STEPS OVC Endline Survey Report







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Endline Survey Report

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Sustainability Through Economic Strengthening, Prevention & Support for Orphans & Vulnerable Children, Youth & other Vulnerable Populations

Cover Photo: Children playing in a World Vision supported site. Cover photo by: © World Vision Zambia, 2011

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A full list of the supervisors, data collectors and the data entry team is provided in the annexes.

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List of Abbreviations

ART	Antiretroviral therapy
ARVs	Antiretrovirals
BCS	Basic care and support
CDC	U.S. Centers for Disease Control
CSI	Child Status Index
DATF	District AIDS Task Force
DHMT	District Health Management Team
ECR	Expanded Church Response
FANTA	Food and Nutritional Technical Assistance
GRZ	Government of the Republic of Zambia
HBC	Home-based Care
HFIAP	Household Food Insecurity Access Prevalence
HIV and AIDS	Human immune-deficiency virus/ acquired immune-deficiency syndrome
IRB	Institutional review board
ITN	Insecticide-treated net
LLINS	Long lasting insecticide nets
M&E	Monitoring & evaluation
OVC	Orphans and vulnerable children
PLHIV	People living with HIV and AIDS
РМТСТ	Prevention of mother-to-child transmission
RAPIDS	Reaching HIV/AIDS-Affected People with Integrated Development and Support

S&D	Stigma and discrimination
STEPS OVC	Sustainability through Economic Strengthening, Prevention and Support to OVC, Youth and Other Vulnerable Populations
SUCCESS	Scaling Up Community Care to Enhance Social Safety-nets
USAID	United States Agency for International Development
USG	United States government
ZDHS	Zambia Demographic and Health Survey

Executive Summary

This report presents findings from the STEPS OVC endline survey conducted in April-May 2014.

1.1 Survey Objective

To provide information among STEPS OVC beneficiaries on (a) HIV and AIDS knowledge, attitudes and practices; (b) well-being; and (c) access to/previous uptake of HIV prevention, care, and support services and/or training, as a first step in assessing program impact.

1.2 Methods

The research design implemented was a modified quasi-experimental pre-test/post-test study design to assess the overall program impact on targeted populations. The survey was conducted in a maximum variation sample of nine districts: Chongwe, Kafue, Kaoma, Mongu, Mumbwa, Kabwe, Nchelenge, Kawambwa, and Solwezi. Orphans and vulnerable Children (OVC) and basic care and support (BCS) beneficiaries and community caregivers (CC) were randomly sampled from community and program registers in sampled districts. Heads of household were also interviewed. Community caregivers and field staff helped to identify the selected households. The study was approved by Health Media Labs, Inc., an institutional review board in the USA, and by the Biomedical Research Ethics Committee in Zambia.

1.3 Findings

Child beneficiaries

A total of 1,765 OVC records were eligible for analysis, evenly split between girls and boys. The mean age of children surveyed was 13.9 years. Analyses are based on age groups of 11-12, 13-15, and 16-17.

Education: Nearly all children reported that they were currently attending school; attendance was higher among younger children.

Social capital and protection: Two-thirds of children reported their biological mother or father as their primary guardian, with the rest reporting a grandparent, aunt or uncle, and sibling. Most children (around 70%) reported going to their parent or grandparent for help with a problem or for requests for things such as money, books or clothes. Most said they spend most of their free time with friends in their age group; they also mentioned their biological parents, siblings, grandparents, and other relatives.

Chores and work for money: Less than half of children reported previous work for money. The majority of children reporting previous work (nearly 85%) responded that they worked as laborers, e.g., on a farm or in construction.

Asset ownership: A majority of children reported having two or more sets of clothes. Just over half reported owning bedding, while just under half reported owning one or more pairs of shoes. Less than 5 percent reported having a mobile phone.

Physical abuse: More than half of children reported that they had previously been hit or beaten, with more younger children reporting this (nearly 60% of 11-12 year olds vs. just under half of 16-17 year olds). About 40 percent of children reporting that they had previously been hit or beaten said they had sought help at some point, most often from a family member.

Gender-based violence: Most children do not condone violence of a husband against his wife, with more than three-quarters disagreeing that a husband may be justified in hitting or beating his wife and 60 percent disagreeing with the notion that a wife cannot refuse her husband's demand for sex. Seventy children (just over 5 percent) reported a history of forced sex; this was more common among girls and older children.

Health: More than 80 percent of children rated their health as good to excellent. Just over half of children reported illness in the four weeks prior to survey, and 85 percent reported receiving treatment for their last illness. With respect to mental health, nearly one in five children surveyed showed abnormal emotional well-being, and a further 20 percent were found to be borderline. Less than 10 percent had peer relationships problems.

Food security: When asked about the four weeks prior to the survey, one-fourth of children said that they went a whole day and night without eating, 60 percent reported eating a smaller meal than they felt they needed, and two-thirds reported eating fewer meals in a day, all due to not having enough food in the house; 15% or less said this happened rarely for all three scenarios. An adapted version of the household hunger scale showed older children to have higher mean hunger scores than younger children.

HIV and AIDS knowledge and attitudes: Most children (nearly 85 percent) reported having heard of HIV/AIDS, and most correctly understood common ways that HIV can (and cannot) be transmitted, with almost 80 percent agreeing that HIV can be transmitted by shared needles, more than half agreeing that a mother can transmit HIV

to her child in pregnancy, and 70-75 percent agreeing that abstinence and condom use reduces HIV risk. Most children also understood that HIV cannot be transmitted by sharing a meal with PLHIV (68%), via witchcraft (65%), and from mosquitoes (53%), though around 60 percent of children believed that HIV can be transmitted by kissing. About 70 percent of children agreed that HIV cannot be cured by herbs, and about 60 percent agreed a healthy-looking person can have HIV.

Children reported relatively accepting attitudes toward people living with HIV/AIDS: Almost 70 percent feel that a student or teacher with HIV should be allowed to remain in the school. Also, around 80 percent of children do not feel that families with HIV-positive individuals are treated unkindly by other students, that families with HIV-infected individuals are treated unkindly by teachers, or that children who receive free services are treated unkindly by the community. As a whole, older children were more likely to be accepting of and perceive accepting attitudes toward PLHIV.

HIV and AIDS risk behavior: Just over one-quarter of children aged 13-17 reported previous sex; of these, about 60 percent reported one partner, and two-thirds reported having had sex in the last 12 months. The mean age of sexual debut was 12.5 years among boys and 14.3 years among girls. One-third of these respondents stated that they talked to their sexual partner about HIV before having sex, with girls and older children more likely to do so. More than 80 percent of 13-17 year olds reported that they had heard of condoms, and almost half reported that they were "confident" or "somewhat confident" that they could obtain a condom; boys and older children were both more knowledgeable about condoms and confident they could obtain them.

Among those reporting previous sex, about half reported ever using a condom, more than one-third reported using a condom at first sex (36%), and a slightly higher proportion (39%) reported using a condom at last sex. In all three cases, girls and older children were more likely to report condom use.

Just over 40 percent of children reported that they had discussed their HIV risk with someone—most commonly a friend in the same age group—with children reporting previous sex being more likely to have done so (50.8% vs. 35.5%).

HIV testing: Nearly 70 percent of children reported that they knew a place where one can take an HIV test. Boys and older children were more likely to know this. Almost 30 percent of children reported a previous HIV test; testing was twice more likely among children aged 16-17 vs. those aged 13-15. Children who reported having discussed their HIV risk with someone were much more likely to report previous testing (62.8% vs. 13.7%).

Access to HIV prevention, care and support: Fourteen percent of children reported having ever received family planning advice. Just over 6 percent (6.5%) of children

reported ever receiving long-term contraceptives, although 30 percent reported a needing them.

Two-thirds of children reported ever receiving condoms, and just over 30 percent reported needing them, with boys and older age groups more likely to report this. Less than 10 percent of children, mostly in the 16 to 17-year-old age group, reported having ever been treated for sores, bumps, or ulcers on their mouth or genitals, although almost one-quarter reported needing such treatment. Almost 60 percent of children reported having ever received information on HIV prevention; this was more common among older age groups. Most children reported a need for HIV prevention information, with boys and older children more likely to report this.

Malaria-related knowledge and behavior: When asked to name malaria prevention methods, two-thirds of children named bed nets, and 5-10 percent named indoor residual spraying, staying inside at dawn/dusk, and wearing long sleeves and pants. Over half of respondents reported that their household had a mosquito net, and about 85 percent of those reported that someone had slept under the net the night before the survey.

Circumcision: More than 40 percent of boys reported being circumcised. Over half of boys who were not circumcised reported that they wanted to become circumcised to prevent HIV/STIs (88.3 percent) and for hygiene (22.1%).

Basic Care and Support (BCS) Beneficiaries

A total of 280 adult respondent records were eligible for analysis. Just under threequarters of BCS beneficiaries sampled were female. BCS beneficiaries were aged between 18 and 88 years (mean=42.8).

Demographics: While 86 percent of respondents reported ever attending formal school, just 4.6 percent reported completing secondary school. Forty percent reported being married monogamously, and around another 40 percent reported being either widowed or divorced/separated. Total household membership ranged between one (respondent only) and eighteen members, with the majority between three and eight members.

Quality of life: Nearly 60 percent rated their health as "excellent" or "very good," and the rest rated it from fair to poor. Two-thirds of respondents reported that they were in gainful employment at the time of survey, the majority in farming. The mean annual income among all respondents was 1,593.7 Kwacha (approximately US\$250). Less than a quarter of respondents reported not being able to make ends meet.

With respect to asset ownership, three-quarters of respondents reported owning land and just over 65 percent reported owning a house. Less than 5 percent reported owning assets such as a stove, refrigerator, sewing machine, wheelbarrow, or car. Men were more likely than women to report owning a bicycle than women (36% vs. 18%); otherwise there were no other differences in asset ownership by sex.

Food security: Over 80 percent of respondents reported eating two or more meals per day. However, a majority of respondents reported worrying that the household did not have enough food or sufficient food variety. Two-thirds reported that at some point during the four weeks prior to survey, there was no food of any kind in the household due to a lack of resources, and almost 60 percent reported that at some point during the four weeks prior to survey, they or another household member went to bed hungry.

HIV testing, treatment and adherence: The majority of respondents reported taking their first HIV test between 2-10 years prior to survey. Nearly all respondents (94%) had heard of medications to treat HIV. When asked how they learned about antiretroviral therapy (ART), most—just over three-quarters--said a health worker. More than 80 percent of respondents reported currently taking ART, and just over one-quarter of respondents reported struggling with ART adherence at some point. However, only 4 percent reported ever stopping treatment for a week or more since starting treatment initially.

HIV/AIDS knowledge: The majority of respondents demonstrated correct knowledge about how HIV can and cannot be transmitted. Almost 70 percent correctly responded that a person cannot get HIV from mosquito bites, and more than 90 percent understood that a person cannot acquire HIV by sharing a meal with someone who is HIV-positive. More than 90 percent reported that people can protect themselves by abstaining from sexual intercourse and by using a condom correctly every time they have vaginal sex (though only 80 percent said the same for using condoms during anal sex). The majority of respondents (96%) responded that a person can acquire HIV through an injection with a needle already used by someone who is HIV-positive. A lower but still relatively high proportion responded correctly that a pregnant woman with HIV/AIDS can transmit HIV to her unborn child during childbirth (nearly 85 percent), and that a woman with HIV can transmit HIV to her child while breastfeeding (over 80 percent). More than 90 percent responded correctly that a healthy-looking person may be HIV-positive. The only question for which less than half of respondents responded correctly was whether HIV can be transmitted by kissing (46 percent correctly responded no to this question).

Perceived stigma and discrimination: Although a minority of respondents perceive stigma due to their HIV status, most reported that they are reluctant to disclose their status to others except for spouse or relative; and in those cases, most asked their confidante to keep their status a secret.

HIV-related risk behavior: Just over half of respondents (57%) reported a regular sex partner, nearly 60 percent of whom said that their partner was HIV-positive, while about 20 percent reported their partner was HIV-negative and another 20 percent did not

know their partner's HIV status. The majority of respondents (87%) reported that they had disclosed their HIV status to their regular partner(s).

Among those reporting a regular partner, a majority (85%) reported sex with their regular partner in the last six months; among these, nearly three-quarters reported using a condom at last sex. However, only one-third reported consistent condom use with their regular sexual partner over the last six months, and among all respondents, 46 percent reported never using condoms. Men were more likely to report consistent condom use than women. Less than 5 percent of respondents reported sex with a casual partner in the last six months.

The majority of respondents reported that they did not consume a drink containing alcohol during the past month, and no respondents reported a history of injecting drug use.

Gender-based violence: One-fifth of respondents (22%) reported ever being hit or beaten by their spouse or another sexual partner. Less than one-quarter of female respondents reported that they had sought help following a beating at least once, generally from a family member, health clinic or a religious leader. Around threequarters of respondents do not agree that a husband is justified to hit or beat his wife, and 60 percent do not agree that a wife must consent to sex if her husband demands it.

Circumcision: Nearly 20 percent of male respondents reported being circumcised (N=67). Among those not circumcised, one-third (32.7%) wanted to do so, mainly to reduce HIV risk of and improve hygiene.

Malaria: When asked about methods to prevent malaria, nearly 80 percent of respondents cited sleeping under a bed net and 15 percent cited sleeping under an insecticide-treated bed net; the remainder (15 percent or less) cited spraying the house with repellent, wearing long sleeves and trousers, avoiding going outside at dawn and dusk, and other methods such as avoiding stagnant water and taking an antimalarial. More than 60 percent of respondents reported that they had a mosquito net in their household; of these, nearly 90 percent slept under a net the night prior to survey.

Access to services: Reported (ever) receipt of services in the following areas was over 80 percent: HIV counseling and testing, HIV treatment, HIV treatment adherence counseling, malaria treatment, nutritional advice, condoms, and information on how to prevent HIV transmission. Between 50 to 80 percent of respondents reported ever receiving the following: pain assessment, pain medication, nutritional advice, treatment for diarrhea, bed nets, referral to a support group for PLHIV and their families, birth spacing or family planning advice, condoms, and information on preventing infection with a new strain of HIV. Between 25 and 50 percent of respondents reported ever receiving the following: treatment for nausea, treatment for a skin rash or itching, testing for TB, treatment of TB, adherence counseling for TB medication, food or vitamins, and

long-term contraceptives. Ever receipt of the following services was below 25 percent: treatment of sores, bumps or ulcers in mouth or genitals, physiotherapy, treatment for anxiety or depression, free legal services, and a small loan from a community organization. There were few differences between men and women.

Men were more likely to report having received condoms (and to report needing condoms); they were also more likely to report having ever received information on how to prevent HIV transmission (and to report needing this information). Men were more likely to report needing nutritional advice, food or vitamins, bed nets, condoms, and information on preventing infection with new strain of HIV. Women were more likely to report having ever received birth spacing or family planning advice and long-term contraceptives; and they were more likely to report having received treatment for skin rash or itching and food or vitamins in the last six months.

Community Caregivers

A total of 312 community caregiver records were eligible for analysis. Nearly 70 percent of respondents were female. The mean age of community caregivers surveyed was 46.5 years. Nearly all had attended school, with around 70 percent having completed either the secondary or junior secondary level. Over 90 percent reported working as community caregivers for more than one year.

Home visiting: Over 60 percent of respondents reported visiting 10 or more households in their community caregiver role. Forty percent visited clients monthly, and 35 percent visited weekly. One-third reported spending one to three hours per week visiting clients and another third reported spending three to six hours per week. More than a quarter reported spending six or more hours per week, and less than 10 percent reported spending less than one hour per week. The majority (85%) reported that they travel between client households on foot, with the remainder—mostly men—traveling by bicycle.

Services provided and training: Over three-quarters of community caregivers reported providing child health assessments and psycho-social counseling for children, but less than half reported providing household HIV counseling and testing and HIV post-exposure prophylaxis (referral). In all cases, community caregivers reporting providing a service were more likely to report that they had received training in that service area. Still, an overwhelming majority of respondents reported needing training in all service areas, particularly around child immunizations, birth spacing/family planning, injection safety, and HIV post-exposure prophylaxis.

The vast majority of community caregivers reported that they were comfortable discussing sexual prevention of HIV with beneficiaries, as well as birth spacing and family planning. Over 80 percent reported that they felt equipped to support clients in

adhering to their HIV treatment and over 90 percent reported that they knew where to refer a client living with HIV for medication. Over 80 percent of community caregivers reported that they felt comfortable supporting clients and their families to prepare for death.

HIV testing & HIV/AIDS knowledge: Overall, 90 percent of community caregivers reported a prior HIV test and knowledge of the results. Most correctly understand how HIV can and cannot be transmitted, with at least 85 percent understanding that a person cannot get HIV from mosquito bites, from sharing a meal with someone who is HIVpositive, or from witchcraft; that people can protect themselves by abstaining from sexual intercourse and by using a condom correctly during vaginal and anal sex; that HIV can be transmitted through infected needles and through mother-to-child transmission (during pregnancy or breastfeeding). However, only two-thirds of respondents responded correctly that HIV cannot be transmitted by kissing.

Almost all respondents (97%) responded correctly that a healthy-looking person may be HIV-positive. Over 90 percent of caregivers responded correctly that herbs cannot cure HIV, and close to 90 percent knew that there was a difference between HIV infection and AIDS. Less than 60 percent of respondents understood correctly that not all people living with HIV need to be on antiretroviral treatment.

Community caregivers were asked when they thought that people living with HIV were most infectious. Just over one-third said "always," just under one-third said when they have AIDS, and about one-fifth said when someone is first infected. Community caregivers were asked when they thought people living with HIV should start ART. Most (nearly 60 percent) believe people with HIV should start ART when their CD4 count drops below 350 cells/mm³, one in five stated "immediately following infection," and one-quarter said that it depends on CD4 count and disease progression.

Community caregivers listed a number of major and minor side effects of ART, ranging from nausea/vomiting and diarrhea to skin infections. When asked why it is important for clients to take their HIV medications on a strict schedule, nearly 60 percent said to avoid drug resistance, and close to 65 percent said that ART is only effective if taken on schedule, as prescribed.

Attitudes and values: As expected, community caregivers generally had very accepting attitudes toward people living with HIV and AIDS, and most (about 85 percent) reported that they did not perceive that people living in households where at least one person has HIV are treated unkindly by the community, nor that households who receive free services are treated unkindly by community.

Nearly 90 percent of community caregivers reported a belief that children ages 15 to 18 should be taught how to use condoms correctly to protect themselves from HIV. Only 51

percent of respondents reported a belief that children aged 10-14 should be taught to use condoms correctly.

Referrals: For nearly all issues, most community caregivers (more than 90 percent) knew where to refer clients for services such as HIV testing, ART, PMTCT, STI treatment, psychosocial counseling, TB testing or treatment, long-lasting insecticide nets (LLINs), family planning, and condoms; and close to that many reported referral knowledge for immunizations, spiritual/pastoral care, child abuse, and gender-based violence, and more than half of these community caregivers reported referring clients for most of these services in the last six months. Most caregivers followed up with clients to ensure they took advantage of a referral during a subsequent client visit.

Caregiver well-being: About 95 percent of the community caregivers surveyed agreed or strongly agreed that they were able to handle their responsibilities in the available time, and over 90 percent agreed or strongly agreed that even with their caregiving responsibilities, they still had adequate time for themselves. Nearly all respondents reported enjoying their caregiving responsibilities, and all but one agreed that they were good at their job as community caregiver.

Introduction

2 Study Background

Sustainability Through Economic Strengthening, Prevention and Support for Orphans and Vulnerable Children, youth and other vulnerable populations (STEPS OVC) is a large USAID-funded program supporting the government of Zambia to provide a range of health and social service interventions to orphans and vulnerable children (OVC) and people living with HIV and AIDS (PLHIV). The program has been implemented in two phases. In Phase I (2010-2013), STEPS OVC interventions were rolled out to all of Zambia's 72 districts by World Vision, in collaboration with Futures Group, Catholic Relief Services, CARE International, Africare, The Salvation Army, and Expanded Church Response. In Phase II (2013-2015), STEPS OVC provided more targeted support to 43 districts, led by World Vision with monitoring and evaluation support from Futures Group. Hundreds of community-based organizations support project implementation.

The overall goal of (both phases of) the STEPS OVC program is to provide broad, effective support for HIV prevention and behavior change initiatives to reduce HIV transmission, while simultaneously helping Zambia develop the ability to care for and support OVC, at-risk youth and adults, and other vulnerable populations more effectively, efficiently, and sustainably. The program has three objectives:

- Ensure that individuals, households, and communities affected by HIV/AIDS access effective, gender-sensitive, high-quality HIV prevention services
- Strengthen the continuum of effective, efficient, and sustainable HIV prevention, care and support services while strengthening livelihoods
- Improve efficiency, sustainability, and Zambian leadership of HIV/AIDS-related services, including through engagement with the private sector.

STEPS OVC program partners are implementing multiple activities through multifaceted intervention approaches to achieve these objectives. The interventions range from building the capacity of local partners, caregivers, and communities to care for their vulnerable members to providing services directly to individuals to meet their basic needs. To understand the effect of STEPS OVC on program beneficiaries, we carried out an outcome evaluation of the program. The baseline survey was conducted in 2011 (Chapman et al, 2012) and the endline survey was conducted in 2014. At both baseline and endline, we collected data on indicators that were amenable to change from program interventions, as well as indicators that were unlikely to change due to the program intervention, but which provide critical information about our beneficiary population. Findings from the evaluation (changeable indicators) are described elsewhere (Chapman et al, 2014). In this report we present a situation analysis of STEPS OVC program beneficiaries using data from our endline survey.

2.1 Research Questions

The research questions guiding the survey were:

- 1. What are the characteristics of households targeted by STEPS OVC in terms of demographics, socio-economic variables, and capacity to care for OVC and PLHIV?
- 2. What are the characteristics of the individuals and households targeted by STEPS OVC in terms of (a) HIV/AIDS knowledge, attitudes and practices; (b) well-being; and (c) access to/previous uptake of HIV prevention, care, and support services?
- 3. What is the extent of access to HIV prevention, care, and support services among STEPS OVC beneficiaries?
- 4. What is the level of capacity among trained community caregivers?

2.2 Methods

We applied a pre-test/post-test cross sectional study design to assess program impact on beneficiaries. The baseline survey was conducted in February 2011 and the endline survey was conducted in April 2014.

2.3 Study populations

We surveyed three population groups: OVC 11-17 years old and basic care and support clients (BCS), both at the household level; and trained community caregivers at the community level.

2.4 Sample size and sampling

We calculated the sample size using the following formula: ${}^{Nx}/_{((N-1)E^{2}+x)}$ where N is the population size, E is the margin of error. Sample size calculation inputs and outputs are outlined in **Table 1**. We wanted as much as possible to replicate the baseline sample to allow for comparison. As can be expected, given the use of the same sampling approach for 2011 to 2014, the intention was that key demographics remain similar between baseline and endline.

	Estimated #	Margin of	Confidence	Statistical	Baseline	Endline
	in List	Error [%]	Level [%]	sample	actual	actual
OVC beneficiaries (11-17 years)	133,200	3	95	2,099	1,869	1,813
Basic care and support (adult PLHIV)	100,000	5	95	383	358	280
Community caregivers	23,816	N/A	N/A	377	406	309

Table 1: Sample size

To achieve our sample size, we applied multi-stage cluster sampling (Turner et al. 1996) based on project sites, beneficiary lists, and from community or program registers containing a list of households that are eligible for services or are receiving services from the programs operating in that district. First, we purposively selected five provinces based on HIV prevalence. Evaluation districts were chosen in 2010 at baseline in collaboration with partners, and are diverse in terms of HIV prevalence, type (i.e., rural or urban), types of services provided by STEPS OVC partners, and inclusion in previous projects (e.g., RAPIDS, SUCCESS). The baseline and endline surveys were conducted in the same districts: Chongwe, Kafue, Kaoma, Mongu, Mumbwa, Kabwe, Nchelenge, Kawambwa, and Solwezi. See **Table 2**.

Table 2: Sampled districts

Province	Districts
Central	Mumbwa
	Kabwe
Lusaka	Chongwe
	Kafue
Northern	Solwezi
Western	Mongu
	Kaoma
Luapula	Kawambwa
	Nchelenge

2.5 Recruitment

Beneficiaries. Data collectors used volunteer community caregivers to locate households. Where households are sparsely located, sampled individuals were scheduled to meet at a central place, e.g., a church or a school, to be interviewed. The community caregivers asked the selected beneficiaries if they would be willing to speak to a researcher to hear more about the project study. If the beneficiary agreed, the community caregiver would then introduce the beneficiary to the researcher, and then leave. The community caregiver was not present during the consenting process, and the community caregiver was not informed if the beneficiary did or did not consent to participate.

Community caregivers. Once the community caregivers had been selected in a given community, site coordinators and other field staff identified the selected community caregiver households for the study team.

2.6 Data Collection

Survey instruments

We developed three population-specific data collection tools. Key outcome measures within the household-level data collection tools are summarized in **Table 3**.

Modules	Child (aged 11-17 years)	BCS Beneficiary
Participant background information	Х	Х
Household and family		Х
Social capital and protection	Х	
Quality of life		Х
Health	Х	
Psychosocial wellbeing	Х	
Economic wellbeing		Х
Food security/consumption	Х	Х
HIV treatment and adherence		Х
HIV/AIDS related knowledge & attitudes	Х	Х
Perceptions about stigma and discrimination		Х
HIV/AIDS related risk behaviors	Х	Х
Attitudes toward gender-based violence	Х	Х
Circumcision	Х	Х
Malaria related knowledge and behavior	Х	Х
Access to HIV prevention, care and support	Х	Х

 Table 3. Instrument modules, by participant sub-group

The Community caregiver questionnaire focused on capacity, skills, and training and was administered to trained community caregivers working for STEPS OVC.

Data collection instruments were written in English and translated into local languages: Bemba, Silozi, Kaonde, and Tonga. The translations and tools were rigorously field-tested.

The endline methodology was a repeat of the baseline methodology, though we revised some questions and included a limited number of additional questions. For the baseline survey we used a paper-based questionnaire, while for the endline survey, the questionnaires were programmed into Nexus 7C ASUS tablets to improve data quality and reduce data entry burden. The questionnaires were set up using Dimagi's CommCare software and installed on the tablet devices. Research assistants entered data collected from respondents directly into the tablet during the interviews. Tablets captured the information offline, connecting periodically to the Dimagi CommCare servers to synchronize the questionnaires from the devices. Supervisors reviewed and uploaded incoming data to a central database, which a team of four data quality consultants (DQCs) continuously monitored during the entire period of data collection. The DQCs reviewed the data daily as it was uploaded to the site. Upon review, the DQCs sent comprehensive feedback to the teams regarding missing data, erroneous survey administration, and any other problems regarding data collection. This enabled the data collection teams to correct the data in "real time," while their memories were still fresh from the interviews, or re-interview respondents if necessary before moving to the next sample ward.

Futures Group also designed a plugin to make use of the available application programming interface (API) to retrieve required data and incorporate it within Futures' own data repository for later data analysis and interrogation.

Procedures

We conducted "pre-visits" to all nine sampled districts to validate the sampling frame and estimate loss-to-follow-up in November 2013. We employed a "trace and verify" approach to find 57 randomly selected respondents (19 OVC beneficiaries, 19 BCS beneficiaries, and 19 community caregivers). For the sampling frame to be considered viable, at least 14 of the 19 respondents had to be traced. Sampled wards that did not meet criteria were re-profiled with the respective caregivers who updated lists by removing missing clients to ensure that the list was accurate by the time of the survey in April 2014. Prior to data collection in each community, field staff engaged community leaders and informed them of the study. Intervention households were located with the support of community caregivers, as outlined in the Recruitment section above.

Household interviews took place at the residence of selected participants, or in a convenient public location such as a school, as outlined above. Three attempts were made to locate the sampled individual before he or she was replaced. Community caregivers were interviewed at their household or at another convenient venue, such as a sub-grantee's office.

No compensation was provided for participation in the survey.

2.7 Data flow and quality control

Selection and training of data collectors

Our local research partner recruited data collectors from a roster of available data collectors that they maintain for their research purposes. The selected data collectors had prior experience in collecting household-level data (e.g., DHS, sexual behavior survey, multiple indicator cluster survey, the STEPS OVC baseline survey). Data collectors had completed secondary school, were proficient in one of the local languages of the study in addition to English, and were cognizant of the socio-cultural values and sensitivities of the target group/study communities. Data collectors completed a one-week training to orient them to the study, ensure familiarity with questionnaires and recruitment methods, and reinforce the importance of gaining informed consent, maintaining confidentiality, ensuring participant privacy, and understanding specific issues when conducting research with children. During the one-week training, data collectors were also introduced to tablets and were thoroughly trained how to use them for collecting data in the field, and uploading collected data into the main server for further processing.

Data flow and quality control

Thirty data collectors and seven supervisors were divided into three groups to work in the four study provinces during data collection. All teams were involved in data collection in Lusaka Province. Thirteen data collectors and three supervisors were deployed to Central province and eight data collectors and two supervisors were deployed to Northern province first and then traveled to Luapula province. Supervisors checked that all forms were completed fully and correctly to allow for immediate feedback to the data collectors. Supervisors' concurrence was required before uploading completed forms to the server. They specifically checked each questionnaire for completeness, legibility, and consistency. If the questionnaire did not meet these requirements, the data collector would be asked to review the questionnaire and if necessary go back to the respondent for clarification.

The teams were also accompanied by one senior research fellow from INESOR, a partner organization, who monitored and addressed data quality issues in the field. Data collection lasted a total of five weeks. During this time, the senior research fellows monitored the data collection teams throughout the four-week data collection period, moving among teams to check on progress and quality of work, clarify questions in the questionnaire, make updates to the software where necessary, supply additional paper

questionnaires and stationery in the event of failure of software or tablet malfunction, and advise on resolving any logistical issues.

The study team was also accompanied by a data quality consultant (DQC) whose primary role was to ensure compliance with the research protocol by checking data quality and making recommendations to the field teams on how to improve data quality.

2.8 Data handling

Data cleaning

Prior to the production of final outputs, data from the server were downloaded into Excel using the data editor function of Dimagi's CommCare software, and initial data exploration was conducted. Excel files were then converted into SAS for further data cleaning, aggregation, and consistency checks to identify any missing values within the variables of interest and to check for outliers and ineligible entries. Any inconsistencies found in the dataset were verified by reviewing the original dataset hosted by the server, and corrections were made to the analysis files.

Data analysis

We calculated frequency tabs for all variables independently, and appropriate crosstabs, linking outcome variables with sex, urban/rural location and age group.

Ethical Considerations

This protocol and set of data collection tools were approved by the University of Zambia Biomedical Research Committee in Zambia and the Health Media Labs institutional research board in the United States.

Findings

3 Child beneficiaries

3.1 Demographics

A total of 1,765 OVC records were eligible for analysis. Exactly half of children surveyed were girls and half were boys (N=1,765).

The mean age of children surveyed was 13.9 years (SD=1.92, median=14). See **Table 4** for age distributions. Analyses that follow are based on programmatically important age groups of 11-12, 13-15, and 16-17. Approximately one-quarter of children sampled (26.7%) were aged 11-12, half (48.8%) were aged 13-15, and one quarter (24.4%) were aged 16-17. Sex distributions in age groups were relatively even, with slightly more girls in the 13-15-year-old age group, and slightly more boys in the 16-17-year-old age group.

Age	Girls		Во	ys	Both sexes	
	%	n	%	n	%	n
11 years	15.9%	140	13.7%	121	14.8%	261
12 years	11.2%	99	12.7%	112	12%	211
13 years	19.3%	170	17%	150	18.1%	320
14 years	17.2%	152	17.4%	154	17.3%	306
15 years	14.1%	124	12.7%	112	13.4%	236
16 years	12.2%	108	13.4%	118	12.8%	226
17 years	10.1%	89	13.1%	116	11.6%	205

Table 4: Respondents' age, by sex

3.2 Attendance of Formal Education

Nearly all children reported that they were currently attending school (91.7%, N=1,742). Younger children were more likely to report school attendance than older children (97.4% of 11-12 year olds, 94.2% of 13-15 year olds, 80.1% of 16-17 year olds, p<0.001). Children living with a biological parent (92.9%), sister/brother (91.7%), and aunt/uncle (91.9%) were slightly more likely to report current school attendance than children living with a grandparent (88.0%) (p=0.0499). Reasons cited for not attending school included financial constraints (n=106), having a child or being pregnant (n=9), and being too sick to attend school (n=7).

3.3 Social Capital and Protection

Two-thirds of children surveyed reported that their primary guardian was their biological mother and/or father (66.3%), 19.5 percent reported a grandparent, 9.8 percent reported an aunt or uncle, and 4.4 percent reported a sister or brother (N=1,673).

When asked with whom they spend most of their free time, children were most likely to respond that they spend most of their free time with friends in their age group, with boys slightly more likely than girls to respond this way (47% vs. 39.6%, p=0.002). Other than friends, children reported spending most of their free time with their biological mother or father (24.4%), with siblings (10.5%), with grandparents (11.6%), and with other relatives (7.0%). Three percent of girls and boys (3.4%, 3.1%) reported spending most of their free time by themselves.

In response to the question: *If you have a problem, who can you go to for help?*, 38.3 percent of children responded that they could go to their biological mother (girls were more likely to report this: 43.4% vs. 33%, p=0.000); 11.9 percent responded that they could go to their biological father (boys were twice as likely to report this: 16.7% vs. 7.2%, p<0.0001); 6.0 percent responded that they could go to their biological brother or sister; 12.3 percent responded that they could go to a biological aunt or uncle; 20.6 percent responded that they could go to a pastor or other religious leader; 4.4 percent responded that they could go to a neighbor or friend; and 2.0 percent reported an "other" person that they could go to a neighbor or friend; and 2.0 percent of children (2.4%) reported that they had no one at all to go to if they needed help. Younger children were more likely than older children to respond that they could go to their biological father (11.8% of 11-12 year olds, 13.7% of 13-15 year olds, 8.4% of 16-17 year olds, p=0.049), but there were no other differences by age group.

In response to the question, If you were in need of something like money or books or clothes, from whom could you normally request it?, 37.6 percent responded that they could request it from their biological mother (girls were more likely to report this: 42.5% vs. 32.6%, p=0.000); 17.5 percent responded that they could request it from their biological father (boys were more likely to report this: 21.0% vs. 14.1%, p=0.001); 4.6 percent responded that they could request it from a biological sister or brother: 12.8 percent responded that they could request it from a biological aunt or uncle; 17.6 percent responded that they could request it from a grandparent; 0.3 percent responded that they could request it from a pastor or religious leader; 3.5 percent responded that they could request it from a community worker; 0.3 percent responded that they could request it from a neighbor or friend; and 2.9 percent responded that they could request it from an "other" person (N=1,246). Boys were twice as likely to respond that they had no one who could provide for them (4.2% vs. 1.9%, p=0.02). Older children were more likely to respond that they had no one to go to for help (1.4% of 11-12 year olds, 2.4% of 13-15 year olds, 6.3% of 16-17 year olds, p=0.000), but there were no other differences by age group.

Chores and Work for Money

Less than half of children reported previous work for money (46.5%, N=1,763). Boys were more likely than girls to report previous work (54.5% vs. 38.5%, p=0.000). Older children were more likely to report previous work compared to younger children (31.9% of 11-12 year olds, 45.9% of 13-15 year olds, and 63.8% of 16-17 year olds, p=0.000). Children who were currently attending school were less likely to report previous work compared to those who were not attending school (45.8% of those who attend school and 54.9% of those who do not, p=0.04). There was no relationship among ever school attendance, guardianship, and previous work. The majority of children reporting previous work (83.3%) responded that they worked as laborers, e.g., on a farm or in construction. Five percent (4.6%) of children reported fetching water, 1.8 percent reported washing clothes, and 2.4 percent reported hawking goods (N=719). Children reported using the money they earned to pay school fees (17.0%), buy food and clothes (33.3%), buy treats (13.5%), or buy other things (22.8%). Just 13.5 percent of children

reported that they gave the money they earned to their guardian. Older children were more likely than younger children to report using money earned to pay for food and clothes (26.5% of 11-12 year olds, 29.5% of 13-15 year olds, 43.8% of 16-17 year olds, p=0.005).

One-tenth of children reported that they had previously done work that they did not want to do (10.7%, N=1,763).¹ Older children were more likely than younger children to report being forced to do work that they did not want to do (9.8% of 11-12 year olds, 8.5% of 13-15 year olds, 16% of 16-17 year olds, p=0.000). There was no relationship among current (or ever) school attendance, guardianship, and forced work.

Asset Ownership

A majority of children reported having two or more sets of clothes (86.3%, N=1,763). More than half of children reported owning bedding (53.8%, N=1,763). Only half of children reported owning one or more pairs of shoes (50.7%, N=1,763). Under 5 percent of children reported having a mobile phone (4.3%, N=1,763). Older children were more likely to have mobile phones than younger children (1.3% vs. 3.3% vs. 9.7% of 11-12 year olds, 13-15 year olds, and 16-17 year olds, respectively, p=0.000).

3.4 Physical Abuse

More than half of children reported that they had previously been hit or beaten (52.8%, N=1,607). Younger children were more likely to report that they had previously been hit or beaten than older children (57.6% of 11-12 year olds, 54% of 13-15 year olds, 46.9% of 16-17 year olds, p=0.009). Twenty percent of children reported that they had been hit or beaten in the last six months (21.3%, N=1,605). Younger children were more likely to report that they had previously been hit or beaten than older children (29.9% of 11-12 year olds, 21.0% of 13-15 year olds, 15.6% of 16-17 year olds, p=0.000). About 40 percent of children reporting that they had previously been hit or beaten responded that they had sought help at some point (38.7%, N=840). Younger children were more likely

¹ This is not an indicator of child labor, but represents the proportion of children who were asked to work or do a chore that they did not want to do.

to report that they had had sought help after being hit or beaten than older children (48.4% of 11-12 year olds, 37.6% of 13-15 year olds, 32.3% of 16-17 year olds, p=0.0046). Of those who sought help, 78.3 percent reported that they sought help from a family member, 10.7 percent sought help from a friend, 1.34 percent sought help from a community organization, 0.7 percent sought help from a hospital or clinic, 0.3 percent sought help from a pastor/religious leader, and 8.4 percent sought help from another source (N=298).

Gender-based Violence

When asked whether they agreed or disagreed with the statement: *A husband may be justified in hitting or beating his wife*, 6.4 percent of children strongly agreed, 17.8 percent of children agreed, 47.2 percent of children disagreed, and 28.6 percent of children strongly disagreed (N=1,443): see **Table 5**.

A husband may be justified in hitting or beating his wife	% strongly agree	% agree	% disagree	% strongly disagree	Total
Female	5.7	18.5	45.9	29.91	715
Male	7.1	17.2	48.5	27.2	728
11 to 12 years	6.9	19.9	46.2	27.1	277
13 to 15 years	6.0	16.4	49.7	27.9	761
16 to 17 years	6.9	19.0	43.2	30.9	405

Table 5: Attitudes toward gender-based violence

Seventy children surveyed reported a history of forced sex (5.4%, N=1,286). Girls were more likely to report a history of forced sex compared to boys (8.1% vs. 2.6%, p=0.000). Older children were more likely to report a history of forced sex compared to younger children (3.5% of 11-12 year olds, 4.6% of 13-15 year olds, 8.6% of 16-17 year olds, p=0.006). About a third of those reporting a history of forced sex reported forced sex in the six months prior to survey (30.4%, N=69). Three percent of boys reported previously forcing someone to have sex with them (3.3%, N=628). Children aged 16 to 17 years old were more likely to report previously forcing someone to have sex with them than children in younger age groups (2.2% of 11-12 year olds, 1.9% of 13-15 year olds, 6.5% of 16-17 year olds, p=0.017).

When asked whether they agreed or disagreed with the statement: *When a husband wants sex, a wife cannot refuse*, 14.4 percent of children strongly agreed, 26.2 percent of children agreed, 41.0 percent of children disagreed, and 18.4 percent of children strongly disagreed (N=1,259): see **Table 6**.

When a husband wants sex, a wife cannot refuse	% strongly agree	% agree	% disagree	% strongly disagree	Total
Female	11.99	26.27	41.54	20.20	609
Male	16.62	26.15	40.46	16.77	650
11 to 12 years	12.32	30.33	44.08	13.27	211
13 to 15 years	14.70	25.30	41.36	18.64	660
16 to 17 years	14.95	25.52	38.66	20.88	388

Table 6: Attitudes toward forced sex

3.5 Health

More than 80 percent of children rated their health as good to excellent (82.7%, N=1,760). Just over half of children reported illness in the four weeks prior to survey (51.1%, N=1,765). Girls were more likely to report illness than boys (53.6% vs. 48.6%, p=0.03). In terms of type of last illness, 52.3 percent reported malaria, 14.5 percent reported cough/cold, and 6.3 percent reported diarrhea (N=733). Eighty-five percent of children reported receiving treatment for their last illness (85.1%, N=902).

3.6 Food Security

Food security data are presented in **Table 7** and **Figure 1**.

In the last four weeks	No	Yes			
in the last lour weeks		% rarely (1-2 times)	% sometimes (3-10 times)	% often (>10 times)	N
Went a whole day and night without eating	75.2	15.0	7.4	2.2	1,764
Went to bed hungry	49.2	27.0	18.3	5.2	1,763
Ate a smaller meal than needed	37.2	28.3	25.5	8.5	1,762
Ate fewer meals than needed	31.1	29.1	29.1	10.5	1,762

Table 7: Reported food insecurity in the four weeks prior to survey

Some respondents who reported food insecurity did not know how often they experienced this in the last four weeks, and hence figures do not aggregate to 100 percent exactly.



Figure 1: Percent reporting food insecurity in the four weeks prior to survey

One-fourth of children reported going a whole day and night without eating in the four weeks prior to the survey because there was not enough food in the house (24.8%, N=1,764). Older children were more likely to report going a whole day and night without eating than younger children (20.8% of 11-12 year olds, 23.9% of 13-15 year olds, 31.1% of 16-17 year olds, p=001). Among those children reporting this, 60.9 percent said this happened rarely (one to two times in the past four weeks), 30.1 percent said this happened sometimes (3 to 10 times in the past four weeks), and 9.0 percent of children said this happened often (more than 10 times in the past four weeks) (N=435).

One-half of children reported going to bed hungry in the four weeks prior to the survey because there was not enough food in the house (50.8%, N=1,763). Older children were more likely to report going to bed hungry than younger children (40.7% of 11-12 year olds, 53% of 13-15 year olds, 57.5% of 16-17 year olds, p<.0001). Among children reporting this, 53.4 percent said this happened rarely (one to two times in the past four weeks), 36.3 percent said this happened sometimes (3 to 10 times in the past four weeks), and 10.3 percent of children said this happened often (more than 10 times in the past four weeks) (N=891).

More than 60 percent of children reported eating a smaller meal than they felt they needed in the four weeks prior to survey because there was not enough food in the house (62.8%, N=1,762). Younger children were less likely to report eating a smaller meal than they felt they needed than older children (56.6% of 11-12 year olds, 63.4% of 13-15 year olds, 67.2% of 16-17 year olds, p=0.0026). Among children reporting this, 45.5 percent said this happened rarely (one to two times in the past four weeks), 40.9 percent said this happened sometimes (3 to 10 times in the past four weeks), and 13.6 percent of children said this happened often (more than 10 times in the past four weeks) (N=1,097).

Two-thirds of children reported eating fewer meals in a day in the four weeks prior to the survey because there was not enough food in the house (68.9%, N=1,762). Older children were more likely to report eating fewer meals in a day than younger children (61% of 11-12 year olds, 70.1% of 13-15 year olds, 75.1% of 16-17 year olds, p<.0001). Among children reporting this, 42.4 percent said this happened rarely (one to two times in the past four weeks), 42.4 percent of children said this happened often (more than 10 times in the past four weeks) (N=1,211).

The household hunger scale (HHS) is a validated indicator to measure household hunger in food-insecure areas. We adapted this for children. Scores of 0-1 represent little to no hunger; scores of 2-3 represent moderate hunger; and scores of 4-6 represent severe hunger. The mean child's hunger score was equal to 3.4 (SD =2.9, min=0, max=12). Older children had higher mean hunger scores than younger children (2.86 for 11-12 year olds, 3.42 for 13-15 year olds, 3.95 for 16-17 year olds, p<0.0001).

3.7 Psychosocial Well-being

Included in the OVC questionnaire was the validated Strengths and Difficulties Questionnaire (SDQ). The SDQ uses a three-point scale to assess children's functioning in the following areas:

- emotional well-being
- conduct
- hyperactivity
- peer relationships
- pro-social behavior

Data are presented in Table 8 and Figure 2 below.

SDQ Scales	% normal	% borderline	% abnormal	Ν
Emotional well-being	61.8	20.2	18.0	1,700
Conduct	86.4	10.6	3.0	1,747
Hyperactivity	93.9	5.1	1.1	1,683
Peer relationships	74.5	17.4	8.1	1,671
Pro-social behavior	99.2	-	0.8	1,742
Total Difficulties Score	86	8.3	5.7	1,546

Table 8: SDQ Scores

Nearly one in five children surveyed showed abnormal emotional well-being (somatic complaints, worries, tearful feelings, nervousness, fear, and insecurities), and a further 20 percent had "borderline" scores. Less than 10 percent had peer relationships problems (child prefers to play alone, may be bullied or bullies). A "total difficulties score" was calculated based on the scoring of the subscales of the SDQ. Only 5.7 percent of children surveyed were in the abnormal band. Analysis by key demographics (age group, sex, guardianship) did not yield statistically significant variances.

Importantly, SDQ scores do not confirm the diagnosis or presence of psychological disorder.



Figure 2: Percent of children indicating normal and abnormal psychosocial functioning

3.8 HIV and AIDS Knowledge and Attitudes

A majority of children reported having heard of HIV/AIDS (83.3%, N=1,765). Older children were more likely than younger children to report having heard of HIV/AIDS (73.9% of 11-12 year olds, 83.6% of 13-15 year olds, 93.3% of 16-17 year olds, p=0.000). Almost 80 percent agreed that HIV can be transmitted by shared needles (79.9%, N=1,765). Older children were more likely than younger children to know this (69.1% of 11-12 year olds, 80.1% of 13-15 year olds, 91.4% of 16-17 year olds, p=0.000). More than half of children agreed that a mother can transmit HIV to her child in pregnancy (53.8%, N=1,470). Older children were more likely than younger children to agree with this (40.7% of 11-12 year olds, 55.1% of 13-15 year olds, 65.4% of 16-17 year olds, p=0.000). Just over three-quarters of children agreed that abstinence reduces

HIV risk (75.7%, N=1,765). Older children were more likely than younger children to agree with this (65.3% of 11-12 year olds, 75.4% of 13-15 year olds, 87.7% of 16-17 year olds, p=0.000). Nearly the same proportion agreed that condom use can reduce HIV risk (71.9%, N=1,765). Boys were more likely than girls to agree that condom use can reduce HIV risk (73.5% vs 70.3%, p=0.001). Older children were more likely than younger children to agree with this (59.5% of 11-12 year olds, 71.6% of 13-15 year olds, 86.1% of 16-17 year olds, p=0.000). Correct HIV transmission knowledge is presented in **Figure 3**.



Figure 3: Percent reporting correct HIV transmission knowledge

Rejection of major misconceptions

Almost 70 percent of children agreed that HIV cannot be transmitted by sharing a meal with PLHIV (67.7%). Older children were most likely to respond correctly (49.2% of 11-12 year olds, 69.8% of 13-15 year olds, 83.8% of 16-17 year olds, p=0.000). Sixty-five percent of children agreed that HIV cannot be transmitted via witchcraft. Boys were slightly more likely to respond correctly (67.6% vs. 62.4%, p=0.002), and older children were more likely to respond correctly (51.3% of 11-12 year olds, 64.3% of 13-15 year olds, 81.4% of 16-17 year olds, p=0.000). More than half of children agreed that mosquitoes cannot transmit HIV (52.6%). Girls were slightly more likely to respond correctly (53.9% vs 51.3%, p=0.005). More than 40 percent of children agreed that HIV cannot be transmitted by kissing (42.3%). Boys were slightly more likely to respond
correctly (43.9% vs. 40.6%, p=0.003), and older children were more likely to respond correctly (32% of 11-12 year olds, 42.7% of 13-15 year olds, 52.7% of 16-17 year olds, p=0.000). About 70 percent of children agreed that HIV cannot be cured by herbs (69.8%). Boys were slightly more likely to respond correctly (71.1% vs. 68.4%, p=0.048), and older children were more likely to respond correctly (57.1% of 11-12 year olds, 69.8% of 13-15 year olds, 83.5% of 16-17 year olds, p=0.000). More than 60 percent of children agreed a healthy-looking person can be HIV-positive (61.8%). Older children were most likely to respond correctly (48.3% of 11-12 year olds, 62.1% of 13-15 year olds, 76.1% of 16-17 year olds, p=0.000).

Attitudes

Children reported relatively accepting attitudes toward people living with HIV/AIDS. Almost 70 percent reported a belief that if a pupil has HIV and is not sick, he/she should be allowed to continue attending school (68.7%). Older children were more likely to hold accepting attitudes than younger children (54% of 11-12 year olds, 69.4% of 13-15 year olds, 83.3% of 16-17 year olds, p=0.000). Similarly, 68.2 percent of boys and girls reported a belief that if a teacher is HIV-positive but not sick, he/she should be allowed to continue teaching. Older children were more likely to hold accepting attitudes than younger children (54% of 11-12 year olds, 68.5% of 13-15 year olds, 83.3% of 16-17 year olds, p=0.000).

Just over 20 percent of children believe that families with HIV-positive individuals are treated unkindly by other students (21.8%). Children aged 16-17 were most likely agree with this statement (22.3% of 11-12 year olds, 20.4% of 13-15 year olds, 23.9% of 16-17 year olds, p=0.044). Approximately 15 percent of children believe that families with HIV-infected individuals are treated unkindly by teachers (14.6%). Almost 20 percent of children believe that children who receive free services are treated unkindly by the community (18.9%). Older children were more likely to hold this belief than younger children (14.2% of 11-12 year olds, 19.1% of 13-15 year olds, 23.4% of 16-17 year olds, p=0.0067).

3.9 HIV and AIDS Risk Behavior

Sexual debut

Just over one-quarter of children aged 13-17 reported previous sex (26.2%, N=1,284). Boys were more likely to report previous sex than girls (30.6% vs. 20.6%, p=0.000), and children aged 16-17 were more likely than those aged 13-15 to report previous sex (45.8% vs. 16.3%, p=0.000). The age of sexual debut ranged from 7 to 17 years (N=330). The mean age of sexual debut was 12.5 years among boys and 14.3 years among girls (p=0.000). More than 40 percent of those reporting previous sex said that "love" was the reason they had sex the first time (42.5%, N=325). Almost 5 percent (4.6%) reported being forced to have sex their first time, and 7.4 percent reported that they had sex the first time because they needed money (N=325). One-third of respondents reporting previous sex stated that they talked to their sexual partner about HIV before having sex (31.3%, N=332). Girls were more likely to report talking to their sexual partner about HIV before having sex than boys (43.8% vs. 23.5%, p=0.000), and children aged 16-17 were more likely than those aged 13-15 to report this behavior (36.1% vs. 24.6%, p=0.027).

Age of first sexual partner

Approximately one-third of children reporting previous sex said that their first sexual partner was about the same age as them (37%), one-fifth reported that they were younger than them (20.8%), and one-third reported that they were older than them (42.2%, N=284). Boys were more likely to report that their first sexual partner was younger than them (31% vs. 5.3%, p=0.000), and girls were more likely to report that their first sexual partner was older than them (69% vs. 24.6%, p=0.000). Six percent of girls (6.2%) and 1.2 percent of boys reported that their first sexual partner was more than five years older than them.

Number of sexual partners to date

About 60% of children reporting having had previous sex reported one sexual partner (60.8%: 72.4% of girls vs. 53.3% of boys) in their life, and a further 16 percent (17.3% of girls vs. 15.2% of boys) reported two sexual partners (N=324) in their lifetime. Less than 10 percent of girls and approximately 30 percent of boys (31.5%) reported more than two lifetime sexual partners.

Sex in the last 12 months

Two-thirds of those reporting previous sex reported sex in the last 12 months (59.4%, N=335). Among those reporting sex in the 12 months prior to survey, 70 percent reported one sexual partner in the last 12 months (70.6%), and about 20 percent reported two sexual partners in the last 12 months (19.9%, N=221). Less than 15 percent of boys (14.1%, N=128) and just one girl (N=93) reported sex with three or more partners in the last 12 months. Girls were more likely to report only one partner in the last 12 months than boys (85.0% vs. 60.2%, p=0.003).

Condom knowledge

A majority of 13-17 year olds reported that they had heard of condoms (81.4%, N=1,230). Boys were more likely than girls to report condom knowledge (84.0% vs. 78.7%, p=0.018), and older children were more likely than younger children to report condom knowledge (79.1% of 13-15 year olds, 85.7% of 16-17 year olds, p=0.005). Almost half of children reported that they were "confident" or "somewhat confident" that they could obtain a condom (46%, N=1,292), with boys being more likely to report confidence than girls (54.0% vs. 36.0%, p=0.000), and older children more likely to report confidence than younger children (38.3% of 13-15 year olds, 58.7% of 16-17 year olds, p=0.000).

When asked where they could obtain condoms, 51.6 percent of children said the supermarket, 7.1 percent said the pharmacy, 70 percent said the clinic or hospital, 3.4 percent said a friend, 0.5 percent said a relative, 3.4 percent said a community organization, 3.9 percent said a community caregiver, and 14.7 percent said "other" (N=1,065).

Condom use

Among those reporting previous sex, 48.8 percent reported ever using a condom during sex (N=303). Girls were more likely to report condom use compared to boys (63.8% vs 39.6%, p=0.000). Older children were more likely to report condom use compared to younger children (29.4% of 13-15 year olds, 61.4% of 16-17 year olds, p=0.000). More than one-third of those reporting previous sex reported using a condom at first sex (35.6%, N=303). Girls were more likely to report condom use at first sex compared to boys (50% vs. 26.7%, p=0.000). Older children were more likely to report condom use at first sex (20.2% of 13-15 year olds, 45.7% of 16-17 year olds, p=0.000).

Less than 40 percent of those reporting previous sex reported using a condom at last sex (38.7%, N=302), Girls were more likely to report condom use at last sex compared to boys (47% vs. 33.7%, p=0.02). Older children were more likely to report condom use at last sex (24.6% of 13-15 year olds, 47.8% of 16-17 year olds, p=0.000).

Pregnancy

Among girls reporting previous sex, more than 30 percent reported a previous pregnancy (31.8%, N=129).

Alcohol and drug use

Only one child surveyed reported a history of drug use (N=1,293), and only 2.2% reported consuming alcohol in the four weeks preceding the survey.

HIV risk discussions

Just over 40 percent of children reported that they had discussed their HIV risk with someone (39.6%, N=1,244). Older children were more likely to report having discussed their HIV risk with someone than younger children (33.7% of 13-15 year olds, 51.2% of 16-17 year olds) (p=0.000). Children reporting previous sex were more likely to report ever discussing their HIV risk with someone (50.8% vs. 35.5%, p=0.000). When asked who they discussed their HIV risk with, 4.9 percent said a parent, 2.3 percent said a sibling, 5.2 percent said another relative (not parent, not sibling), 56.2 percent said friends (same age group), 4.9 percent said their boyfriend/girlfriend, 0.3 percent said a religious leader, 6 percent said a community worker, 4.6 percent said a health care provider, and 15.8 percent said "other" (N=349).

HIV testing

Nearly 70 percent of children reported that they knew a place where one can take an HIV test (69.2%, N=1,264). Boys were more likely to know this than girls (72.8% vs. 65.4%, p=0.007), as were older children (62.1% of 13-15 year olds vs. 82.9% of 16-17 year olds, p=0.000).

Thirty percent of children reported that they had discussed with someone whether they should take an HIV test (29.6%, N=1,256). Older children were more likely to report having discussed HIV testing than younger children (20.1% of 13-15 year olds vs. 48.0% of 16-17 year olds, p=0.000). When asked who they discussed HIV testing with, 7.9 percent said a parent, 3.6 percent said a sibling, 7.6 percent said another relative (not parent, not sibling), 61.2 percent said friends (same age group), 5.3 percent said their boyfriend/girlfriend, 4 percent said a community worker, 5.9 percent said a health care worker, and 4.6 percent said "other" (N=304).

Almost 30 percent of children reported a previous HIV test (28.3%, N=1,242). Children aged 16-17 were twice more likely to have had an HIV test than children aged 13-15 (43.7% vs. 20.5%, p=0.000). There is a significant relationship between whether children have discussed their HIV risk and HIV testing. Children who reported having

discussed their HIV risk with someone were much more likely to report previous testing (62.8% vs. 13.7%, p=0.000).

Access to Services

Children were asked about receipt of a number of services, and whether they (still) needed these services.

Fourteen percent of children reported having ever received family planning advice, with girls slightly more likely to report receipt of advice (p=0.000), and older children more likely to report receipt of advice (p=0.000). Of those who reported ever receiving family planning advice, approximately 50 percent reported receiving advice in the six months prior to survey. Less than 40 percent of children reported that they needed family planning advice, with no difference among boys and girls. Older age groups were much more likely to report needing services (p=0.000). Nonetheless, the high demand for family planning advice among younger age groups is notable. See **Table 9**.

Family planning advice	Ever received?		If yes, received in last 6 months?			Needed?				
	Yes	%	N	Yes	%	N	Yes	%	N	
All	229	14.2	1,613	115	50.2	229	608	37.7	1,613	
Female	142	17.5	812	78	54.9	142	322	39.7	812	
Male	87	10.9	801	37	42.5	87	286	35.7	801	
11-12	19	5.9	320	13	68.4	19	92	28.8	320	
13-15	101	11.7	862	46	45.5	101	304	35.3	262	
16-17	109	25.3	431	56	51.4	109	212	49.2	431	

Table 9: Receipt of family planning advice

Just over 6 percent of children (6.5%) reported ever receiving long-term contraceptives, with girls slightly more likely to report this (p=0.000) and older age groups more likely to report this (p=0.000): see **Table 10**. Of those who reported ever receiving long-term contraceptives, almost half reported receiving them in the six months prior to survey. Almost 30 percent of children surveyed reported a need for long-term contraceptives, with girls and older age groups more likely to report need for services (p=0.000). The high demand for long-term contraceptives among younger age groups and boys is notable. It is unclear what boys meant when they responded positively to receiving long-term contraceptives, or needing long-term contraceptives; perhaps they were referring to information or services received by a sexual partner. Caution needs to be applied in interpreting these data.

Long-term contraceptives: pills or injectable contraceptives	Eve	er receiv	ed?	If yes, received in last 6 months?			Needed?		
	Yes	%	N	Yes	%	N	Yes	%	N
All	104	6.5	1613	48	46.2	104	441	27.3	1,613
Female	72	4.0	812	34	47.2	72	252	31	812
Male	32	8.9	801	14	43.8	32	189	23.6	801
11-12	7	2.2	320	4	57.1	7	61	19.1	320
13-15	39	4.5	862	18	46.2	39	221	25.6	862
16-17	58	13.5	431	26	44.8	58	159	36.9	431

Table 10: Receipt of long-term contraceptives

Two-thirds of children reported ever receiving condoms, with boys (p=0.001) and older age groups (p=0.000) more likely to report this: see **Table 11**. Of those who reported receipt of condoms, more than 40 percent reported receiving them in the six months prior to the survey. Just over 30 percent of all children surveyed reported that they needed condoms, with boys and older age groups more likely to report this (p=0.000).

Condoms	Ever received?			If yes, received in last 6 months?			Needed?		
	Yes	%	N	Yes	%	N	Yes	%	N
All	301	18.7	1613	132	43.9	301	530	32.9	1,613
Female	126	15.5	812	56	44.4	126	212	26.1	812
Male	175	21.9	801	76	43.4	175	318	39.7	801
11-12	37	11.6	320	15	40.5	37	71	22.2	320
13-15	129	15	862	56	43.4	129	243	28.2	862
16-17	135	31.3	431	61	45.2	135	216	50.1	431

Table 11: Receipt of condoms

"Don't know" omitted from analysis

Less than 10 percent of children reported having ever been treated for sores, bumps, or ulcers on their mouth or genitals: see **Table 12**. Children in the 16-17-year-old group were more likely to report having ever been treated than children in other age groups (p=0.003). Of those reporting receipt of treatment, one-third received treatment in the six months prior to the survey. Almost one-quarter of children reported needing treatment for a sore, bump, or ulcer on their mouth or genitals. Children in the 16-17-year-old group were more likely to report the need for treatment than children in other age groups (p=0.003).

Treatment of sores, bumps or ulcers on mouth or genitals	Ever received?		If yes, received in last 6 months?			Needed?			
	Yes	%	N	Yes	%	N	Yes	%	N
All	136	8.4	1613	44	32.4	136	380	23.6	1,613
Female	78	9.6	812	25	32.1	78	192	23.7	812
Male	58	7.2	801	19	32.8	58	188	23.5	801
11-12	25	7.8	320	6	24	25	73	22.8	320
13-15	58	6.7	862	20	34.5	58	180	20.9	862
16-17	53	12.3	431	18	34	53	127	29.5	431

Table 12: Receipt of treatment of sexually transmitted infection symptoms

Almost 60 percent of children reported having ever received information on HIV prevention: see **Table 13**. Older age groups were more likely to report that they had received HIV prevention information (p=0.000). Of those who received information, over half received it in the six months prior to the survey. Most children reported a need for HIV prevention information, with boys (p=0.001) and older children (p=0.000) more likely to report this.

HIV prevention information	Ever received?			If yes, received in last 6 months?			Needed?		
	Yes	%	N	Yes	%	N	Yes	%	N
All	945	58.6	1613	562	59.5	945	1,266	78.5	1,613
Female	471	58	812	280	59.5	471	611	75.3	812
Male	474	59.2	801	282	59.5	474	655	81.8	801
11-12	157	49.1	320	85	54.1	157	221	69.1	320
13-15	484	56.2	862	284	56.7	484	680	78.9	862
16-17	304	70.5	431	193	63.5	304	365	84.7	431

Table 13: Receipt of HIV prevention information

Approximately one-fifth of children reported that they had received some support in developing their livelihood from an organization: see **Table 14**. Of children who received support, half did so in the six months prior to survey. Almost 70 percent of children reported that they needed support in developing their livelihood. Older age groups were more likely to report a need for livelihood development support than younger age groups (p=0.000).

Support in developing livelihood from an organization,	Ever received?			If yes, received in last 6 months?			Needed?		
such as training	Yes	%	N	Yes	%	N	Yes	%	N
All	292	18.1	1613	136	46.6	292	1095	67.9	1,613
Female	143	17.6	812	68	47.6	143	548	67.5	812
Male	149	18.6	801	68	45.6	149	547	68.3	801
11-12	52	16.3	320	24	46.2	52	179	55.9	320
13-15	151	17.5	862	70	46.4	151	582	67.5	862
16-17	89	20.7	431	42	47.2	89	334	77.5	431

Table 14: Receipt of support in developing livelihoods

3.10 Malaria-related Knowledge and Behavior

Respondents were asked to spontaneously name malaria prevention methods. Twothirds (62.9%) named bed nets as a prevention method; 8.5 percent named indoor residual spraying as a prevention method; 7.7 percent suggested staying inside at dawn/dusk to prevent bites; and 10.7 percent suggested wearing long sleeves and pants to prevent bites (N=1,751).

Over half of respondents reported that their household had a mosquito net (51.9%, N=1,764), and 84.3 percent of those reporting a household net reported that someone had slept under the net the night before the survey (N=916). More than 70 percent of children reported sleeping under a net the night before the survey (72.2%, N=917), with no differences among age groups.

3.11 Circumcision

More than 40 percent of boys reported being circumcised (42.8%, N=802). Older children were more likely to report being circumcised (32% of 11-12 year olds, 41.2% of 13-15 year olds, 52.6% of 16-17 year olds, p=0.000). Over half of boys who were not circumcised reported that they wanted to become circumcised (51.3%, N=456). Among those reporting a desire to become circumcised, 88.3 percent stated HIV/STI prevention as the main reason, and 22.1 percent stated hygiene as the main reason.

4 BCS beneficiaries

4.1 Demographics

A total of 280 adult respondent records were eligible for analysis.

Just under three-quarters of BCS beneficiaries sampled were female (73.9%). All analyses were run by sex and differences are noted where significant.

BCS beneficiaries were aged between 18 and 88 years (mean=42.8, median=42, N=279). Eighty-six percent of respondents reported ever attending formal school. However, respondents reported low education levels. Just 4.6 percent reported completing secondary school (with 10.7 percent reporting at least some secondary school education), and 26 percent reported completing junior secondary school (N=242). Males were twice as likely to report some secondary school education compared to females (16.9% vs. 8.2%, p=0.004). More than half of respondents reported that their main language was Bemba (58.6%), 11.1 percent reported Tonga as their primary language, and 10.4 percent spoke Tumbuka most regularly. Other primary languages spoken included: Nyanja (5.7%), Luvale (3.9%), Lunda (2.5%), Lozi (1.1%), Kaonde (1.1%) and "other" (5.7%). Just over 40 percent of participants reported that they were married and living monogamously (42.1%), 22.9 percent were widowed, 19.6 percent were divorced or separated, 13.2% were single, 1.8% were in married polygamous relationships, and 0.4 percent were co-habiting. Male respondents were much more likely than female respondents to report being married and living monogamously (67.1% vs. 33.3%) and single (17.8% vs. 11.6%). Females were more likely to report being widowed (28% vs. 8.2%), and divorced or separated (24.2% vs. 6.9%), (p=0.000).

Total household membership ranged between one (respondent only) and eighteen members, with the majority of respondents living in households with between three and eight members (including the respondent) (N=278). Household membership data are presented in Table 15. Male respondents reported more adults living in the household than female respondents (3.5 vs. 3 adults on average, p=0.049). Just over half of respondents (56.6%) reported that some of the children living in their households were not their biological children. Among those reporting children in their household, 17.0 percent said that none of these were their biological children (N=253).

Adults in hous	sehold (N=269)	Children in household (N=253)				
Number	%	Number	%			
1 (self)	13.8	None	9.6			
2	28.3	1	14.3			
3	23.8	2	15.7			
4	15.2	3-5	46.8			
5+ (range: 5-13)	19.0	6+ (range: 6-10)	13.8			

Table 15. Number of household members

More than 20 percent of respondents reported that they had biological children that were living, but not in their household (22.9%). When asked where these biological children were living, about 15 percent said they were living with their biological mother or father (15.6%), just over half said they were living with another relative (59.4%), and a further 11 percent said they were living by themselves (N=64).

Just under half of respondents reported that another household member was also HIVpositive (47.1%, N=276). Less than one-quarter of respondents reported that only their spouse was HIV-positive (22.1%), and one-quarter reported that their spouse and at least one other household member was HIV-positive (25%, N=276). Half of respondents reported that another household member had died of AIDS (48.9%, N=278). Of those respondents, 50.7 percent reported that a brother and/or sister died, 23.5 percent that a spouse died (only), 11.8 percent that a child died (only), 4.4 percent that a spouse and at least one child died, and 9.6 percent that a father and/or mother died (N=136).

4.2 Self-rated Quality of Life

Respondents were asked questions from the CDC HRQOL-14 Index, including the Healthy Days Core Module and the Healthy Days Symptoms Module. When asked how they would rate their health in general, 30.4 percent rated their health "excellent" or "very good," 28.6 percent rated their health "good," 20.7 percent rated their health "fair," and 20.4 percent rated their health "poor." Respondents were then asked to report how many days in the 30 days before the survey their well-being had been compromised. Responses are summarized in **Table 16** below.

	None	Between 1-7 days	Between 1-4 weeks (>1 but <4 weeks)	Every day
Physical health was bad (N=278)	22.3%	46.4%	19.8%	11.5%
Mental health was bad	38.6%	37.5%	12.5%	11.4%
Physical or mental health issues prevented normal activity (N=228)	21.5%	47.4%	21.5%	9.7%
Pain prevented normal activity	32.1%	40.7%	19.3%	7.9%
Felt sad or depressed	41.4%	35.4%	12.9%	10.4%
Felt anxious or tense	38.9%	37.9%	12.1%	11.1%
Did not get enough rest/sleep	29.6%	46.1%	14.6%	9.6%
Felt very healthy and full of energy	16.1%	21.1%	45.7%	17.1%

Table 16: Self-rated quality of life measures in the 30 days prior to survey

Generally, about one-third of respondents expressed high quality of life for any of the questions (30%) (no "unhealthy" days), about 40 percent of respondents reported up to a week of poor health (39%), and 20 percent reported poor health for more than one week in the last four weeks. Eleven percent of respondents reported feeling in poor health every day in the last 30 days.

4.3 Economic Well-being

Two-thirds (66.4%) of respondents reported that they were in gainful employment at the time of survey. Over half of respondents (56.1%) reported farming as their main source of income, and the remainder reported another primary source of income including hawking, fishing, and professional employment (N=271). The mean annual income among all respondents was 1,593.7 KR (median=600 KR, range: 0-24,000 KR). Less than 8 percent (7.9%) of respondents reported no annual income at all, 8.9 percent reported an annual income between 1 and 99 KR, 24.7 percent reported an annual income between 500 and 999 KR, and 40.4 percent reported an annual income of 1,000 KR or more.

When asked how they manage to make ends meet, 30.7 percent of respondents reported receiving help from other household members, 18.2 percent reported receiving help from relatives, and 7.7 percent reported receiving help from the community and/or community organizations (N=274, multiple responses possible). Less than quarter of respondents (22.6%) reported not being able to make ends meet (N=274).

Respondents were asked what types of support they received from relatives and organizations, if any. Just under half of respondents reported receiving support from relatives, and about one-third reported receiving support from organizations. Responses are summarized in **Table 17**.

Type of support received from relatives	%	Type of support received from organizations	%
No support received	53.2	No support received	63.2
Support received	46.8	Support received	36.8
Financial assistance	27.5	Financial assistance	3.6
Food assistance	28.2	Food assistance	13.2
School fees for children	4.7	School fees for children	0.7
Medical expenses	5.7	Medical expenses	3.2
Other (basic material support)	4.3	Other (basic material support)	21.8

Table 17. Support received from relatives and organizations

In total, 6 percent of respondents reported that their income, combined with support received from relatives and organizations, was sufficient to meet their needs (6.1%, N=278).

One in five respondents (18.3%) reported having ever received support in developing their livelihood from an organization (N=279). There was no relationship between receipt of livelihood development support and reported income sufficiency. Among those who reported receiving livelihood development support, 8.7 percent received a small loan to develop their business, 60.9 percent received training, and 30.4 percent received materials or commodities (N=46, multiple responses possible). When asked who helped to initiate livelihood development support for them, 69.4 percent said a community caregiver, 2.0 percent said a pastor or other religious leader, 14.3 percent said a community leader, and the remainder cited other sources (N=49).

Respondents were asked about asset ownership. Three-quarters (72.5%) reported owning land, 66.1 percent reported owning a house, 56.8 percent reported owning a bed, 82.1 percent reported owning bedding, 91.1 percent reported owning at least two sets of clothes, 26.8 percent reported owning a radio, 7.9 percent reported owning a TV, 2.1 percent reported owning a VCR, 3.9 percent reported owning a DVD player, 3.2 percent reported owning a stove, 3.6 percent reported owning a refrigerator, 2.5 percent reported owning a sewing machine, 0.4 percent reported owning a car, 22.9 percent reported owning a bicycle, 44.6 percent reported owning a mobile phone, and 3.9 percent reported owning a wheelbarrow. Men were more likely than women to report owning a bicycle (35.6% vs. 18.4%, p=0.003). There were no other differences in asset ownership by sex.

4.4 Food Security

Respondents were asked how many meals they eat in a typical day. Just under 20 percent (18.6%) reported eating only one meal per day, 53.9 percent reported eating two meals per day, and 27.5 percent reported eating three or more meals per day. Food security data are presented in **Table 18** and graphically in **Figure 4**.

In the last four weeks		Yes					
	No	% rarely (1-2 times)	% sometimes (3-10 times)	% often (>10 times)	Ν		
Worried that HH did not have enough food	14.6%	15.7%	40.7%	28.6%	280		
Self or HH member had to eat a limited variety of foods	13.6%	15.7%	42.1%	28.2%	280		
Self or HH member had to eat smaller meals than needed	12.9%	20.0%	38.9%	27.9%	280		
Self or HH member had to eat fewer meals than needed	13.2%	18.6%	41.4%	26.4%	280		
There was no food at all in HH	34.6%	20.0%	31.4%	13.6%	280		
Self or HH member went to bed hungry	41.8%	22.5%	23.2%	11.8%	280		
Self or HH member went a whole day and night without food	56.4%	16.1%	18.6%	8.2%	280		

Table 18: Reported food insecurity in the four weeks prior to survey

Some respondents who reported food insecurity did not know how often they experienced this in the last four weeks; therefore, percentages do not quite total 100 percent.





A majority of respondents reported worrying that the household did not have enough food, that they or another household member had to eat a limited variety of foods, that they or another household member had to eat a smaller meal than needed, and that they or another household member had to eat fewer meals than needed in the four weeks prior to the survey due to a lack of resources. Two-thirds of respondents reported that at some point during the four weeks prior to survey, there was no food of any kind in the household due to a lack of resources, and almost 60 percent of respondents reported that at some point during the four weeks prior to survey, they or another household member went to bed hungry due to a lack of food in the household. More than 40 percent of respondents reported that they or another household member went a whole day and night without eating at some point during the four weeks prior to survey due to a lack of food in the house.

The household hunger scale (HHS) is a validated indicator to measure household hunger in food-insecure areas. The higher the score, the more hunger the household experienced. The mean household hunger score was equal to 10.4 (SD=5.6, min=0, max=21).

4.5 HIV Testing, Treatment and Adherence

The majority of respondents reported taking their first HIV test between 2-10 years prior to survey: see **Table 19**.

Table 19. First HIV test

Time	%
< 12 months ago	4.7
1 year ago	9.4
2-5 years ago	38.0
6-10 years ago	37.7
> 10 years ago	7.6

Nearly two-thirds (64.5%) of respondents reported that the reason that they first tested for HIV was due to persistent illness (N=276). Only 18.1 percent reported testing just to know their status; 9.8 percent were tested as part of an antenatal check-up; 1.1 percent tested because their spouse tested positive; and 3.3 percent tested because their spouse died of suspected AIDS.

Nearly all respondents (93.6%) had heard of medications to treat HIV (N=279). Men were more likely to report that they heard of medications to treat HIV compared to women (98.6% vs. 91.8%, p=0.04). When asked how they learned about antiretroviral therapy (ART), 77.2 percent said a health worker, 12.7 percent said a peer support group for people living with HIV and AIDS, 11.0 percent said a friend, 12.3 percent said a family member, 5.3 percent said a church group, 8.3 percent said TV or radio, 3.1 percent said newspapers or magazines, and 1.3 percent said posters or leaflets (N=228, multiple responses possible).

More than 80 percent (81.7%) of respondents reported currently taking ART (N=279). In addition, 6.5 percent reported taking herbal or traditional medicine to treat HIV (N=277). Just over one-quarter of respondents reported struggling with ART adherence at some point. When asked why they missed a dose, 38.1 percent said they forgot, 34.9 percent said they ran out of medication, 4.9 percent said it was due to side effects, 12.7 percent said that they were busy or traveling and did not have their medication with them at the time they were supposed to take it, and 17.5 percent reported another reason (N=63, multiple responses possible). Adherence data are presented in **Table 20**.

Table 20. Adherence

Missed doses (N=227)		Missed a full day (N	=226)	Missed doses and/or off-schedule (N=228)			
Time	%	Time	%	Time	%		
Never	72.7	Never	79.2	Strict adherence	82.0		
More than 3 months ago	11.0	More than 3 months ago	7.5	Some mistakes	15.4		
In last 1-3 months	3.1	In the last 2-3 months	4.0	A lot of mistakes (took medication when remembered)	2.6		
In the last 2-4 weeks	5.7	In the last 2-4 weeks	5.3				
In the last week	7.5	In the last week	4.0				

Just 4 percent reported ever stopping treatment for a week or more since starting treatment initially (3.95%, N=228).

When asked how they remind themselves to take their medication, 37.7 percent use an alarm, 23.3 percent said their family/friends help remind them, 17.5 percent said they take their medication at meal times, and 6.1 percent said they take their medication during specific television or radio programs (N=228, multiple responses possible).

All respondents taking ART reported getting their medication from the health clinic, except one who reported receiving it from a community organization (N=226). All respondents reported receiving ART free of charge (N=228).

Nearly 66 percent (65.8%) of respondents reported no HIV care-related travel expenses, 15.8 percent reported spending 10 Kwacha or less (approximately \$1.6 USD) per month on HIV care-related travel expenses, 17.1 percent reported spending between 11 to 100 Kwacha per month, and 1.3 percent reported spending more than 100 Kwacha per month (N=228).

HIV and AIDS Knowledge

Respondents were asked a series of true/false questions regarding HIV/AIDS. Almost 70 percent of respondents (66.8%) correctly responded that a person cannot get HIV from mosquito bites. Less than half of respondents (46.4%) responded correctly that HIV cannot be transmitted by kissing. The majority of respondents (95.0%) reported that

people can protect themselves from HIV by abstaining from sexual intercourse. More than 90 percent (91.8%) responded correctly that people can protect themselves from HIV by using a condom correctly every time they have vaginal sex (N=280). Fewer respondents (79.9%) replied correctly that people can protect themselves from HIV by using a condom correctly every time they have anal sex (N=279). More than 90 percent understood correctly that a person cannot acquire HIV by sharing a meal with someone who is HIV-positive (91.8%); men were more likely than women to respond correctly (98.6% vs. 91.6%, p=0.04). The majority of respondents (96.4%) responded that a person can acquire HIV through an injection with a needle already used by someone who is HIV-positive. Only 83.9 percent responded correctly that a pregnant woman with HIV/AIDS can transmit HIV to her unborn child during childbirth, and a slightly lower proportion (82.1%) understood that a woman who has HIV/AIDS can transmit HIV to her child while breastfeeding. More than 90 percent (93.6%) responded correctly that a healthy-looking person may be HIV-positive.

HIV-related Risk Behavior

More than half of respondents (53.2%) reported sex in the last six months (N=280). Men were much more likely than women to report this (76.7% vs. 44.9%, p=0.000).

Just over half of respondents (56.8%) reported a regular sex partner (N=278). Again, men were much more likely to report a regular sex partner than women (75.3% vs. 55.2%, p=0.000). Of those reporting a regular sex partner, 97.5 percent reported only one regular sex partner, with 1.9 percent reporting two regular sex partners, and three individuals (.02%) reporting three regular sex partners (N=157). Nearly 60 percent (58.6%) of those reporting a regular sex partner said that their partner was HIV-positive, 19.8 percent said their partner was HIV-negative, and 21.7 percent said that they did not know the HIV status of their regular partner (N=157).

The majority of respondents (87.3%) reported that they had disclosed their HIV status to their regular partner(s) (N=157). Knowledge about partners' HIV status is reciprocal; rates of disclosure of own status were much lower (55.9%) among those reporting that they did not know their partner's HIV status (N=34).

Among those reporting a regular partner, a majority (85.3%) reported sex with their regular partner in the last six months (N=156); and among these, nearly three-quarters (72.2%) reported using a condom at last sex (N=133). Condom use was not related to HIV status of the regular sexual partner. The few participants not reporting condom use with their regular sexual partner at last sex were asked why they did not use a condom. Eleven people reported that their partner does not like condoms, four people said that they did not have a condom with them, ten people reported that their partner was HIV-positive (and thus condoms were felt to be unnecessary), two people felt that if they suggested condoms their partner would be suspicious that they were HIV-positive, five

people said that condoms reduce sexual pleasure, and two people said that condoms take away from romance (N=37, multiple responses possible).

Nearly one-third (32.4%) of respondents reported consistent condom use with their regular sexual partner over the last six months, 46.1 percent reported never using condoms, 8.7 percent reported using condoms less than half the time, and 12.3 percent reported using condoms more than half the time, but not always (N=219). Condom use in last six months was not related to HIV status of the regular sexual partner. Men were more likely to report consistent condom use than women (50.8% vs. 25.5%, N=218, p=0.000).

Less than 5 percent (7.2%, n=19) of respondents reported sex with a casual partner in the last six months (N=263). Men were more likely to report consistent condom use with a casual partner than women (13.9% vs. 4.7%, N=263, p=0.01). Numbers were too small for further analysis. Five men reported giving a woman money or another item of value in exchange for sex in the last six months (N=263). Eight female respondents reported receiving money or another item of value in exchange for sex in the last six months (N=264). No men reported this.

The majority of respondents reported that they did not consume a drink containing alcohol during the past one month (90.9%, N=264). About 5 percent reported consuming alcohol at least once in the last week and 3 percent reported consuming alcohol at least once in the last month; only two respondents reported consuming alcohol every day (N=264). Three respondents reported ever using marijuana, and one respondent reported a history of petrol use. No respondents reported a history of injecting drug use.

Disclosure, Perceived Stigma and Discrimination

The majority of respondents (83.3%) reported that they had disclosed their HIV status to at least one person (N=276). When asked to whom they disclosed, 42.6 percent said their spouse, 42.1 percent said a sibling, 61.7 percent said another relative (aunt, uncle, or grandparent), 22.6 percent said friends, 7.0 percent said a pastor or other religious leader, 6.5 percent said a sexual partner other than a spouse, and 0.9 percent said their employer (N=230, multiple responses possible).

Felt stigma against people living with HIV was significant. Data are presented in **Table 21**.

Indicator	%	Ν
I am careful to whom I disclose my HIV status	83.0	276
People are afraid of me when they find out that I am HIV-positive	40.4	275
I have told those close to me to keep my HIV status a secret	69.1	272
People have called me names such as "living shadow"/ "walking death"	21.2	274
I have lost friends because of my HIV status	16.3	270
I am not a good person because I have HIV/AIDS	25.4	272
I work hard to keep my HIV status a secret	60.2	274
PLHIV are treated as outcasts	33.6	277
I have <i>never</i> felt the need to hide my HIV status	45.8	271

Table 21. Stigma and discrimination

4.6 Gender-based Violence

Few respondents chose to answer the question on experience of gender-based violence. One-fifth of female respondents (20.8%) reported ever being hit or beaten by

their spouse or another sexual partner (N=187).² Less than one-quarter (22.5%) of female respondents reported that they had sought help following a beating at least once, generally from a family member, health clinic or a religious leader (N=40). Seventeen percent (17.2%) of female respondents reported that they had ever been forced to have sex by their husband or someone else (N=238). Of women reporting a history of forced sex, 60.0 percent reported forced sex by their husband or someone else in the last 12 months (N=40).

More than one-quarter of respondents (25.8%) agreed or strongly agreed with the statement that a husband is justified to hit or beat his wife (N=256). Less than 40 percent of respondents (38.9%) agreed or strongly agreed with the statement that if a husband wants to have sex, his wife is not supposed to refuse (N=257).

4.7 Circumcision

Nearly 20 percent (17.9%) of male respondents reported being circumcised (N=67). Among those not circumcised, one-third (32.7%) desired to be circumcised (N=55). The main reasons cited for wanting to be circumcised were to reduce the risk of HIV (77.8%) and improve hygiene (50%) (N=18, multiple responses possible). When asked about the benefits of circumcision, 80.3 percent reported reduced HIV risk, 34.9 percent said better hygiene, and 6.1 percent said circumcision was more culturally appropriate (N=66, multiple responses possible).

4.8 Malaria

Respondents were asked about methods to prevent malaria. Nearly 80 percent (79.6%) cited sleeping under a bed net, 15.0 percent cited sleeping under an insecticide-treated bed net, 11.1% cited spraying the house with repellent, 9.7 percent said wearing long sleeves and trousers, 6.4 percent said avoiding going outside at dawn and dusk, and 15.4 percent mentioned other methods of prevention such as avoiding stagnant water and taking an antimalarial (multiple responses possible).

² Male respondents were asked if they had ever hit or beaten their spouse or sexual partner. Only two men responded to this question. Data are not shown.

More than 60 percent of respondents (63.9%) reported that they had a mosquito net in their household (N=280). Among those reporting at least one bed net in their household, 88.8 percent reported sleeping under a net the night prior to survey (N=179). When asked what they do when they suspect they have malaria, 92.5 percent responded that they go to a health center (N=279).

4.9 Access to Services

Respondents were asked about receipt of a number of services, and whether they (still) needed these services. Data are presented in **Table 22**.

		% ever received	% received in last 6 months	% reporting need for service	Ν
HIV testing and counseling		92.5	48.9%	83.2%	280
	Females	91.8	47.8%	82.6%	207
	Males	94.5	52.1%	84.9%	73
HIV treatment medication		82.5	77.1%	85.4%	280
	Females	83.6	77.3%	84.5%	207
	Males	79.5	76.7%	87.7%	73
HIV treatment medication adherence counseling		80.4	65.4%	85.4%	280
	Females	79.7	63.3%	83.1%	207
	Males	82.2	71.2%	91.8%	73
Pain assessment		62.5	46.1%	80.0%	280
	Females	64.7	48.8%	81.6%	207
	Males	56.2	38.4%	75.3%	73

Table 22: Clients who have received and who need services

		% ever received	% received in last 6 months	% reporting need for service	Ν
Pain me	dication	68.9	52.1%	81.1%	280
	Females	70.1	52.7%	81.6%	207
	Males	65.8	50.7%	79.5%	73
Treatment for nausea/ vomiting		32.9	18.2%	37.9%	280
	Females	34.8	20.8%	39.6%	207
	Males	27.4	11%	32.9%	73
Treatment for skin rash/ itching		30.7	13.6%	35.7%	280
	Females	30.0	15.5%	36.2%	207
	Males	32.9	8.2%	34.3%	73
Treatment of diarrhea		50.0	26.4%	47.5%	280
	Females	49.8	27.5%	47.3%	207
	Males	50.7	23.3%	48%	73
Treatment of sores, bumps or ulcers in mouth, genitals		21.1	11.1%	32.5%	280
	Females	22.2	12.6%	31.9%	207
	Males	17.8	6.9%	34.3%	73
Treatme	nt for malaria	85.0	59.6%	75.4%	280
	Females	84.1	58.5%	73.9%	207
	Males	87.7	63%	79.5%	73
Testing	for TB	43.2	14.5%	42.1%	208
	Females	42.0	9.6%	39.1%	207
	Males	46.6	13.2%	50.7%	73

Table 22: Clients who have received and who need services (continued)

		% ever received	% received in last 6 months	% reporting need for service	Ν
Treatme	nt of TB	25.0	7.5%	23.2%	280
	Females	26.6	8.7%	23.7%	207
	Males	20.6	4.1%	21.9%	73
Adherence counseling for TB medication		30.7	11.1%	34.3%	280
	Females	32.9	13%	34.3%	207
	Males	24.7	5.5%	34.3%	73
Nutrition	al advice	75.0	50%	85.4%	280
	Females	73.9	50.7%	82.6%	207
	Males	78.1	48%	93.2%*	73
Food or vitamins		49.3	28.9%	85%	280
	Females	49.3	31.4%	81.2%	207
	Males	49.3	21.9%	95.9%**	73
Bed net to protect against mosquitoes		73.6	27.5%	95.7%	280
	Females	73.9	30.4%	94.2%	207
	Males	72.6	19.2%	100%*	73
Physioth	nerapy	15.7	8.6%	45.4%	280
	Females	17.9	10.6%	43.5%	207
	Males	9.6	2.7%	50.7%	73
Treatme depress	nt for anxiety or ion	20.4	10.0%	45.7%	280
	Females	22.7	11.1%	46.9%	207
	Males	13.7	6.9%	42.5%	73

Table 22: Clients who have received and who need services (continued)

		% ever received	% received in last 6 months	% reporting need for service	N
Referral to a support group for PLHIV or their families		55.7	31.8%	69.3%	280
	Females	55.1	30.9%	69.1%	207
	Males	57.5	34.3%	69.9%	73
Birth spacing or FP advice		65.7	24.6%	56.4%	280
	Females	69.1*	25.6%	55.1%	207
	Males	56.2	21.9%	60.3%	73
Long-term contraceptives: pills, injectables		47.1	22.1%	42.9%	280
	Females	52.7**	24.2%	44.9%	207
	Males	31.5	16.4%	37%	73
Condoms		67.9	50.7%	63.9%	280
	Females	61.4	41.1%	57%	207
	Males	86.3**	78.1%	83.6%**	73
Informat HIV trans	ion on how to prevent smission	89.6	66.1%	86.1%	280
	Females	87.4	64.3%	81.6%	207
	Males	95.9*	71.2%	98.6%**	73
Informat infectior	ion on preventing with new strain of HIV	78.6	57.9%	83.9%	280
	Females	77.3	56%	79.2%	207
	Males	82.2	63%	97.3%**	73

Table 22: Clients who have received and who need services (continued)

Table 22: Clients who have received and who need services (continued)

······································	% ever received % received in last % reporting need for N	
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			6 months	service	
Free legal services		9.6	5%	63.2%	280
	Females	9.2	5.8%	60.4%	207
	Males	11.0	2.7%	71.2%	73
Small loan from a community organization		12.5	5.0%	78.6%	280
	Females	14.5	6.3%	78.3%	207
	Males	6.9	1.4%	79.5%	73

*p<0.05, **p<0.01

Irrespective of need, reported (ever) receipt of services in the following areas was over 80 percent: HIV counseling and testing, HIV treatment, HIV treatment adherence counseling, malaria treatment, nutritional advice, condoms, and information on how to prevent HIV transmission. Between 50 to 80 percent of respondents also reported ever receiving the following: pain assessment, pain medication, nutritional advice, treatment for diarrhea, bed nets, referral to a support group for PLHIV and their families, birth spacing or family planning advice, condoms, and information on preventing infection with a new strain of HIV. Between 25 and 50 percent of respondents reported ever receiving the following: treatment for nausea, treatment for a skin rash or itching, testing for TB, treatment of TB, adherence counseling for TB medication, food or vitamins, and long-term contraceptives. Ever receipt of the following services was below 25 percent: treatment of sores, bumps or ulcers in mouth or genitals, physiotherapy, treatment for anxiety or depression, free legal services, and a small loan from a community organization. There were few differences between men and women. Men were more likely to report having received condoms (and to report needing condoms); they were also more likely to report having ever received information on how to prevent HIV transmission (and to report needing this information). Men were more likely to report needing nutritional advice, food or vitamins, bed nets, condoms, and information on preventing infection with new strain of HIV. Women were more likely to report having ever received birth spacing or FP advice and long-term contraceptives; and they were more likely to report having received treatment for skin rash or itching and food or vitamins in the last 6 months.

The demand appears to be met among respondents across the following service areas (i.e., the proportion needing a service is lower than the proportion reporting [ever] receipt of services): HIV testing and counseling, HIV treatment medication, treatment of

diarrhea, treatment for malaria, testing for TB, treatment of TB, birth spacing or FP advice, long-term contraceptives, and information on how to prevent HIV transmission.

Respondents were asked if any of their household members had received services. Findings are summarized in **Table 23**.

Table 23: Proportion of household members of respondents who have received, and who need services (N=280)

Service	% ever received	% received in last 6 months	% reporting need for service
HIV testing and counseling	60.7	36.1	67.5
HIV treatment medication	47.5	42.5	53.2
HIV treatment medication adherence counseling	46.8	38.6	52.5
Pain assessment	32.5	23.6	48.2
Pain medication	35.4	27.1	48.9
Treatment for nausea/vomiting	22.1	13.2	27.9
Treatment for skin rash/itching	20.0	11.4	26.8
Treatment of diarrhea	41.8	27.9	39.3
Treatment of sores, bumps or ulcers in mouth or genitals	13.2	6.4	22.1
Treatment for malaria	71.1	52.9	68.9
Testing for TB	21.1	7.1	32.5
Treatment of TB	11.4	3.9	16.1
Nutritional advice	45.4	26.8	66.8

Table 23: Proportion of household members of respondents who have received, and who need services (N=280) (continued)

Service	% ever received	% received in last 6 months	% reporting need for service
Food or vitamin supplements	35.0	21.8	71.8
Bed net to protect against mosquitoes	51.1	21.4	84.6
Physiotherapy	8.2	5.0	29.6
Treatment for anxiety or depression	11.1	6.4	32.5
Referral to a support group for PLHIV or their families	27.5	15.4	46.8
Birth spacing or family planning advice	45.7	29.3	55.4
Long-term contraceptives such as pills or injectable contraceptives	36.4	21.4	44.6
Condoms	46.8	36.8	57.5
Information on how to prevent HIV transmission	64.3	48.2	76.1
Information on how to prevent infection with a new strain HIV	51.8	38.6	69.6
Free legal services	5.0	2.5	55.4
Small loan from a community organization (not an individual)	6.4	3.2	66.1

Irrespective of need, more than half of family members reported that at least one household member had ever received HIV counseling and testing, treatment for malaria, a bed net, information on how to prevent HIV transmission, and information on how to prevent infection with a new strain HIV. Less than half but more than a quarter of respondents reported that at least one household member had ever received the following services: HIV treatment, HIV treatment adherence counseling, pain assessment, pain medication, diarrhea treatment, nutritional advice, food or vitamin

supplements, referral to a support group for PLHIV or their families, birth spacing or family planning advice, long-term contraceptives, and condoms. Less than one in four respondents reported that a household member had received any of the following services: treatment for nausea/vomiting, treatment for skin rash/itching, treatment for sores, bumps or ulcers on the mouth or genitals, testing for TB, treatment for TB, treatment for depression or anxiety, or referral to a support group for PLHIV and their families. Less than one in ten respondents reported that a household member had ever received physiotherapy, free legal services, or a small loan from a community organization.

Overall there appears to be high demand among household members across service areas (the proportion needing a service is higher than the proportion reporting receipt of services)

5 Community Caregivers

5.1 Demographics

A total of 312 community caregiver records were eligible for analysis.

Nearly 70 percent of respondents were female (67.3%). Data were analyzed by sex; differences are noted where significant.

The mean age of community caregivers surveyed was 46.5 years (median=46, range=18 to 74, N=311). The majority of respondents reported that they had attended school at some point (98.7%). About 30 percent of respondents who attended school reported completing secondary school (29.9%), almost 40 percent reported completing junior secondary school (39.6%), 28.3 percent reported completing primary school, and 2.3 percent reported completing university or vocational training (N=308). Men were more likely to report completing secondary school than women (44.2% vs. 24.3%, p=0.000).

Two-thirds of respondents reported being married (67.7%), 5.8 percent reported being single, 9.9 percent reported being divorced or separated, and 18.6 percent reporting being widowed. Men were more likely to be report being married (91.2% vs. 51.9%, p=0.000).

The majority of respondents reported having children of their own (98.1%). Nearly 50 percent indicated that they had more than three biological children under 18 years old (47.1%), and 35.9 percent reported having one or two biological children (N=306). Nearly 70 percent of respondents reported that they had three or more children under 18 years old living with them (65.6%, N=311). Only 9 percent of caregivers surveyed reported having no dependents under 18 years in their household.

The mean monthly income among respondents was 415.9 Kwacha (median=200, range: 0-6000). Less than 2 percent (1.6%) of respondents reported no monthly income at all, 17.9 percent reported a monthly income between 1 and 99 Kwacha; 51.9 percent reported a monthly income between 100 and 499 Kwacha; 18.3 percent reported a monthly income between 500 and 999 Kwacha; and 10.3 percent reported a monthly income of 1,000 Kwacha or more (N=311).

5.2 Community Caregiver Role

A majority of respondents reported that they have been community caregivers for more than one year (92.3%). All respondents reported that they were aware of their job roles and responsibilities as caregivers.

Home visiting

The mean number of households a community caregiver is responsible for visiting was 18.5 (median=12). Over 60 percent of respondents reported visiting 10 or more households in their community caregiver role (63.4%), 12.2 percent of respondents reported visiting between seven and nine households, 19.2 percent reported visiting between one and three households.

Community caregivers were asked how often they visited their clients. More than a third reported that they visited their clients weekly (34.9%), 40.7 percent reported visiting clients monthly, and 11.5 percent reported visiting clients more than once per week. There was no relationship among frequency of visits, sex of caregiver, and length of time working as a community caregiver.

Community caregivers were asked how many different households they visited in an average week. Overall, 41.5 percent indicated that they visited five or more different client households in an average week, with 36.7 percent and 21.8 percent indicating that they visited three to four different households and one to two different households, respectively (range: 0-47, N=308).

Community caregivers were asked how many different households they visited in the week prior to survey. Overall, 32.9 percent reported visiting five or more different client households the week prior to survey, with 30.6 percent and 23.6 percent indicating that they visited three to four different households, and one to two different households, respectively, and 12.9 percent reporting that they did not visit any household the week prior to survey (range: 0-33, N=310).

The majority of respondents (85.3%) reported that they travel between client households on foot, with 14.4 percent reporting traveling by bicycle. Men were far more likely to report traveling by bicycle than women (23.8% vs. 10%, p=0.001). Overall, 33.3 percent reported owning a bicycle.

Community caregivers were asked about the number of hours they spent visiting their clients each week. One-third of the respondents (31.4%) reported spending one to three hours per week visiting clients, another third reported spending three to six hours per week (33.7%), 14.1 percent reported spending six to 10 hours per week, and 13.8 percent reported spending more than 10 hours per week. Less than 10 percent (7.1%) reported spending less than one hour per week visiting clients.

Community caregivers were asked if they had their clients' phone numbers and if they communicated with some of their clients by phone. Over 20 percent reported that they communicated by phone (21.8%). Of these, 2.9 percent said that they had all of their clients' numbers, and 94.1 percent said that they had some of their clients' numbers (N=68).

Services Provided and Training

Caregivers were asked whether they provided a range of health services to their clients. They were also asked whether they had received training to provide these services, whether such training was received in the six months prior to survey, and if they felt that they needed training in any of these service areas. Results are presented in **Table 24**.

Service	% providing service	% who have ever received training	Reported need for training
Child health assessments	93.6	71.5	97.8
Child nutritional assessments (MUAC)	77.9	65.7	97.4
Psychosocial counseling for children	77.9	64.3	97.4
Child protection monitoring	86.5	67.3	97.8
Household HIV counseling and testing	48.1	38.8	98.1
HIV post-exposure prophylaxis	45.8	26.4	98.4
Health assessments for PLHIV	84	64.1	97.8
HIV treatment adherence counseling	82.4%	65.7	95.5
Pain assessment for PLHIV	78.2%	53.5	96.2
Psychosocial counseling for adults	75.6%	54.8	96.5
Nutritional assessments for PLHIV	80.5%	63.1	97.4

Table 24: Services provided by community caregivers (N=312)

Male community caregivers were more likely to report providing psychosocial counseling for children than females (87.3% vs. 73.3%). There were no other differences in the type of services provided by sex of the respondent. Overall, the types of services provided by respondents varied. Over three-quarters of community caregivers reported providing child health assessments and psycho-social counseling for children, but less than half reported providing household HIV counseling and testing and referring for HIV post-exposure prophylaxis. In all cases, community caregivers reporting a service were more likely to report having received training in that

service area (p=0.000). On average, three-quarters of community caregivers reporting ever having received training in a particular service area reported that this occurred in the six months prior to survey. Still, an overwhelming majority of respondents reported needing training in all service areas, regardless of whether they had received training in the last six months.

Caregivers were also asked whether they provided information in a number of areas; results are presented in **Table 25**.

Information area	% providing information	% reporting having ever received training	% reporting needing training
HIV counseling and testing	65.1	53.3	96.2
ART drug interactions	63.1	45.7*	95.8
Opportunistic infections	75.0	57.6*	95.5
Prevention of TB and early warning signs	75.3	52.4	94.6
РМТСТ	82.7	62.3	96.5
HIV post-exposure prophylaxis	52.9	31.8	96.1
Injection safety	59.0	35.9	95.8
Sexual prevention of HIV	95.2	80.1	94.2
Prevention with positives	90.7	76.9	95.5
STIs	92.3	76.9	95.8
Child nutrition	85.9	69.2	96.5
Nutrition for PLHIV	85.6	68.6	96.5
Child immunizations	71.2	46.8	96.5

Table 25: Information provided by community caregivers (N=312)
Information area	% providing information	% reporting having ever received training	% reporting needing training
Malaria prevention and control	91.0	73.4	96.2
Birth spacing and family planning	82.7	60.3	96.2

Table 25: Information provided by community caregivers (N=312) (continued)

The types of information provided by community caregivers varied. Nearly all respondents reported providing information on sexual prevention of HIV (95.2%); on the other hand, only 52.9 percent reported providing information on HIV post-exposure prophylaxis to clients. On average, about three-quarters of all those providing information had received training in that area previously. Caregivers reporting providing information in a given area were more likely to report having received training in that service area (p=0.000). Still, significant training gaps appear, especially around child immunizations, birth spacing/family planning, injection safety, and HIV post-exposure prophylaxis.

Community caregivers were asked whether they had received training specifically on how to monitor a client's progress. Two-thirds of respondents reported that they had received training in client monitoring (67.6%). Nearly half of community caregivers indicated that they had received this training more than a year prior to the survey (45%, N=209). One-third (33.5%) reported receiving training three to twelve months prior to the survey, and a further 21.5 percent reported receiving training in the three months prior to the survey.

Nearly 80 percent of caregivers reported that they use the information they gather during household visits to make caregiving decisions (79.3%, N=304).

5.3 Confidence in Role as Caregiver

The vast majority of community caregivers reported that they were comfortable discussing sexual prevention of HIV with adult beneficiaries (95.4%, N=307) and with beneficiaries under 18 years old (91.3%, N=310). Most community caregivers (93.2%, N=308) also reported comfort in discussing birth spacing and family planning with beneficiaries. Over 80 percent of caregivers (86.1%) reported that they felt equipped to support clients in adhering to their HIV treatment (N=309), and most (92.6%) reported that they knew where to refer a client living with HIV for medication (N=309). Nearly 85 percent (81.9%) of community caregivers reported that they felt comfortable supporting

clients and their families to prepare for death (N=310). Men were more likely to report feeling comfortable in supporting clients in this way compared to women (89.0% vs. 79.3%, p=0.036). There were no differences between caregivers with different education levels.

5.4 HIV and AIDS Knowledge

More than four-fifths of community caregivers (91.4%) reported ever having had an HIV test, with no difference between respondents with different levels of education. Ninetynine percent of those reporting a prior HIV test received the results of their test (N=285).

Respondents were asked a series of true/false questions regarding HIV/AIDS. A majority of respondents (87.8%) correctly responded that a person cannot get HIV from mosquito bites. Two-thirds of respondents (67.6%) responded correctly that HIV cannot be transmitted by kissing. A majority (93.9%) reported that people can protect themselves from HIV by abstaining from sexual intercourse. A similar proportion (95.5%) responded correctly that a person can protect themselves from HIV by using a condom correctly every time they have vaginal sex. Nearly 90 percent of caregivers (86.9%) responded correctly that people can protect themselves from HIV by using a condom correctly every time they have anal sex. Over 90 percent of the respondents (92.3%) agreed that a person can protect themselves from HIV by using a female condom correctly every time they have sex.

The majority of respondents understood correctly that a person cannot acquire HIV by sharing a meal with someone who is HIV-positive (95.5%). A similarly high proportion (98.7%) responded that a person can acquire HIV through an injection with a needle already used by someone who is HIV-positive. Over 85% of caregivers (86.5%) responded correctly that a pregnant woman with HIV/AIDS can transmit HIV to her unborn child during childbirth, with males more likely than females to agree (93.1% vs. 84.2%, p=0.03). A slightly lower proportion (83.7%) understood that a woman who has HIV/AIDS can transmit HIV to her child while breastfeeding. Over 90 percent (91.7%) of respondents agreed that HIV cannot be transmitted through witchcraft, with males more likely than females to agree (98.0% vs. 91.3%, p=0.03).

Almost all respondents (97.1%) responded correctly that a healthy-looking person may be HIV-positive. Over 90 percent of caregivers responded correctly that herbs cannot cure HIV (93.6%). Nearly 90 percent of community caregivers agreed that there was a difference between HIV infection and AIDS (88.2%), and less than 60 percent of respondents understood correctly that not all people living with HIV need to be on antiretroviral treatment (55.5%).

Community caregivers were asked when they thought that people living with HIV were most infectious. Over one-third said "always" (35.7%), less than one-third said when

they have AIDS (31.5%), 22.9 percent said when someone is first infected, and the rest suggested another time (N=311). Community caregivers were asked when they thought people living with HIV should start ART. One in five (21.5%) said "immediately following infection," 6.4 percent said "when they get sick or get AIDS," 57.7 percent said "when their CD4 count drops below 350 cells/mm³," and 24.7 percent said that it depends on CD4 count and disease progression.

Community caregivers were asked to name as many minor side effects of ART as they could. Over one-third (36.9%) said nausea/vomiting, 14.1 percent said insomnia, 29.1 percent said loss of appetite, 38.1 percent said headache, 11.8 percent said dry mouth, 31.4 percent said diarrhea, 9.9 percent said hair loss, 14.4 percent said tingling in hands or feet, 5.1 percent said short-term sadness or worry, and 23.4 percent reported other side effects. Community caregivers were also asked to name as many major side effects of ART as possible. One-third (31.4%) said persistent diarrhea, 26.8 percent said blurry vision, 17 percent said spots on the tongue, 8.4 percent said trouble swallowing, 42.9 percent said skin infections, 7.4 percent said blood in stool, 16.7 percent said persistent dizziness, 11.2 percent said sudden difficulty walking due to pain, 10.6 percent said vomiting blood, 7.1 percent said persistent insomnia, 9.3 percent said inability to eat/malnutrition, 5.8 percent said depression or persistent anxiety, and 17.3 percent reported other major side effects including headaches and vomiting (N=310).

When asked why it is important for clients to take their HIV medications on a strict schedule, 58.0 percent said to avoid drug resistance, and 63.8 percent said that ART is only effective if taken on schedule, as prescribed.

Attitudes and Values

As expected, community caregivers generally had very accepting attitudes toward people living with HIV and AIDS. The vast majority of respondents reported a belief that if a pupil has HIV and is not sick, he/she should be allowed to continue attending school (96.2%). Similarly, 96.8 percent of caregivers reported a belief that if a teacher has HIV and is not sick, he/she should be allowed to continue teaching. Less than 20 percent of community caregivers (18.6%) reported a belief that people living in households where one or more household members is living with HIV are treated unkindly by the community, and that households who receive free services are treated unkindly by community (18.6%).

Nearly 90 percent of community caregivers (88.1%) reported a belief that children ages 15 to 18 should be taught how to use condoms correctly to protect themselves from HIV. Only 51 percent of respondents reported a belief that children aged 10-14 should be taught to use condoms correctly.

Referrals

Findings on referrals of clients and household members of clients are presented in **Table 26**. For nearly all issues, reported knowledge of where to refer clients was high. More than nine in ten respondents reported knowledge of where to refer clients for HIV testing, ART, PMTCT, STI treatment, psychosocial counseling, TB testing or treatment, long-lasting insecticide nets (LLINs), family planning, and condoms; and just under 90 percent of respondents reported referral knowledge for immunizations, spiritual/pastoral care, child abuse, and gender-based violence. Less than 50 percent of respondents knew where to refer clients for livelihood support, vocational training, legal aid and Kids' Clubs.

Reported referral rates for clients were high among community caregivers who reported referral knowledge. More than half of community caregivers with referral knowledge reported referring clients for HIV testing, ART, immunizations, LLINs, family planning, condoms, and spiritual/pastoral care in the last six months.

Reported referral rates for household members of clients were also high. More than one-third of community caregivers with referral knowledge reported referring household members of clients for HIV testing, ART, PMTCT, psychosocial counseling, support groups for PLHIV and their families, immunizations, LLINs, Kids' Clubs, youth peer education, women's groups, family planning, condoms, and spiritual/pastoral care in the last six months.

	% who know where to refer	% who have referred registered beneficiary in last 6 months	% who have referred household member of registered beneficiary in last 6 months
HIV testing	98.4	58.3	49.7
ART	95.5	49.4	36.2
РМТСТ	92.6	40.7	33.7
Treatment of OIs	88.5	35.6	27.2
STI treatment	93.0	34.6	27.6
Post-rape care	79.8	9.9	8.0

Table 26: Knowledge of referrals and reported referrals of registered clients and household members (N=312)

Table 26: Knowledge of referrals and reported referrals of registered clients and household members (N=312) (continued)

	% who know where to refer	% who have referred registered beneficiary in last 6 months	% who have referred household member of registered beneficiary in last 6 months
Post-exposure prophylaxis	62.8	9.3	7.4
Psychosocial counseling	90.7	44.9	31.7
TB testing or treatment	93.9	29.8	25.6
Nutritional support/feeding	81.7	35.9	26.0
Livelihood support/cash transfer	32.7	9.2	8.0
Vocational training	43.0	10.9	10.6
Legal aid, e.g., will writing	49.0	9.0	6.7
Support group for PLHIV	70.8	34.3	24.7
Immunizations	88.5	44.8	35.3
IPT for pregnant women	78.5	30.1	25.3
LLINS	90.1	46.5	41.7
Indoor residual spraying	64.7	24.0	20.5
Kids' Club	21.8	8.7	9.0
Youth peer education	50.0	21.4	18.9
Women's group	69.6	32.7	27.9
Family planning	94.6	56.7	46.2
Condoms	95.8	66.7	57.4
Spiritual/pastoral care	85.9	52.6	45.8

Table 26: Knowledge of referrals and reported referrals of registered clients and household members (N=312) (continued)

	% who know where to refer	% who have referred registered beneficiary in last 6 months	% who have referred household member of registered beneficiary in last 6 months
Child abuse	88.5	21.5	16.3
Gender-based violence	86.2	20.5	16.0

When asked how they ensure that their clients completed the referral, 9.4 percent of respondents reported that they call them, 72.5 percent reported that they ask when they visit clients the next time, 47.6 percent reported that they contact or physically go to the clinic or place of referral to see if clients attended, and 10.4 percent reported other ways such as accompanying clients to the clinic or asking for feedback after receiving services (N=309, multiple responses possible).

Two-thirds of the community caregivers reported being registered at a health facility for referrals (66.7%). Nearly 60 percent were members of the Neighborhood Health Committee (58.2%, N=311), 16.7 percent reported being a part of the Community AIDS Task Force, and 23.4 percent reported being a part of other committees (N=311).

5.5 Caregiver Well-being

Community caregivers were asked whether they could handle all of their caregiving responsibilities comfortably in the time they had. The vast majority (95.2%) agreed or strongly agreed that they were able to handle their responsibilities in the available time. Just over half (52.1%) of community caregivers surveyed reported that they felt adequately supported to carry out their job responsibilities (N=311). Nearly all (92.3%) agreed or strongly agreed that even with their caregiving responsibilities, they still had adequate time for themselves. Nearly all respondents reported enjoying their caregiving responsibilities (97.8%), and all but one respondents agreed that they were good at their job as community caregiver (N=311).

Discussion and Recommendations

Child Education

Nearly all children reported that they were currently attending school (91.7%). Younger children were more likely to report school attendance than older children, but there were no differences between boys and girls. The most common reason cited for not attending school was financial constraints. We recommend that community caregivers be equipped to monitor school enrollment, regular school attendance, and school progression among children, especially among older children among whom drop-outs are more common.

Child Labor

Less than half of children reported previous work for money. Older children were much more likely to report work, which is appropriate particularly if those children are still attending school (we did not find a negative relationship). Still, one-third of children aged 11-12 reported work, generally farming or construction work. Community caregivers should carefully monitor the type and amount of work being conducted by the children they serve, and particularly how it affects their studies. Community caregivers should be trained to uncover and address over-work among children, and suspected "child labor".

Livelihoods

Two-thirds of respondents reported that they were in gainful employment at the time of survey, the majority in farming. The mean annual income among all respondents was 1,593.7 Kwacha (approximately US\$250). More than three-quarters of respondents reported being able to make ends meet.

With respect to asset ownership, three-quarters of respondents reported owning land and just over 65 percent reported owning a house. A majority of children reported having two or more sets of clothes. Just over half reported owning bedding, while just under half reported owning one or more pairs of shoes. Zambia has one of the highest incidences of poverty in the world with 64 percent of people living in poverty³ (UNDP, 2013). The economic situation of many households is inadequate and/or unstable. Targeted approaches to economic strengthening should respond to the unique characteristics of districts, communities and households.

Interventions should respond to distinct vulnerabilities of families rather than individuals. Destitute families with little-to-no income and assets and severe food insecurity require a specific set of more urgent interventions and longer term assistance to rebuild their basic economic capacity. Families struggling to make ends meet with fluctuating income / assets and moderate food insecurity require programming that focuses on strengthening money management. Other families may be more prepared to grow economically; they may have some assets and less food insecurity, but still live with some degree of income uncertainty and thus require interventions to diversify and grow income (Wolfe & Brand, 2012).

Physical, Sexual and Gender-Based Violence

The prevalence of reported physical and sexual violence among children in this population is highly concerning. More than half of children reported that they had previously been hit or beaten, with younger children more likely to report this. Just over five percent of children reported having ever been forced to have sex. Evidence-based parenting interventions, with male involvement, are needed to break the pattern of violence in the household.

One-fifth of respondents (22%) reported ever being hit or beaten by their spouse or another sexual partner. Less than one-quarter of female respondents reported that they had sought help following a beating at least once, generally from a family member, health clinic or a religious leader. Levels of acceptance of gender-based violence are high; one-quarter of respondents agree that a husband is justified to hit or beat his wife, and 40 percent agree that a wife must consent to sex if her husband demands it.

Gender-based violence was identified as a constraint to women accessing HIV counseling and testing services, as well as to obtaining HIV test results in an antenatal

³ Multidimensional poverty, as cited in the Zambia Human Development Report.

clinic. There is a clear need for interventions to support victims of physical, sexual and gender-based violence. Programs should consider interventions aimed at improving intra-household dynamics and female empowerment, and community caregivers should be trained to adequately identify and respond to issues of physical, sexual and gender-based violence. Organizations providing quality support services should be identified and leveraged to establish local referral networks. Drafting clear action points on how to address abuse cases should be provided according to cultural norms and local contexts.

Malaria

Access and use of mosquito nets is low among respondents. Approximately half of households reported having a mosquito net in their house. Of those with nets, 85 percent reported that someone in their household slept under the net the night preceding the survey. These findings are below the national average. ZDHS 2013 reported 73 percent of Zambian households have at least one mosquito net.⁴

Knowledge of how to prevent malaria is relatively low. About two-thirds of children and 80% of adults correctly reported that sleeping under a bed net can prevent malaria. More than 60 percent of respondents reported that they had a mosquito net in their household; of these, nearly 90 percent slept under a net the night prior to survey.

Further progress should be made in malaria prevention education and to strengthen interventions. Distribution of insecticide-treated nets (ITNs) should be scaled-up and well-coordinated across service providers.

Food Security

Overall, findings show that households do not consistently have sufficient amounts and varieties of food. Over 80 percent of respondents reported eating two or more meals per day. However, a majority of respondents reported worrying that the household did not have enough food or sufficient food variety. Two-thirds reported that at some point during the four weeks prior to survey, there was no food of any kind in the household

⁴ The Zambia Malaria Indicator Survey (2012) found 72% household ownership.

due to a lack of resources, and almost 60 percent reported that at some point during the four weeks prior to survey, they or another household member went to bed hungry.

Children also reported inadequate food intake: in the last four weeks one-fourth of children said that they went a whole day and night without eating, 60 percent reported eating a smaller meal than they felt they needed, and two-thirds reported eating fewer meals in a day, all due to not having enough food in the house.

Additional national data supports evidence of significant food insecurity. ZDHS 2013 reported 40 percent of young children are chronically malnourished (stunted), 6 percent are acutely malnourished (wasted) and 15 percent of children are underweight.

The current state of food insecurity requires a multi-pronged approach. Households at different levels of food insecurity require specific support that meets their unique needs. In cases of severe food insecurity, more urgent interventions may need to be provided to individuals and households, some of which may require facility-based care. Interventions that respond to the characteristics of mild, moderate and severe food insecurity need to be employed.

Psychosocial Well-being

Nearly one in five children surveyed showed abnormal emotional well-being and a further 20 percent had "borderline" scores. One in ten had peer relationship problems. The method used to assess psychosocial well-being does not confirm the diagnosis or presence of a psychological disorder. However, results did show concern of abnormal well-being. Interventions to boost children's opportunities to socialize, build positive relationships, identify individuals they can trust, ease fear, reduce worries and nerves and relieve insecurities, are recommended. Furthermore, economic strengthening activities may serve a similar purpose – relieving worries and insecurities of impoverished families, thus improving psychosocial well-being (Sherr & Zoll, 2012).

HIV and AIDS

HIV Knowledge and Attitudes

The survey findings show respondents have general knowledge of HIV/AIDS, but gaps exist in knowledge of HIV transmission and prevention. These findings are generally consistent with national evidence from ZDHS 2013, which suggests that general knowledge of HIV and AIDS in Zambia is very high. However, survey results show gaps in comprehensive understanding of HIV transmission and prevention among program beneficiaries. Interventions that include education on HIV transmission and prevention are recommended for both youth and adult beneficiaries. HIV education messages should seek to dispel common misunderstandings identified. Prevention of mother-to-child transmission (PMTCT) messages should be more rigorously integrated into

program interventions. Community caregivers' knowledge of HIV transmission and prevention, although generally high, should also be improved to ensure accurate messages are being communicated to beneficiaries.

HIV/AIDS Stigma and Discrimination

Stigma has been identified as a major barrier to universal access and utilization of HIV and AIDS related services. Survey findings reveal considerable felt stigma and discrimination among beneficiaries. Twenty percent of children feel that families with HIV-positive individuals are treated unkindly by other students, that families with HIV-infected individuals are treated unkindly by teachers, and that children who receive free services are treated unkindly by the community. Among adult respondents, only a minority perceived stigma due to their HIV status, though most reported reluctance to disclose their status to others except for spouse or relative; and in those cases, most asked their confidante to keep their status a secret. Greater efforts should be made to integrate HIV care and support interventions into community-wide interventions and services, to avoid singling out individuals and families who are positive. At the same time, continued HIV and AIDS sensitization, and support to develop positive and inclusive policies from the facility level to the national level, will reduce stigma and discrimination.

HIV Prevention and HIV-Related Risk Behaviors

Child beneficiaries. Among youth, findings show early initiation of sex, one or two sexual partners, and low condom use and low HIV testing rates (30%). Just over one-quarter of children aged 13-17 reported previous sex; of these, about 60 percent reported one partner only. The mean age of sexual debut among sexually active youth was 12.5 years among boys and 14.3 years among girls. Among those reporting previous sex, only half reported ever using a condom, and only one-third reported using a condom at first sex (36%), and at last sex (39%). Girls and older children were more likely to report condom use.

We recommend investment in programs that focus on delaying sexual debut – younger children are less likely to protect themselves from HIV (and pregnancy) and more vulnerable to negative outcomes. Also, programs need to do better in promoting condoms among sexually active youth, and in particular, youth males. Just over 40 percent of children reported that they had discussed their HIV risk with someone—most commonly a friend in the same age group. This is good news. If youth have correct information about HIV risk behaviors and prevention methods, this information may transmit well across informal youth networks.

Youth HIV prevention messages need to be age-appropriate and address HIV risk, HIV prevention, HIV testing and HIV treatment. A safe environment for youth to discuss their

HIV risk with an adult should be promoted. Similarly HIV testing should be provided an environment in which youth feel safe. Specific interventions to consider include peer-to-peer education through life skills training, school AIDS clubs, community youth resource centers and ensuring HIV services are 'youth-friendly'.

Adult beneficiaries. Just over half of respondents (57%) reported a regular sex partner, nearly 60 percent of whom said that their partner was HIV-positive, while about 20 percent reported their partner was HIV-negative and another 20 percent did not know their partner's HIV status. The majority of respondents (87%) reported that they had disclosed their HIV status to their regular partner(s).

Among those reporting a regular partner, a majority (85%) reported sex with their regular partner in the last six months; among these, nearly three-quarters reported using a condom at last sex. However, only one-third reported consistent condom use with their regular sexual partner over the last six months, and among all respondents, 46 percent reported never using condoms. Men were more likely to report consistent condom use than women. Less than 5 percent of respondents reported sex with a casual partner in the last six months.

A CDC-funded study found that people who do not know their HIV status are more than twice likely to engage in high-risk sex than those who are aware of their HIV positive status (Marks et al, 2005). Community sensitization on the importance of HIV testing and treatment is also recommended. Adult HIV counseling should include sexual prevention messages, disclosure and treatment. Adult HIV testing should be scaled up.

HIV Treatment and Adherence

More than 80 percent of respondents reported currently taking ART, and just over onequarter of respondents reported struggling with ART adherence at some point. Effective case management for each individual and household is recommended. Interventions to continue to improve adherence is also recommended. We suggest further strengthening the capacity of community caregivers to support clients' in adhering to ART. Continued awareness building on ineffectual traditional treatment methods should also be employed.

Access to HIV Prevention, Care and Support

Two-thirds of children reported ever receiving condoms, and just over 30 percent reported needing them, with boys and older age groups more likely to report this. Less than 10 percent of children, mostly in the 16 to 17-year-old age group, reported having ever been treated for sores, bumps, or ulcers on their mouth or genitals, although almost one-quarter reported needing such treatment. Although 60 percent of children reported having ever received information on HIV prevention, most children reported a need for further HIV prevention information, with boys and older children more likely to report this. These data highlight critical HIV service access gaps related to prevention, particularly among youth. It is our recommendation that future programming considers targeted HIV prevention interventions towards youth, and interventions that draw youth into clinics for information, testing and treatment.

Reported (ever) receipt of services in the following areas was over 80 percent: HIV counseling and testing, HIV treatment, HIV treatment adherence counseling, malaria treatment, nutritional advice, condoms, and information on how to prevent HIV transmission. Between 50 to 80 percent of respondents reported ever receiving the following: pain assessment, pain medication, nutritional advice, treatment for diarrhea, bed nets, referral to a support group for PLHIV and their families, birth spacing or family planning advice, condoms, and information on preventing infection with a new strain of HIV. Between 25 and 50 percent of respondents reported ever receiving the following: treatment for nausea, treatment for a skin rash or itching, testing for TB, treatment of TB, adherence counseling for TB medication, food or vitamins, and long-term contraceptives. Ever receipt of the following services was below 25 percent: treatment of sores, bumps or ulcers in mouth or genitals, physiotherapy, treatment for anxiety or depression, free legal services, and a small loan from a community organization. There were few differences between men and women. Generally access to services for BCS beneficiaries appears high; however, critical gaps are evident, particularly around access to non-HIV services, such as family planning, food and nutritional support and psychosocial / community support. Programs should address these gaps in linking beneficiaries into care to maximize impact on their well-being.

Male Circumcision

Findings show that circumcision is becoming more common with younger generations. While only 20 percent of adult respondents reported being circumcised, more than 40% of boys reported being circumcised. Among both adult and youth males, nearly one-third of adults not circumcised, and one half of boys, reported that they wanted to become circumcised.

Circumcision should be further promoted as an HIV prevention measure. Awareness building through IEC materials is recommended. Additionally, linkages and referrals between health centers and circumcision centers should be strengthened.

Community Caregivers

Home visiting

Over 60 percent of respondents reported visiting 10 or more households in their community caregiver role. Forty percent visited clients monthly, and 35 percent visited

weekly. One-third reported spending one to three hours per week visiting clients and another third reported spending three to six hours per week. More than a quarter reported spending six or more hours per week, and less than 10 percent reported spending less than one hour per week. The majority (85%) reported that they travel between client households on foot, with the remainder—mostly men—traveling by bicycle.

The caregiver-to-household ratio should be reviewed and a standard household workload should be recommended for all community caregivers. STEPS OVC currently recommends five households per caregiver. Additionally, supporting increased use of cell phones for caregiver-client communication may also ease their workload.

Services Provided and Training

Over three-quarters of community caregivers reported providing child health assessments and psycho-social counseling for children, but less than half reported providing household HIV counseling and testing and HIV post-exposure prophylaxis (referral). In all cases, community caregivers reporting providing a service were more likely to report that they had received training in that service area. Still, an overwhelming majority of respondents reported needing training in all service areas, particularly around child immunizations, birth spacing/family planning, injection safety, and HIV post-exposure prophylaxis.

The vast majority of community caregivers reported that they were comfortable discussing sexual prevention of HIV with beneficiaries, as well as birth spacing and family planning. Over 80 percent reported that they felt equipped to support clients in adhering to their HIV treatment and over 90 percent reported that they knew where to refer a client living with HIV for medication. Over 80 percent of community caregivers reported that they felt comfortable supporting clients and their families to prepare for death.

Despite high levels of training, some gaps remain, particularly in child survival and family planning. Community caregivers should be trained in all services and information areas, with refresher training and training for newly hired caregivers routinely provided. It is recommended that trainings be provided in partnership with District Health Management Teams (DHMT) to promote sustainability. Community caregivers should also be supported with correct and up-to-date information regarding the services they provide. Information, education and communication materials are recommended to help community caregivers provide information in targeted program areas.

Referrals

Most community caregivers (more than 90 percent) knew where to refer clients for services such as HIV testing, ART, PMTCT, STI treatment, psychosocial counseling, TB testing or treatment, long-lasting insecticide nets (LLINs), family planning, and condoms; and close to that many reported referral knowledge for immunizations, spiritual/pastoral care, child abuse, and gender-based violence. More than half of these community caregivers reported referring clients for most of these services in the last six months. Most community caregivers followed up with clients to ensure they took advantage of a referral during a subsequent client visit.

Referral knowledge and rates of referral are high. Information on available local services should be maintained and disseminated.

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Appendices

Appendix 1: Data Tables

Table A1: HIV/AIDS Indicators, Orphans and Vulnerable Children aged 11-17 years †

		Ages 13-14		Ages 15-17			
Indicator	Male (N=296)	Female (N=303)	Ali (N=599)	Male (N=340)	Female (N=311)	All (N=651)	
% of respondents who received HCT and received test results	16.6	13.9	15.2	34.7	40.2	37.3**	
		Ages 11-14			Ages 15-1	7	
Indicator	Male (N=537)	Female (N=561)	Ali (N=1098)	Male (N=346)	Female (N=321)	AII (N=667)	
A person can get HIV from mosquito bites	46.0%	50.1%*	48.1%	59.5%	60.4%	60.0%**	
People can protect themselves from HIV by abstaining from sex	69.5%	69.7%	69.6%	86.1%	85.4%	85.8%**	
People can protect themselves from HIV by using a condom correctly every time they have vaginal sex	65.7%	63.8%	64.8%	85.6%	81.6%	83.7%**	
People can get HIV by sharing a meal with someone who is HIV-infected	60.5%	58.8%	59.7%	80.9%	81.0%	81.0%**	
People can get HIV by getting injections with a needle used by someone who is infected	74.7%	73.3%	74.0%	90.8%	88.5%	89.7%**	
A pregnant woman with HIV and AIDS can transmit HIV to her unborn child	46.6%	49.4%	48.0%	64.2%	62.3%	63.3%**	
A woman who has HIV and AIDS can transmit HIV to her child when breastfeeding	52.7%	52.9%	52.8%	65.0%	70.1%	67.5%**	

infected with HIV	A healthy-looking person can be infected with HIV	56.2%	54.9%	55.6%	72.0%	72.3%	72.1%**
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*p<0.05, ** p<0.01

[†]The denominators in the table include those who answered "don't know" unless indicated otherwise.

Table A2: HIV/AIDS Indicators, Adults aged 18+ years $^{\rm t}$

Indicator	BC	CS Beneficiari	es	Community Caregivers						
	Male (73)	Female (207)	All (280)	Male (102)	Female (210)	All (312)				
% of respondents who received HCT and received test results	95.9	94.7	95.0	87.3	91.9	90.4				
HIV/AIDS Knowledge		% responding correctly								
A person can get HIV from mosquito bites	68.5	66.2	66.8	88.2	87.6	87.8				
People can protect themselves from HIV by abstaining from sex	94.5	95.2	95.0	92.2	94.8	93.9				
People can protect themselves from HIV by using a condom correctly every time they have vaginal sex	89.0	92.8	91.8	94.1	96.2	95.5				
People can get HIV by sharing a meal with someone who is HIV-infected	97.3*	89.9	91.8	96.1	95.2	95.5				
People can get HIV by getting injections with a needle used by someone who is infected	95.9	96.6	96.4	99.0	98.6	98.7				
A pregnant woman with HIV and AIDS can transmit HIV to her child during child birth	84.9	83.6	83.9	92.2*	83.8	86.5				
A woman who has HIV and AIDS can transmit HIV to her child when breastfeeding	86.3	80.7	82.1	86.3	82.4	83.7				
A healthy-looking person can be infected with HIV	93.2	93.7	93.6	95.1	98.1	97.1				

*p<0.05

[†]The denominators in the table include those who answered "don't know" unless indicated otherwise.

Indicators		OVC (11-14 years)			OVC (15-17 years)			BCS (18+ years)		
		Male (537)	Female (561)	All (1098)	Male (346)	Female (321)	All (667)	Male (73)	Female (207)	All (280)
Care	% reporting at least one person to go to for help	98.0	98.9	98.5	97.1	97.5	97.3	N/A	N/A	N/A
	% who assess own health as excellent or very good	50.7	55.3	53.0	53.2	54.8	54.0	41.1*	26.6	30.4
	% sick in past one month	50.3	52.9	51.6	46.0	54.8*	50.2	N/A	N/A	N/A
Health	% receiving treatment for last illness	43.6	44.9	44.3	37.9	47.0*	42.3	N/A	N/A	N/A
Food and Nutrition	% reporting going a whole day and night without eating because there was no food in last 4 weeks	20.7	23.0	21.9	30.9	28.4	29.7**	41.1	44.4	43.6
	% reporting going to sleep hungry because there was not enough food in last 4 weeks	46.1	47.6	46.9	59.8	54.2	57.1**	57.5	58.5	58.2
	% reporting eating a smaller meal than they felt they needed because there was not enough food in last 4 weeks	59.8	59.4	59.6	69.7	65.7	67.8**	87.7	87.0	87.1

Table A3: Select Well-being Indicators, All Beneficiaries [†]

Indicators		OVC (11-14 years)			OVC (15-17 years)			BCS (18+ years)		
		Male (537)	Female (561)	All (1098)	Male (346)	Female (321)	All (667)	Male (73)	Female (207)	All (280)
	% reporting eating fewer meals because not enough food in last 4 weeks	64.3	65.4	64.9	77.5	72.9	75.3**	87.7	86.5	86.8
F	Emotional symptoms: % normal	64.2	62.1	63.1	59.7	59.6	59.7	N/A	N/A	N/A
cial well-beinç	Conduct problems: % normal	87.4	84.7	86.0	87.7	86.1	87.0	N/A	N/A	N/A
Psychoso	Hyperactivity: % normal	93.0	93.9	93.5	93.5	95.8	94.6	N/A	N/A	N/A
	Peer problems: % normal	75.7	73.5	74.6	73.1	75.8	74.4	N/A	N/A	N/A
	Total difficulties score: % normal	86.1	85.0	85.5	85.4	88.3	86.7	N/A	N/A	N/A
	Pro-social behavior: % normal	99.4	98.6	99.0	99.7	99.4	99.6	N/A	N/A	N/A
	% hit in last six months	26.4	23.2	24.7**	16.2	16.2	16.2	-	7.5	7.5
Protection	% forced/ who forced someone to have sex in last 6 months (12 months BCS)	2.5	1.7	2.1	5.6	2.9	4.3*	6.5	10.9	10.1
	% ever worked for money	46.1**	34.6	40.2	67.6**	45.2	56.8**	N/A	N/A	N/A

Indicators		OVC (11-14 years)			OVC (15-17 years)			BCS (18+ years)		
		Male (537)	Female (561)	All (1098)	Male (346)	Female (321)	All (667)	Male (73)	Female (207)	AII (280)
	% ever forced to work	9.5	8.6	9.0	12.4	14.3	13.3**	N/A	N/A	N/A
Edu.	% currently in school	93.9	95.7	94.8**	85.8	80.7	83.4	N/A	N/A	N/A
ų د	% in gainful employment	N/A	N/A	N/A	N/A	N/A	N/A	75.3	63.3	66.4
Economi	% reporting current income sufficient to meet needs	N/A	N/A	N/A	N/A	N/A	N/A	1.4	7.7	6.1

*p<0.05, **p<0.01

†The denominators in the table include those who answered "don't know" unless indicated otherwise.

Appendix 2: Data Collection Team

This study would not have been possible without the hard work of a large number of data quality consultants, data collection supervisors and data collectors. Their names are listed here.

Data Quality Consultants

Dr. Buleti G. Nsemukila Ms Mathatha Catherine Ladislas Hibusu Liwoyo Shadreck Nyundu

Data Collection Supervisors

Chisenga Yenga Agness Banda Patrick Engaenga Walumweya Mwanangombe

Data Collectors

Cliff Kabengele Joel Bwalya Mwango Mulambia Jones Tachila Akufuna Masheke Lipota Ngobola Yotam Mwale Emma Nyirenda Maggie Nambaya Joyce Mwape Mwika Mushota Chrispin M. Matuka Joseph Tembo Keegan E. Simpande Kalimbwe Ngombo Aaron Tembo John Mwewa Oscar Ackim Mulemwa Mooto Mooto Jabesi Kongomo Arthur Moonga Kalaluka Mututwa Ireen Tembo Winnie Hachilala Enock Msoni Tomson Mwewa Barluchi David Mukeya Peter Kakulubelwa Clive Baila Mwale Mwango Mulambia Thomson Mwewa Owen Mweemba Imed Phiri Misozi Nyirenda Mwiimba Nchindu Mutale Thomas Chisanga Mwewa Thomson Donnel Kamuwanga Katundu Lubinda