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

STEPS OVC

Program Impact Report

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

Executive Summary

This report describes findings from an evaluation of Sustainability through Economic Strengthening, Prevention and Support for Orphans and Vulnerable Children, Youth and Other Vulnerable Populations (STEPS OVC). STEPS OVC is a large USAID-funded program implemented from 2010-2015 in Zambia that provides a range of health and social service interventions to orphans and vulnerable children (OVC) and people living with HIV and AIDS (PLHIV). 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 determine STEPS OVC's impact, the evaluation, conducted between 2011 and 2014, assessed changes in well-being, HIV/AIDS knowledge, attitudes and practices, and access to HIV prevention and care and support services among program beneficiaries. The research design was a modified quasi-experimental pre-test/post-test study. This report presents findings from the evaluation from three population groups: OVC, basic care and support beneficiaries (adult PLHIV), and community caregivers.

Findings

STEPS OVC was found to have significant positive impact in a number of areas, including knowledge about HIV and AIDS prevention and treatment, perceived stigma facing PLHIV and OVC, perceptions around gender-based violence, and food security. From baseline to endline, community caregivers had improved their capacity to provide services and reach clients. More detailed findings are described below.

Children

General well-being. The proportion of children reporting physical violence in the last six months dropped significantly between baseline and endline (49.3% to 21.3%), and fewer children reported condoning intimate partner violence at endline compared to baseline. Children surveyed at endline were more food secure: at endline, one-quarter, compared to one-third at baseline, reported going a whole day and night without eating in the last four weeks. Children surveyed at endline were more likely to report normal peer relationships. Other measures of emotional well-being, which were relatively high at both times of the evaluation, remained unchanged.

HIV/AIDS knowledge, attitudes and behavior. HIV/AIDS knowledge was stable from baseline to endline; however there were some improvements in children's attitudes toward PLHIV. Condom use increased among all sexually active respondents from baseline to endline (48.8% at endline compared to 40.3% at baseline). Also, children surveyed at endline (28.3%) were more likely to report having had an HIV test than those at baseline (20.7%). However, children aged 13-17 years atndline were less likely to report that they had heard of condoms than children at baseline (87.3% at baseline, 81.4% at endline). Similarly, the percentage of children aged 13-17 years reporting that they were "confident" or "somewhat confident" that they could obtain a condom dropped from 51.0% at baseline to 46.0% at endline.

Malaria prevention. Children at endline were more likely to report that their household had a mosquito net compared to children at baseline (51.9% at endline compared to 47.0% at baseline). Also, children surveyed at endline were more likely to report that someone in their household slept under a mosquito net the night prior to survey. (84.3% at endline compared to 78.0% at baseline).

Basic Care and Support Beneficiaries

General well-being. A greater proportion of endline respondents rated their health as excellent or very good at endline, compared to baseline, although endline respondents were more likely to report that their physical health was bad and that physical or mental health issues prevented normal activity during the last 30 days. In terms of financial security, improvements were seen in employment, with two-thirds (66.4%) of respondents reporting that they were in gainful employment at endline, compared to just 36.6% at baseline. However, few respondents at baseline or endline reported that their income, combined with support received from relatives and organizations, was sufficient to meet needs. While endline respondents were less likely (58.2%) to report that a household member went to bed hungry in the four weeks prior to survey compared to baseline respondents (67.5%), there were no other differences in household food security reported between baseline and endline.

HIV/AIDS treatment, knowledge, attitude, prevention. Baseline and endline respondents were equally likely to report taking ART, although when specifically asked about the week prior to survey,

endline respondents were less likely to report strict adherence than baseline respondents. Knowledge of how HIV is transmitted was relatively high at baseline and endline, though a slightly higher number of endline respondents had incorrect knowledge about transmitting HIV through sharing a meal or through breastfeeding. Sexual behaviors remained unchanged from baseline to endline. With respect to stigma, respondents indicated some improvement from baseline to endline, being less likely to agree that they would be subject to name-calling or otherwise mistreated for having HIV.

Also, attitudes toward gender based violence improved from baseline to endline, though the prevalence of respondents reporting a history of forced sex increased at endline (32.8% vs. 58.3%).

However, attitudes improved from baseline to endline. A lower proportion of endline respondents agreed or strongly agreed with the statement that a husband is justified to hit or beat his wife (36.7%, N=332 vs. 25.8%, N=256, p=0.005). Further, a lower proportion of respondents agreed or strongly agreed with the statement that if a husband wants to have sex, his wife is not supposed to refuse (48.6%, N=333 vs. 38.9%, N=257, p=0.02).

Malaria prevention. There were some improvements in knowledge about preventing malaria from baseline to endline. At endline, a greater proportion of respondents (79.6%) cited sleeping under a bed net as a prevention method compared to baseline respondents (33.1%.). Fewer respondents noted spraying the house with repellent as a method for preventing malaria at endline than at baseline, but otherwise there were no differences in responses for other malaria prevention methods. Baseline and endline respondents were equally likely to report owning a mosquito net and that someone in their household slept under a net the night prior to survey.

Community Caregivers

Community caregivers reported visiting a greater number of household at endline (mean 18.5 households) compared to baseline (mean 12.5 households), though visits were less frequent. At endline, community caregivers were more likely to report providing some services than at baseline.

While basic knowledge about HIV/AIDS was fairly high and remained generally stable between baseline and endline, community caregivers showed some improved knowledge at endline regarding advanced HIV knowledge, particularly with respect to HIV treatment. At both baseline and endline, community caregivers indicated accepting attitudes toward PLHIV.

Compared to baseline respondents, community caregivers at endline were somewhat less likely to know where to refer clients for a number of support-related services such as livelihood support, PLHIV support groups, and kids' clubs. However, they were more likely to follow up with clients when they did make referrals to them.

The vast majority (just over 95%) of community caregivers said that they were able to handle their responsibilities in the time they had available and felt adequately supported to carry out their job responsibilities, with no difference between baseline and endline respondents.

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List of Abbreviations

ART	Antiretroviral therapy
ARV	Antiretroviral
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
DQC	Data quality consultant
FANTA	Food and Nutritional Technical Assistance
GRZ	Government of the Republic of Zambia
HBC	Home-based Care
HFIAP	Household Food Insecurity Access Prevalence
HIV/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
PMTCT	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

1 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 has been providing more targeted support to 43 districts, led by World Vision with monitoring and evaluation (M&E) support from Futures Group. Currently 380 community-based organizations support project implementation, working through network of 45,605 community caregivers across the districts of Zambia.

The overall goal of (both phases of) the STEPS OVC project 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 project has three objectives:

- Ensure that individuals and households affected by and vulnerable to HIV/AIDS can access holistic, gender-sensitive, high-quality HIV prevention, care and support
- Strengthen the continuum of effective, efficient, and sustainable HIV prevention, care, and support
- 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 multi-faceted 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. This report describes findings from the evaluation, focusing on indicators that were changeable over time due to program interventions. A full description of findings from the endline survey is provided elsewhere (Ngunga et al., 2014).

2 Research Questions

The objective of the evaluation was to assess changes in well-being, HIV/AIDS knowledge, attitudes and practices, and access to HIV prevention and care and support services among STEPS OVC program beneficiaries as a means to determine program impact.

The endline survey addressed the following research questions:

1. 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? How has this changed since the start of the program?
2. What is the extent of access to HIV prevention, care, and support services among STEPS OVC beneficiaries, and how has this changed since the start of the program?
3. What is the level of capacity among trained community caregivers, and what are their perceptions regarding the successes and challenges of program implementation?

3 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 baseline survey was conducted in February 2011 (Chapman et al., 2012) and the endline survey was conducted in April 2014.

3.1 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.

3.2 Sample size and sampling

The evaluation applies 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 or are receiving services from the programs operating in that district. Exactly as with the baseline survey, it was anticipated that up to 2,100 OVC and 350 BCS beneficiaries would be interviewed in the selected districts (see Table 1 below).

Table 1: Sample size

	Estimated # in List	Margin of Error [%]	Confidence Level [%]	Statistical Sample	Baseline Actual	Endline Actual
OVC beneficiaries [11-17 years]	133,200	3	95	2,099	1,869	1,813
Basic Care and Support	100,000	5	95	383	358	280
Community Caregivers	23,816	N/A	N/A	377	406	309

First, we purposively selected five provinces based on HIV prevalence. Evaluation districts were chosen in 2010 at baseline in collaboration with partners and represent diversity in 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 below.

Table 2: Sampled districts

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

Using the Excel random selection function, OVC households in selected districts were randomly sampled from the beneficiary registry housed at the STEPS OVC Program Management Unit. Community caregivers were randomly sampled from the register of active community caregivers in selected districts.

3.3 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.

3.4 Data Collection

3.4.1 Survey instruments

In order to reflect the intended target recipients of the different STEPS OVC interventions, three data collection instruments were developed for different groups:

1. Trained Community Caregiver
2. OVC beneficiary (ages 11-18)[1]
3. Basic Care and Support (BCS) beneficiary

The OVC beneficiary, BCS beneficiary questionnaires focused on obtaining information on the well-being[2] of the child and/or PLHIV in the household and access to / previous uptake (by any member of the household) of HIV prevention, care and support services. Survey tools for beneficiaries included validated scales such as the Strengths and Difficulties Questionnaire, the U.S. Centers for Disease Control (CDC) Quality of Life Questionnaire, and the Food and Nutritional Technical Assistance (FANTA) household food insecurity access scale. Many questions were taken from other survey tools, including the 2007 Demographic and Health Survey (DHS), the 2009 Zambia Sexual Behavior Survey tool, and OVC program evaluation tools used previously in Zambia, Nigeria, Tanzania, and Kenya. The questionnaires included a module on HIV and AIDS knowledge, attitudes, and practices for respondents aged 13 and over. The community caregiver questionnaire focused on capacity, skills, and training.

Instruments were developed and reviewed in English before being translated into the following local languages prevalent in the sampled districts: Bemba; Kaonde; Tonga; and Silozi. The translated questionnaires had both the local language and English, with preference of the respondent determining the language of the interview.

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.

3.4.2 Procedures

We conducted "pre-visits" to all nine sampled districts to validate the sampling frame and estimate loss-to-follow-up. We employed a "trace and verify" approach to find 57 randomly selected respondents (19 OVC, 19 HBC and 19 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. 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.

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[1] Survey Tools used in this baseline have adapted validated questions from other surveys including but not limited to SCOPE, FHI OVC questionnaire for the baseline conducted in 2001, FANTA, Strengthened Difficulty Questionnaire [SDQ], CDC Quality of Life Questionnaire.

[2] Standardised measures of wellbeing will be considered here e.g. Child Status Index

Household interviews took place at the residence of selected participants, or in a convenient public location such as a school, as described 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.

Informed Consent

All selected beneficiaries were informed, prior to consenting, that their participation is voluntary and does not affect their eligibility to receive services from the programs now or in the future.

At the start of all interviews, participants were told of the purpose and nature of the study and its expected risks and benefits. Because of low literacy levels, the interviewer requested verbal rather than written consent of the participant to conduct the interview. If verbal consent was given, the interviewer signed the consent form for the participant.

Adults provided consent for themselves and the children under their care to participate in the survey. In line with conventional standards of interviewing young children, child participants were required to give assent to participate in the survey.

As part of the consent procedures, beneficiaries were informed that the data collected would be held in strict confidence. To ensure that the beneficiary was aware that the survey includes questions on highly personal and sensitive topics, the interviewer forewarned the beneficiary that some of the topics are difficult to talk about.

The beneficiary was made aware that he or she would be free to terminate the interview at any point, and to skip any questions to which he or she did not wish to respond.

Compensation

Study participants were not compensated for their participation. Respondents were made aware that the interviewer was present only to ask questions and not to provide any gifts or assistance.

3.5 Data flow and quality control

3.5.1 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 prior to both baseline and endline data collection 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.

3.5.2 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. Thirteen data collectors and three supervisors were deployed to Copperbelt province, and eight data collectors and two supervisors went to Western province. The remaining nine 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' approval was required prior to 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.

Each team was 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 four weeks. During this time, the senior research fellows monitored the data collection teams, 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 the field teams on how to improve data quality.

3.6 Data handling

3.6.1 Data cleaning

Baseline. After the data were collected from all the districts, data processing was carried out in Lusaka. Nine data entry clerks were recruited to enter data. Data entry screens were created in EpiData. To validate data entry of the quantitative data, two teams of data entry clerks entered the same data. Duplicate files were then compared using a double-entry validation process. Inconsistencies were corrected by referring to the questionnaires until a zero percent error level was reached for the two datasets.

Endline. 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.

3.6.2 Data analysis

We calculated descriptive frequency distributions, cross tabulations, and basic inferential data analyses to describe and assess differences in the STEPS OVC beneficiary population at endline, compared to baseline. Chi-square tests were applied in cross tabulations to test the significance of differences between baseline and endline.

3.7 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, at baseline in 2010 and well as at endline in 2014.

4 Findings

4.1 Child Beneficiaries

4.1.1 Demographics

A total of 1,765 OVC aged 11-17 were interviewed at endline, compared to 1,869 OVC at baseline, with equal proportions of males and females. The mean age was 13.8 years at baseline and 13.9 years at endline. Demographic information is presented in Table 3.

Table 3: Demographic information of children surveyed

	Baseline (N=1869)	Endline (N=1765)
Female	51.8%	50.0%
Male	48.2%	50.0%
11-12 years	29.6%	26.8%
13-15 years	49.0%	48.8%
16-17 years	21.4%	24.4%

Sex distributions within 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 for the endline evaluation.

4.1.2 Attendance of Formal Education

A high, but lower proportion of children surveyed were attending school at endline, compared to baseline: 91.7% (N=1742) vs. 95.2% (N=1839), p<0.0001.

4.1.3 Ownership of Assets

At endline, children surveyed were slightly less likely to own two or more sets of clothes or bedding, and were slightly more likely to own one or more pairs of shoes, with no differences between boys and girls, or among age groups. See Table 4.

Table 4: Asset ownership

	Baseline		Endline	
	%	N	%	N
Own 2+ sets of clothes *	88.5	1859	86.3	1763
Own bedding †	60.1	1860	53.8	1763
One 1+ pair of shoes **	45.8	1860	50.7	1763

*p<0.05, **p<0.01, †p<0.001

4.1.4 Physical Abuse

The proportion of children surveyed reporting physical violence in the last six months dropped significantly between baseline and endline (49.3% to 21.3%, p<0.0001): see Table 5. There were no differences between boys and girls, or by guardianship. Also, at endline, a greater proportion of children reporting physical abuse reported seeking help at some point (38.7% vs. 33.6%, p=0.016).

Table 5: Experience of physical violence

	Baseline		Endline	
	%	N	%	N
Ever hit or beaten	74.6	1854	52.8	1607
Hit or beaten in last 6 months † †	49.3	1380	21.3	1605
Ever sought help *	33.6	1336	38.7	840

*p<0.05, **p<0.01, †p<0.001, † † p<0.0001

4.1.5 Gender-based Violence

Attitudes toward gender-based violence improved from baseline to endline. At endline (N=1443), 75.8% of children disagreed with the statement: *A husband may be justified in hitting or beating his wife*, compared to 70.8% at baseline (N=1755, p<0.0001). Further, 59.4% (N=1259) of children disagreed with the statement: *When a husband wants sex, a wife cannot refuse*, compared to 52.7% at baseline (N=1491, p=0.0002).

Children surveyed at endline were more likely to report a history of forced sex compared to children surveyed at baseline (3.5%, N=1801 vs. 5.4%, N=1286, p=0.01), with no differences by type of guardian. There was no difference in the proportion of respondents reporting forced sex in the six months prior to survey (at endline: 30.4%, N=69).

4.1.6 Health

Children surveyed at endline were more likely to rate their health as good to excellent than children surveyed at baseline (78.9% at baseline, N=1864 vs. 82.7% at endline, N=1760, p=0.004).

Half of children reported illness in the four weeks prior to survey, with no difference between baseline and endline (at endline: 51.1%, N=1765). Uptake of health services after recent illness was relatively high, and higher than uptake at baseline (80.0%, N=1003 vs. 85.1%, N=902, p=0.003).

4.1.7 Food Security

Overall, children were more food secure at endline compared to baseline: see Tables 6-7.

Table 6: Food security among children

In last four weeks…	Baseline		Endline	
	%	N	%	N
Went a whole day and night without eating † †	32.6	1865	24.8	1,764
Went to bed hungry † †	58.0	1866	50.8	1,763
Ate a smaller meal than needed **	67.5	1865	62.8	1,762
Ate fewer meals than needed	72.8	1862	68.9	1,762

*p<0.05, **p<0.01, †p<0.001, † † p<0.0001

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

	Baseline					Endline				
	Never	Rarely	Sometimes	Often	N	Never	Rarely	Sometimes	Often	N
		1-2 times	3-10 times	>10 times			1-2 times	3-10 times	>10 times	
	%	%	%	%		%	%	%	%	
Went a whole day and night without eating	67.4	20.7	9.8	1.9	1865	75.2	15.0	7.4	2.2	1764
Went to bed hungry	42.0	33.9	18.1	5.6	1866	49.2	27.0	18.3	5.2	1763
Ate a smaller meal than needed	32.5	28.4	29.0	9.5	1865	37.2	28.3	25.5	8.5	1762
Ate fewer meals than needed	27.2	29.2	28.9	13.9	1862	31.1	29.1	29.1	10.5	1762

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

The household hunger scale (HHS) is a validated indicator to measure household hunger in food-insecure areas. Scores of 0-1 represent little to no hunger in the household; scores of 2-3 represent moderate hunger in the household; and scores of 4-6 represent severe hunger in the household. We adapted this measure for use among children. The mean child's hunger score decreased from 3.8 (SD=2.99, min=0, max=12, N=1828) at baseline to 3.4 (SD=2.9, min=0, max=12) at endline (p<0.0001). At endline, older children had higher mean hunger scores than younger children (2.9 for 11-12 year olds, 3.4 for 13-15 year olds, 4.0 for 16-17 year olds, p<.0001).

4.1.8 Psychosocial Well-being

Included in the OVC questionnaire was the validated Strengths and Difficulties Questionnaire (SDQ). As well as calculating a total difficulties score, 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

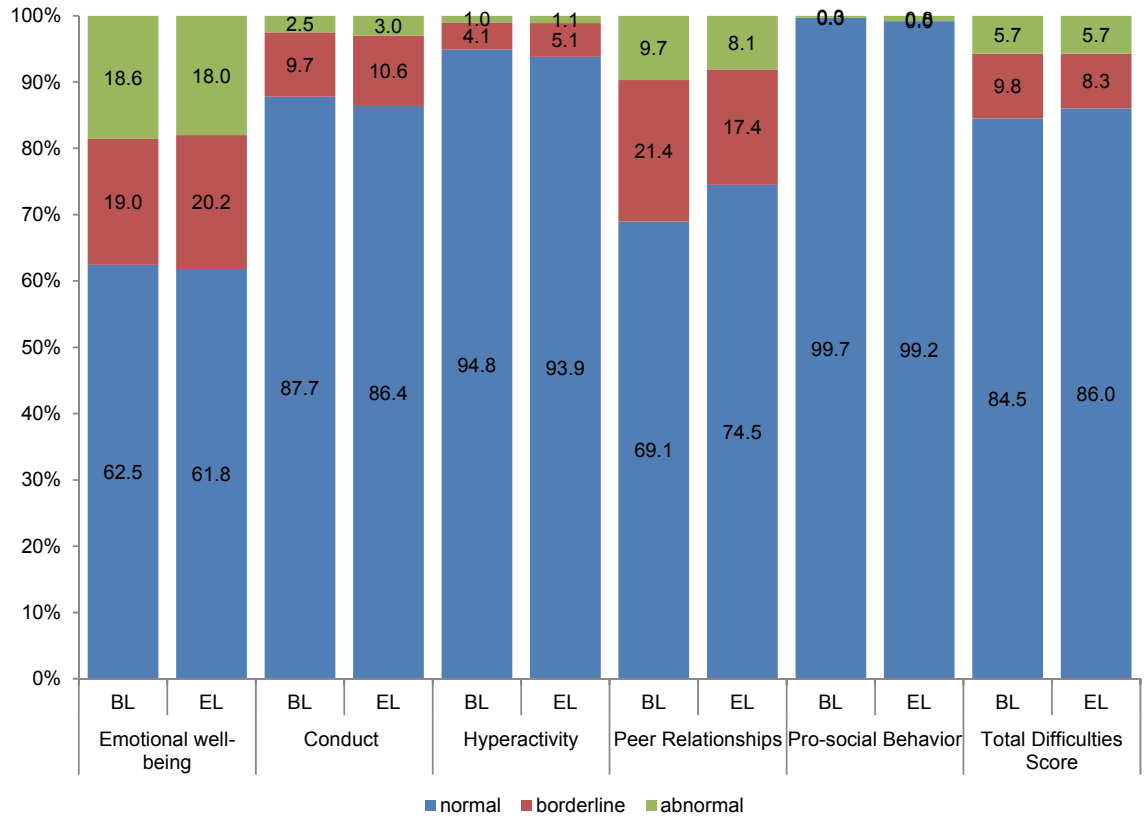
Children were more likely to report normal peer relationships at endline; however, no other differences were noted. Data are presented in Table 8 and Figure 1.

Table 8: SDQ scores

SDQ sub-scales	Baseline				Endline			
	Normal	Borderline	Abnormal	N	Normal	Borderline	Abnormal	N
	%	%	%		%	%	%	
Emotional well-being	62.5	19	18.6	1,846	61.8	20.2	18	1,700
Conduct	87.7	9.7	2.5	1,858	86.4	10.6	3	1,747
Hyperactivity	94.8	4.1	1	1,858	93.9	5.1	1.1	1,683
Peer Relationships	69.1	21.4	9.7	1,848	74.5*	17.4*	8.1	1,671
Pro-social Behavior	99.7	0	0.3	1858	99.2		0.8	1,742
Total Difficulties Score	84.5	9.8	5.7	1904	86	8.3	5.7	1,546

*p<0.01

Figure 1: Strengths and Difficulties Outcomes among Children Surveyed



4.1.9 HIV and AIDS Knowledge and Attitudes

Basic knowledge

Children surveyed at endline were less likely to agree that a mother can transmit HIV to their child in pregnancy than children surveyed in baseline (60.9%, N=1860, vs. 53.8%, N=1765, p<0.0001). There were no other differences in levels of HIV/AIDS knowledge between baseline and endline. At endline (N=1765):

- 83.3% of children reported having heard of HIV/AIDS
- 79.9% of children agreed that HIV can be transmitted by shared needles
- 75.7% of children agreed that abstinence reduces HIV risk
- 71.9% of children agreed that condom use can reduce HIV risk
- 67.7% of children agreed that HIV cannot be transmitted by sharing a meal with PLHIV
- 65.0% of children agreed that HIV cannot be transmitted via witchcraft
- 52.6% of children agreed that mosquitoes cannot transmit HIV
- 42.3% of children agreed that HIV cannot be transmitted by kissing
- 69.8% of children agreed that HIV cannot be cured by herbs
- 61.8% of children agreed a healthy-looking person can be HIV-positive

Attitudes

Children reported relatively accepting attitudes toward people living with HIV and AIDS, with some improvements from baseline to endline. Data are presented in Table 9.

Table 9: HIV/AIDS-related attitudes

Percent that agree:	Baseline (N=1860)	Endline (N=1765)
If a pupil has HIV and is not sick, they should be allowed to continue attending school*	65.7%	68.7%
If a teacher is HIV positive but is not sick, they should be allowed to continue teaching	66.7%	68.2%
Families with HIV-positive individuals are treated unkindly by other students	21.7%	21.8%
Families with HIV-infected individuals are treated unkindly by teachers	12.9%	14.6%
Children who receive free services are treated unkindly by community**	23.3%	18.9%

*p<0.05; **p<0.01

4.1.10 HIV and AIDS Risk Behavior

Sexual debut

The mean age of sexual debut among children surveyed at baseline and endline was 13.2 years.

Almost 5% (4.6%) of children surveyed reported being forced to have sex their first time, compared to 3.5% at baseline. This difference is not statistically significant.

One-third of respondents reporting previous sex stated that they talked to their sexual partner about HIV before having sex, with no difference between baseline and endline (32.7%, N=284, vs. 31.3%, N=332).

Condom knowledge

Children aged 13-17 years surveyed at endline were less likely to report that they had heard of condoms than children surveyed at baseline (87.3% at baseline, N=1315, vs. 81.4% at endline, N=1230, p<0.0001). Similarly, children aged 13-17 years surveyed at endline were less likely to report that they were “confident” or “somewhat confident” that they could obtain a condom (46.0% at endline, N=883, vs. 51.0% at baseline, N=1082, p=0.0076). Boys were more likely to report confidence than girls (54% vs. 36%, p=0.000), and older children were 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) (endline data).

Condom use

Reported "ever" condom use, condom use at first sex and condom use at last sex (among those reporting previous sex) increased between baseline and endline: see Table 10.

Table 10: Condom use among those reporting previous sex

	Baseline		Endline	
	%	N	%	N
Ever condom use*	40.3	310	48.8	303
Condom use at first sex*	27.0	310	35.6	303
Condom use at last sex	36.7	310	38.7	302

*p<0.05

Alcohol and drug use

Two percent of children reported a history of alcohol and drug use, with no differences between baseline and endline

HIV risk discussions

Approximately 40% of children reported that they had discussed their HIV risk with someone, with no differences between baseline and endline (42.4%, N=1297 vs. 39.6%, N=1244).

HIV testing

More than two-thirds of children surveyed reported knowing a place where one can take an HIV test, a slightly lower proportion than at baseline (73.1%, N=1288 vs. 69.2%, N=1264, p=0.029). At endline, boys were more likely to know a place for HIV testing than girls (72.8% vs. 65.4%, p=0.007).

Children surveyed at endline were more likely to report having had an HIV test than children surveyed at baseline (20.7%, N=1300 vs. 28.3%, N=1242, p<0.0001).

4.1.11 Malaria-related Knowledge and Behavior

Respondents were asked to spontaneously name malaria prevention methods. At endline two-thirds (62.9%) named bed nets as a prevention method; 8.5% named indoor residual spraying as a prevention method; 7.7% suggested staying inside at dawn/dusk to prevent bites; and 10.7% suggested wearing long sleeves and pants to prevent bites (N=1751, multiple responses possible). There were no differences in malaria knowledge between baseline and endline.

Children surveyed at endline were more likely to report that their household had a mosquito net than children surveyed at baseline (47.0%, N=1843 vs. 51.9%, N=1764, p=0.003). Also, children surveyed at endline were more likely to report that someone in their household slept under a mosquito net the night prior to survey (78.0%, N=866 vs. 84.3%, N=916, p=0.0008).

4.2 BCS beneficiaries

4.2.1 Demographics

A total of 280 adult respondents were interviewed at endline, compared to 358 at baseline. Approximately three-quarters of respondents were female[3] and the mean age of respondents was 43 years. One-third of respondents reported completing primary school, grades 5, 6 or 7 at endline (35.0%). There were no differences in these demographic characteristics between baseline and endline respondents.

[3] All analyses were run by sex, and differences are presented where statistically significant.

4.2.2 Self-rated Quality of Life

A greater proportion of endline respondents rated their health as excellent or very good at endline compared to baseline (11.1%, N=352 vs. 30.4%, N=280, p<0.0001).

Respondents were then asked to report how many days in the 30 days before the survey their well-being had been compromised. Endline respondents were more likely than baseline respondents to report that their physical health was bad and that physical or mental health issues prevented normal activity during the last 30 days. Responses are summarized in Table 11 below.

Table 11: Self-rated quality of life measures

	Baseline					Endline				
	%				N	%				N
	None	1-7 days	>1 but <4 weeks	Every day		None	1-7 days	>1 but <4 weeks	Every day	
Physical health was bad*	33.8	37.6	16.9	11.7	343	22.3	46.4	19.8	11.5	278
Mental health was bad	39.2	31.9	17.1	11.8	339	38.6	37.5	12.5	11.4	280
Physical or mental health issues prevented normal activity*	32.3	35.4	20	12.2	294	21.5	47.4	21.5	9.7	228
Pain prevented normal activity	34.2	36.2	17.9	10	340	32.1	40.7	19.3	7.9	280
Felt sad or depressed	40.3	28.5	21.5	9.7	340	41.4	35.4	12.9	10.4	280
Felt anxious or tense	38.7	31.8	19.6	9.8	336	38.9	37.9	12.1	11.1	280
Did not get enough rest/sleep	33.8	39.4	17.4	9.4	340	29.6	46.1	14.6	9.6	280
Felt very healthy and full of energy	19.7	24.7	37.9	17.6	340	16.1	21.1	45.7	17.1	280

* p<0.01

Endline respondents were less likely to report that they had someone that they can count on to accompany them to the hospital if needed (83.6%, N=333 vs. 74.7%, N=277, p=0.006).

4.2.3 Economic Well-being

Two-thirds (66.4%) of respondents reported that they were in gainful employment at endline, compared to just 36.6% at baseline (N=347, N=280, p<0.0001).

Respondents were asked about asset ownership. Endline respondents were more likely to own a mobile phone and less likely to own a house: data are presented in Table 12.

Table 12: Reported assets

	Baseline (N=354)	**Endline (N=280)**
Land	75.4%	72.4%
House*	78.0%	66.1%
Mobile phone*	33.0%	44.6%
Bed	60.0%	56.8%
Bedding	84.3%	82.1%
Two sets of clothes	94.3%	91.1%
Radio	30.0%	26.8%
Television	9.7%	7.9%
VCR	4.0%	2.1%
DVD player	4.4%	3.9%
Stove	1.1%	3.2%
Refrigerator	1.7%	3.6%
Sewing machine	2.3%	2.5%
Car	0.9%	0.4%

	Baseline (N=354)	Endline (N=280)
Bicycle	24.1%	22.9%
Wheelbarrow	7.4%	3.9%

* p<0.01

Respondents were asked if they receive financial or material support from relatives and organizations. Approximately half of respondents reported receiving support from relatives and approximately one-third reported receiving support from organizations, with no differences between baseline and endline. Endline data are summarized in Table 13.

Table 13: Receipt of financial or material support

Donor and type	Endline (N=280)
Relatives (any type)	46.8%
Financial assistance	27.5%
Food assistance	28.2%
School fees for children	4.7%
Help with medical expenses	5.7%
Other support (basic material items, psychosocial support)	4.3%
Organizations (any type)	36.8%
Financial assistance	3.6%
Food assistance	13.2%
School fees for children	0.7%
Help with medical expenses	3.2%
Other support (basic material items, psychosocial support)	21.8%

Few respondents (at endline: 6.1%, N=278) reported that their income, combined with support received from relatives and organizations, was sufficient to meet needs, with no difference between baseline and endline.

4.2.4 Food Security

There was no difference in the number of meals eaten per day between baseline and endline respondents. Just under 20% (18.6%) of endline respondents reported eating only one meal per day, just over half (53.9%) reported eating two meals per day, and one-quarter (27.5%) reported eating three or more meals per day (N=280).

Food security data are presented in Table 14[4]. Endline respondents were less likely to report that a household member went to bed hungry in the four weeks prior to the survey (67.5%, N=280 vs. 58.2%, N=348, p=0.016). There were no other differences in household food security reported between baseline and endline.

Table 14: Reported food insecurity in the four weeks prior to survey

Indicator	Baseline (N=348)				Endline (N=280)			
	Never	Rarely 1-2 times	Sometimes 3-10 times	Often <10 times	Never	Rarely 1-2 times	Sometimes 3-10 times	Often <10 times
Worried that HH did not have enough food	14	19.8	34.1	31.8	14.6	15.7	40.7	28.6
Self or HH member had to eat a limited variety of foods	11.2	19.8	41.5	27.8	13.6	15.7	42.1	28.2
Self or HH member had to eat smaller meals than needed	13.5	20.7	39.4	26.1	12.9	20	38.9	27.9
Self or HH member had to eat fewer meals than needed	12.6	23.9	36.8	26.1	13.2	18.6	41.4	26.4
There was no food at all in HH	34.5	25	27.6	12.4	34.6	20	31.4	13.6
Self or HH member went to bed hungry*	32.5	29.3	26.1	11.8	41.8	22.5	23.2	11.8
Self or HH member went a whole day and night without food	52.6	26.4	16.4	4.6	56.4	16.1	18.6	8.2

*p<0.05

[4] 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%.

There was also no difference in the household hunger score between baseline and endline. At endline, the household hunger score was 10.4 (SD =5.6, min=0, max=21, N=277).

4.2.5 HIV Treatment and Adherence

Endline respondents were more likely to report having heard of medications to treat HIV (97.1%, N=344 vs. 93.6%, N=279, p=0.03). At endline, more than 80% (81.7%) of respondents reported that they were currently taking medication to treat HIV infection (N=279), which was approximately the same proportion as at baseline.

Almost three-quarters of respondents taking antiretroviral therapy (ART) reported that they had never missed a dose (72.7%, N=227). Nearly 80% (79.2%) reported that they had never missed a full day of their medication. These indicators were comparable at baseline. However, when asked how strictly they adhered to their mediation schedule over the past week (no missed doses, adherence to schedule), endline respondents were less likely to report strict adherence than baseline respondents (89.2%, N=296 vs. 82.0%, N=228, p=0.02).

4.2.6 HIV and AIDS Knowledge

Respondents were asked a series of true/false questions regarding HIV and AIDS. At endline, fewer respondents agreed that a person cannot acquire HIV by sharing a meal with someone who is HIV-positive compared to baseline (95.6%, N=343, vs. 91.8%, N=280, p=0.05), and fewer respondents answered correctly that a woman who has HIV and AIDS can transmit HIV to her child while breastfeeding (88.7%, N=344 vs. 82.1%, N=280, p=0.02). No other statistically significant differences were detected in knowledge indicators. At endline (N=280):

- 96.4% of respondents agreed that HIV can be transmitted by shared needles
- 95.0% of respondents agreed that abstinence reduces HIV risk
- 91.8% of respondents agreed that condom use can reduce HIV risk
- 83.9% of respondents agreed that a pregnant woman with HIV/AIDS can transmit HIV to her unborn child during childbirth
- 66.8% of respondents agreed that mosquitoes cannot transmit HIV
- 93.6% of respondents agreed a healthy-looking person can be HIV-positive

4.2.7 Sexual Behavior

At baseline and endline, the majority of respondents reported that they had disclosed their HIV status to their regular partner/s (at endline: 87.3%, N=157).

There was no difference in condom use at last sex or consistent condom use with a regular partner between baseline and endline. At endline, 72.2% of respondents reported using a condom at last sex (N=133) and 47.4% of respondents reported consistent condom use (N=132).

There was no difference in reported sex with a casual partner in the last six months between baseline and endline; at endline 7.2% of respondents reported sex with a casual partner in the last six months (N=263).

4.2.8 Disclosure, Stigma and Discrimination

Some stigma and discrimination indicators improved between baseline and endline. Endline respondents were less likely to agree with the statements:

- People have called me names (because I am HIV positive) such as “living shadow” or “walking death” (32.7%, N=336 vs. 21.2%, N=274, p=0.0015)
- I have lost friends by telling them I have HIV (24.3%, N=334 vs. 16.3%, N=270, p=0.016)
- People living with HIV are treated as outcasts (44.7%, N=338 vs. 33.6% N=277, p=0.005).

There were no differences between baseline and endline on other stigma and discrimination indicators. At endline:

- 83.3% of respondents reported that they had disclosed their HIV status to at least one person (N=276)

- 69.1% of respondents agreed with the statement: I have told people to keep the fact that I have HIV a secret (N=272)
- 45.8% of respondents agreed with the statement: I never feel the need to hide the fact that I have HIV (N=271)
- 60.2% of respondents agreed with the statement: I work hard to keep my HIV status a secret (N=274)
- 40.4% of respondents agreed with the statement: People are afraid of me once they learn I have HIV (N=275)
- 83.0% of respondents agreed with the statement: I am careful with who I tell I have HIV (N=276)
- 25.4% of respondents agreed with the statement: I feel I am not as good of a person because I have HIV/AIDS (N=272)

4.2.9 Gender-based Violence

Endline respondents were more likely to report a history of forced sex compared to baseline respondents (32.8%, N=65 vs. 58.3%, N=36, p=0.01).

However, attitudes improved from baseline to endline. A lower proportion of endline respondents agreed or strongly agreed with the statement that a husband is justified to hit or beat his wife (36.7%, N=332 vs. 25.8%, N=256, p=0.005). Further, a lower proportion of respondents agreed or strongly agreed with the statement that if a husband wants to have sex, his wife is not supposed to refuse (48.6%, N=333 vs. 38.9%, N=257, p=0.02).

4.2.10 Malaria

There were some improvements in knowledge about preventing malaria from baseline to endline. At endline, a greater proportion of respondents cited sleeping under a bed net as a prevention method than at baseline (33.1% vs. 79.6%, p<0.0001) However, fewer respondents noted spraying the house with repellent as a method for preventing malaria at endline than at baseline (21.1% vs. 11.1%, p=0.0008). There were no differences in responses for other malaria prevention methods: wearing long sleeves and trousers (at endline: 9.7%), avoiding going outside at dawn and dusk (at endline: 6.4%).

Baseline and endline respondents were equally likely to report owning a mosquito net (at endline: 63.9%). Similarly, among those reporting net ownership, baseline and endline respondents were equally likely to report that someone in their household slept under a net the night prior to survey (at endline: 88.8%, N=179).

4.2.11 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 15 below.

Table 15: Clients who have received and who need services

	Received					Needed		
	Baseline			Endline (N=280)		Baseline		Endline (N=280)
	% Ever received	% received in last 6 months[2]	N	% Ever received	% received in last 6 months [2]	%	N	%
HIV testing and counseling	98.5	54	339	92.5	48.9	82	295	83.2
HIV treatment medication	87.9	68.1*	339	82.5	77.1*	86.1	295	85.4
HIV treatment medication adherence counseling	90.3	66.3	338	80.4	65.4	85.1	295	85.4
Pain assessment	68	43.5	338	62.5	46.1	77	296	80
Pain medication	69.5	47	338	68.9	52.1	75.9	290	81.1
Treatment for nausea/vomiting	39.6	19.6	336	32.9	18.2	57.7†	310	37.9†
Treatment for skin rash/itching	43.8	19.6*	336	30.7	13.6*	56.1†	314	35.7†
Treatment of diarrhea	62.9	32.9	334	50	26.4	58.7**	298	47.5**
Treatment of sores, bumps or ulcers in	38	18.4*	337	21.1	11.1*	55.3†	311	32.5†

	Received					Needed		
	Baseline			Endline (N=280)		Baseline		Endline (N=280)
	% Ever received	% received in last 6 months[2]	N	% Ever received	% received in last 6 months [2]	%	N	%
mouth, genitals								
Treatment for malaria	90.6	57.8	339	85	59.6	72.3	289	75.4
Testing for TB	57.4	23.8**	336	43.2	14.5**	61.6†	305	42.1†
Treatment of TB	46.7	19.8†	338	25	7.5†	45.1†	308	23.2†
Adherence counseling for TB medication	48.5	21†	328	30.7	11.1†	49.2†	301	34.3†
Nutritional advice	85.7	50.3	336	75	50	90.2	297	85.4
Food or vitamins	72.2	42.7†	335	49.3	28.9†	89.3	300	85
Bed net to protect against mosquitoes	71.6	55.2†	335	73.6	27.5†	89.1**	304	95.7**
Physiotherapy	26.9	10	331	15.7	8.6	68.9†	322	45.4†
Treatment for anxiety or depression	29.6	11.8	331	20.4	10	64.9†	308	45.7†
Referral to a support group for PLHIV or their families	70.8	37.5	336	55.7	31.8	81.5†	298	69.3†
Birth spacing or FP advice	72.6	31.8*	336	65.7	24.6*	59	300	56.4
Long-term contraceptives: pills, injectables	55.7	24.7	336	47.1	22.1	54.4**	305	42.9**
Condoms	83.3	52.4	336	67.9	50.7	71.8*	298	63.9*
Information on how to prevent HIV transmission	98.2	64.6	331	89.6	66.1	88.3	283	86.1
Information on preventing infection with new strain of HIV	85.6	53.9	334	78.6	57.9	88.8	286	83.9
Free legal services	16.7	6.3	335	9.6	5.0	72.5*	324	63.2*
Small loan from a community organization	16.2	3.3	334	12.5	5.0	87.1	325	78.6**

[1] Percentages in this column reflect respondents who responded affirmatively. The denominator used excludes those who responded "I don't know" or did not provide a response.

[2] Percentages in this column reflect respondents who responded affirmatively. The denominator used includes all respondents who answered the question on ever receiving services.

*p<0.05, **p<0.01, † p<0.001

4.3 Community Caregivers

4.3.1 Demographics

A total of 312 community caregivers were interviewed at the endline evaluation, compared to 406 at baseline. Nearly 70% of respondents were female[5] (67.3%, N=312) and the mean age of community caregivers surveyed was 46.5 years (median=46, range=18 to 74, N=311). There were no differences in the sex or age distribution of community caregivers surveyed at baseline and endline.

4.3.2 Community Caregiver Role

Home visiting

Community caregivers reported visiting a greater number of household at endline evaluation compared to baseline. At endline, the mean number of households visited was 18.5 (median=12) compared to 12.5 (median=10) (p<0.0001). However, community caregivers reported less frequent visits to household at endline, compared to baseline (p=0.0001): see Table 16.

[5] All analyses have been run by sex and differences are reported where statistically significant.

Table 16: Frequency of household visits

	Baseline (N=402)	Endline (N=312)
More than once per week	15.9%	11.5%
Weekly	47.3%	34.9%
Monthly	27.4%	40.7%

The majority of respondents reported that they travel between client households on foot (85.3%), with 14.4% reporting traveling by bicycle (N=312), with no differences between baseline and endline. Male respondents were more likely to report traveling by bicycle than female respondents (23.8% vs. 10%, p=0.001).

4.3.3 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. At endline, community caregivers were more likely to report providing various services and receiving training to provide services. Results are presented in Table 17.

Table 17: Services provided by community caregivers

Service	Provide service			Ever received training				
	Baseline	Endline	p value	Baseline		Endline		p value
	N=403	N=312		%	N	%	N	
Child health assessments	72.7%	93.6%	p<0.0001	56.9	398	71.5	312	p<0.0001
Child nutritional assessments (MUAC)	49.1%	77.9%	p<0.0001	37.7	382	65.7	312	p<0.0001
Psychosocial counseling for children	74.1%	77.9%	n/s	59.5	398	64.3	311	n/s
Child protection monitoring	75.4%	86.5%	p=0.0002	52.4	395	67.3	312	p<0.0001
Household HIV counseling and testing	30.8%	48.1%	p<0.0001	32.7	394	38.8	312	n/s
HIV post-exposure prophylaxis	30.0%	45.8%	p<0.0001	23.5	391	26.4	311	n/s
Health assessments for PLHIV	74.3%	84.0%	p=0.002	58.3	396	64.1	312	n/s
HIV treatment adherence counseling	62.7%	82.4%	p<0.0001	55.7	397	65.7	312	p=0.007
Pain assessment for PLHIV	61.2%	78.2%	p<0.0001	47.8	391	53.5	312	n/s
Psychosocial counseling for adults	65.8%	75.6%	p=0.004	52.6	392	54.8	312	n/s
Nutritional assessments for PLHIV	68.1%	80.5%	p=0.0002	53.1	399	63.1	312	p=0.007

Community caregivers were also asked whether they provided information in a number of areas. At endline, community caregivers were more likely to report providing information in various subject areas, and more likely to report having received training to provide the information. Results are presented in Table 18.

Table 18: Information provided by community caregivers

Information area	Provide services			Ever received training				
	Baseline	Endline	p value	Baseline		Endline		p value
	N=399	N=312		%	N	%	N	
HIV counseling and testing	71.2%	65.1%	n/s	57.7%	397	53.3%	311	n/s
ART drug interactions	57.8%	63.1%	n/s	44.5%	389	45.7%*	311	n/s
Opportunistic infections	67.2%	75.0%	p=0.02	53.4%	393	57.6%*	311	n/s
Prevention of TB and early warning signs	70.6%	75.3%	n/s	53.1%	390	52.4%	311	n/s
PMTCT	73.2%	82.7%	p=0.003	56.9%	383	62.3%	312	n/s
HIV post-exposure prophylaxis	41.2%	52.9%	p=0.002	30.9%	385	31.8%	311	n/s
Injection safety	53.2%	59.0%	n/s	41.2%	379	35.9%	312	n/s
Sexual prevention of HIV	91.2%	95.2%	p=0.04	70.0%	390	80.1%	312	p=0.002
Prevention with positives	80.1%	90.7%	p=0.0001	64.8%	392	76.9%	312	p=0.0005
STIs	87.3%*	92.3%	p=0.03	68.0%	394	76.9%	312	p=0.009
Child nutrition	78.7%*	85.9%	p=0.01	61.2%	389	69.2%	312	p=0.03
Nutrition for PLHIV	78.4%	85.6%	p=0.015	59.7%	395	68.6%	312	p=0.015
Child immunizations	65.2%	71.2%	n/s	44.2%	391	46.8%	312	n/s
Malaria prevention and control	85.0%	91%	p=0.015	62.8%	395	73.4%	312	p=0.003
Birth spacing and family planning	70.8%	82.7%	p=0.0002	48.8%	389	60.3%	312	p=0.003

Nearly 80% of respondents reported that they use the information they gather during household visits to make caregiving decisions (79.3%, N=304), with no difference between baseline and endline.

4.3.4 Confidence in Role as Caregiver

Community caregivers were asked questions about their confidence in their caregiving role. No differences were reported in indicators between baseline and endline. At endline:

- 95.4% of respondents reported that they were comfortable discussing sexual prevention of HIV with adult beneficiaries (N=307)
- 91.3% of respondents reported that they were comfortable discussing sexual prevention of HIV with beneficiaries under 18 years old (N=310)
- 93.2% of respondents reported comfort in discussing birth spacing and family planning with beneficiaries (N=308)
- 86.1% of respondents reported that they felt equipped to support clients in adhering to their HIV treatment (N=309)
- 92.6% of respondents reported that they knew where to refer a client living with HIV for medication (N=309)
- 81.9% of respondents reported that they felt comfortable supporting clients and their families to prepare for death (N=310). Male respondents were more likely to report feeling comfortable in supporting clients in this way (89.0% vs. 79.3%, p=0.04).

4.3.5 HIV and AIDS Knowledge

Basic knowledge

Respondents were asked a series of true/false questions regarding HIV and AIDS. Improved knowledge was reported on some items at endline. A greater proportion of endline respondents agreed that people can protect themselves from HIV by using a condom correctly every time they have vaginal sex (91.8%, N=400 vs. 95.5%, N=312, p=0.04) and anal sex (77.4%, N=399 vs. 86.9%, N=312, p=0.001). However, at endline, respondents were less likely to agree that a woman who has HIV can transmit HIV to her child while breastfeeding (93.0%, N=398 vs. 83.7%, N=312, p<0.0001). There were no other differences between baseline and endline. At endline (N=312):

- 98.7% of respondents agreed that HIV can be transmitted by shared needles
- 86.5% of respondents agreed that a pregnant woman with HIV can transmit HIV to her unborn child during childbirth. Males were more likely than females to agree with this statement: (93.1% vs. 84.2%, p=0.03).
- 93.9% of respondents agreed that abstinence reduces HIV risk
- 92.3% of respondents agreed that female condom use can reduce HIV risk
- 95.5% of respondents agreed that HIV cannot be transmitted by sharing a meal with PLHIV
- 91.7% of respondents agreed that HIV cannot be transmitted via witchcraft
- 87.8% of respondents agreed that mosquitoes cannot transmit HIV
- 67.6% of respondents agreed that HIV cannot be transmitted by kissing
- 93.6% of respondents agreed that HIV cannot be cured by herbs
- 97.1% of respondents agreed a healthy-looking person can be HIV-positive

Advanced knowledge

Respondents showed improved knowledge at endline. At endline, respondents were more likely to agree that not all people living with HIV need to be on antiretroviral therapy (46.1% at baseline, N=395 vs. 55.5% at endline, N=312, pp=0.0133); however, there was no difference between baseline and endline in community caregivers' understanding of when people living with HIV are most infectious. At endline, over one-third reported a belief that people living with HIV are always infectious (35.7%), just under one-third said that people living with HIV are most infectious when they have AIDS (31.5%), and just under one-quarter (22.9%) said that people living with HIV are most infectious when first infected (N=311).

Community caregivers were asked when they thought people living with HIV should start ART. Endline respondents were more likely to respond "when their CD4 count drops below 350 cells/mm"[3] compared to baseline respondents (45.5% at baseline, N=395 vs. 57.7% at endline, N=312, p=0.001). In addition, one in five respondents (21.5%) said "immediately following infection," 6.4% said "when they get sick or get AIDS," and 24.7% said that it depends on CD4 count and disease progression.

Community caregivers were asked why they thought it was important for clients to take their HIV medications on a strict schedule. Endline respondents were more likely to respond: "To avoid drug resistance" (44.7% vs. 58.0%, p=0.0004). Also, two-thirds of endline respondents responded that ART is only effective if taken on schedule, as prescribed (48.7% at baseline vs. 63.8% at endline, p<0.0001). Also, a greater proportion of community caregivers at endline agreed that adherence is important to both avoid drug resistance and to ensure effectiveness (10.9% vs. 23.7%, p<0.0001).

4.3.6 Attitudes and Values

As expected, community caregivers generally had very accepting attitudes toward people living with HIV and AIDS. The vast majority of caregivers believed that if pupils have HIV and are not sick, they should be allowed to continue attending school (at endline: 96.2%, N=312), and that if teachers have HIV and are not sick, they should be allowed to continue teaching (at endline: 96.8%, N=312). There were no differences between baseline and endline respondents.

Perceived stigma was lower at endline. Community caregivers were less likely to believe that people living in households where one or more household members is living with HIV are treated unkindly by the community (39.6% vs. 18.6%, p=0.0007), or that households receiving free services are treated unkindly by community (25.1% vs. 18.6%, p=0.04).

Nearly 90% of community caregivers (88.1%) believed that children ages 15 to 18 should be taught how to use condoms correctly to protect themselves from HIV. Only half of community caregivers (51.0%) believed that children aged 10-14 should be taught to use condoms correctly. There were no differences between baseline and endline.

4.3.7 Referrals

Findings on referrals of clients and household members of clients are presented in Table 19. Compared to baseline, endline respondents were less likely to know where to refer clients for some services, including: livelihood support, PLHIV support group, intermittent preventive treatment for malaria in pregnancy, indoor residual spraying (malaria prevention), kids' club, youth peer education, and spiritual/pastoral care.

Table 19: Knowledge of where to refer clients for specific services

	Baseline		Endline		p value
	%	N	%	N	
HIV testing	96.0%	399	98.4%	312	n/s
ART	93.0%	399	95.5%	312	n/s
PMTCT	90.7%	399	92.6%	312	n/s
Treatment of OIs	86.2%	398	88.5%	312	n/s
STI treatment	92.5%	398	93.0%	312	n/s
Post-rape care	74.5%	396	79.8%	312	n/s
Post-exposure prophylaxis	63.3%	395	62.8%	312	n/s
Psychosocial counseling	87.4%	397	90.7%	312	n/s
TB testing or treatment	90.7%	398	93.9%	312	n/s
Nutritional support/feeding	77.8%	397	81.7%	312	n/s
Livelihood support, e.g., cash transfer	48.3%	391	32.7%	312	p<0.000
Vocational training	45.6%	397	43.0%	312	n/s
Legal aid, e.g., will writing	52.2%	395	49.0%	312	n/s
Support group for PLHIV and families	84.2%	398	70.8%	312	p<0.0001
Immunizations	86.7%	398	88.5%	312	n/s
Intermittent preventive treatment for pregnant women (malaria)	89.6%	396	78.5%	312	p<0.0001
Long-lasting insecticide treated nets	89.9%	397	90.1%	312	n/s
Indoor residual spraying	79.6%	398	64.7%	312	p<0.0001
Kids' Club	36.5%	397	21.8%	312	p<0.0001
Youth peer education	66.2%	393	50.0%	312	p<0.0001
Women's group	72.7%	396	69.6%	312	n/s
Family planning	93.7%	396	94.6%	312	n/s
Condoms	95.7%	397	95.8%	312	n/s
Spiritual/pastoral care	91.3%	392	85.9%	312	p=0.02
Child abuse	86.3%	393	88.5%	312	n/s
Gender-based violence	81.9%	393	86.2%	312	n/s

Community caregivers surveyed at endline reported improved methods for tracking clients' referrals. At endline, respondents were more likely to report calling their clients to ensure they completed the referral (1.5%, N=397 vs. 9.4%, N=312, p<0.0001). Further, endline respondents were more likely than baseline respondents to report that they asked their clients about the referral upon the next household visit (53.4% vs. 72.5%, p<0.0001). There was no difference in the proportion of caregivers who go to the clinic or place of referral to check on the referral (at endline: 47.6%). Importantly, the proportion of community caregivers reporting attending the clinic with clients decreased from baseline to endline from 6.0% to 2.6% (p=0.03).

Under STEPS OVC, community caregivers were encouraged to register at a health facility to improve referrals. Two-thirds of respondents (66.7%) reported being registered at a health facility for referrals at endline, with no difference between baseline and endline. However, at endline, a greater proportion of community caregivers reporting being members of the Neighborhood Health Committee (49.6% at baseline, N=365 vs. 58.2% at endline, N=311, p=0.025). Approximately one-quarter of respondents were members of a Community AIDS Task Force at endline (23.4%), with no difference between baseline and endline.

4.3.8 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%) of respondents agreed or strongly agreed that they were able to handle their responsibilities in the available time (N=312), with no difference between baseline and endline respondents.

Further, just over half (52.1%) of community caregivers surveyed reported that they felt adequately supported to carry out their job responsibilities (N=311), with no difference between baseline and endline respondents.

5 Discussion

Of three million OVC and 1.8 million PLHIV in Zambia (ZDHS, 2009), STEPS OVC, at the time of this report, had registered 417,062 OVC and 225,193 BCS beneficiaries, or around one in three OVC and one in ten PLHIV countrywide. While this survey was only conducted in 10 districts, it is expected to provide a window into the program's impact since 2010. Highlights of the change from the baseline over a program cycle (four years) within the program areas and across the sample of evaluations include:

- Children reporting physical violence decreased by 28% and attitudes rejecting GBV improved by 5%
- Children reporting going a whole day and the whole night without eating, as well as those reporting going to bed hungry, reduced by 8%
- While age of sexual debut was steady at 13.2 years, HIV-related knowledge, behavior and practices among children and adults improved
- Children's and adults' self-rated quality of life improved by almost 4% and 20%, respectively
- Adults reporting gainful employment increased by 30%
- About half (47%) of adults now sleep under a net to protect against malaria
- More community caregivers now provide services and information after receiving requisite training

This discussion presents highlights of key areas the program focused on changing after the baseline findings.

5.1 Physical Abuse

The dominance of male interests and women's lack of assertiveness in sexual relations put both men and women at risk (UNDP, 2008). Additionally, gender-based violence (GBV) has been identified as a constraint to women accessing HIV testing or obtaining information on their HIV status if tested in an antenatal clinic (ZSBS, 2010). The 2009 Zambia Sexual Behaviour Study (ZSBS, 2010) indicates that one-quarter of female respondents reported having experienced forced sex. Findings from studies like these echo those of the STEPS OVC baseline, which found that nearly three-quarters of children had ever been hit or beaten by someone, and nearly a third of PLHIV had ever been hit or beaten by spouse or sexual partner. Further, at baseline, approximately one-third of children and adults believed a husband may be justified in hitting or beating his wife.

In response to these findings, STEPS OVC over the last four years intensified its economic empowerment for women as a means to reduce GBV. Of the more than 40,000 individuals benefiting from savings groups, for instance, 85% of them are women. It is in these groups that information on GBV is shared. Additionally, STEPS OVC strengthened its referral networks and response centers. In addition, community caregivers have been trained to address GBV as it relates to cultural beliefs and behaviors.

These interventions likely have contributed to the precipitous drop in the proportion of respondents reporting physical violence between baseline and endline, from nearly 50% to 21%. Further, a greater proportion of respondents are now seeking help after abuse (39% at endline vs. 34% at baseline). Reported attitudes toward GBV also have improved from baseline to endline.

5.2 Food Security

In Zambia, among children below the age of 5 years, the prevalence of wasting (weight-for-height) is 6%, stunting (height-for-age) is 40%, and nearly one in five children are underweight (ZDHS, 2013/4). Further, about 51% of households do not have enough food in certain months to meet family's needs (NNSS, 2009). In line with these statistics, the STEPS OVC baseline found that one-third of children went a whole day and night without eating because there was no food in the household, and almost half of adults reported that someone in the household went a whole day and night without eating in last four weeks. Further, 58% of OVC reported going to sleep hungry because there was not enough food in the last four weeks, and two-thirds of adults said at least one household member went to sleep hungry in the last four weeks.

As a result of this widespread food insecurity detected at baseline, STEPS OVC prioritized interventions that would enable households to meet their dietary needs, including food processing, storage, livestock production, bee keeping, small business trading, improved market access, etc. The STEPS OVC program database indicates that of the 642,255 OVC and BCS beneficiaries, 91.2% of them received food and/or other nutrition services.

There is evidence that food security improved across the STEPS OVC beneficiary population between baseline and endline. The proportion of respondents reporting going a whole day and whole night in the last four weeks dropped between baseline and endline, from one-third to one-quarter. A similar reduction occurred among those reporting going to bed hungry between baseline (58%) and endline (51%). These findings in the area of food security indicate that the program has had meaningful change in the lives of its beneficiaries.

5.3 HIV and AIDS Knowledge and Attitudes

General knowledge of HIV and AIDS has been consistently high among the general population in Zambia, even before STEPS OVC intervention, at 97% in 2005 and 99% in 2007 (NAC, 2009). Among young people (15-24 years) knowledge about how to prevent HIV increased from 40.5% to 65% for females and from 46% to 67% for males between 2007 and 2008 (*ibid*).

However, *comprehensive* knowledge[6] of HIV is low, at 36% for women and 39% for men (Zambia DHS 2007), and the proportion of young people who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission decreased from 48% in 2005 to 35% in 2007. This decline in knowledge of HIV and AIDS among youth 15-24 years is worrisome.

Recognizing these HIV and AIDS knowledge gaps, STEPS OVC has supported the distribution of information, education and communication (IEC) materials as well as strengthening its prevention interventions. Thus far, while the program has reached 803,044 adults and children with small group prevention interventions, over the life of the grant the program has provided HIV-related education to almost half (7,100,757) of all Zambians.

These program interventions likely have contributed to the increase of accepting attitudes toward people living with HIV and AIDS from baseline to endline. Improved knowledge may also have contributed to the increase in individuals taking positive actions, such as HIV testing.

5.4 Household Economic Strengthening (HES)

Zambia has one of the highest incidences of poverty in the world, with two-thirds of people living in extreme poverty (UNDP, 2013). The majority of Zambians, including PLHIV, work in the informal sector[7] where services and support are not always available.

It is against this backdrop that STEPS OVC developed an economic strengthening strategy aimed at improving the livelihoods of its beneficiaries. This approach ensured a targeted approach that accounts for geographic and socioeconomic differences among households. To date, 70% of STEPS OVC program beneficiaries have been reached with economic strengthening interventions.

There is evidence that STEPS OVC's strategic focus in HES has led to improved outcomes. Two-thirds of respondents reported that they had gainful employment at endline, compared to just over one-third at baseline. This increase may be attributable to a combination of the STEPS OVC HES interventions and the government of Zambia's investment in HIV care and treatment, the latter of which has greatly reduced HIV/AIDS-related morbidity and enabled more PLHIV to re-enter or remain in the work force.

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[6] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chances of contracting HIV, knowing that a healthy-looking person can have HIV, and rejecting the two most common local misconceptions about HIV transmission and prevention.

[7] The informal sector is part of the "non-observed economy," which consists of illegal activities, underground activities and the informal sector (Central Statistical Office and Ministry of Labour and Social Security, *Labour Force Survey Report,* 2005). Of these categories, a few implementing organizations are targeting the informal sector and illegal activities such as sex work for HIV interventions, but not to the degree occurring in the formal sector. The majority of workers are not reached.

5.5 Malaria

Malaria accounts for up to 40% of all infant mortality and 20% of all maternal mortality in Zambia (MoH, 2008). Malaria is the leading cause of morbidity and mortality in Zambia, with nearly 4.3 million cases and 50,000 deaths per year. It is responsible for one-quarter of childhood deaths and accounts for almost 50% of hospitalizations nationwide.

STEPS OVC considered these data in determining, with the support of the government of Zambia, to distribute 1,850,000 insecticide-treated nets in two provinces – Luapula and Western.

There is evidence that STEPS OVC's efforts have led to improved outcomes At endline, more children reported having a mosquito net in their household (47% at baseline compared to 52% at endline). Also, children surveyed at endline were 6% more likely to report that someone in their household slept under a mosquito net the night prior to survey.

5.6 Community Caregiver Training

Zambia does not have adequate number of community health workers to provide services and support to all households in need. In recognition of this, STEPS OVC, like preceding programs, provides services through a network of volunteer community caregivers.

The baseline study found that 16% of community caregivers were providing services and information for which they were not trained. Due to this, STEPS OVC set out build the capacity of community-based volunteers not just to provide services but also correct information. According to the program database, out of the 45,605 volunteer community caregivers registered on the program, STEPS OVC has trained all of them at least once. Additionally, the program has linked nine in ten of them to health facilities where they refer beneficiaries.

At endline, there is clear evidence of increased service delivery, with the mean number of households visited increasing from 12.5 to 18.5. Furthermore, at endline community caregivers were more likely to report providing various services and receiving training to provide services. We also see improved methods for tracking clients' referrals. Overall, despite community caregivers having to visit more households, they continue to express satisfaction and indicate that they are adequately supported to perform their jobs. Findings in this study are similar to those of other studies (Zambia-led Prevention Initiative 2013).

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7 Appendices

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