

Communications Support for Health ProgramME (CSH)

Final safe love outcome Evaluation Plan

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1. **Background**
   1. Communications Support for Health Safe Love Campaign

The United States Agency for International Development (USAID)-funded Communications Support for Health (CSH) project provides technical assistance to the Ministry of Health (MoH) of the Government of the Republic of Zambia (GRZ) to help strengthen national health communications activities. The primary objective of CSH is to improve the capacity of MoH to develop, implement, and monitor and evaluate behaviour change communication (BCC) activities and interventions. Within this mandate, CSH provides support to MoH and the National HIV/AIDS Council on the national-level Safe Love campaign.

The Safe Love campaign is a comprehensive HIV BCC campaign that was launched in June 2011 (<http://safelovezambia.org/>). The overall goal of the campaign is to contribute towards the reduction in the number of new HIV infections in Zambia by addressing key drivers of transmission, mainly multiple concurrent partnerships (MCP) and low and inconsistent condom use. The campaign focuses on promoting the following key behavioural messages for MCP, low and inconsistent condom use, HIV testing and voluntary medical male circumcision (VMMC): reduce the number of sexual partners you have, have only one sexual partner at a time, be faithful to your partner, use condoms for every sexual act, know your and your partner’s HIV status, get tested for HIV during antenatal care services, and go for medical circumcision.

The target audience for the campaign is men and women between the ages of 15 and 49. The campaign includes interventions targeted at the national and subnational levels. The components of the campaign include TV and radio announcements/spots, a radio drama series, a TV drama series, interpersonal communication activities (includes small-group and one-on-one discussions and radio listening clubs), social media outlets (e.g., web site, Facebook), and outdoor and small mass media (e.g., billboards, posters, and flyers). All interventions, including the interpersonal communication activities, have been implemented in nine specific districts (across four provinces): Mansa, Samfya, Kafue, Lusaka, Kapiri Mposhi, Luanshya, Mkushi, Kawambwa and Kabwe. The messages of the campaign are tailored to the communication channel being used. It is important to note that mass media messages around MCP do not focus on abstinence; however, at the community level through interpersonal communication activities, abstinence, while not the main message, is a part of the messages that are promoted.

* 1. HIV/AIDS Context In Zambia

The Safe Love campaign is a key campaign for MoH, given the tremendous burden of HIV that the country faces and the country’s strong commitment to reducing HIV prevalence. In Zambia, while HIV prevalence has declined slightly, from 15.6 percent in 2001–2002 to 14.3 percent in 2007, it still is one of the highest prevalence rates in the world. Women continue to bear a greater burden than men, with 16.1 percent of women infected with HIV compared to only 12.3 percent of men (CSO et al, 2009). Adult HIV prevalence remains higher in urban areas, at 19.7 percent, compared to rural areas, at 10.3 percent (CSO et al, 2009). The predominant mode of HIV transmission in Zambia is through heterosexual contact, followed by MTCT (CSO et al, 2010).

According to modelled data presented in the Zambia HIV Prevention Response and Modes of Transmission Analysis Report (MoH, 2009), 71 percent of new infections are a result of sex with nonregular partners, including being the nonregular partner or having one, or having a partner who has one or more other sexual partners. The emphasis on reduction of concurrent partnerships as a means to reduce the spread of HIV is therefore an incredibly important one, as research shows that individuals involved in concurrent partnerships are at a much higher risk for HIV and that concurrent partnerships amplify the rate of HIV spread (Morris & Kretzschmar, 1997).

According to the 2007 Zambia Demographic and Health Survey, an estimated 14.1 and 1.2 percent of men and women, respectively, report having had more than two partners in the past 12 months. However, according to a more recent study carried out in 2009, more than 70 percent of men and just under half of the women included in the study reported having had overlapping concurrent relationships during the past 12 months (FHI, 2010 and UNAIDS et al, 2010). While the study is not representative at the national level, the results suggest that concurrency is a prevalent practice in Zambia among both men and women. A qualitative study conducted by the Health Communication Partnership (HCP) in 2008 (Underwood et al., 2008) found that MCP was prevalent across age, sex, marital status, and place of residence (urban, rural, and peri-urban).

Despite knowledge of consistent condom use as a way to prevent HIV transmission being high in Zambia (87 percent in 2009), overall condom use is low (CSO et al, 2010). Reported condom use has increased with all partner types (for both men and women) between 1997 and 2007, but use is still not high nor consistently practised (MoH, 2009). As of 2009, among adults aged 15-49 years who were sexually active within the past 12 months, only 12.2 percent reported using a condom with their most recent sexual partner (CSO et al, 2010). Reported condom use was shown, however, to vary significantly by partner type, with reported condom use much lower with a marital or cohabiting partner and higher for nonregular sex partners. Only 6 percent of men and 7 percent of women reported condom use with their marital/cohabiting partner, while 42 percent and 35 percent of men and women, respectively, reported using a condom with a nonregular sexual partner (CSO et al, 2010). For all partner types, condom use was reported more frequently in urban compared to rural areas. Among youth aged 15–24, overall condom use with their most recent sexual partner was higher than for adults 15-49 years, at 23 percent (CSO et al, 2010).

Reported condom use in people who have multiple concurrent partnerships, and thus who are at a higher risk of HIV infection, is also relatively low at 33 percent for women and 27 percent for men (MoH, 2009). The more recent study, conducted by Family Health International (FHI) et al in 2009, showed that among adults reporting overlapping concurrency, only 10 percent of males and 8 percent of females used condoms consistently, while 76 percent and 77 percent reported inconsistent condom use and 14 percent and 15 percent of males and females, respectively, reported no use of condoms with any partner (UNAIDS et al, 2010). Similarly, HCP’s qualitative study (Underwood et al., 2008) found that it is common for those involved in concurrent partnerships to have unprotected sex and that many only used condoms during the initial stages of the relationships.

* 1. Evaluation Focus and Theories

The evaluation of the Safe Love campaign will focus on assessing the effect of the campaign on knowledge, beliefs/attitudes, self-efficacy, interpersonal communication, perceived social norms, intentions, and behaviours related MCP, condom use, HIV testing and VMMC.

It is important for evaluations of BCC campaigns to assess effect on both intermediate (for example, knowledge, attitudes, interpersonal communication, self-efficacy, perceived social norms and intentions) and behaviour outcomes. This is supported by well-known and accepted theories (see Table 1 below), which were used to inform the types of intermediate and behavior outcomes to be measured in the evaluation. In addition, the theories explain that behaviour change is generally preceded by changes in the intermediate outcomes (also known as intervening influences or precursors to behaviour change). This also means that if changes are found in the intermediate outcomes, but not on behaviors, evidence of some effect of the campaign is provided. The messages of the Safe Love campaign specifically also informed which intermediate outcomes to examine, as well as the specific topics and questions under each type of outcome (please see Annex 1 for the question topics per area).

**Table 1: Theories that Guided the Development and Evaluation of the Safe Love Campaign**

|  |  |  |
| --- | --- | --- |
| **Theory** | **Premise** | **Corresponding Outcomes** |
| Ideation Framework; (Kincaid, 2000) | Communication affects behavior through skills, ideation (cognitive, emotional and social factors), environmental support and constraint, and intentions. People are more likely to behave in a certain way when they have sufficient knowledge about the behavior and consequences, have a positive attitude towards it, have talked to others about it, and feels right about doing it. | * Knowledge * Beliefs and attitudes * Self-efficacy * Social norms * Interpersonal communications * Behavioral intent * Behaviors |
| Steps to Behavior Change; (Piotrow et al., 1997) | Behavior change is a process with individuals moving through intermediate steps before they change their behaviors. Steps include increased knowledge, approval, intention, practice, and advocacy. | * Knowledge * Beliefs and attitudes * Behavioral intent * Behaviors |
| Transtheoretical Model: Stages of Change  (Prochaska & DiClemente, 1992) | Behavioral change occurs as a progression through a series of five stages: precontemplation, contemplation, preparation, action, and maintenance. This theory claims that behavior change is a process that occurs over time; however, though the change can occur in a linear fashion, a nonlinear progression through the stages is more common. | * Knowledge * Beliefs and attitudes * Self-efficacy * Social norms * Interpersonal communications * Behavioral intent * Behaviors |

* + 1. Multiple Concurrent Partnerships

The focus on the reduction of MCPs within HIV/AIDS prevention is a relatively new area. Most programmes or interventions focusing on raising awareness and promotion of the reduction of MCP are less than a few years old (Epstein and Morris, 2011). However, its importance as a key driver of HIV in many parts of sub-Saharan Africa has resulted in it becoming an emphasis within many BCC interventions (AIDSTAR-One). Mathematical modelling shows that even low levels of concurrency in a population can sustain HIV transmission (UNAIDS, 2009), while conversely, small reductions in levels of concurrency can reduce the rate of transmission (Stash and Roseman, 2009).

To date, limited research and evaluation studies are available that assess the effectiveness of BCC approaches on reducing the prevalence of MCP (Stash and Roseman, 2009, Epstein and Morris, 2011). Snyder et al. (2009) carried out a meta-analysis looking at the effectiveness of HIV prevention campaigns, and it showed that HIV campaigns have not had a measurable effect on reducing the number of sexual partners; however, as indicated previously, programmes with this objective are relatively new (Bertrand et al 2012). Furthermore, it has only been within the past few years that a common understanding of concurrency has been agreed upon and indicators have been defined (Stash and Roseman, 2009). Thus, there is a clear need to build the evidence base for effective approaches for reducing the prevalence of MCP.

In 2009, the AIDSTAR-One consortium convened a technical meeting around MCP and put forth recommendations on a definition for MCP and standard metrics to measure it. They defined concurrent sexual partnerships “as two or more partnerships that overlap in time” (Stash and Roseman, 2009). There were three standard metrics that the consultation recommended for measuring concurrency, which can be calculated from survey data. Each of the measures is useful in understanding the risk of HIV transmission occurring as a result of concurrent sex.

1. Point prevalence of concurrency: Measures the prevalence of concurrency at a discrete time. The indicator is defined as the proportion of the population having more than one ongoing sexual partnership at a point in time.
2. Cumulative prevalence of concurrency: Measures how many concurrent partners people tend to have over a defined period of time—for example, within the last 12 months. The indicator is defined as the proportion of the adult population that has had any overlapping relationships within the past year.
3. Proportion of multiple partnerships that are concurrent: Measures more specifically those who have had multiple partnerships within the last year and how many of those people had overlapping (concurrent) partnerships. The indicator is calculated by dividing the number of adults with concurrent partnerships in the past year by the number of adults with multiple partnerships in the last year.
   * 1. Condom Use

Unlike with MCP, many research and evaluation studies have assessed the effect of BCC programmes/interventions on improving knowledge, beliefs/attitudes, interpersonal communication, intentions, self-efficacy, and behaviour related to condom use. In the same meta-analysis described above (Section 1.3.1), Snyder et al showed that media interventions targeted at preventing HIV (included studies from 1986 to 2006) had the greatest effect on condom use and improving knowledge related to HIV prevention (2009). Of the studies that were carried out in developing countries, those that included mass media and interpersonal activities showed a greater effect than those that only included mass media activities (Synder et al, 2009).

An evaluation of the Zambian Helping Each other Act Responsibly Together (HEART) campaign, which focused on youths’ adoption of risk reduction practices to prevent HIV, showed a positive effect on both ever use of condoms and condom use at last sexual act (Underwood, 2006). Another evaluation, carried out in Zambia of selected radio and TV programmes about family planning and HIV/AIDS, also showed that those exposed to the radio and TV programmes were more likely to have ever used condoms (Van Rossem and Meekers, 2007). In the same evaluation, the authors also showed that among men, those who had a higher level of exposure to the communications campaign were more likely to have ever used condoms and to have used condoms during their last sexual act, compared to those with low exposure to the campaign.

Other evaluation studies of BCC programmes in sub-Saharan Africa on outcome measures related to condom use show the positive effects of the campaigns on improving knowledge, beliefs/attitudes, intentions, and interpersonal communications related to condom use, while the results in terms of effect on condom use are mixed (Keating, 2006; Farr 2005; Bessinger, 2004; Goldstein, 2005).

While the amount of research around sexual risk behaviour is extensive, there is no consensus on the best way to measure and validate measures of self-reported sexual behaviour, particularly condom use. A comprehensive review of condom use measurement in 72 studies on sexual risk behaviour, carried out by Sheeran and Abraham in 1994, found great variation in how condom use was measured. The most common type of condom use measures they found were frequency of condom use (37 percent of studies), condom use at last intercourse (14 percent of studies), and percentage of condom use (13 percent of studies). Additionally, the review found that there was wide variation in the recall period used, that most questions were asked about all sexual partners rather than by type of partner, and that only a small number of studies specified the type of sex (e.g., oral, vaginal, or anal sex) (Sheeran and Abraham, 1994).

Another systematic review of condom use measurement was carried out in 2003 by Schroder et al. The study looked at condom use measurement across 116 studies, finding that the majority of the studies (64 percent) used frequency measures, and only 36 percent of studies used count measures (e.g., number of times one had sex with a condom in the past month). The authors of the study suggest that from a public health perspective it is best to use count measures, as they are able to better portray the risk of the respondent, and also recommend that condom use measures be specific to partner and sex act (Schroder et al., 2003a).

Noar et al conducted a more recent review in 2006 of condom use measurements. Within the review, a number of recommendations on what condom use measures should be used were put forth based on the work of many researchers in the field. The recommendations included (1) use multiple-item measures to improve reliability, (2) use two- to three-month recall periods, (3) weigh condom use by frequency of sex and/or number of sexual partners to better reflect risk, (4) use measures that are specific to partner type (e.g., regular partner, casual partner), (5) use measures that are specific to sex acts, and (6) include measures to assess social desirability, in order to be able to assess the validity of condom use measurements (Weinhart et al, 1998, Schroder et al, 2003a, Schroder et al, 2003b, Sheeran and Abraham, 1994, Fishbein and Pequegnet, 2000, Zimmerman and Langer, 1995, Noar et al, 2006).

* + 1. Measuring Sexual Behaviour

Since information on sexual behaviour is collected via self-reported data, it is subject to various biases. One of the main biases is social desirability bias, whereby the respondent reports an incorrect response because he/she believes that the behaviour is socially unacceptable (Gregson et al, 2002; Gribble et al, 1999). With regards to how this affects sexual behaviour data, a number of studies have shown that men typically exaggerate their number of sexual partners, while women typically underreport their number of sexual partners (Curtis and Sutherland, 2004; Gersovitz et al, 1998, Nnko et al, 2004). When reporting condom use, both men and women are likely to overreport consistent condom use in face-to-face interviews (Luke et al, 2011).

Different techniques that help to ensure the confidentiality of respondents’ answers and help respondents’ feel more at ease/comfortable have been shown to also help reduce social desirability bias. This includes having interviewers provide clear information on the purpose and rationale of the study, and the study’s procedures, particularly those that will be used to ensure confidentiality of the responses (Gregson, 2002). Additionally, interviewers should ensure privacy during the interview, particularly before any questions about sexual partners are asked (Turner et al, 1998). Spencer et al suggests the order of questions is also important, beginning with neutral questions to help the interviewer establish rapport before asking more sensitive questions (1988). Furthermore, it is important to ensure that the respondent is comfortable with the interviewer; thus, having an interviewer that is of the same sex as the respondent and, when possible, of the same age and socioeconomic background is helpful (Gregson, 2002).

Other methods to ensure privacy and confidentiality of the responses include self-administration of the survey questionnaire through the use of self-administered paper forms or through technologies such as computer-assisted surveys or other mobile technology (Bradley, 2012, Fenton, 2001, Gribble, 1999, Luke et al, 2010, 1999, Turner, 1998). Most of the studies assessing the use of technology to administer surveys, however, come from developed countries, with limited studies assessing its use in developing countries. The limited evidence from the application of computer-assisted surveys in developing countries shows mixed results, with researchers suggesting that unfamiliarity with the technology can affect results (Luke et al, 2010, Mencsh, 2003). However, a systematic review carried out by Langhaug et al comparing different modes of survey delivery for sexual behaviour research found that respondents who were interviewed face-to-face versus those interviewed through other delivery modes (including computer-assisted surveys, surveys conducted with personal digital assistants, or other forms of self-administration of surveys) reported fewer sensitive behaviours (Langhaug, 2010). It is important to also point out, though, that use of this technology can be limited, as in most cases it requires respondents who are literate, which is not appropriate for all settings.

Self-reported data is also subject to recall bias. There are a number of techniques, however, that interviewers can use to reduce recall bias. Interviewers should remind respondents to report all sexual partnerships, including on-off sexual partnerships as well as encounters with sex workers. Additionally, survey questionnaires can include calendars to help respondents recall events (Luke et al, 2011) or to prompt the respondent with key events that occurred in the year before the interview, such as before or after an election or around certain holidays (UNAIDS, 2009).

* + 1. Evaluation of Health Communication Programmes for HIV Prevention

While a significant amount of money has been invested in health communication programmes, and particularly in programmes focused on reducing risky sexual behaviour, very few have been evaluated. Of those that have been evaluated, most have not used strong evaluation designs. In 2009, a systematic review of HIV/AIDS mass communication campaigns was conducted by Noar et al that included studies from 1997 to 2007. The review revealed that most campaigns used weak outcome evaluation designs, with about 70 percent using nonexperimental designs and only 30 percent of the campaigns using quasi-experimental designs (Noar, 2009). A commonly used nonexperimental design has been the pre- and post-test design. Though it can show changes that have taken place during the time a programme has been implemented, it cannot clearly show that the changes are a result of a specific campaign or that they would not have occurred anyway over time.

In an ideal world, experimental studies (e.g., randomised control trials) would be used to evaluate the effectiveness and impact of health communication programmes. However, for any programme that implements a mass media component, it is impossible to randomly allocate subjects to treatment and control groups, as everyone in the catchment area is potentially exposed (Pettifor et al 2007, Noar et al 2009, Bertrand et al, 2012). This is also true for large programmes with multiple components and complex causal pathways (Pettifor et al, 2007). The experimental design is more appropriate when assessing the effects of small-scale campaigns (Wakefield et al, 2010).

Furthermore, even quasi-experimental designs, with a treatment group and nonequivalent control group, often are not possible in situations where mass media programmes reach all areas of the country. Instead of randomised controlled trials, evaluators have used a quasi-experimental one-group post-test-only design that applies statistical controls to reduce the potential bias of confounding variables (Babalola and Vonrasek, 2005; Hutchinson and Wheeler, 2006, Boulay and Schwandt, 2011). This group of techniques is referred to as multivariate causal analysis and includes methods such as propensity score analysis (PSA). Use of these techniques allows evaluators to make claims of plausible attribution. As described by Bertrand et al (2012), PSA “is used to create a control group (not exposed to the campaign) that is statistically equivalent to the treatment group (exposed to the campaign) on all measurable socio demographic and other relevant factors. It yields the ‘net effect’ of the program, after removing the effects of pre-intervention differences between those likely to see or hear a campaign versus those not exposed to it (selection bias).” Furthermore, these methods help to reduce overall study costs (no baseline survey is needed) and eliminate many of the feasibility and ethical issues that arise when carrying out randomised controlled trials (D’Agostino, 1998; Guo et al., 2004; Boulay and Schwandt, 2011). Thus, these methods are becoming a more popular evaluation design option for evaluating effect of health communication programmes. As outlined within the USAID Evaluation Policy (2011), the selection of methods for an evaluation should principally consider both the empirical strength of the study and feasibility. The use of multivariate causal analysis using a one-group post-test design enables both of those criteria to be met.

1. **Evaluation Objective and Questions**

The main objective of the evaluation of the Safe Love campaign will be to assess the effect of the campaign as a whole on the target audience’s knowledge, beliefs/attitudes, self-efficacy, interpersonal communication[[1]](#footnote-1), perceived social norms, intentions, and behaviours related to MCP, condom use, HIV testing, and VMMC (please see the Annex for the question topics per area). The effect of the campaign will be assessed for the target audience as a whole, by area of residence (urban and rural) and males and females separately. Differences by area of residence and sex will be examined because the implementation of the campaign varied by urban and rural areas (primarily due to differences in media access) and is expected to also vary by sex, since men and women’s sexual behaviour in Zambia is different (for example, according to the 2007 DHS, men reported to have had more sexual partners in the past 12 months than women). It is also a recommendation from USAID that project indicators and evaluation results be disaggregated by sex.

The overall evaluation questions for the study will be:

1. What proportion of the target audience was exposed to the Safe Love Campaign and the different campaign components? Did exposure vary by area of residence (urban/rural) and between males and females?
2. What is the effect of the Safe Love campaign on the target audience’s knowledge, beliefs/attitudes, self-efficacy, interpersonal communication, perceived social norms, intentions, and behaviours related to multiple partner concurrency, condom use, HIV testing, and VMMC? Is the effect different by sex and area of residence (urban/rural)?
3. Were individuals who were exposed to the Safe Love campaign more likely to have the desired outcomes compared to those not exposed?
4. Were individuals who had a higher exposure to the Safe Love campaign more likely to have the desired outcomes compared to those with lower exposure?
5. **Evaluation Methodology**
   1. Proposed Evaluation Study Design

The proposed evaluation will use a one group post-test-only evaluation design that applies statistical controls to assess the effect of the campaign on the target audience’s knowledge, beliefs/attitudes, self-efficacy, interpersonal communication, perceived social norms, intentions, and behaviours. In addition, the post-test will examine respondents’ level of exposure to the campaign overall, and their exposure to the various components of the campaign. The post-test will be carried out using a representative household survey of the nine districts where all elements of the campaign have been implemented (see section 3.3 below for more details).

Since some of the components of the campaign, specifically the mass media programmes, are implemented at the national level, it will not be possible to randomly select a control group for the study. Also, since the campaign was launched in June 2011, it will not be possible to conduct a baseline and therefore implement a pre- and post-test design. As a result, propensity score analysis (PSA) will be used in this evaluation to create a statistically equivalent “control group” (mentioned previously in section 1.3.4). The statistical procedure will be used to test for a significant difference in a desired outcome between those exposed to the campaign (those who recall the campaign) and those not exposed (those who do not recall the campaign), but who have similar sociodemographic characteristics and access to the media. PSA statistically matches the unexposed group to the exposed group so that they are equivalent on average in terms of all of the observed characteristics used to construct the scores. The matching procedure will be used to compare the two groups in order to establish a net effect on the desired outcome.

If there is enough variation in the extent of exposure to the campaign among respondents, PSA will be complemented with dose response analysis, which allows for testing the hypothesis that the higher the level of exposure to the campaign, the more likely the desired outcome. Dose response analysis will be carried out by developing an index of exposure to the campaign and assessing the relationship between the “dose” or level of exposure and the desired outcome (e.g., higher levels of exposure compared to lower levels).

* 1. Selection of Participants

The eligibility criteria for the evaluation study will be men and women between the ages of 15 and 49—the primary target audience of the campaign. Participants who meet the criteria will be excluded from the study if they have participated in a different survey within the past six months to ensure that there is no overburden placed upon respondents.

* 1. Sampling Methodology

The evaluation survey will be conducted in the nine districts where all the main components of the Safe Love campaign have been implemented. The survey results will be reported for the nine districts as a whole, for urban and rural areas and for males and females. The survey will have a sample of 5,320 residential households. In all the sampled households, all women and men between the ages of 15 and 49 who stayed in the households the night before the survey will be eligible for the individual interview. One eligible man or woman will be interviewed in every household; which will result in approximately 4,117 completed interviews (see Annex 2 for a detailed description of the sampling methodology).

The sampling frame for the evaluation survey is based on the 2010 Census of Population and Housing of the Republic of Zambia (CPH). A list of census Enumeration Areas (EA) covering the nine districts of the survey is available with basic housing and population information and cartographic materials. The sample is a stratified sample selected in two stages from the 2010 CPH. Stratification is achieved by separating each of the nine districts into urban and rural areas. In total, there will be 16 sampling strata since Lusaka and Kabwe have only urban areas. Samples will be selected independently in every stratum, by a two stage selection process.

In the first stage, 120 EAs (clusters) will be selected with probability proportional to the EA size. The EA size is the number of households residing in the EA. A quick household listing operation will be carried out in all selected EAs prior to data collection by the supervisors. The resulting list of households will serve as a sampling frame for the selection of households in the second stage (see Annex 3 for complete details). In the second stage, a fixed number of 40 and 50 households will be selected in the urban and rural clusters respectively by equal probability systematic sampling. Since the household listing operation and the household interview will be carried out by the same team at the same time, a manual household selection procedure will be applied. In each selected household, only one woman or man aged 15-49 years will be randomly selected and interviewed. In each cluster, half of the selected households will be assigned to the women interviews and the other half to the men interviews.

The interviews will only be conducted in the selected households. No replacements and no changes of the pre-selected households will be allowed in the implementing stages in order to prevent bias. The non-respondent households have been taken into account in the design by increased number of households selected in each district. However, the interviewer must make their best effort to get the selected households to cooperate and reduce the non-response to a minimum. In case an eligible person in the household is not at home to participate in the interview, the interviewer should schedule a time to return to the household to conduct the interview. The interviewer must make three attempts to conduct the interview.

Table 2 shows the sample allocation of clusters and households by district and by type of residence. Table 3 shows the sample allocation of completed women and men interviews by district and by type of residence. The sample has been allocated between the urban and rural areas to guarantee a minimum sample size required for the exposed and non-exposed groups of the PSA. Within the urban and rural areas, the sample has been allocated based on proportional allocation with slight adjustment in order that each stratum has at least two clusters. In total, there are 68 urban clusters and 52 rural clusters in the sample.

**Table 2: Sample allocation of clusters and households by the nine districts and type of residence**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Province | District | Allocation of clusters | | | Allocation of households | | |
| Urban | Rural | Total | Urban | Rural | Total |
| Lusaka | Lusaka | 43 | 0 | 43 | 1720 | 0 | 1720 |
|  | Kafue | 3 | 8 | 11 | 120 | 400 | 520 |
| Central | Mkushi | 2 | 7 | 9 | 80 | 350 | 430 |
|  | Kabwe | 8 | 0 | 8 | 320 | 0 | 320 |
|  | Kapiri Mposhi | 2 | 10 | 12 | 80 | 500 | 580 |
| Luapula | Mansa | 2 | 9 | 11 | 80 | 450 | 530 |
|  | Kawambwa | 2 | 6 | 8 | 80 | 300 | 380 |
|  | Samfya | 2 | 10 | 12 | 80 | 500 | 580 |
| Copperbelt | Luanshya | 4 | 2 | 6 | 160 | 100 | 260 |
| Total | | 68 | 52 | 120 | 2,720 | 2,600 | 5,320 |

**Table 3: Sample allocation of completed women and men interviews by the nine districts and type of residence**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Province | District | Expected number of interviews of women 15-49 | | | Expected number of interviews of men 15-49 | | | | | | Expected number of interviews of women and men 15-49 | | | | |
| Urban | Rural | Total | Urban | Rural | | | | Total | Urban | | Rural | | Total |
| Lusaka | | Lusaka | 765 | 0 | 765 | 749 | | 0 | | 749 | | 1514 | 0 | | 1514 | |
|  | | Kafue | 53 | 138 | 191 | 52 | | 127 | | 179 | | 105 | 265 | | 370 | |
| Central | | Mkushi | 36 | 121 | 157 | 35 | | 111 | | 146 | | 71 | 232 | | 303 | |
|  | | Kabwe | 142 | 0 | 142 | 139 | | 0 | | 139 | | 281 | 0 | | 281 | |
|  | | Kapiri Mposhi | 36 | 172 | 208 | 35 | | 159 | | 194 | | 71 | 331 | | 402 | |
| Luapula | | Mansa | 36 | 155 | 191 | 35 | | 143 | | 178 | | 71 | 298 | | 369 | |
|  | | Kawambwa | 36 | 103 | 139 | 35 | | 95 | | 130 | | 71 | 198 | | 269 | |
|  | | Samfya | 36 | 172 | 208 | 35 | | 159 | | 194 | | 71 | 331 | | 402 | |
| Copperbelt | | Luanshya | 71 | 34 | 105 | 70 | | 32 | | 102 | | 141 | 66 | | 207 | |
| Total | | 1,211 | 895 | 2,106 | 1,185 | | | 826 | | 2,011 | 2,396 | | 1,721 | | 4,117 |

The above sample, allocations were calculated based on results from the 2007 Zambia Demographic and Health Survey (ZDHS): there are 1.14 and 0.81 women aged 15-49 per household in urban and rural areas, respectively; there are 1.11 and 0.77 men aged 15-49 per household in urban and rural areas, respectively. The household response rates are 93% and 88% in urban and rural areas, respectively; the woman response rates are 95.7% and 97% in urban and rural areas, respectively; the man individual response rates are 87.8% and 93.6% in urban and rural areas, respectively. This sampling design also assumes that a minimum sample size of 500 completed interviews is required (by PSA) per exposed/non-exposed groups within each of the four analysis domains, (urban and rural areas, and females and males).

* 1. Limitations of Study Design

There are limitations that are important to note in the proposed study design and methodology. First, due to the scale of the campaign at the national level (in particular the mass media components), it is not possible to randomise participants to a control and intervention group. The post-test-only design using PSA does allow for the creation of a control group, whereby many potentially confounding factors are controlled for in the analysis. However, it is possible for additional confounding to be present (e.g., any factors that were not measured (unobserved) in the actual study but that have an influence on the exposure and outcome of interest). Specific statistical tests will be used to assess the extent that these unobserved factors influence the relationship between exposure and the outcomes. .

Furthermore, with a post-test-only design, data to assess change over time in the outcomes of interest will not be possible. However, the use of the control group with PSA will allow for assessing the effect of the intervention, which is the main interest of the study.

Lastly, since no other options exist for collecting information on sexual behaviour other than through self-report, the data is subject to social desirability bias and recall bias. Study investigators will utilise various proven techniques to help reduce these potential biases, for example: ensuring complete privacy during the interviews with respondents; using interviewers that are of the same sex as the respondent; beginning the interview with neutral questions before asking sensitive questions on sexual behaviour to allow the interviewer to establish rapport with the respondent first; and using a calendar to help the participant to better recall events(Note: these techniques are explained in more detail in Sections 1.3.3. and 4.1.2.).

1. **Data Collection**
   1. Study Instruments

### 4.1.1. Household Listing and Consent Forms

The study will use a household member listing form to assess participants’ eligibility to participate in the study (see Section 3.3. for details), and will develop information sheets and consent forms to obtain written consent from participants (see Section 5.3).

### 4.1.2. Questionnaire

The main study instrument will be a survey questionnaire. The questionnaire will take approximately 60 minutes to carry out with respondents. The first section of the questionnaire will capture a number of sociodemographic characteristics, including sex, age, education level, current relationship status, province, place of residence (urban or rural), literacy, access to media (e.g., TV, radio, newspaper, mobile phones), frequency of exposure to media, exposure to other health campaigns, and additional questions to develop a wealth index (e.g., ownership of consumer goods, dwelling characteristics, type of drinking source).

The second section of the questionnaire will include questions related to measuring knowledge, beliefs/attitudes, self-efficacy, social norms, interpersonal communication, intentions, and behaviours related to MCP, condom use, HIV testing and VMMC. Specifically, the questionnaire will include questions to measure the topics outlined in the evaluation objectives and questions section (Section 2.1). To measure MCPs, respondents will be asked how many sexual partners they have had in the past 12 months, whether they had more than one ongoing sexual partnership (i.e. overlapping sexual partnerships) in the last 6 months (and 12 months) and lastly, whether they are currently having more than one ongoing sexual partnership. To measure condom use, respondents will be asked how frequently they have used condoms within the past six months and whether they used a condom during their last sexual encounter, specifying by type of partner (e.g., primary/regular partner, causal/nonregular partner). To measure HIV testing, respondents will be asked if in the last 6 months (and 12 months) they have had an HIV test and received their results, as well as HIV test during ANC among pregnant women and partners’ HIV testing behaviour. For VMMC, male respondents will be asked if they have been circumcised, if they have been circumcised within the past 6 months and where the circumcision was performed.

The last section of the questionnaire will include a series of questions that will be used to assess the individual’s exposure to the various components of the campaign, including exposure to mass media programmes (radio and TV), small media (e.g., billboards, print materials), the campaign internet sites, SMS messages and interpersonal communication activities (e.g., one-on-one or small group counselling). Questions from this section of the questionnaire will be a combination of prompted/aided and spontaneous recall questions in order to obtain a higher quality measure of exposure to the campaign. The questions in this section will be used to develop an index of level of exposure (from low to high) to the campaign.

The survey questionnaire will be designed to include the appropriate skip patterns (which will also be part of the interviewer’s training) to ensure that only questions that are relevant to the respondent will be asked. Additionally, the questionnaire will be translated into the appropriate local languages, which will depend on what areas are selected to be included in the sample. The translation will be completed by local research firm/organization contracted to carry out the data collection in country, in collaboration with CSH staff. Translated questionnaires will be back-translated and pretested to ensure accuracy.

* 1. Data Collection

### 4.2.1. Process

CSH will work in close collaboration with a local research firm/organisation in Zambia (determined through a request for proposal (RFP)) to assist in carrying out the evaluation. The local firm/organisation will be engaged as part of an effort to build and reinforce local capacity in evaluation of BCC programmes, feeding into the overall aim of the CSH project and aligning with USAID’s Evaluation Policy (USAID, 2011). The local research firm/organisation will be responsible for: developing the sampling frame and sample of the survey, training of data collectors, field work, data entry and cleaning, and delivering the final clean data set to CSH.

Prior to implementing the survey, CSH, in collaboration with the local research firm, will conduct a training workshop for the interviewers and supervisors in charge of data collection efforts[[2]](#footnote-2). The training will cover the selection of households and participants for the survey; an orientation to the survey questionnaire; the household listing form and written consent forms; interviewing skills/techniques; ethical guidelines for protecting human subjects; and time to practise and receive feedback on how to conduct the survey. Lastly, as part of the training workshop, field interviewers will carry out a pilot test of the survey questionnaire and make any last additional changes during the training workshop based on the results of the pilot. The pilot-test will be done in each of the languages the questionnaire is translated into. It is expected that the training and pilot-testing will last between 8-10 days; it will depend largely on the area that is selected for the pilot. Training materials will be developed by the contracted local research firm in collaboration with CSH.

Interviewers will be recruited based on their competence in quantitative data collection and competence in the language of the area(s) where the data collection will be conducted. During training for the interviewers, all the terms will be discussed and recommendations will be made on how best to translate them into the local language.

Interview teams of one female and one male will be used. Due to the sensitive nature of the questions, interviewers will be required to be the same sex of the respondent being interviewed. In addition, issues of confidentiality will be addressed in the training and interviewers will not be allowed to conduct interviews in selected clusters that they are familiar with or interview anyone that they know. A supervisor will sit in on at least one interview per interviewer each day and conduct at least 1-2 re-interviews per cluster for quality control. The supervisor will be in charge of carrying out a quality check of all the surveys conducted at the end of each day. The supervisor will also be in charge of logistics and will ensure that the sampling frame and selection of households and participants is followed.

### 4.2.2. Timing

To provide sufficient time for the campaign to have an effect, the survey should be implemented at least 9 to 12 months after continuous implementation of the campaign. Behaviour change takes time and, if the survey is implemented too early, effect on intermediate or behaviour outcomes may not be observed because of insufficient time, as opposed to a lack of effect. In addition, exposure needs to be high and of better quality (measured by spontaneous recall of campaign messages/topics and content) for there to be an effect. Since July of 2013, several components of the campaign have been implemented in the nine districts where the survey will take place. The data collection is planned to begin in April, 2014.

* 1. Data Management

Various data quality checks will be conducted, including checking the questionnaire for internal consistency, filter errors, appropriate coding for nonresponse or missing values, values that fall out of range, and other logical checks. The data will be double entered by trained data entry clerks using Epi Data software, and copies of cleaned data will be made available in STATA format for analysis.

* 1. Data Analysis

Data will be analysed using STATA. Descriptive analysis (frequency and cross-tabulations) will be carried out for exposure to the different campaign components as well as for the campaign as a whole. Wherever appropriate, data will be presented disaggregated by area of residence (urban/rural) and sex.

To assess whether exposure to the campaign had an effect on the knowledge, beliefs/attitudes, self-efficacy, interpersonal communication, intentions, and behaviour outcomes, PSA will be carried out. PSA will be conducted for the sample as a whole and wherever appropriate (i.e. when there is sufficient power to do so, depending on the outcome examined), will be disaggregated by area of residence (urban/rural) and sex.

If there is enough variation in exposure, dose response analysis will also be conducted using PSA, to assess the hypothesis that the higher the level of exposure to the campaign, the more likely the desired outcomes. To conduct the dose response analysis, an index of exposure will be constructed: each of the variables (or questions) related to exposure to the different campaign components (both the prompted and spontaneous questions) will be assigned scores and a composite variable of all the exposure items will be made. The more components of the campaign someone has been exposed to (that is, the TV products, radio products, printed materials and interpersonal communication activities) and the more information they can recall spontaneously (for example, specific health messages, names of characters and/or other specific content), the higher will be their overall score on the index of exposure. Spontaneous questions will be assigned a higher individual score than prompted questions, since if a respondent can recall specific information of the campaign spontaneously, they are more likely to have truly been exposed than someone who only recalled a campaign component after being prompted. For example, respondents who recalled a campaign component spontaneously will receive two points, while those who recalled the component after being prompted by a visual or hearing aid, will receive one point. It is important to ask several questions about exposure (comprised of both prompted and spontaneous ones) so that it is possible to capture those respondents who were highly exposed to the campaign and consequently, more likely to have been impacted by the campaign. In addition, by having several exposure questions, we are more likely to get a good range in the index of exposure to do the dose response analysis. However, the extent of variation in the final index of exposure, and in particular whether there will be sufficient respondents who were highly exposed to the campaign to conduct the dose response analysis, cannot be determined in advance of data collection, and only after the data analysis process begins. The final index of exposure will depend largely on the implementation of the program in the 12 months preceding the survey; the more frequently the campaign components were implemented, the more likely respondents will score higher on the index. Once the index of exposure variable is computed, the extent of variation obtained will be analysed and as appropriate, the index will be used to separate out those with higher levels of exposure from those with lower levels, and the dose response analysis, using PSA, will be conducted[[3]](#footnote-3).

1. **Ethical Considerations**
   1. IRB Approval

The evaluation study will adhere to strict ethical standards. The study protocol will be submitted for approval by both the local Zambia Research Ethics board/committee and the ICF International Institutional Review Board (IRB). In accordance with IRB approval, all investigators involved will have undergone human subjects research ethical training prior to initiation of the study. Additionally, the study protocol will be submitted for review and approval by the MoH of GRZ and the Zambia National AIDS/HIV/STI/TB Council.

* 1. Confidentiality Assurances

To ensure the protection and confidentiality of study participants, the following procedures will be taken:

* Researchers and interviewers will be trained to follow strict procedures for obtaining consent from study participants and ensuring the confidentially of the data collected.
* All interviews with study participants will be conducted in a private location, away from other people (as permitted).
* No identifying information will be collected on the questionnaires. All survey questionnaires will be marked and coded with numbers, not personal names. Personal identifying information will be collected as part of the household listing, but the sheet will be kept separate from the questionnaire and will be torn up and discarded upon completion of the interview. Further, signed written consent forms will be stored separately from the data.
* All data collected will be stored in a secured area in the research institution and later at the CSH office once data entry and cleaning has been completed. Once all the data analysis has been completed, all forms collected during the study will be destroyed by shredding. Electronic data will be entered into a password-protected computer that only researchers will have access to. Data will be entered into the computer using coded numbers; no identifying information will be recorded. No publications on the study will use identifying information on any of the participants in the study.
* Access to all of the data will be restricted to the principal investigator and the research team.
  1. Consent Procedures

No participants will be interviewed without their informed consent. For participants between the ages of 15 and 17, parental consent will be obtained prior to written consent from the minor. Prior to data collection, potential participants will be provided with an information sheet and written consent form that details the purpose of the research, reasons why the participant is being asked to participate, the expected duration of participation in the study and the procedures that will be followed, ways in which the research will/will not benefit the participant, the potential risks involved in participating, an explanation that there is no compensation for participation, that participation in the study is voluntary, that the subject’s participation in anonymous and will not be linked to identifying information, that the subject’s participation is voluntary and that he/she can refuse to participate, that the subject can refuse to answer any question or stop the interview at any time, the contact information for the principal investigator and local IRB, and lastly, ways for subjects to provide written consent. For participants who are unable to read, the interviewer will read through the information sheet and written consent form for the participant. If the participant is unable to sign for themselves, they will be asked to make a mark (using their fingerprint) on the form, and a witness to the consent procedures will also sign the form. A copy of the information sheet and consent form will be given to participants to keep.

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**Annex 1: Evaluation Outcomes and Question Topics**

**HIV Testing**

|  |  |
| --- | --- |
| **Outcomes** | **Questionnaire** |
| **Knowledge** | **Question number(s)** |
| Knowledge of locations to get testing and counselling | 503-504 |
| Knowledge of PMTCT | 505-508 |
| **Beliefs/Attitudes** |  |
| Believe it is not necessary to know your partner’s HIV status before engaging in a sexual relationship with him/her | 530 |
| Believe women who are pregnant should get tested for HIV | 531 |
| Believe it is important to know your and your partner’s HIV status | 532, 536 |
| I believe couple’s should be tested for HIV together before having sexual intercourse. | 534 |
| I believe that if I was HIV positive, there would still be hope for my future | 537 |
| **Self-Efficacy** |  |
| Feel confident to talk with partner about getting tested for HIV | 538 |
| Feel confident that would be able to get an HIV test | 539 |
| **Social Norms** |  |
| People in my community fear getting tested for HIV | 533 |
| Women who are pregnant fear going to antenatal care because they will find out their HIV status. | 535 |
| In my community, most couples keep their HIV status a secret from one another | 540 |
| People in my community believe it is important to get an HIV test to know your HIV status | 541 |
| In my community, most people who have sexual intercourse get tested for HIV | 542 |
| **Interpersonal Communications** |  |
| Have talked with partner about getting tested for HIV in the last 6 months | 510 |
| Know their partner’s HIV status | 514 |
| Have disclosed HIV status to current partner | 518 |
| **Intention** |  |
| Intend to get an HIV test in the next 6 months. | 529 |
| **Behaviours** |  |
| Partner got tested and received the results within the past 6 months (and last 12 months) | 511-513 |
| Got tested for HIV and received result within the past 6 months (and last 12 months) | 515-517 |
| Got tested for HIV during current/last pregnancy and received the results | 524-526 |
| Partner got tested for HIV during their (or partner’s) current/last pregnancy and received the results | 527-528 |

**Multiple Concurrent Partnerships**

|  |  |
| --- | --- |
| **Outcomes** | **Questionnaire** |
| **Knowledge** | **Question number(s)** |
| Know that partner reduction is a protective behaviour against HIV | 602 |
| Know that there’s a higher risk of HIV infection from having MCPs | 603 |
| Knowledge of the risks of having male sexual partners who are 10 years or older (*note: for women’s questionnaire only)* | 604 |
| **Beliefs/Attitudes** |  |
| Believe that for men, having more than one sexual partner at a time demonstrates he is a real man. | 605 |
| Believe that having multiple concurrent sexual partnerships is fine for men and women. | 606-607 |
| Believe it is important to have only one partner at a time. | 608 |
| Believe that having more than one partner puts one at risk of HIV. | 609 |
| **Self-Efficacy** |  |
| Feel confident in ability to discuss one’s own sexual needs with partner. | 610 |
| Feel confident that could have only one sexual partner for a long time | 616 |
| Feel confident that could talk with partner about whether the partner has other sexual partners | 618 |
| **Social Norms** |  |
| In my community, it is acceptable that men and women have multiple concurrent partnerships. | 611-612 |
| In my community, most men and women I know only have sex with one partner. | 613-614 |
| In my community, people believe that having multiple partners increases their risk of HIV. | 615 |
| **Interpersonal Communications** |  |
| Have talked with partner about being faithful in the last 6 months | 619 |
| Have talked with partner about MCP increasing the risk of HIV transmission | 620 |
| Have discussed with friends about MCP increasing the risk of HIV transmission in the last 6 months | 621 |
| **Intention** |  |
| Intend to only have one sexual partner in the next 6 months | 622 |
| **Behaviours** |  |
| Number of sexual partners in the last 6 months (and last 12 months) | 416, 419 |
| Had concurrent sexual partners in the last 6 months (and last 12 months) | 401-406, 414-415 |

**Condom Use**

|  |  |
| --- | --- |
| **Outcomes** | **Questionnaire** |
| **Knowledge** | **Question number(s)** |
| Know that condom use is a protective behaviour against HIV | 602 |
| Know where to get condoms | 702-703 |
| Know how to correctly use a condom | 704-706 |
| **Beliefs/Attitudes** |  |
| Believe that condoms should be used consistently with regular and casual partners | 707-708 |
| Believe that asking your partner to use a condom demonstrates you do not trust your partner | 709-710 |
| Condoms reduce sexual pleasure | 711 |
| **Self-Efficacy** |  |
| Feel confident in ability to use condoms correctly | 712 |
| Feel confident to purchase condoms | 713 |
| Feel confident carrying condoms | 714 |
| Feel confident about asking spouse/partner to use a condom (females) | 719 |
| **Social Norms** |  |
| People in my community believe condoms should be used with causal partners | 715 |
| People in my community believe condoms should not be used with a regular sexual partner, including spouses | 716 |
| People in my community believe condoms use is a protective behaviour against HIV | 717 |
| **Interpersonal Communications** |  |
| Have talked about condom use with sexual partner in the last 6 months | 412 |
| Have negotiated condom use with a partner in the last 6 months | 413 |
| Have talked about condom use with friends in the last 6 months | 720 |
| Have provided information to a sexual partner on where to get condoms in the last 6 months | 722 |
| **Intention** |  |
| Intend to use condoms consistently with regular sexual partner(s) in the next 6 months | 724 |
| Intend to use condoms consistently with casual sexual partners in the next 6 months | 726 |
| **Behaviours** |  |
| Used condoms at last sexual encounter with all regular and casual partners | 407 |
| Used condoms consistently with last sexual partner in the last 4 weeks | 409 |
| Used condoms consistently with all regular and casual partners in the last 6 months | 411 |
| Have purchased or obtained condoms in the last 6 months | 723 |

**VMMC**

|  |  |
| --- | --- |
| **Outcomes** | **Questionnaire** |
| **Pre-Contemplation**  \*Includes knowledge outcomes | **Question number(s)** |
| Knowledge of male circumcision | 802-803 |
| Know the benefits of male circumcision | 816 |
| Know that male circumcision reduces the risk of HIV | 818 |
| **Contemplation**  \*Includes knowledge, beliefs/attitudes and social norm outcomes |  |
| Know where to get circumcised | 813-814 |
| Considered getting circumcised (males only) | 812 |
| Know how long a man should wait for at least six weeks to have sexual intercourse again after being circumcised | 819 |
| Believe circumcision is a simple procedure | 820 |
| Believe that circumcision has no effect on sexual pleasure | 821 |
| Believe that getting circumcised at a health facility is safer than by a traditional circumciser | 822 |
| Believe circumcision helps people reduce their risk of HIV | 824 |
| Believe a circumcised man still needs to use condoms | 825 |
| Men in my community prefer to get circumcised from a traditional circumciser | 830 |
| People in my community believe it is beneficial for a man to get circumcised | 831 |
| People in my community believe that it is safe to get circumcised at a health facility | 832 |
| Women in my community prefer a partner who is circumcised | 833 |
| **Preparation**  \*Includes beliefs/attitudes, self-efficacy, interpersonal communication and intention outcomes |  |
| Sought information on male circumcision | 815 |
| Feels confident about being able to get information on male circumcision | 823 |
| Feels confident about getting circumcised at a health clinic (males only) | 828 |
| Feels confident about encouraging partner to get circumcised (females only) | 829 |
| Talked with different people about male circumcision, including: partner, friends, family and health worker | 834-836 |
| Intend to be circumcised in the next 6 months (males only) | 840 |
| Set up appointment to get circumcised | 841 |
| **Action**  \*Includes behavioural outcomes |  |
| Was circumcised in the last 6 months by a health professional (males only) | 805-806, 808-809 |
| Was circumcised in the last 6 months to prevent HIV | 805-806, 807 |
| **Maintenance**  \*Includes interpersonal communication and behavioural outcomes |  |
| Abstained from sex after undergoing male circumcision for at least six weeks | 810 |
| Used condoms during sex after undergoing male circumcision | 811 |
| Encouraged friends or family to get circumcised | 837 |

\*The VMMC component of the campaign follows the Stages of Change theory; therefore the outcomes for this component are listed by the different stages of the theory. The intermediate and behavioural outcomes (i.e., knowledge, beliefs/attitudes, self-efficacy, social norms, interpersonal communication, intentions, and behaviours) fit within the framework and have been indicated accordingly within each of the stages of the theory. In a few instances, additional outcomes are included that do not fit within the same intermediate outcome categories.

**Annex 2: Sample Design**

Zambia Safe Love Evaluation Survey 2014

**Sample Design**

INTRODUCTION

The 2014 Zambia Safe Love Evaluation Survey (ZSLES) is designed to evaluate the Safe Love campaign in Zambia, especially in nine districts (Lusaka, Kafue, Mkushi, Kabwe, Kapiri Mposhi, Mansa, Kawambwa, Samfya and Luanshya) where all main components of the Safe Love campaign have been implemented (including TV and radio programmes and interpersonal communication activities). The survey results will be reported for the nine districts as a whole, for urban and rural areas and for males and females. The 2014 ZSLES calls for a sample of 5,320 residential households; in all the sample households, all women and men between the ages of 15 and 49 stayed in the households the night before the survey will be eligible for the individual interview. One eligible men or women will be interviewed in every household; this will yield about 4,117 completed interviews, 2,106 of women and 2,011 of men age 15 to 49. This survey is expected to have about 2,396 completed interviews in urban areas and about 1,721 completed interviews in rural areas.

Besides measuring the exposure to the campaign components, the 2014 ZSLES will collect information on various campaign evaluation indicators. These indicators will focus on measuring the knowledge, attitudes and behaviors of three main topics, 1) HIV testing, 2) Multiple Concurrent Partnerships and 3) condom use. Propensity Score Analysis (PSA) will be used to examine the difference in the campaign evaluation indicators between the campaign-activities exposed and non-exposed groups. The survey is expected to have about 2,363 completed interviews from the exposed group, and about 1,754 completed interviews from the non-exposed group. Within the analysis domains, urban and rural areas and males and females, the survey is expected to have enough sample size for the PSA as will be discussed in the next sections.

In Zambia, there are 10 provinces, each province is consisted of districts, each district is consisted of constituencies, and each constituency is consisted of wards. The survey is designed to evaluate the Safe Love campaign in nine districts in Zambia, these districts are located in four provinces (Lusaka and Kafue districts are in Lusaka province; Mkushi, Kabwe and Kapiri Mposhi districts are in the Central province; Mansa, Kawambwa and Samfya districts are in Luapula province; Luanshya district is in Copperbelt province).

II. SAMPLING FRAME

The sampling frame for the 2014 ZSLES is the results of the 2010 Census of Population and Housing of the Republic of Zambia (CPH). A list of census Enumeration Areas (EA) covering the nine districts of the survey is available with basic housing and population information and cartographic materials. The EA contains fresh information about the number of households and the population enumerated during the 2010 CPH. Each EA has a cartographic map on which the EA boundaries are clearly indicated. Some basic statistics are calculated based on the sampling frame. Table 2.1 shows the distribution of households and number of EAs from the sampling frame. Table 2.2 shows the average size of EA in number of households.

Table 2.1: Distribution of households, number of EA by district and by type of residence

(Sampling frame 2010 CPH)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Province | District | Number of households | | Number of EA | | Province Total | |
| Urban | Rural | Urban | Rural | Household | EA |
| Lusaka | Lusaka | 391,919 | 0 | 2,590 | 0 | 391,919 | 2,590 |
| Kafue | 20,660 | 32,369 | 129 | 273 | 53,029 | 402 |
| Central | Mkushi | 4,672 | 28,954 | 26 | 305 | 33,626 | 331 |
| Kabwe | 46,020 | 0 | 384 | 0 | 46,020 | 384 |
| Kapiri Mposhi | 9,853 | 42,410 | 73 | 534 | 52,263 | 607 |
| Luapula | Mansa | 17,631 | 36,347 | 139 | 339 | 53,978 | 478 |
| Kawambwa | 7,402 | 23,687 | 59 | 255 | 31,089 | 314 |
| Samfya | 4,926 | 44,854 | 28 | 456 | 49,780 | 484 |
| Copperbelt | Luanshya | 27,981 | 6,350 | 190 | 48 | 34,331 | 238 |
| Total | | 531,064 | 214,971 | 3,618 | 2,210 | 746,035 | 5,828 |

Table 2.2: Average EA size by district and by type of residence

(Sampling frame 2010 CPH)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Province | District | Average number of households per EA | | Total |
| Urban | Rural |
| Lusaka | Lusaka | 151 | 0 | 151 |
| Kafue | 160 | 119 | 132 |
| Central | Mkushi | 180 | 95 | 102 |
| Kabwe | 120 | 0 | 120 |
| Kapiri Mposhi | 135 | 79 | 86 |
| Luapula | Mansa | 127 | 107 | 113 |
| Kawambwa | 125 | 93 | 99 |
| Samfya | 176 | 98 | 103 |
| Copperbelt | Luanshya | 147 | 132 | 144 |
| Total | | 147 | 97 | 128 |

III. SAMPLING PROCEDURE AND SAMPLE ALLOCATION

The sample for the 2014 ZSLES is a stratified sample selected in two stages from the 2010 CPH. Stratification is achieved by separating each of the nine districts into urban and rural areas. In total there are 16 sampling strata have been identified as Lusaka and Kabwe have only urban areas. Samples will be selected independently in every stratum, by a two stages selection. Implicit stratifications will be achieved at each of the lower administrative levels by sorting the sampling frame before sample selection according to administrative order and by using a probability proportional to size selection at first stage’s sampling. The implicit stratification will also result in proportional allocation of sample points at lower administrative levels.

In the first stage, 120 EAs (clusters) will be selected with probability proportional to the EA size. The EA size is the number of households residing in the EA. A quick household listing operation will be carried out in all selected EAs on the same day of the data collection by the supervisors and interviewers. The resulting lists of households will serve as sampling frame for the selection of households in the second stage (see detailed instructions for household listing in the *Manual for Household Listing and Selection*). In the second stage’s selection, fixed numbers of 30 and 40 households will be selected in the urban and rural clusters respectively by an equal probability systematic sampling. Since the household listing operation and the household interview will be carried out by the same team at the same time, a manual household selection procedure will be applied (see detailed instructions for household selection in the *Manual for Household Listing and Selection*). In each selected household, only one woman or man aged 15-49 years will be randomly selected and interviewed; in each cluster, half of the selected households will be assigned to the women interviews and the other half to the men interviews (see detailed instructions for within households’ selection in the *Manual for Household Listing and Selection*). The survey interviewer must interview only the selected households and the selected respondents. No replacements and no changes of the pre-selected households or respondents will be allowed in the implementing stages in order to prevent bias. The non-respondent households have been taken into account in the design by increased number of households selected in each province. However, the interviewer must do their best efforts to get the selected households cooperate and reduce the non-response to minimum. In case a selected person in the household is not at home to participate in the interview, the interviewer should schedule a time to return to the household to conduct the interview. The interviewer must make three attempts to conduct the interview.

Table 3.1 below shows the sample allocation of clusters and households by district and by type of residence. Table 3.2 shows the sample allocation of completed women and men interviews by district and by type of residence. Table 3.3 shows the expected allocation of completed interviews for the campaign exposed and the non-exposed groups by the PSA domains, urban and rural areas, and females and males. The sample has been allocated between the urban and rural areas to guarantee a minimum sample size required for the exposed and non-exposed groups of the PSA. Within the urban and rural areas, the sample has been allocated based on proportional allocation with slight adjustment in order that each stratum has at least two clusters. In total, there are 68 urban clusters and 52 rural clusters in the 2014 ZSLES sample. 40 households will be selected per urban cluster, whereas 50 households will be selected per rural cluster.

Table 3.1: Sample allocation of clusters and households

by the nine districts and type of residence

(2014 ZSLES)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Province | | District | | Allocation of clusters | | | | | | Allocation of households | | | | | |
| Urban | | Rural | | Total | | Urban | | Rural | | Total | |
| Lusaka | | Lusaka | | 43 | | 0 | | 43 | | 1720 | | 0 | | 1720 | |
|  | | Kafue | | 3 | | 8 | | 11 | | 120 | | 400 | | 520 | |
| Central | | Mkushi | | 2 | | 7 | | 9 | | 80 | | 350 | | 430 | |
|  | | Kabwe | | 8 | | 0 | | 8 | | 320 | | 0 | | 320 | |
|  | | Kapiri Mposhi | | 2 | | 10 | | 12 | | 80 | | 500 | | 580 | |
| Luapula | | Mansa | | 2 | | 9 | | 11 | | 80 | | 450 | | 530 | |
|  | | Kawambwa | | 2 | | 6 | | 8 | | 80 | | 300 | | 380 | |
|  | | Samfya | | 2 | | 10 | | 12 | | 80 | | 500 | | 580 | |
| Copperbelt | | Luanshya | | 4 | | 2 | | 6 | | 160 | | 100 | | 260 | |
| Total | | | | 68 | | 52 | | 120 | | 2,720 | | 2,600 | | 5,320 | |

Table 3.2: Sample allocation of completed women and men interviews

by the nine districts and type of residence

(2014 ZSLES)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Province | | District | | Expected number of interviews of women 15-49 | | | | | | Expected number of interviews of men 15-49 | | | | | | Expected number of interviews of women and men 15-49 | | | | | |
| Urban | | Rural | | Total | | Urban | | Rural | | Total | | Urban | | Rural | | Total | |
| Lusaka | | Lusaka | | 765 | | 0 | | 765 | | 749 | | 0 | | 749 | | 1514 | | 0 | | 1514 | |
|  | | Kafue | | 53 | | 138 | | 191 | | 52 | | 127 | | 179 | | 105 | | 265 | | 370 | |
| Central | | Mkushi | | 36 | | 121 | | 157 | | 35 | | 111 | | 146 | | 71 | | 232 | | 303 | |
|  | | Kabwe | | 142 | | 0 | | 142 | | 139 | | 0 | | 139 | | 281 | | 0 | | 281 | |
|  | | Kapiri Mposhi | | 36 | | 172 | | 208 | | 35 | | 159 | | 194 | | 71 | | 331 | | 402 | |
| Luapula | | Mansa | | 36 | | 155 | | 191 | | 35 | | 143 | | 178 | | 71 | | 298 | | 369 | |
|  | | Kawambwa | | 36 | | 103 | | 139 | | 35 | | 95 | | 130 | | 71 | | 198 | | 269 | |
|  | | Samfya | | 36 | | 172 | | 208 | | 35 | | 159 | | 194 | | 71 | | 331 | | 402 | |
| Copperbelt | | Luanshya | | 71 | | 34 | | 105 | | 70 | | 32 | | 102 | | 141 | | 66 | | 207 | |
| Total | | | | 1,211 | | 895 | | 2,106 | | 1,185 | | 826 | | 2,011 | | 2,396 | | 1,721 | | 4,117 | |

Table 3.3: Sample allocation of completed interviews

according to the PSA domains

(2014 ZSLES)

|  |  |  |  |
| --- | --- | --- | --- |
| Domain | Expected number of interviews of eligible persons 15-49 years | | |
| Exposed | Non-exposed | Total |
| Urban | 1,850 | 546 | 2,396 |
| Rural | 513 | 1,208 | 1,721 |
| Females | 1,202 | 904 | 2,106 |
| Males | 1,161 | 850 | 2,011 |
| **Total** | **2,363** | **1,754** | **4,117** |

The above sample allocation are calculated based on the facts obtained from the 2007 Zambia Demographic and Health Survey (ZDHS): there are 1.14 and 0.81 women aged 15-49 per household in urban and rural areas, respectively; there are 1.11 and 0.77 men aged 15-49 per household in urban and rural areas, respectively. The household response rates are 93% and 88% in urban and rural areas, respectively; the woman response rates are 95.7% and 97% in urban and rural areas, respectively; the man individual response rates are 87.8% and 93.6% in urban and rural areas, respectively. This sampling design assumes that a minimum sample size of 500 completed interviews is required per exposed/non-exposed groups within each of the four analysis domains, urban and rural areas, and females and males. Also this design assumes that the campaign exposure rates are 77.2% and 29.8% in urban and rural areas. These rates are based on the Second Rapid Survey results.

**Annex 3: Manual for Household Listing and Selection**

**The 2014 ZAMBIA SAFE LOVE CAMPAIGN EVALUATION Survey**

**(The 2014 ZSLES)**

**MANUAL FOR HOUSEHOLD LISTING AND SELECTION**

**CONTENTS**

1. Introduction
2. Responsibilities of the Listing Staff
3. Definition of Terms
4. Locating the Cluster
5. Listing of the Households
6. Manual Household Selection
7. Household Interviewing

The Appendix: Kish Grid for Within Households Selection

**I. Introduction**

The 2014 ZSLES is a sample survey designed to provide evaluation information of the Safe Love Campaign. The survey will interview a randomly selected woman or man between the ages of 15 and 49 years old in every residential household in the 2014 ZSLES sample. The women and men will be from households randomly selected from a set of sample points which are *clusters* of households. Prior to interviewing, all households located in the selected clusters will be listed. The listing of households for each cluster will be used in selecting the final sample of households to be included in the 2014 ZSLES survey. The listing operation consists of visiting each cluster, recording on listing forms a description of every structure together with the names of the heads of the households found in the structure, and manually selecting two samples, one sample of households for women interviews and the other for men interviews, using the *Manual Households Selection Form*. Since the household listing operation and the household interview will be carried out on the same day, the same team of interviewers will be responsible for both, households listing and interviewing.

**II. Responsibility of the Listing Staff**

In the 2014 ZSLES, the listing stuff will be the interviewers who are responsible for the data collection besides the household listing. In this document, we will use the word “enumerators” instead of “interviewers” in reference to the listing staff. Before the households interviewing process, the enumerators need to perform the households listing and to select the households to be interviewed. Two enumerators are enough to perform a quick households listing process. The responsibilities of the enumerators are to:

1) identify the boundaries of the cluster.

1. divide the cluster into two equal parts, one part for each enumerator.

3) list all the households in the cluster in a systematic manner.

4) combine the two lists into one list of all households in the cluster.

5) use the *Manual Households Selection Form* to select the sample households.

The two enumerators in each team should work together at the same time in the same area. At the beginning, they identify the cluster boundaries together. Then they divide the cluster into two equal parts, one part for each enumerator. The household listing will be conducted for each part and then the listing records of the two parts will be combined into one list. The final list of households will be used as a frame for the household selection. The materials needed for the household listing operation are:

* Manual for Household Listing and Selection
* Household Listing Form (Form ZSLES/1)
* Manual Households Selection form (Form ZSLES/2)

**III. Definition Of Terms**

A *cluster* is the smallest geographical statistical unit for the 2014 ZSLES which is a group of a number of adjacent households in a geographical area. For the 2014 ZSLES, a cluster corresponds to Enumeration areas (EAs). There are in total 120 clusters selected for the 2014 ZSLES.

A *structure* is a free-standing structure that can have one or more dwelling units, for residential or commercial use. Residential structures can have one or more dwelling units (for example: single house, apartment structure,).

A *dwelling unit* is a room or a group of rooms normally intended as a residence for one household (for example: a single house, an apartment, a group of rooms in a house); a dwelling unit can also have more than one household.

A *household* consists of a person or a group of related or unrelated persons, who live together in the same dwelling unit, who acknowledge one adult male or female 15 years old or plus as the head of the household, who share the same housekeeping arrangements, and are considered as one unit. In some cases one may find a group of people living together in the same house, but each person has separate eating arrangements; they should be counted as separate one-person households. Collective living arrangements such as army camps, boarding schools, or prisons will not be considered as households. Examples of households are:

* a man with his wife or his wives with or without children
* a man with his wife or his wives, his children and his parents
* a man with his wife or his wives, his married children living together for some social or economical reasons (the group recognize one person as household head)
* a widowed or divorced man or woman with or without children

The *head of household* is the person who is acknowledged as such by members of the household and who is usually responsible for the upkeep and maintenance of the household.

**IV. Locating the Cluster**

The enumerators will be provided with a base map and description materials containing the cluster assigned to the team. Upon arrival in a cluster, the team should first get in contact with the local authorities/village chief, inform them about the 2014 ZSLES and the household listing and interviewing operations, request assistance to identify the boundaries of the village and/or cluster, and get general information of the cluster. For example, the rough number of residential households in the village and/or cluster. In most cases, the cluster boundaries follow easily recognizable natural features such as streams or rivers, and construction features such as roads or railroads. In some cases, the boundaries may not be marked with visible features (especially in rural areas), attentions should be paid to make as precise as possible locating according to the detailed description file of the cluster. Before doing the listing, the team should tour the cluster to determine an efficient route of travel for listing all the structures. Divide the cluster into two parts or more. A part can be a block of structures. Based on the natural boundaries, the cluster will be divided into two equal parts or two groups of parts, one for each enumerator.

**V. Listing of Households**

The listing of the households should be done in a systematic manner so that there are no omissions or duplications. If the part consists of a number of blocks, then the enumerator should finish each block before going to the adjacent one. Within each block, start at one corner of the block and move clockwise around it. In the rural area where the structures are frequently found in small groups, the enumerator should work in one group of structures at a time and in each group they can start at the center (choosing any landmark, such as a school, to be the center) and move around it clockwise.

Use a **marker or chalk** to write on the entrance of the structure the number that has been assigned to the structure. Remember that this is the serial number of the structure as assigned on the household listing form. To distinguish between the structures listed by the first and the second enumerators, a unique pre-code can be used for each enumerator, such as 100X for the first enumerator and 200X for the second enumerator, where X is the structure number. In order to distinguish the number from other numbers that may exist already on the door of the structure, write “ZSLES/” in front of the number, for example, on the door of structure number 5, write ZSLES/1005 if listed by the first enumerator or ZSLES/2005 if listed by the second enumerator, similarly on the door of structure number 44 write ZSLES/20044 if listed by the second enumerator or ZSLES/10044 if listed by the first enumerator.

A structure is called ***multi-unit structure*** if it contains more than one household in the structure. Otherwise it is called ***single structure***. ***All households found in a multi-unit structure must be numbered by a serial number*** from 1 to m, within the structure (this is different from the household number attributed to all of the listed households in the whole cluster). The enumerator number plus the structure number plus the household number form a unique ID number for a household, and for all of the households in the cluster. For example, household number 3 in structure number 44 recorded by the first enumerator, with ID number 3- ZSLES/10044 identifies uniquely this household, and it is very useful to write the household ID number in the entrance of the household to facilitate later the interviewer to relocate it in the household interview.

The enumerator will use the Household Listing Form (Form ZSLES/1) to record all households found in the part the enumerator was assigned for. Beginning by entering the identification codes of the cluster, complete the rest of the form as follows:

Column (0) [*Household Serial Number*]: This column reserved for household serial number that will be recorded only after the household listing is completed in the entire cluster and the two enumerators have put the listing forms together. It is a sequential number from 1 to n (the total number of households listed in the cluster) to be used in the household systematic selection using the *Manual Household Selection Form*. More details are given in the next section.

Column (1) [*Serial Number of Structure*]: For each structure, a serial number which is a sequential number starts from 1001 for the first enumerator or 2001 for the second enumerator. Only the occupied residential structures should be recoded on the listing form and numbered.

Column (2) [*Address/description of structure*]: Record the street address of the structure. Where structures do not have street address (especially in the rural area), give a description of the structure and any details that help in locating it (for example, in front of the school, next to the store, etc.)

Column (3) [*Serial Number of Household in Structure*]: This is the serial number assigned to each dwelling unit or household found in the structure; there can be more than one dwelling units in a structure. The first dwelling unit in the structure will always have number "1". If there is a second dwelling unit in the structure, then this dwelling unit should be recorded on the next line, a "2" is recorded in Column (3), and Columns (1) to (2) repeat the structure number and address or are left blank. It is enough to ask one of the structure occupants about all the dwelling units and whether they are residential or not. Also it is useful to ask whether the occupants of each dwelling unit currently live in that place or live in another place. All these remarks can be recorded in column (5) [*Observations/Occupation Status*].

Column (4) [*Name of Head of Household*]: Write the name of the head of the household. There can only be one head per household. If no one is home or the household refuses to cooperate, ask neighbors for the name of the head of the household. If a name cannot be determined, leave this column blank. Note that it is not the name of the landlord or owner of the structure that is needed, but the name of the head of the household that lives there.

Column (5) [*Observations/Occupancy Status*]: This space is provided for any special remarks that might help the enumerators to decide either to include a household in the household selection or not. If the dwelling unit is vacant, at least during the survey duration, it should not be considered in the household selection. However, if the occupants of the dwelling unit are not at home at the time of the listing, they should be are treated as normal dwelling units and be considered in the household selection.

The enumerators should be careful to locate hidden structures. In some areas, structures have been built so haphazardly that they can easily be missed. Especially in rural areas, structures may be hidden by tall grasses and trees. If there is a pathway leading from the listed structure, check to see if the pathway goes to another structure. Talking with people living in the area may help in identifying the hidden structures.

**VI. Manual Household Selection**

Once the two enumerators finish the listing in the part assigned to him/her, they need to put the listing forms together and assign a unique serial number from 1 to the total number of occupied residential households listed in the cluster, in column (0) [*Household Serial Number*] in Form ZSLES/1. Only occupied residential households (including the ones where occupant were absent at the time of listing but confirmed by the neighbors that they will be at home within the next few day that the household interview is scheduled, by referencing the observations given in column 4 of the Form ZSLES/1) will be numbered. This is a continuous serial number from 1 to the total number of occupied residential households listed in the cluster.

After numbering the household listed in the entire cluster, The Manual Household Selection form (Form ZSLES/2) should be used for household selection. The sample selection procedure can be summarized as:

1. Copy the total number of occupied households listed in the cluster following “Number of households listed N =” and the number of households to be selected following “Number of households to be selected n =” that is, 40 households in the 2014 ZSLES urban clusters and 50 households in the rural clusters; copy the random number assigned to the cluster (which is provided by the central office along with all other materials for listing) following “Random number (0, 1) R =”;
2. Calculate the selection interval “L” by dividing “N” by the number of households to be selected (n), that is, 40 households per urban cluster and 50 households per rural clusters; keep two decimal places;
3. Calculate the term t1 by multiplying “L” by the random number “R”; keep two decimal places;
4. Copy the calculated term t1 to the first row in the second column following the label “Term (k>1) tk = tk-1 + L”; roundup this number to an integer number and write that number in the third column with label “Selected HH number”, household with this ID number ([Household  *Serial Number*] in Form ZSLES/1) is selected for interview;
5. Move to the following row; calculate t2 by adding “L” to “t1”; write t2 in column 2; roundup t2 to an integer number and write the number in the third column, this is the ID number of secondly selected household;
6. Continue in this way until the desired number of households is selected (the 40 households in urban clusters and the 50 households in rural clusters);
7. The last column with label “Within HH Select” determines whether you should select a woman or a man from the selected household.
8. Mark in the household listing form the row with household number corresponding to a selected household number for interview; It is better to highlight the entire row for significance.

**VII. Household Interviewing**

The interviewer should first relocate a selected household precisely by referencing the address and the name of household head provided in the household listing form. In each selected household, a list of all women or men aged 15–49 (regardless of whether present in the household or not) will be constructed. Based on the within household selection in “Within Household Select” in The Manual Household Selection form (Form ZSLES/2), all women or men between 15-49 years in the household will be eligible for the survey and be invited to participate in the survey. For example, if the interviewers should interview a woman from the first selected households, only women between 15-49 years will be eligible for the interview and only women will be listed for selection, whereas if the interviewers should interview a man from the second selected households, only men between 15-49 years will be eligible for the interview and only men will be listed for selection. The Kish Grid in The Appendix will be used to randomly select one woman or man from the eligible members. If an eligible person had participated in another survey in the last six months or an eligible person lives elsewhere for longer period, the person is considered not eligible for the survey. Attention should be paid that the household respondent may try to classify an eligible person as not eligible by stating that the person was previously surveyed or living elsewhere for longer period. Note the following cases:

* In case an eligible person in the selected household is not at home (not include those living elsewhere for long period) when the interviewers pass for the interview, the interviewer should re-schedule a time to return to the household to conduct the interview. Attention should be paid that the interviewer may try to reduce work load by classifying an eligible person as not eligible.
* In case there is no household member at home in a selected household when the interviewers pass for the interview, the interviewer should re-schedule a time to return to the household to conduct the interview.
* In all the two cases listed above, the interviewer is requested to make up to three attempts to conduct the interview. If on the third attempt to reach the respondent or the household the interviewer is not successful, the case will be recorded as non-contact.
* If there is no household member in a selected household that meets the eligibility criteria, the household will be recorded as no eligible member for the survey.

No replacements and no changes of the pre-selected households or the pre-selected gender or respondent will be allowed in the implementing stages in order to prevent any kind of bias. The non-respondent and no eligible member households have been taken into account in the design by increased number of households selected in each province. However, the interviewer must do their best efforts to get the selected households cooperate and reduce the non-response to minimum.

**VIII. Segmentation of large clusters**

A certain number of the selected clusters may be very large in population size. A complete listing of these clusters may represent an important cost and may not be suitable to be undertaken by one survey. These clusters should be subdivided into several small segments, only one of which will be retained for the survey and be listed. In this case, the cluster corresponds to a segment of an EA. When the team arrives in a large cluster that may need segmentation, it should firstly tour the cluster and make a quick count to get the estimated number of households residing in the cluster. If the estimated cluster size is bigger than 200 households, then the team needs to communicate to the coordinator with the exact cluster number, the estimated number of households and the number of segments intended to be created. The decision of segmentation and the number of segments to be created can only be taken by the coordinator. For easy operation, the recommended number of segments is 2. It should avoid large number of segments (bigger than 3) if it is not really necessary in order to avoid errors.

The ideal would be to have segments of approximately equal size, but it is also important to adopt segment boundaries that are easily identifiable. Firstly draw a location map of the entire cluster. Using identifiable boundaries such as roads, streams, and electric power lines, divide the cluster into the designated number of roughly equal-sized segments. On the location map of the cluster, show clearly the boundaries of the segments created. Number the segments sequentially. Estimate the size of each segment in the following manner: quickly count the number of dwellings in each segment, add them up and calculate the proportion of dwellings for each segment.

*Example* 1: A cluster of 322 households has been divided into 2 segments and the results are as follows:

Segment 1: 170 dwellings, or 170/322 = 53 percent

Segment 2: 152 dwellings, or 152/322 = 47 percent

Total: 322 dwellings, or 322/322 = 100 percent

On Form XDHS/3 (Segmentation Form) write the size of the segments in the appropriate columns (number and percent) and calculate the cumulative size (percent). The last cumulative size must be equal to 100.

Number of Cumulative

Segment number dwellings Percent percent

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1 170 53 53

2 152 47 100

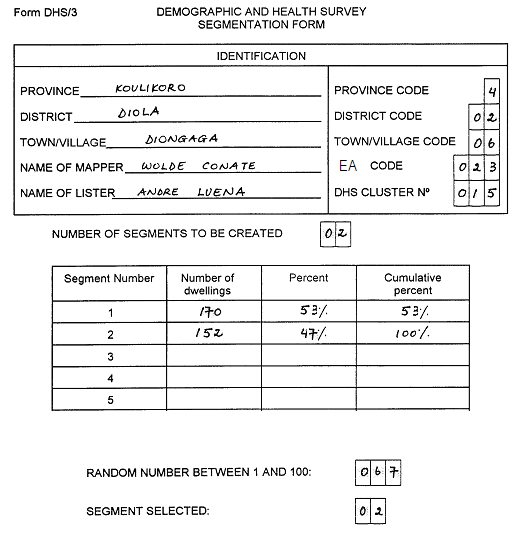
For each large cluster to be segmented, a random number will be selected in the central office and included in the file. Compare this random number with the cumulative size. Select the first segment whose cumulative size is greater than or equal to the random number.

Random number: 67

Segment selected: Segment number 2

Proceed the household listing operation in segment number 2 as described in the above sections, see Appendix 3 for an example of how the segmentation form is filled. Draw a detailed sketch map of the selected segment and list all the households found in the selected segment.

**Example of segmentation form**



The Appendix:

Kish Grid for Within Households Selection

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | |  | FOLLOW INSTRUCTIONS AND COMPLETE TABLE 1 IN ORDER TO IDENTIFY THE ADULT WHO WILL BE INTERVIEWED. | | | | | | | | | |
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|  | (a) | | Check the last digit of the household serial number. This is the number of the **row** you should go to in the table below. | | | | | | | | |  |
|  |  |  |  |
|  | (b) | | Rank the eligible members (women or men) based on their age and assign a Rank number starts from 1 to the total number of eligible members in the household.  Check the total number of eligible Men or Women age 15-49. This is the number of the column you should go to. | | | | | | | | |  |
|  | (c) |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | (d) | | *Find the box where the row and the column meet and circle the number that appears in the box. This is the rank number of the Man or Woman who will be interviewed.*   |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  |  |  | **TABLE 1** | | | | | | | | |  | |  |  |  | **Selection of Random Woman/Man for ZSLES** | | | | | | | | |  | |  |  |  | **Last Digit of Household Number** | **Total Number of Eligible Women/Men in the Household** | | | | | | | |  | |  |  |  |  | |  |  |  | **1** | **2** | **3** | **4** | **5** | **6** | **7** | **8** |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 0 | 1 | 2 | 2 | 4 | 3 | 6 | 5 | 4 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 1 | 1 | 1 | 3 | 1 | 4 | 1 | 6 | 5 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 2 | 1 | 2 | 1 | 2 | 5 | 2 | 7 | 6 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 3 | 1 | 1 | 2 | 3 | 1 | 3 | 1 | 7 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 4 | 1 | 2 | 3 | 4 | 2 | 4 | 2 | 8 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 5 | 1 | 1 | 1 | 1 | 3 | 5 | 3 | 1 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 6 | 1 | 2 | 2 | 2 | 4 | 6 | 4 | 2 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 7 | 1 | 1 | 3 | 3 | 5 | 1 | 5 | 3 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 8 | 1 | 2 | 1 | 4 | 1 | 2 | 6 | 4 |  | |  |  |  |  |  |  |  |  |  |  |  |  |  | |  |  |  | 9 | 1 | 1 | 2 | 1 | 2 | 3 | 7 | 5 |  | | | | | | | | | |  |
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**Form ZSLES / 1** ***Page I\_\_I\_\_I of I\_\_I\_\_I pages***

***Form of cartography***

District: ……………………. I\_\_\_I\_\_\_I\_\_\_I ZSLES Cluster : I\_\_\_I\_\_\_I\_\_\_I Urban-Rural : ……I\_\_\_I Local Name : ……………..………..……….

|  |  |
| --- | --- |
| EA number: *……………………………..……………... I\_\_I\_\_I* | Region: ………………………………………… *I\_\_I\_\_I*    Enumerator/Interviewer:*…..…………I\_\_I\_\_I* |

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| Household Serial number  (0) | Serial number of structure  (1) | Address / Description of structure  (2) | Serial number of household in the structure  (3) | Name of household head  (4) | Observations/Occupancy Status  (5) |
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**Form ZSLES / 1** ***Page I\_\_I\_\_I of I\_\_I\_\_I pages***

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| --- | --- | --- | --- | --- | --- |
| Household Serial number  (0) | Serial number of structure  (1) | Address / Description of structure  (2) | Serial number of household in the structure  (3) | Name of household head  (4) | Observations/Occupancy Status  (5) |
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1. “Interpersonal communication” referred to here is one of the intermediate outcomes that will be measured to examine the effect of the campaign. To measure this intermediate outcome, questions about the respondents’ experience talking with others (for example, their spouse/partner and friends) about different topics addressed by the campaign in the past 6 months will be asked. It does not refer to the interpersonal communication activities implemented by the Safe Love campaign. [↑](#footnote-ref-1)
2. There will be one workshop conducted for all the interviewers. We are still waiting on information about what the predominant languages are in the nine districts. All languages the questionnaire is developed in will be pretested. Interviewers will be recruited based on their language skills and then placed accordingly in teams and locations. [↑](#footnote-ref-2)
3. Ideally, the index of exposure will allow for the comparison between those exposed to the mass media components of the campaign only (lower levels of exposure) and those who were exposed to mass media and the interpersonal communication activities (higher levels of exposure). We will keep this in mind when analyzing the index of exposure after the variable has been constructed, but we cannot know in advance if it will be possible to do this comparison. This type of comparison will depend on several factors, including: the number of respondents that participated in the interpersonal communication activities sampled, whether they were also exposed to the mass media components, and the extent to which they were exposed to both the mass media and interpersonal communication activities. [↑](#footnote-ref-3)