinadugu is unique as it is the only district that has not reported any confirmed case. Kailahun and Kenema are the epicenter with the highest number of cases and situated in the Eastern Province of the country where the epidemic has taken the greatest toll in and deaths. Port Loko has the third highest number of confirmed cases as of 16th August followed by Bo. Moyamba serves as a second enumeration district in the Southern Province given its proximity to Kenema.

Objectives

1. Conduct a household survey to quantitatively examine the public's knowledge, attitudes, and practices related to Ebola Virus Disease (EVD) in the propose districts.

2. Identify bottlenecks to preventing the spread of EVD.

3. Assess the public's attitudes and acceptability of pending EVD vaccines and treatment.

4. Use the generated evidence to inform evidence-based strategies in preventing the transmission of the EVD and caring for those already infected and affected by the epidemic.

Methodology

Quantitative Data Collection

A structured questionnaire was administered to a random sample of households in: Western Rural, Western Urban, Kenema, Kailahun, Bo, Moyamba, Kambia, Port Loko, and Koinadugu districts. The questionnaire is informed by the constructs of the Health Belief Model (HBM), which is a theoretical framework that has been widely used to understand a range of health behaviors. In its application in this KAP study, examined the following constructs:

I. **Perceived susceptibility / risks** of contracting EVD

II. **Perceived severity** (seriousness) of EVD

III. **Perceived benefits** of taking preventive measures and seeking prompt medical care

IV.   **Perceived barriers / costs** associated with preventing EVD and seeking prompt medical care

V.   **Self-efficacy** in preventing EVD and seeking prompt medical care (including knowledge)

VI.   **Cues to action** in preventing EVD and seeking prompt medical care

Sampling

Multi-stage cluster sample of 1413 individuals from 706 households in Western Rural, Western Urban, Kenema, Kailahun, Bo, Moyamba, Kambia, Port Loko, and Koinadugu districts were included in the survey. This sample size is beyond the minimum required in order to attain 95% confidence level and confidence interval of +/- 3.5% given the estimated cumulative population of about 6 million (as per 2014 census projections). At the first stage, the selected districts were divided into clusters from which a determined number of clusters were randomly selected. Within the selected clusters, systematic random sampling was used to select households for inclusion in the survey. Within each selected household, two individuals were selected for interviews. The household head was always selected given his/her influential role on the decisions and practices within the household. However, anticipating that a majority of the household heads would be older men, we randomly selected another participant from the household who was either a woman or young person ages of 15 and 24.

Table 1: Population and sample size distribution

District	Population	Proportion of Population	Sample Size	Proportion of Sample
Western Rural	263,619	6%	92	7%
Western Urban	1,040,888	25%	339	24%
Bo	403,182	10%	151	11%
Moyamba	278,119	7%	127	9%
Kambia	341,690	8%	120	8%
Port Loko	557,978	14%	196	14%
Koinadugu	335,471	8%	119	8%
Kenema	440,883	11%	139	10%
Kailahun	465,048	11%	130	9%
Total Population	**4,126,878**	100%	**1413**	100%

Qualitative Data Collection

A total of 15 in-depth interviews 5 focus group discussions were conducted with key informants/groups (such as local authorities, religious leaders, traditional leaders, law enforcement, and community leaders) to further probe emerging issues including:

- Recurring gaps in knowledge and practice

- Myths and rumors about the origin, cause, preventive measures, and "cures"

- Perceived barriers to seeking prompt medical care in suspected cases

Training of Data Collectors

FOCUS 1000 trained 30 data collectors, 10 team supervisors, and 4 regional supervisors during a two-day workshop on the proper administration of the questionnaire and pretesting of the instrument. The training focused on the following areas:

- Overall research protocol

- Informed consent

- Safety and security precautions

- Administration of questionnaire

- Quality control

The trained data collectors and supervisors were subsequently divided into their respective teams. Each team was assigned to specified geographic clusters. Data collection lasted for a total of 6 days.

Survey Administration, Data Entry, and Analysis

The supervisors were responsible to oversee the day-to-day collection of data by the trained data collectors. Each enumerator was expected to complete 10-12 questionnaires per day. Four trained data entry clerks were responsible for data entry and processing and worked closely with the FOCUS 1000 team to ensure data quality and accuracy. Data entry was done using a customized Excel-based system and subsequently analyzed in SPSS.

Preliminary Findings

There is universal awareness of EVD in the country and 97% believe it currently exists in the country. Approximately, 77% of respondents have heard of someone who survived Ebola while 53% know the number to call to report suspected EVD cases or ask questions.

Table 1: Awareness of Ebola Virus Disease					
Percentage of respondents who have heard of EVD and know the disease exists in Sierra Leone, 2014					
	Have heard of EVD	Believe EVD exists in Sierra Leone	Have heard of people that have survived Ebola	Know the number to call to report a suspected Ebola case or ask questions about Ebola	Total Number
District					
Kambia	100	90.8	60.8	36.7	120
Koinadugu	100	98.3	58.1	41.2	119
Port Loko	100	97.4	74.5	55.6	196
Bo	100	99.3	89.3	64.2	151
Moyamba	100	97.6	63	29.9	127
Kailahun	100	99.2	98.5	58.5	130
Kenema	100	98.6	96.4	51.1	139
Western Urban	100	95.9	71.6	62.5	339
Western Rural	100	94.6	72.8	57.6	92
Age					
15-24	100	96.3	70	54.3	510
25+	100	97.3	80	52.6	881
Education					
None	100	94.4	67.8	31.9	360
Primary	100	98.4	71.3	51.1	188
Secondary +	100	97.6	81.1	62.4	840
Total	**100**	**96.9**	**76.4**	**53**	**1388**

The cause of EVD is mostly associated with bats, monkeys, and wild animals by 73.5% of respondents while 41.3% know that it is caused by a virus. Less than 2% of respondents believe that EVD is caused by God, witchcraft, evildoing, or curse.

Table 2: Knowledge of EVD								
Percentage of respondents who have heard about EVD and know the causes of the disease, Sierra Leone, 2014								
	Heard of EVD	Virus	Bats/Monkeys/ Chimpazees, other wild animals	God/other higher power	Witchcraft	Evildoing/Sin/	Curse	Number of Respondents
District								
Kambia	100	19.2	65	4.2	0	0	0	120
Koinadugu	100	22.7	86.6	0.8	0	0	0.8	119
Port Loko	100	52.6	71.4	2.6	2	0	0.5	196
Bo	100	67.5	76.2	3.3	1.3	2.6	2.6	151
Moyamba	100	33.9	59.1	3.1	1.6	1.6	2.4	127
Kailahun	100	31.5	82.3	0	0.8	0	0	130
Kenema	100	39.6	84.2	0	0	0	0	139
Western Urban	100	43.7	71.1	1.2	0.6	1.2	0	339
Western Rural	100	40.2	60.9	0	2.2	1.1	1.1	92
Age								
15-24	100	39.9	75.9	1.6	0.8	0.6	1.2	510
25+	100	41.7	71.6	1.7	0.9	0.9	0.3	881
Education								
None	100	29.2	69.7	1.9	0.8	0.3	1.7	360
Primary	100	37.2	72.3	1.1	1.1	2.7	0.5	188
Secondary +	100	47.4	75.4	1.7	0.8	0.5	0.4	840
Total	100	41.3	73.5	1.7	0.9	0.7	0.7	1388

There is low level of knowledge that EVD could be transmitted through contact with an infected person's blood (32%), semen (17%), breast milk (13%), and other bodily fluids (43%). There is higher knowledge on the following modes of transmission: shaking hands or other physical contact with an infected person (55%), eating or preparing bush meat (52%), and eating fruits likely eaten by bats – "bat mot" (33%). Even though inaccurate, 39% of respondents believe that it is possible to contract EVD from an infected person who has not shown any signs or symptoms.

Table EVD.3: Transmission of EVD									
Percentage of respondents who have heard about EVD and know its modes of transmission, Sierra Leone,2014									
	Heard of EVD	From a person who is infected but doesn't have any signs or symptoms	eating/preparing bush meat	Eating wild fruits likely eaten by bats	Blood of an infected person	Sperm of an infected person	Breastmilk of an infected person	Shaking hands or other physical contact with an infected person	Other fluids from an infect person	Number of respondents
District										
Kambia	100	26.5	42.5	18.3	12.5	0.8	0.8	30.8	15.8	120
Koinadugu	100	35	70.6	28.6	12.6	3.4	0.8	57.1	17.6	119
Port Loko	100	72	62.2	32.7	28.6	11.2	8.2	54.6	46.9	196
Bo	100	31.5	72.8	69.5	87.9	69.5	72.8	83.4	84.1	151
Moyamba	100	31.5	46.5	24.4	15	11	10.2	52	33.9	127
Kailahun	100	40.8	43.1	30	35.4	29.2	13.1	82.3	53.1	130
Kenema	100	34.1	43.2	51.8	46	15.8	5.8	56.8	49.6	139
Western Urban	100	41.4	46.9	16.8	16.2	7.4	1.5	41.3	52.8	339
Western Rural	100	37	41.3	27.2	29.3	2.2	1.2	37	31.5	92
Sex of respondent										
Female	100	37.5	53.4	30	28.5	16	11.5	51.9	42.9	749
Male	100	44.3	51.3	32.7	32.5	16.9	12.8	56.3	49.8	655
Age										
15-24	100	36.7	51.8	30.8	28.7	13.3	9.6	52.7	45.5	510
25+	100	43	52.4	31.9	31.5	18.3	13.6	54.9	46	881
Education										
None	100	35.5	53.1	31.9	27	18.3	11.9	53.9	37.2	360
Primary	100	34.8	54.3	30.9	30.9	16.5	12.8	56.9	44.1	188
Secondary +	100	44.3	52.3	32.3	31.9	16.1	12.3	54	50.7	840
Total	100		52.7	32	30.5	16.7	12.3	54.4	46.3	1388

The most widely reported misconception is the belief that EVD is transmitted through air (30%) and mosquito bites (30%).

Table 4a: Misconceptions of knowledge of EVD transmission

Percentage of respondents who have misconceptions on the EVD transmission Sierra Leone, 2014

	Transmitted through:		
	Air	Mosquito bites	Number of Respondents
District			
Kambia	33.9	22.5	120
Koinadugu	30.8	38.7	119
Port Loko	28.4	26.3	186
Bo	32.7	30.7	130
Moyamba	33.3	34.6	127
Kailahun	13.7	30.8	130
Kenema	29.1	35.8	123
Western Urban	34.2	25.4	338
Western Rural	30.8	28.6	91
Sex of respondent			
Female	32.1	32.5	730
Male	28.4	26.3	646
Age			
15-24	29.8	32.3	501
25+	30.5	28	863
Education			
None	36.5	37	349
Primary	34.3	46.2	182
Secondary +	26.9	22.9	829
Total	**30.4**	**29.6**	**1360**

There is a minority of respondents who believe that EVD is treatable by spiritual (19%) and traditional healers (6%). Those in Western Rural (45%), Western Urban (32%), Moyamba (25%), and Kambia (20%) were more likely to believe that spiritual healers are capable of treating EVD as compared to the other surveyed districts. However, 42% of respondents believe that they can be protected from EVD by washing with salt and hot water.

Table 4b: Misconceptions of knowledge of EVD treatment and prevention			
Percentage of respondents who have misconceptions on the EVD treatment, Sierra Leone, 2014			
	Believe that traditional healers can treat Ebola successfully	Believe that spiritual healers can treat Ebola successfully	Believe that bathing with salt and hot water can prevent Ebola	Number of respondents
District				
Kambia	12.7	19.5	49.6	118
Koinadugu	5.9	9.2	27.7	119
Port Loko	3.6	8.7	44.5	196
Bo	2.7	11.3	37.7	150
Moyamba	8.7	25.2	55.8	127
Kailahun	3.1	7.2	50.8	125
Kenema	2.9	11.5	39.4	139
Western Urban	7.1	32.4	39.8	109
Western Rural	4.3	45.1	28.6	41
Sex of respondent				
Female	5.4	20	43.8	741
Male	6	18.7	39.2	653
Age				
15-24	4.7	16.4	43.8	507
25+	6.4	21.5	40.2	874
Education				
None	7.5	21.1	44.6	345
Primary	5.3	16	53.3	184
Secondary +	4.9	19.5	37.6	819
Total	**5.6**	**19.4**	**41.5**	**1348**

Knowledge on EVD prevention was generally high across all districts, gender, and age categories with 87% of people knowing to avoid contact with infected blood and bodily fluids and 85% knowing to avoid funeral or burial rituals that require handling the body of someone who died from EVD. An alarming finding is that knowledge of these key EVD prevention behaviors is generally lower in Kenema (an epicenter) as compared to Kailahun and most other districts.

Table 5a: Knowledge of means of EVD prevention					
Percentage of respondents who correctly identify means of EVD prevention, Sierra Leone, 2014					
	Avoiding contact with blood and body fluids	Avoiding funeral or burial rituals that require handling the body of someone who has died from Ebola	A suspected person reduce the chance of spreading Ebola by immediately going to hospital	A suspected person with Ebola has higher chance of survival if he/she goes immediately to a Health Facility	Number of respondents
District					
Kambia	76.3	77.5	77.6	73.9	116
Koinadugu	96.6	64.7	93.3	87.4	119
Port Loko	90.4	96.4	93.4	93	196
Bo	98	90	97.3	97.9	150
Moyamba	85.6	89.8	92.1	89.7	127
Kailahun	90.8	100	97.7	98.5	130
Kenema	75.5	74.3	76.8	94.9	138
Western Urban	85.8	80.8	96.2	87.9	338
Western Rural	84.6	82.6	85.9	88	92
Sex of respondent					
Female	86.7	82.5	90.5	89	747
Male	88	87.5	92.2	91.9	652
Age					
15-24	86.2	81.8	89.8	88.3	508
25+	87.7	86.4	82	91.3	878
Education					
None	82.7	79.7	87.7	85.8	358
Primary	91	80.9	89.4	89.2	188
Secondary +	88.4	87.9	93.2	92.8	837
Total	**87.3**	**84.8**	**91.3**	**90.5**	**1383**

Comprehensive knowledge on EVD prevention is generally low. Only 39% of respondents were able to accurately identify three means of prevention and rejected three misconceptions.

Table 5b: Knowledge of means of EVD prevention						
Percentage of respondents who correctly identify means of EVD prevention, Sierra Leone, 2014						
	Accepts three main means of prevention		Rejects three misconceptions		Has comprehensive knowledge (rejects three misconceptions and accepts three prevention means of Ebola)	
	Percent	Number of respondents	Percent	Number of respondents	Percent	Number of respondents
District						
Kambia	79.5	88	35.2	71	27.1	59
Koinadugu	62	108	64.9	94	44.9	89
Port Loko	89.3	169	59.9	162	54.7	148
Bo	92.9	141	61	118	56.9	109
Moyamba	83.9	112	34.1	85	32.5	77
Kailahun	92	125	43.8	105	35.6	101
Kenema	63.8	130	55.1	118	28.9	114
Western Urban	73.7	293	44.2	233	30	210
Western Rural	70.4	81	48	50	32	43
Sex of respondent						
Female	77	652	47.5	537	34.4	486
Male	81	590	53.7	495	44	461
Age						
15-24	74.2	453	48.3	404	34.7	369
25+	81.3	775	51.9	619	41.7	568
Education						
None	75.7	296	45.9	233	33.7	208
Primary	75.7	169	42.3	142	29	131
Secondary +	80.6	763	53.5	650	42.7	600
Total	**78.7**	**1228**	**50.2**	**1025**	**38.8**	**939**

Radio is the primary channel of receiving information on EVD for 88% of respondents, followed by religious venues (42%), megaphone announcements (21%) and television (21%).

Table 6: Means of information about EVD								
Percentage of respondents who report to have learned about Ebola from the following means in Sierra Leone, 2014								
	Radio	Television	Megaphone/ public announcements	Church/ mosque/ other religious venues	Community meetings	Newspaper/ flyers/ Brochures/ other print media	Mobile phone/ Text messages	Number of respondents
District								
Kambia	86.7	2.1	29.2	29.2	5	2.5	0.8	120
Koinadugu	95	10.1	18.8	31.1	13.4	9.2	0	119
Port Loko	93.4	8.2	10.7	29.1	23.5	10.7	2	196
Bo	95.4	39.7	26.5	31.1	14.6	4	0	151
Moyamba	77.2	6.3	18.1	38.6	10.2	3.1	0	127
Kailahun	98.5	10	40	74.6	13.1	15.4	0	130
Kenema	79.1	10.1	43.2	64.7	9.4	8.6	0	139
Western Urban	85.5	43.7	15.6	32.7	10	5.9	0.3	339
Western Rural	76.1	16.3	13	47.8	6.5	16.3	1.1	92
Sex of respondent								
Female	87	20.6	23.8	42.1	9.3	6.3	0.4	749
Male	89	20.6	20	38.5	15.6	9.9	0.5	655
Age								
15-24	86.1	21	21.6	42.9	10.2	7.8	0.4	510
25+	88.8	20.3	22	39	13.4	7.8	0.6	881
Education								
None	84.7	12.5	23.6	40	5.6	2.2	0.8	360
Primary	86.2	19.7	29.3	51.1	10.1	4.8	0	188
Secondary +	89.5	24.5	19.8	38.7	15.8	11.2	0.5	840
Total	**87.8**	**20.7**	**22**	**40.7**	**12.4**	**8**	**0.5**	**1388**

A majority of respondents (85%) prefer to receive EVD information through radio. This is followed by house visits (28%), television (21%), religious venues (18%), megaphone/public announcements (13%), and mobile phones / text messages (11%). The least preferred channels are: community meetings (10%) and print sources (9%).

	Radio	Television	Megaphone/public announcements	House visits by health workers as preferred channel of communication	Church/ mosque/ other religious venues	Community meetings	Newspaper/ flyers/ Brochures/ other print media	Mobile phone/ Text messages	Number of respondents
Table 7: Preference of means of information about EVD									
Percentage of respondents who prefer to get information about Ebola from the following means Sierra Leone, 2014									
District									
Kambia	78.3	3.3	18.5	21.7	13.3	5	1.7	3.3	120
Koinadugu	89.9	10.9	13.4	19.3	14.3	11.8	8.4	23.5	119
Port Loko	87.8	7.7	6.1	20.4	22.4	10.2	19.9	14.3	196
Bo	94.7	35.1	18.5	32.5	31.8	10.6	6.6	23.8	151
Moyamba	82.7	3.9	15.7	14.2	2.4	10.2	5.5	1.6	127
Kailahun	96.9	12.3	23.1	63.1	29.2	16.2	11.5	7.7	130
Kenema	79.9	8.6	18	54	29.5	5.8	4.3	12.9	139
Western Urban	81.4	48.7	8.6	13	9.1	9.4	7.4	2.7	339
Western Rural	73.9	10.9	12	32.6	15.2	5.4	15.2	4.3	92
Sex of respondent									
Female	86	21.6	13.2	28	18.8	9.6	8	10	749
Male	84.4	20	11.9	26.7	16.9	9.6	10.4	9.6	655
Age									
15-24	84.3	21	10.6	25.5	15.7	7.5	11	10.4	510
25+	85.4	20.8	13.4	28.5	19.1	10.9	7.9	9.1	881
Education									
None	84.4	12.8	15.6	29.2	22.8	9.7	4.2	11.7	360
Primary	82.4	16.5	16.5	33.5	18.1	13.3	3.2	6.4	188
Secondary +	86.5	25.4	10.6	25.6	16	8.8	12.7	10.1	840
Total	**85.4**	**20.9**	**12.7**	**27.6**	**18**	**9.7**	**9.2**	**10**	**1388**

Table 8: Trusted means of information about EVD						
Percentage of respondents who identify various means to be trusted in getting information about Ebola in Sierra Leone, 2014						
	Government/ MoHS	The Media	Health / medical professionals	Relatives and Friends	Religious leaders (e.g.pastor, Imam)	Traditional leaders	Number of respondents
District						
Kambia	22.5	26.7	60.8	6.7	5	0	120
Koinadugu	63	37	70.6	2.5	4.2	0	119
Port Loko	65.8	41.8	40.3	2.6	0.5	0	196
Bo	50.3	43.7	78.8	10.6	24.5	0	151
Moyamba	36.2	15	67.7	3.9	0	0	127
Kailahun	60.8	17.7	86.2	8.5	8.5	0.8	130
Kenema	61.9	41	66.9	28.1	20.9	1.4	139
Western Urban	35.4	44.2	42.8	6.5	4.7	0	339
Western Rural	44.6	26.1	56.5	2.2	9.8	1.1	92
Sex of respondent						
Female	48.5	38.1	58.5	9.1	8.3	0.3	749
Male	47.8	32.2	61.2	6.6	7.9	0.3	655
Age						
15-24	48.2	35.7	55.9	8.4	6.3	0.2	510
25+	47.8	35	62.2	7.7	9.2	0.3	881
Education						
None	47.2	36.9	60.6	9.7	10.8	0.3	360
Primary	45.7	40.4	59	10.6	8.5	0	188
Secondary +	49.4	33.9	59.8	6.5	6.9	0.4	840
Total	**48.3**	**35.6**	**59.9**	**7.9**	**8.1**	**0.3**	**1388**

{insert narrative}

Table 9: Need for more information about EVD

Percentage of respondents who want to get more information about Ebola from the following areas Sierra Leone, 2014

	Respondents who need more information on Ebola	Cause / origin of the disease	Signs and symptoms of the disease	Ways to prevent the disease	Medical care and treatment options	Number of respondents
District						
Kambia	94.9	28.6	15	60.8	29.2	120
Koinadugu	98.3	23.5	10.9	54.6	48.7	119
Port Loko	91.8	23.5	23	38.3	17.9	196
Bo	96.6	29.8	45	82.8	57	151
Moyamba	92.1	37	11	47.2	9.4	127
Kailahun	87.7	10	14.6	69.2	29.2	130
Kenema	90.9	23.7	26.6	39.6	56.8	139
Western Urban	93.5	20.4	12.4	46.6	34.2	339
Western Rural	96.7	31.5	26.1	40.2	20.7	92
Sex of respondent						
Female	93.5	25.1	18.6	52.6	36.8	749
Male	93.4	23.4	21.5	52.1	30.7	655
Age						
15-24	93.7	23.8	17.6	48.4	33.9	510
25+	93.6	24.4	20.9	54.8	33.8	881
Education						
None	90.7	28.6	20.6	53.3	34.4	360
Primary	93	35.8	23.3	46.3	38.3	188
Secondary +	94.7	20	19.2	53.3	32.9	840
Total	**93.5**	**24.4**	**20**	**52.4**	**34**	**1388**

{Insert narrative}

Table EVD.10: Behavior change about EVD								
Percentage of respondents who have changed their behaviour since hearing about Ebola Sierra Leone, 2014								
		Type of change behavior						
	Respondents who reported change of behaviour since hearing of Ebola	Wash hands with soap and water	clean hands with other disinfectants	Drink traditional herbs	Take antibiotics	Wear gloves and protective clothing	I try to avoid physical contact with people I suspect may have Ebola	Number of respondents
District								
Kambia	80	58	16.9	7.5	0	3.3	15	120
Koinadugu	95	81.7	11	0	0.8	0	27.7	119
Port Loko	95.9	54.8	20.4	0	0.5	3.6	14.6	192
Bo	98	84.1	86.8	6.6	5.3	10.6	76.8	151
Moyamba	98.4	65.4	28.3	0.8	0	2.4	30.7	127
Kailahun	97.7	78.5	56.2	1.5	2.3	5.4	82.3	130
Kenema	99.3	49.6	74.8	0	1.4	5	66.9	139
Western Urban	95.3	69.6	21.2	0.3	0	2.1	16.2	339
Western Rural	93.5	40.2	33.7	0	1.1	0	9.8	92
Sex of respondent								
Female	94	68.8	39.5	1.7	0.9	4.3	36.1	746
Male	96.6	62.4	34.6	1.4	1.2	2.8	34.9	654
Age								
15-24	95.5	66.6	34.3	0.8	1.4	3.1	32.9	508
25+	95	65.1	39	2	1	3.9	36.6	879
Education								
None	90.3	68.3	34.7	2.8	0.3	2.2	42.1	359
Primary	96.3	68.8	40.1	2.1	1.6	5.9	39.9	188
Secondary +	97.1	64.2	37.8	1	1.4	3.8	31.8	837
Total	**95.2**	**65.9**	**37.3**	**1.6**	**1.2**	**3.7**	**35.5**	**1384**

{narrative}

Table EVD.11: Behavior change about EVD

Percentage of respondents who agree to go or not go to hospital/health facility in Sierra Leone, 2014 if:

	Respondents who reported change of behaviour since hearing of ebola	Go to Hospital / health facility		Would not go to hospital/ health facility with high fever because:			Number of respondents
		Have high fever	they suspect to have contracted Ebola	Have no money/ can't afford	people will think I have Ebola	Believe hospital is contaminated with Ebola	
District							
Kambia	80	82.1	83.3	2.5	0.8	5.8	120
Koinadugu	95	81.2	95.8	0.8	11.8	2.5	119
Port Loko	95.9	89.2	96.4	8	37.5	16.7	193
Bo	98	96.6	96.7	0	0	0	151
Moyamba	98.4	78	91.3	1.6	11.8	0.8	127
Kailahun	97.7	98.4	97.7	0	0	0	130
Kenema	99.3	92	95.7	14.3	50	7.1	139
Western Urban	95.3	82.8	93.2	0	8.8	0.6	339
Western Rural	93.5	60.4	80.4	1.1	25	3.3	92
Sex of respondent							
Female	94	83.9	91.7	1.2	10.7	1.5	597
Male	96.6	87.4	94.8	0.8	6.4	2.1	512
Age							
15-24	95.5	83.3	92.3	1.5	11.5	2	401
25+	95	86.9	93.6	0.7	6.9	1.7	697
Education							
None	90.3	83.7	89.1	1.7	10.8	2.8	288
Primary	96.3	88.2	91	0	8.4	2.1	143
Secondary +	97.1	85.6	95.5	0.9	8.1	1.5	664
Total	**95.2**	**85.5**	**93.2**	**1**	**8.9**	**1.9**	**1095**

{insert narrative}

Table EVD.12: Attitude towards people having or suspected of having EVD						
Percentage of respondents expressing attitudes towards those with or suspected of having ebola, Sierra Leone, 2014 if:						
	Would not buy from a shopkeeper who had contacted ebola even when treated	Would keep the information secret if a family member contracts ebola	Believes a school pupil puts other pupils in their class at risk of ebola infection evenif declared well	Would not welcome someone back into their community/neighbourhood after a neighbor has recovered from Ebola	Respondents who report some discriminatory attitude towards people with suspected or having Ebola	Number of respondents
District						
Kambia	51.7	14.2	28.3	70	95.8	120
Koinadugu	45.2	15.1	47.9	49.6	92.6	119
Port Loko	74.5	5.6	34.9	77.6	95.9	196
Bo	84.1	16.6	57	88.1	84.1	151
Moyamba	57.5	12.1	32.8	66.9	99.2	122
Kailahun	80	4.6	5.6	85.4	99.2	130
Kenema	77	5	15.8	82.7	99.3	139
Western Urban	64	9.1	30.3	79.9	96.4	337
Western Rural	48.9	3.3	40.7	61.5	100	92
Sex of respondent						
Female	62.3	9.5	31.3	71.1	96.4	745
Male	70.5	9.5	33.6	80.5	94.8	652
Age						
15-24	62.4	9	33.1	72.1	95.5	507
25+	68	9.7	31.6	77.3	95.8	877
Education						
None	58.9	11	31.8	66.9	96.9	360
Primary	64.9	10.4	31.6	71.3	94.1	188
Secondary +	70.2	8.6	32.6	80.8	95.5	839
Total	**66.6**	**9.4**	**32.3**	**75.9**	**95.7**	**1381**

{insert narrative}

Table EVD.13a: Attitude towards treatment/management of people having or suspected of having EVD

Percentage of respondents express attitudes towards treatment for those with or suspected of having ebola, Sierra Leone, 2014 if:

	Agree that if a person has been diagnosed with Ebola he/she must be admitted in an Ebola Treatment Centre	agree that people who have been in direct contact with a person who has been diagnosed with Ebola must be quarantined for 3 weeks	Number of respondents
District			
Kambia	85.8	76.7	120
Koinadugu	98.5	81.5	119
Port Loko	94.4	95.3	191
Bo	98	96.7	151
Moyamba	89.8	80.2	126
Kailahun	98.5	99.2	130
Kenema	95	96.4	138
Western Urban	97.1	90.8	338
Western Rural	93.3	66.7	90
Sex of respondent			
Female	94.6	89.2	742
Male	95.6	88.7	652
Age			
15-24	94.5	87.9	505
25+	95.3	89.4	877
Education			
None	91.9	85.4	356
Primary	94.1	88.2	186
Secondary +	96.7	91.3	836
Total	**95.1**	**89.3**	**1378**

{insert narrative}

Table EVD.13b: Attitude towards treatment/management of people having or suspected of having EVD

Percentage of respondents express attitudes towards treatment for those with or suspected of having Ebola, Sierra Leone, 2014 if:

	Accept to take an approved vaccine that could prevent Ebola	Accept to give an approved vaccine to my children that could prevent Ebola	Willing to accept an experimental treatment for Ebola even when not tried yet in humans	Willing to let relative accept an experimental treatment for Ebola even when not tried yet in humans	Number of respondents
District					
Kambia	88.2	86.7	29.1	29.9	117
Koinadugu	93.3	90.7	67.5	70.4	115
Port Loko	97.4	95.8	52.1	52.3	193
Bo	96	94	78.8	78.8	151
Moyamba	84.9	81.6	41.6	40.9	127
Kailahun	96.9	96.2	83.7	86.2	130
Kenema	92.8	91.6	72.7	74.1	139
Western Urban	83.8	85	61.9	60.5	339
Western Rural	73	68.5	38	39.1	92
Sex of respondent					
Female	88	86.4	55.5	55.6	745
Male	91.8	91.1	64.8	65.6	649
Age					
15-24	89.1	87	56.7	57.1	504
25+	89.9	89.3	61.4	61.7	877
Education					
None	87.7	86.1	56.6	56.3	359
Primary	82.9	77.8	62.4	61.5	187
Secondary +	92.2	91.9	61.2	62.1	832
Total	**89.7**	**88.6**	**60.1**	**60.5**	**1378**

Table EVD.14: Relevant facts in the household relating to the EVD

Percentage of respondents reporting various facts about their households, Sierra Leone, 2014:

	Households with mosquito nets that can be used while sleeping		Reason for not taking an under-five child for scheduled vaccinations?			Reason for a pregnant woman for missing the ANC visit?			What should a lactating mother suspected of havig ebola do regarding the feeding practice of her child?	
	Percentage with mosquito nets	Number of respondents	other obligations / busy schedule/ No time	Current ebola epidemic	Number of respondents	other obligations / busy schedule/ No time	Current Ebola epidemic	Number of respondents	Continue breastfeeding	Number of respondents
District										
Kambia	96.6	118								
Koinadugu	96.6	119								
Port Loko	71.9	196								
Bo	94.7	150				Numbers too small to be meaningful				
Moyamba	92.1	127								
Kailahun	80.8	130								
Kenema	87.8	139								
Western Urban	83.4	338								
Western Rural	79.1	91								
Sex of respondent										
Female	86.6	747	11.1	39.3	122	4.1	11.6	241	2.6	744
Male	85.2	654	13.5	35.4	79	3.3	6.7	180	0.3	651
Age										
15-24	83.9	509	7.2	33.7	73	3.5	10.3	146	1.2	505
25+	87.3	879	13.7	38.2	123	3.7	8.9	270	1.7	876
Education										
None	89.1	358	23.2	30.4	56	6.9	11.3	115	1.4	359
Primary	84	187	3.7	40.7	27	5.7	13.5	52	2.2	186
Secondary +	84.8	840	9.1	41.3	109	2	8	249	1.3	833
Total	**85.8**	**1385**	**12.6**	**38**	**192**	**3.8**	**9.6**	**416**	**1.5**	**1378**

Implications for Behavior Change Communication & Social Mobilization

Conclusion and Recommendations

Annexes

Annex 1: Sample Size Estimation

Region	District	Population
West	Western Rural	263,619
	Western Urban	1,040,888
South	Bo	403,182
	Moyamba	278,119
North	Kambia	341,690
	Port Loko	557,978
	Koinadugu	335,471
East	Kenema	440,883
	Kailahun	465,048
	Total Population	**4,126,878**

Sample Size Estimation	
Confidence Level	95%
Confidence Interval	3.5
Population	4,126,878
Required sample size	784
Actual sample size	**1413**

District	Population	Proportion of Population	Sample Size	Proportion of Sample
Western Rural	263,619	6%	92	7%
Western Urban	1,040,888	25%	339	24%
Bo	403,182	10%	151	11%
Moyamba	278,119	7%	127	9%
Kambia	341,690	8%	120	8%
Port Loko	557,978	14%	196	14%
Koinadugu	335,471	8%	119	8%
Kenema	440,883	11%	139	10%
Kailahun	465,048	11%	130	9%
Total Population	**4,126,878**	100%	**1413**	100%

Appendix 2: Research Timeline

Activities/Tasks/Deliverables	Timeline
Develop research design, data collection instruments, and protocols Resource mobilization efforts Recruitment of enumerators and supervisors	July 25th – August 15th
Train data collection teams	August 18th - 19th
Pre-test data collection instruments, refine accordingly, and print	August 19th
Administer household questionnaire	August 20th – 24th
Enter, clean, and analyze collected data	August 21st – September 5th
Produce preliminary findings with key partners	September 8th
Produce and disseminate Final Report	September 12th

Annex 3: Data collection instrument

Annex 4: Security and Safety Guidelines

Annex 5: Research Team