

**Assessment on Public Knowledge, Attitudes, and Practices Relating to Ebola Virus
Disease (EVD) Prevention and Medical Care in Guinea:**

**Supporting Statement - Part B
Collections of Information Employing Statistical Methods**

**NEW
Emergency Request**

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Ebola Virus Disease (EVD) Prevention and Medical Care in Guinea

B. Collections of Information Employing Statistical Methods.

1. Respondent Universe and Sampling Methods

This information collection is a cross-sectional, nation-wide assessment of general public knowledge, attitudes, and behaviors relating to EVD in Guinea. Leaders of the EVD emergency response effort at the Guinean Ministry of Health and Sanitation strongly endorse the conduct of a nation-wide assessment that, for reasons of health equity, will provide all Guineans a random opportunity for participation. The Guinea 2014 Census List of Enumeration Areas will serve as the sampling frame for the random selection of 150 clusters across the eight (8) selected regions using a probability proportional to size procedure (PPS) resulting in a sample of 6,000 individuals and 3,000 households. The assessment will employ a multi-stage cluster sampling design with primary sampling units (PSUs) selected with probability relative to their size in population, or PPS. The secondary sampling unit (SSU) will consist of households randomly selected within each PSU. Two members from each household will be assessed. This approach is preferred as it is the most economical for a large population such as that of Guinea but does not always ensure that the diversity of the population is fully described.

Post-stratification adjustment procedures will be applied during the analysis to ensure that the collected information is weighted according to known population estimates in the 2014 Guinea Census. We will also assess the information available about the potential limitations of the 2014 Census, and recommend ways to account for potential over and under counts.

Table: Summary of sample size estimation and projected information collection planning

No.	Region	Population (2014)	Population proportion	Clusters to select	Households to select	Individuals to select	Projected Sample Proportion	# of Information Collectors	# of information collection days
1	Boké	1,081,445	0.10	15	300	600	0.10	7	11
2	Conakry	1,667,864	0.16	24	480	960	0.16	11	11
3	Faranah	942,733	0.09	13	260	520	0.09	6	11

4	Kankan	1,986,329	0.19	28	560	1120	0.19	13	11
5	Kindia	1,559,185	0.15	22	440	880	0.15	10	11
6	Labé	995,717	0.09	14	280	560	0.09	7	10
7	Mamou	732,117	0.07	10	200	400	0.07	5	10
8	N'zérékéré	1,663,582	0.16	23	460	920	0.16	11	11
		10,628,972	1	150	2980	5960	1	70	

The following outlines the sampling approach:

Stage 1: Selection of clusters from list of 2014 Guinea Census of Enumeration Areas

- Within each region, prefectures will be divided into: low and high intensity of social mobilization activities
- Within each prefecture, sub-prefectures will be further divided into: low and high intensity of social mobilization activities
- Within each sub-prefecture, census enumeration areas (clusters) will be further divided into: low and high intensity of social mobilization activities
- 50% of the total target sample for the respective regions will be randomly selected from the list of list of clusters classified as low intensity of social mobilization activities
- Another 50% of the total target sample for the respective regions will be randomly selected from the list of clusters classified as low intensity of social mobilization activities
- Following this procedure ensures an equal proportion of the 150 target clusters in the sample that have received high intensity of social mobilization activities (n = 75) as compared to those with low intensity (n=75)

Note: In the analysis, the selected clusters in the sample will be further coded into a dichotomous variable of (i) low/no EVD cumulative incidence and (ii) high EVD prevalence based on MoH/WHO epidemiological data for the Ebola outbreak in Guinea during the 2014-2015.

Stage 2: Selection of households and community leaders

- Within each randomly selected cluster, the community leader will be consulted for permission to conduct the assessment in the cluster as well as interviewed for 15 minutes if he/she consented
- With the consent of the community leader, a total of 20 households will then be selected for inclusion using systematic random sampling
 - For each cluster, the total number of households will be obtained from the 2014 Guinea Census database
 - The total number of households in the cluster will then be divided by 20 to obtain the skip-interval (e.g. 100 households / 20 = skip-interval of 5)
 - From a randomly selected starting point within the cluster (e.g., village or town center), 20 households will be systematically selected following the established skip-pattern.
 - If the leader refuses participation, another cluster will be randomly selected from a list of substitute clusters that had already been randomly selected.
 - If leader participates in the interview, but does not allow contacting households within the cluster, another cluster will be randomly selected from a list of substitute clusters that had already been randomly selected.

Stage 3: Selection of respondents

- In each randomly selected household, the head of household (or the person who assumes his/her responsibilities when absent) will always be offered participation
- A second household member is then offered participation and is interviewed (either a woman aged 25+ or young person aged 15-24)
- If there are more than one eligible second household member, then simple random sampling will be used to select one
 - By listing all eligible household members (excluding household head), and then use a pair of six-sided die to randomly select one

Note: If a young person aged 15-24 is selected as the second respondent in house #1, then an eligible woman must be selected from house #2 (therefore the list of eligible participants in house #2 will only be women aged 25+); in house #3 a young person would then be selected again. The goal is a total of 5,960 participants who complete the interview. .

Response Rates:

In Sierra Leone, response rates for CDC Foundation-funded KAP assessments exceeded 95 percent, and it is anticipated that only slightly lower rates will be observed in clusters in Guinea due to higher rates of resistance to EVD efforts during this epidemic. We estimate a response rate of 85-90% in this Guinea assessment. Factors that might cause lower response rate are potential distrust of Guinea residents toward Guineans who are engaged in an EVD-related information collection activity endorsed by the Guinean government (and noted by letter from Ministry of Health during the introduction phase of the interview) and an interview that poses potentially sensitive questions, including those about use of and impressions of EVD prevention and control services, some of which have been provided by the government. Factors that might mitigate low response rate and respondents' confidence in privacy protections are use of a trusted, well-respected survey organization, Sante Plus, that has worked throughout Guinea on valued health surveys and interventions, Guinean information collectors who speak the local languages of the selected clusters, but do not reside in the sampled villages and neighborhoods, and deferral of collecting signatures or thumbprints to identify respondents. Because of a response rate of less than 100%, this request for this assessment ranges up to 6,000 as the number of respondents approached, with a target of 5,960 complete interviews.

Sample Size:

Attachment 7 describes the sample size estimation and the planned descriptive analyses of respondents' demographic characteristics, KAP variables, and the association of KAP outcome variables to respondent characteristics and justification for the sample size of 6,000 household members. In brief, the secondary sampling unit (SSU) will consist of households randomly selected within each PSU. Two members from each household will be assessed. This approach is preferred as it is the most economical for a large population such as that of Guinea; further, due to cultural factors, the male head-of-household typically must be interviewed first, as a result, to reach women and youth, one must plan on sampling more than one member per household.

The sample size of 150 community leaders is based on a plan to sample 150 clusters, which represent physically distinct villages and neighborhoods. When visiting a village or neighborhood, Guinean cultural norms call for visiting the village/neighborhood leader or elder, demonstrating respect for that leader, and asking permission to extend the visit to other members of the community. This process respects traditional lines of authority for interacting with community members in Guinea, is essential to provide access to household members, will reduce risk of resistance to information collectors, and will improve overall response rate.

2. Procedures for the Collection of Information

Two regional supervisors will be responsible for providing oversight of all information collection activities within their respective regions. The teams will all consist of one supervisor and at least three information collectors from Guinea who speak the local languages commonly spoken of the cluster. They will provide on-the-spot translation as local languages are non-written or do not have a stable written form.

Team members will not include residents of the selected cluster in order to reduce participant anxiety about revealing sensitive information to local residents. Each team will be assigned a determined number of clusters to cover within a twelve-day period. The teams will be provided with the following information/items:

- List of clusters (including town name and other descriptors; where possible name of community leader)
- Total number of households in each cluster, skip-interval, and number of households to randomly select (n=20)
- Samsung Tab 4 mobile device for electronic data collection
- Paper-based questionnaires (should the device fail due to unforeseen reasons)
- Information Collection Log Sheet
- Information/educational leaflets (post-interview distribution)
- Bars of soap (pre-interview distribution)
- Identification card
- Letter of authorization for Assessment from Guinea MoH

3. Methods to Maximize Response Rates and Deal with Nonresponse

Team members will be information collectors who speak the local languages of the cluster, but do not reside in the cluster in order to reduce participant anxiety about revealing sensitive information to local residents. During the greeting and introduction phase of encounters, information collectors will present identification cards and an authorization letter from the MoH to reassure participants that the information collection is legitimate and endorsed as part of the EVD response effort. Information collectors will stress the voluntary nature of the interview, the option to decline answering any question, and the private treatment of collected information. These same methods yielded response rates of 95% or higher in three KAP assessments conducted by FOCUS 1000 in Sierra Leone in 2014 using similar methods.

If a community leader does not give permission to conduct the assessment, another cluster will be randomly selected from a list of substitute clusters that had already been randomly selected. For participating villages and neighborhoods, if a household member refuses, another

household member will be selected. If all household members aged 15 years and older refuse, the information collectors will proceed to the next sampled household identified by the appropriate skip-interval. If a household has only one member who agrees to participate, information will be collected from three household members at the next sampled household. Qualitative data in the form of a refusers' checklist and field notes of observable non-respondent traits (e.g., general age category, gender, language spoken, household construction as a measure of poverty) will be systematically taken when refusals occur to determine if a pattern exists, for example, a higher rate of refusals among widowed women or persons who do not speak the prevailing language of the cluster, that could introduce bias in the sample.

Potential Non-Response Bias:

We acknowledge that non-response bias in the original sampling frame based on the 2014 Census, and KAP assessment based on this sampling frame. We will explore a variety of potential sources in an effort to characterize potential for, and the extent of, non-response bias. If response rates are high, we will weight the data for non-response based on information about non-responders from the refusers' checklist and field notes described above.

4. Tests of Procedures or Methods to be Undertaken

The hour-burden estimates were obtained by CDC project staff in Guinea who piloted and refined the surveys among less than 10 locally employed staff. In addition, questions were refined with pretesting among less than ten locally employed staff of Sante Plus and CDC/Guinea office.

5. Individuals Consulted on Statistical Aspects and Individuals Collecting and/or Analyzing Collected Information

The proposed methods for multi-stage cluster sampling, random sampling, information collection methods, weighting, and analysis of collected information were based on input from the following experts in household surveys in West Africa:

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