**SUPPORTING STATEMENT**

**Part B**

**Understanding multi-sectoral collaboration for strengthening public health capacities in Ethiopia**

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# Collections of Information Employing Statistical Methods

## *Respondent universe and sampling methods*

***1.A In-depth Interviews (IDIs) with identified stakeholders***

The preliminary list of stakeholders developed from the document review will be used to generate a roster of participants for semi-structured interviews conducted for this study. These participants will be representative of their stakeholder organizations.

Document review is a method commonly employed in qualitative research, and is often a vital source of information to develop the detailed descriptions of context and environment that are valuable facets of case studies. CDC will review official GHSA and Ethiopian government documentation from the past ten years (since 2008) to gain a preliminary understanding of formal partnerships between the country’s public and private entities, international organizations providing external assistance, and bilateral engagements with other country governments for implementing GHSA activities for ZD and PHEP in Ethiopia. This includes GHSA country roadmaps and work plans, as well as national strategies and plans that either affect GHSA implementation or were put into place because of GHSA. It is assumed that GHSA will build upon existing networks, strategies and policies the country has established. A document review from 2008 to present can capture multi-year initiatives the FMOH may be updating periodically, and any notable shifts prompted by political administration changes, since elections occur every five years. Earlier documentation will be reviewed for historical context, but not for specific indications of GHSA-related stakeholder engagement. If CDC determines that more information is still needed to identify key partners in current GHSA efforts, CDC will expand the review to include documents prior to 2008. If accessible, documents indicating budgets and responsibilities of these partners will also be reviewed, to better understand anticipated roles and investments of partners in capacity building activities under GHSA.

Upon document review, the researcher will look for author names and lists of individuals who may serve as technical leads or the primary points of contact for GHSA implementation within their organization, or serve in a decision-making role for the collaboration to carry out activities. These are ideal candidates for key informants who can share perspectives on their roles and the roles of the institutions or organizations they are representing in GHSA implementation, and their views on one another’s roles. However, the criteria for participant selection is not rigid. If an individual in a policy role within a stakeholder entity, for example, ends up being highly recommended for interview and is not a designated technical lead of primary point of contact, they may be included as candidates for interviews. In addition to individuals identified from documentation as potential interviewees, the researcher will utilize a snowball sampling technique, asking interviewees if they have recommendations of individuals to add to the roster. Upon outreach to introduce the study and request interviews, if potential participants encourage selecting another individual, or identify others as important to include based on the context of that stakeholder entity, he/she will be included in the roster. It is estimated that for every stakeholder entity, there will be 1-2 interview participants.

For this study, a “case” is defined as a technical area of GHSA capacity strengthening activity. CDC will employ a multiple-case design to understand commonalities and differences in multi-sectoral approaches across two technical areas serving as cases. For each case, the researcher anticipates identifying roughly 15-20 stakeholders (primary and secondary). This results in a range of 15-40 interviews per case, or 30-80 interviews in total for the proposed study; the researcher may reach data saturation prior to conducting all interviews, if interview data does not yield new themes or codes for analysis.

***1.B Adapted Questionnaire***

An adapted questionnaire will be used to explore participants’ perspectives on the collaboration strength, and also gather information on the utility of the adapted tool for future use in Ethiopia. This respondent universe will be individuals previously interviewed.

## *Procedures for the Collection of Information*

***2.A In-depth Interviews (IDIs) with identified stakeholders***

With permission from participants, interviews will be digitally recorded for later transcription. While interviews may be digitally recorded with permission from the participant, unique identifiers will be assigned to all participants for transcribed interviews and accompanying notes, and all responses will be de-identified in research files, and no personal information will be retained from participants as part of the IDIs or questionnaire. In cases where participants do not give verbal consent for recording, CDC will rely on notes taken during and after the session for later analyses. For the interviews that are recorded, all digital recordings will be transcribed verbatim, and transcripts will be coded using ATLAS.ti software.

***2.B Adapted Questionnaire***

The adapted version of the questionnaire will be emailed to participants to complete shortly after completing the interview. In addition to completing the 17 items, participants will be prompted to explain why they selected their score if they selected an “extreme” response of 1 (lowest score possible) or 7 (highest score possible); all responses will be anonymized prior to analysis. Tool data will be analyzed using descriptive statistics for a summary of measures of central tendency, frequency of responses, and other pertinent respondent data that will be useful to explore collaboration constructs. Because these are ordinal data, the Kruskal-Wallis test will be used to determine significant differences in questionnaire responses among stakeholders; the Friedman test will be used to determine significant differences in measures of central tendency between groups, with each group of stakeholders representing a different sector engaged in GHSA implementation..

Shortly after completing all stakeholder interviews, CDC will work with participants to schedule one workshop for each technical area to discuss multi-sectoral collaboration, to include one participant from each stakeholder entity. Workshop participants will have limited availability; therefore, the workshops will be a half-day format with allotted time to discuss summary analysis for the data, factors for collaboration strength, and the GHSA context for fostering strong collaboration among partners from different sectors. If there is a great deal of overlap between the study participants for ZD and PHEP, then there will only be one workshop; the format of the workshop will be adjusted to encourage distinct discussions for each technical area, and may also incorporate facilitated discussion exploring differences and similarities in collaboration across the technical areas. Participants will be asked to provide feedback on the adapted version of the tool briefly at the start of the workshop, and whether they perceive it as an appropriate assessment of collaboration strength. Participants will have the option of providing this feedback orally or in written form, through an anonymous comment box that will be passed around or in conversations with the primary investigator and the workshop facilitator on hand.

## Methods to Maximize Response Rate and Deal with Nonresponse

***3.A In-depth Interviews (IDIs) with identified stakeholders***

It is assumed that interview participants will be in leadership or managerial positions within the government or stakeholder organizations identified through the stakeholder mapping and analysis process; as a result, their allotted time for participation is likely extremely limited, and the power differential between researcher and participant will be large. Literature on the topic of elite interviewing indicates that access and developing trust with interview subjects are crucial factors under these circumstances, and establishing an appropriate dynamic from the early stages of outreach and interview scheduling is key to maximizing their likelihood of completing interviews as expected for the research (Mikecz, 2012). This will be done by developing a concise overview of the study and expectations of interview structure and participation that will be communicated either directly to the participant or through their staff.

***3.B Adapted Questionnaire***

Since the questionnaire will be emailed, follow up reminders 1-2 times a week will be sent to individuals until they successfully complete the questionnaire, or a maximum of 4 weeks. The researcher will have developed relationships with the interview participants during the interview process, and it is expected that individuals will be more likely to complete the emailed questionnaire after already investing time into the interview and understanding the purpose of the research more extensively after completing the interview.

## *Tests of Methods to be Undertaken*

***4.A In-depth Interviews (IDIs) with identified stakeholders***

The interview guide and supporting questions have been reviewed by qualitative research experts, and align with best practices outlined in the literature for in-depth interviews. A pilot of the interview guide maintained the expected time of 60 minutes for completion.

***4.B Adapted Questionnaire***

This tool was initially comprised of 56 items, and researchers from the Indiana University School of Public and Environmental Affairs in Bloomington, Indiana underwent a process to test the construct validity of these items and determine the extent to which the five domains represent the construct of collaboration. The tool was administered as a mailed questionnaire to 1,382 directors of organizations participating in the AmeriCorps program in the US; 440 usable surveys were returned. The organizations ranged in size and scope across national, state and local levels, and represented a diverse array of missions and goals contributing to the service-oriented AmeriCorps network. An analysis of overall and component fit reduced the tool from 56 items to 17 items. The tool has been empirically validated prior to adaptation for the Ethiopian context to ensure meaningful measurement of aspects of collaboration. The empirical validation results have been published in the Journal of Public Administration Research and Theory in 2009.

## *Individuals Consulted on Statistical Aspects and Individuals Collection and/or Analyzing Data*

1. Sara Bennett, PhD, Johns Hopkins University, Bloomberg School of Public Health, Department of International Health

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