Monitoring Well-Being Outcomes among Kizazi Kipya Project Beneficiaries in Tanzania

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Cover

A young mother in rural Tanzania carries her child on her back. Photo: Scott Wallace, World Bank, flickr

CONTENTS

FIGURES

TABLES

ABBREVIATIONS

ART	antiretroviral therapy
CI	confidence interval
DHS	Demographic and Health Survey
ECD	early childhood development
ESI	essential survey indicator
GOT	Government of Tanzania
HH	household
ILO	International Labour Organization
LIMCA	livelihoods improvement for most vulnerable children care
LL	lower limit
MER	monitoring, evaluation, and reporting
MOH	Ministry of Health
MUAC	mid-upper arm circumference
MVC	most vulnerable children
NBS	National Bureau of Statistics
NCPA	National Costed Plan of Action
OVC	orphans and vulnerable children
PEPFAR	United States President's Emergency Plan for AIDS Relief
PMTCT	prevention of mother-to-child transmission
PPP	purchasing power parity
PPS	probability proportional to size
PSU	primary sampling unit
SD	standard deviation
SILC	savings and internal lending committees
SSU	secondary sampling unit
TZS	Tanzanian Shillings
UL	upper limit
USAID	United States Agency for International Development
W%	weighted percentage

EXECUTIVE SUMMARY

Evaluation Purpose and Evaluation Questions

The impetus behind this evaluation was twofold. First, the United States Agency for International Development (USAID) mission in Tanzania wanted to better understand the impact of the savings groups implemented by the Kizazi Kipya project on the well-being of orphans and vulnerable children (OVC) households (HHs) supported by the United States President's Emergency Plan for AIDS Relief (PEPFAR). Second, USAID/Tanzania, together with the Kizazi Kipya project, were required in 2017 to report to the Office of the Global AIDS Coordinator on a new set of outcome indicators, which could only be obtained through an external HH survey of the beneficiary population. There were two evaluation questions:

1. What is the change in PEPFAR monitoring, evaluation, and reporting (MER) indicators of well-being among Kizazi Kipya beneficiaries over time?

2. Under what circumstances does caregiver participation in a savings group contribute to changes in the uptake of HIV testing, retention in HIV care, and adherence to HIV medication among caregivers and children?

Project Background

Kizazi Kipya is a five-year (2016–2021) project funded by PEPFAR through USAID, implemented by Pact and its partners. In support of HIV-infected and other vulnerable children and adolescents, Kizazi Kipya works to increase caregivers' financial resources and parenting skills, and to improve the availability of services in support of this population, especially those hardest to reach. To improve financial well-being, the project is rolling out community savings groups and, in future years, will connect the target population with other HH economic strengthening activities. The Kizazi Kipya project is implementing an adapted savings group methodology, bringing in elements of the WORTH model, savings and internal lending communities (SILC), and the livelihoods for most vulnerable children care (LIMCA) model.

Evaluation Design and Methods

MEASURE Evaluation conducted an HH panel study among Kizazi Kipya beneficiary HHs enrolled in project Year 1 (2016–2017) that were selected using a two-stage cluster sample design. Thirty clusters were randomly selected and 25 HHs were randomly selected from within each cluster to yield a sample size of 750 HHs. A standardized questionnaire was used to interview OVC caregivers about the services they received, their own well-being, and the well-being of the children in the HH. The study was set up for data collection at two points in time: first in 2017, and then two to three years later. This report presents findings from the 2017 survey only.

Findings and Conclusions

The survey team completed 679 interviews with the caregivers of 2,315 children. The survey response rate was 90.5 percent. Thirty-two percent of the sample was rural.

On average, HHs had been receiving support from the Kizazi Kipya project for nine months at the time of survey. Three-quarters of the HHs reported having received an HH visit; one-quarter of the HHs

reported being linked with savings and loan groups by the project (40 percent total reported being in a savings group); and one-quarter reported receiving nutritional guidance from the Kizazi Kipya project. Forty-four percent of HHs reported receiving external financial assistance; and 22 percent reported that they were recipients of the government's social cash transfer program.

HHs had an average of 5.5 members. Sixty-five percent of the HHs included an orphaned child. HHs had a 48 percent likelihood of falling below the US$1.25 poverty line (higher than the national average). Forty percent of the HHs reported outstanding debt, and only eight percent reported savings. In 26 percent of the HHs, the responding caregiver was HIV positive, and 6.5 percent of the children for which caregivers provided information were reported to be HIV positive.

Key outcomes are presented in the table below. MER essential survey indicators are noted with an asterisk.

Indicator	n	N	%	95% confidence interval	
				Lower limit (LL)	Upper limit (UL)
HH economic well-being and resilience					
Percent of households able to access money to pay for education expenses	82	524	16.2	12.5	20.7
Percent of households able to access money to pay for healthcare expenses	67	458	15.5	10.9	21.5
Percent of households able to access money to pay for unexpected household expenses*	46	308	14.6	10.9	19.4
HH food security					
Percent of households experiencing little to no hunger	342	679	51.4	[41.9,	60.8]
HIV					
Percent of caregivers with comprehensive knowledge of HIV	227	679	32.7	[28.6,	37.1]
Percent of caregivers with comprehensive knowledge of PMTCT	344	679	51.2	[45.1,	57.2]
Percent of HIV+ caregivers currently on ART	128	139	91.9	[83.0,	96.3]
Percent of HIV+ caregivers who are currently on ART who report adherence to ART	122	128	95.8	[90.1,	98.3]
Percent of children ever tested for HIV	1007	2230	43.9	[39.2,	48.7]
Percent of children for which the caregiver knows their HIV status	931	2315	39.1	[34.3,	44.0]
Percent of HIV+ children currently on ART	50	56	90.1	[76.1,	96.3]

Indicator	n	N	%	95% confidence interval	
				Lower limit (LL)	Upper limit (UL)
Percent of HIV+ children who are currently on ART who report adherence to ART	36	50	70.5	[49.2,	85.6]
Child health					
Percent of children too sick to participate in daily activities*	406	2315	17.7	[15.3,	20.4]
Percent of children under 5 years who were sick with fever in the last two weeks	138	432	31.0	[25.6,	37.0]
Nutrition					
Percentage of children <5 years of age who are undernourished*	9	380	2.5 †	[1.3,	4.7]
Percent of children reporting a minimally diverse diet	180	2315	8.2	[5.5,	12.2]
Early childhood development					
Percent of children <5 years of age who recently engaged in stimulating activities with any household member over 15 years of age*	309	432	70.4	[62.3,	77.3]
Protection					
Percent of children who have a birth certificate*	254	2315	10.8	[8.1,	14.4]
Percent of children ages 5-14 years who worked outside home more than 3 hours on a school day during past week	13	1458	0.9	[0.5,	1.7]
Percent of caregivers that report than any children in their household were hit, slapped, or beaten by a household member in past 4 weeks	153	679	22.3	[17.8,	27.5]
Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or school*	347	679	50.2	[42.9,	57.6]
Education					
Percent of children ages 3-5 years enrolled in pre-primary education	42	220	19.6	[13.6,	27.3]
Percent of children (ages 5-17 years) regularly attending school*	599	1073	55.7	[47.4,	63.6]
Percent of children who progressed in school during the last year*	999	1181	84.6	[81.6,	87.2]
Caregiver psychosocial well-being					
Caregiver reports self-efficacy (range 0-20)	679	10	9.2	4.8	
Caregiver reports self-esteem (range 0-30)	679	16	15.7	4.2	
Caregiver reports social support (Oslo; range 0-11)	679	6	5.5	2.2	
Caregiver reports social support (Rand; range 0-4)	679	4	3.4	1.1	
Caregiver reports being hopeful (range 0-56)	679	31	30.1	11.2	

The findings identify beneficiary population needs and program gaps and should be interpreted as a baseline situation analysis. The results from this first round of data collection will also serve as a reference for tracking changes over time in the next round of data collection.

BACKGROUND

MEASURE Evaluation is conducting an evaluation of savings groups as implemented by the PEPFAR-funded Kizazi Kipya project, in Tanzania. This evaluation involved an HH panel survey, with data collection at two points in time. At Time 1, MEASURE Evaluation also collected the PEPFAR MER ESIs for OVC programs. This report shares the findings of the Time 1 survey.

Country Context

The impact of the HIV epidemic in Tanzania is enormous: an estimated 1.5 million people have the virus (UNAIDS, 2017) and there are 1.3 million orphans due to HIV (UNAIDS, 2010).

Tanzania's Ministry of Health, Community Development, Gender, Elderly and Children, together with PEPFAR, provide support to thousands of the "most vulnerable children" (MVC), a definition that includes children affected by HIV and AIDS, but also those at risk of not receiving basic social services. In 2015, MEASURE Evaluation estimated the number of MVC in Tanzania to be 6.2 million, and the number of OVC to be 3.2 million (MEASURE Evaluation, 2015).

The Government of Tanzania (GOT) has established two National Costed Plans of Action (NCPAs) for MVC. These plans aim to enhance the well-being of MVC by protecting their rights and reducing socioeconomic vulnerabilities. The second NCPA also promotes and strengthens response systems for equitable and sustainable services and outcomes for MVC. The GOT has also enhanced the protection of children through other policy and legislative changes, including: the Law of the Child Act 2009; the Tanzania Social Action Fund National Productive Social Safety Net program; the Multi Sector National Plan of Action to Prevent and Respond to Violence Against Children (2013-2016); and the National Social Welfare Workforce Strengthening Strategy.

Project Description

Kizazi Kipya is a five-year (2016–2021) project funded by PEPFAR through the United States Agency for International Development (USAID). It is implemented by Pact, in partnership with the Elizabeth Glaser Pediatric AIDS Foundation, the Aga Khan Foundation, Restless Development, Railway Children of Africa, and the Ifakara Health Institute.

The project is working to achieve the following results:

1. Parents and caregivers have the financial resources to meet the needs of vulnerable children and adolescents.

2. Parents and caregivers have the skills to meet the needs of HIV-infected and vulnerable children and adolescents.

3. High-quality services are available to HIV-infected and vulnerable children and adolescents.

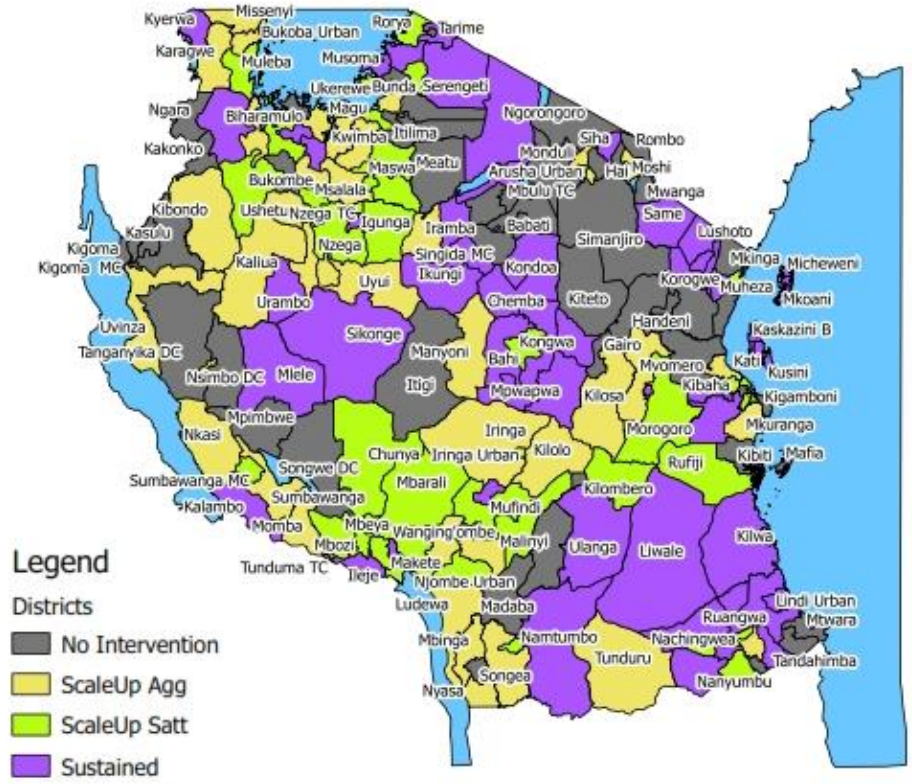
4. High-quality services are available to "hard-to-reach" HIV-infected and vulnerable children and adolescents.

The project is implementing a broad economic strengthening strategy to meet Result 1, including the promotion of community-based savings groups. The project is initiating new groups following Pact's

WORTH model; however, the project will absorb savings groups created under the predecessor projects that used a different methodology.[1]

In its first year, the Kizazi Kipya project was implemented across 78 councils. Activities will be scaled up to 84 councils by Project Year 2 (Figure 1).

Figure 1. Kizazi Kipya project districts map



[1] Under Pamoja Tuwalee community-based savings groups were implemented by the prime partners – Africare, WEI, Pact, and FHI 360 – according to their own economic strengthening models and approaches. Africare and FHI 360 implemented the savings and internal lending communities (SILC) model; WEI implemented an approach called livelihoods improvement for MVC care (LIMCA); and Pact implemented the WORTH model.

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The impetus behind this evaluation was twofold. First, USAID/Tanzania wanted to better understand the impact of the savings groups implemented by the Kizazi Kipya project on the well-being of OVC HHs supported by PEPFAR. Second, USAID/Tanzania, together with the Kizazi Kipya project, were required in 2017 to report to the Office of the Global AIDS Coordinator on a new set of outcome indicators, which could only be obtained by an external HH survey of the beneficiary population. These indicators are known as the Monitoring, Evaluation, and Reporting (MER) OVC Essential Survey Indicator(s) (ESI). The reason for collecting these indicators is to measure and track child and HH well-being using a standard methodology across projects and countries. Selected by the global PEPFAR OVC program and strategic information leaders, the nine indicators reflect internationally-accepted development milestones and the ways OVC programs gain from and contribute to broader HIV and child protection responses (MEASURE Evaluation, 2014). The nine indicators are listed in Box 1.

Box 1. PEPFAR MER ESIs for OVC programs

- Percentage of children whose primary caregiver knows the child's HIV status
- Percentage of children 6 to 59 months who are undernourished
- Percentage of children too sick to participate in daily activities
- Percentage of children who have a birth certificate
- Percentage of children regularly attending school
- Percentage of children who progressed in school during the past year
- Percentage of children under five years who recently engaged in stimulating activities with any HH member over 15 years of age
- Percentage of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or school
- Percentage of HHs able to access money to pay for unexpected HH expenses

The evaluation was designed to achieve both of USAID/Tanzania's objectives. The overarching **evaluation questions** for the study were:

1. What is the change in PEPFAR MER indicators of well-being among Kizazi Kipya beneficiaries over time?
2. Under what circumstances does caregiver participation in a savings group contribute to changes in the uptake of HIV testing, retention in HIV care, and adherence to HIV medication among caregivers and children?

The theory of change that guided the analytical design of the study is presented in Appendix A.

This is a baseline report that presents data on beneficiary well-being at one point in time, primarily in response to the second objective of the evaluation (to report on the MER ESIs). The broader evaluation questions will be answered in subsequent reports.

METHODS

The evaluation is a panel study involving a HH survey with caregivers of children who were active beneficiary HHs of the Kizazi Kipya project enrolled between mid-2016 and mid-2017. Data will be collected at two points in time from the same HHs, 24 months apart, using a standardized, quantitative questionnaire administered by trained data collectors.

Participants and Setting

The survey team conducted interviews with the primary caregivers of the children residing in the selected HHs. Female and male caregivers of all ages were eligible for the survey. We asked caregivers questions about themselves, the HH, and the children under their care. All children ages 0 to 17 years (at their last birthday) who regularly slept in the HH were considered eligible for the survey, even if they were not present on the day of the survey.[2] Data were not collected from children directly, with two exceptions: (1) with parental consent and the assent of the child, the mid-upper arm circumference (MUAC) of children ages 6 to 59 months was measured; and (2) we considered children to be emancipated if they were married and age 16 years or older, and with their informed consent, we interviewed caregivers ages 16 to 17 years. (There was only one caregiver age 17 among the responding caregivers.)

Study inclusion criteria were all HHs registered to receive services from the Kizazi Kipya project before July 1, 2017, and caregiver inclusion criteria, including being a primary caregiver for at least one child ages 0 to 17 years and documented informed consent. HHs and primary caregivers were excluded from the study if they were inebriated or otherwise incapacitated and unable to provide informed consent, under age 16, or ages 16 to 17 and unmarried.

The study was carried out nationally, across the 84 districts to which the Kizazi Kipya project is scaling up services as of 2017 (Figure 1).

Sampling

Statistical Power and Sample Size Calculations

The study was powered to access change over time across the nine PEPFAR OVC MER ESIs, which apply to different age groups. Although the majority of the indicators apply to children ages 5 to 17 years, two indicators apply only to children ages 0 to 4 years. To ensure that the study was powered to detect change over time among children ages 0 to 4, the study was powered to assess change in this group. Because children ages 0 to 4 were the smallest anticipated subpopulation in our sample, the study was expected to be sufficiently powered for the other indicators.

Because the same HHs will be interviewed at baseline and end line, sample size calculations were made based on MacNemar's test of comparing paired proportions. The SAS procedure PROC POWER with the PAIREDFREQ statement was used to estimate the required sample size at alpha=0.05, power=0.80, for a two-sided test is 250 HHs interviewed during both assessments.

Cluster sampling, rather than simple random sampling, was implemented for cost control considerations. Cluster sampling requires increasing the sample size to compensate for an anticipated design effect of 2, which results in a required baseline sample size of 500 beneficiary HHs. We further increased the HH

[2] Interviewers did not include children who were present on the day of the survey but were not regular HH members (i.e., those who did not routinely sleep in the HH).

sample size to 625 HHs to accommodate the assumption that only 80 percent of sampled HHs would contain a child ages 0 to 4 years old. Last, we inflated the HH sample size by 20 percent to account for anticipated nonresponse and attrition. The final sample size was 750 HHs, to be implemented as a 30 cluster by 25 HH sample.

Sampling Strategy

The sampling frame for the evaluation study consisted of all HHs registered to receive services from the Kizazi Kipya project before July 1, 2017. The sampling methodology used a two-stage cluster design, where wards were the primary sampling unit (PSU) and HHs were the secondary sampling unit (SSU).

First Stage of Selection (PSUs)

The first stage of selection used the implementing partner's (Pact) national beneficiary registry as the sampling frame. Thirty wards (clusters) were randomly selected from all wards served by the project using the probability proportional to size (PPS) methodology. Implicit stratification was imposed by first sorting regions by savings group methodology (LIMCA, SILC, and WORTH), then by geographic location, and last, by randomly sorting councils in regions and wards in councils. Table 1 presents the results of the first stage selection of wards. Per Pact's national beneficiary database, there were 94,625 active beneficiary HHs in 937 wards that met the study eligibility criteria. As evidenced by the nearly identical percentages of total HHs in the three savings group methodology groups for the sample frame and the ward sample, implicit stratification maintained the proportionality of savings group methodologies among all Kizazi Kipya beneficiaries in the sampled wards.

Table 1. First stage selection of wards: results of implicit stratification by savings group method

	Sample frame				Sample			
Methodology	**# Wards**	**% total wards**	**# HHs**	**% total HHs**	**# wards**	**% total wards**	**# HHs**	**% total HHs**
LIMCA	66	7.0%	6,510	6.9%	2	6.7%	50	6.7%
SILC	315	33.6%	37,805	40.0%	12	40.0%	300	40.0%
WORTH	556	59.3%	50,310	53.2%	16	53.3%	400	53.3%
Total	**937**	**100.0%**	**94,625**	**100.0%**	**30**	**100.0%**	**750**	**100%**

Second Stage of Selection (SSUs)

The beneficiary HH listings were updated by advance field teams in each of the 30 sampled wards before the second stage of selection. The advance teams worked with the community-based organizations active in the areas to update the list of all active beneficiary HHs. The advance teams then randomly sampled 25 HHs from the updated lists to be included in the survey. Caregivers in sampled HHs responded with reference to all children under their care; therefore, a "census" of children ages 0 to 17 was implemented in each study HH.

The results of the beneficiary HH listing operation in each of the 30 sampled wards is presented in Table 2. Approximately 5.9% (5,546 HHs) of the 94,625 active beneficiaries in the project database were included in the 30 wards sampled during the first stage of selection. Several discrepancies were identified when updating the beneficiary listings during advance field work: in the 30 sampled wards, 901 HHs and/or caregivers were unknown to the local implementing partner, guide, or Community Home Visitor; 79 HHs were determined to have been duplicated in the national database; and 330 beneficiary HHs were

found to be missing from the national database. After removing unknown and duplicate HHs and adding missing HHs to the project sample frame, the updated beneficiary HH listing in the 30 study wards included a total of 4,975 HHs. The study sample of 750 HHs was randomly selected from this updated listing of 4,975 HHs.

Table 2. Second stage selection of HHs: results of beneficiary listing update

HHs served by the Kizazi Kipya OVC program	94,625
HHs in the original 30 ward PSU sample (from the project listing)	5,546
Discrepancies identified during the listing operation	
PSU sample HHs (or caregivers) unknown to the local implementing partner, assigned Community Home Visitor, or local guide	901
PSU sample HHs found to have duplicate identifications in the project listing	79
New beneficiary HHs discovered during PSU HH listing verification	330
Total HHs included in the updated PSU sample frame	4,975
HHs in the survey sample (selected for interview from the updated PSU sample frame)	750

Recruitment Procedures

The MEASURE Evaluation data collection supervisor worked with local guides (e.g., staff from community-based organizations, chiefs, village elders, and other facilitators) to locate the selected HHs using maps of the communities and additional information from the OVC registration databases. In some cases, the supervisor asked a local guide to accompany the field interviewers to help locate the selected HHs. When this occurred, the guide provided an introduction of the HH, but was not present at the house when the interviewer conducted the consent process or the interview.

Once the field interviewer had located and confirmed the HH, the field interviewer recruited the eligible caregiver to be interviewed. If the caregiver was not at home at the time the field interviewer visited the HH, s/he returned up to three times to request the interview.

Once the field interviewer had identified the caregiver in the HH, s/he explained the purpose and nature of the survey, and its expected risks and benefits. The caregiver was informed that her/his participation was voluntary and would not affect eligibility to receive or continue to receive services. Caregivers were given the opportunity to ask questions before making a decision about their participation. If the caregiver agreed to participate, the interviewer obtained informed consent.

Survey Instruments

Caregiver interviews were conducted using two structured questionnaires: one for caregivers and one for children, wherein each primary caregiver responded to the questionnaires with reference to all children under their care. The data collection instruments were designed to capture the outcome measures of interest, including the nine PEPFAR MER ESIs.

The questionnaires were programmed using Kobo Toolbox and administered through computer-assisted personal interviewing via tablets. The tablets were programmed to incorporate skip patterns, internal logic, and range and consistency checks in real time.

Data Collection and Processing

The field interviewers administered the programmed questionnaires using tablets to facilitate and automate response recording for sampling, interviews, and MUAC measurements. At the end of the interview, the field interviewers saved the file, but did not send it to the server. At the end of each day, supervisors performed data quality checks on each file, before uploading the data to secure online Kobo Toolbox servers via an Internet connection. Once the data were uploaded to the server, they were automatically deleted from the device.

The HH sampling field protocol, questionnaires, and consent forms were pilot tested for comprehension in Magomeni ward (Kinondoni municipal council) in Dar es Salaam.

Response Rates

HH nonresponse details are provided in Table 3. The total HH interview response rate was 90.5 percent (679 of 750 sampled HHs completed a study interview). Seventy-one HHs were not successfully interviewed due to the following: 23 (32.4%) because the caregiver was temporarily away from the HH for an extended period of time; 12 (16.9%) because the HH did not have an eligible child under age 18; 12 (16.9%) because the HH had permanently moved out of the survey area; and eight (11.3%) because the caregiver was unavailable for interview. The remaining nonresponse categories comprised less than 10 percent of the total nonresponse cases.

Table 3. HH response in Kizazi Kipya baseline survey

HHs in the survey sample (selected for interview from the updated PSU sample frame)	750
HHs visited by interviewers but unable to interview:	
Ineligible: HH had no resident child under age 18	12
Caregiver refused the interview	3
Incomplete interview	3
HH permanently moved out of the survey area	12
Dwelling demolished	3
Caregiver temporarily away from the HH for an extended period	23
Caregiver unavailable for interview (could not be located after three attempts, too sick to participate, or working all day)	8
Caregiver deceased	2
Other/unknown (e.g., drunk, mental illness)	5
Total number of sample HHs where an interview was not conducted (HH nonresponse)	**71**
Total number of sample HHs successfully interviewed	**679**

Table 4 presents the questionnaire component-specific response information for the Kizazi Kipya baseline survey. The expected number of respondents per questionnaire component was calculated by summing the children in the eligible age ranges based on the information provided in the HH roster. A total of 2,325 children ages 0 to 17 years were reported in the HH roster information provided by the 679 HHs interviewed. Nearly 100 percent of the children listed in the HH roster had completed child-specific questionnaire components (432 children ages 0 to 4 years and 1,883 children ages 5 to 17 years). The

completion rate of MUAC measurements among children under five years of age was lower, at 87.4% of the eligible children. On average, there were 3.4 children ages 0 to 17 years of age with completed questionnaires per study HH. Of those children listed by caregivers, 86.2 percent were registered with the Kizazi Kipya project.

Table 4. Questionnaire component completion in Kizazi Kipya baseline survey

Sample information	Number expected	Number completed	Response rate
Number of "caregiver" components completed	750	679	90.5%
Number of MUAC completed	435	380	87.4%
Number of "child ages 0 to 4 years" components completed	435	432	99.3%
Number of "child ages 5 to 17 years" components completed	1,890	1,883	99.6%
Total number of child components completed among children ages 0 to 17	2,325	2,315	99.6%
Average number of completed child components per HH	3.40 children ages 0 to 17 per HH		
Percentage of children listed by caregivers who were registered with the project	86.23% (85.45% weighted)		

Data Analysis

Data analysis was conducted in Stata 15. The PEPFAR OVC MER ESIs were derived as specified in the MEASURE Evaluation MER ESI guidance document[3], and additional indicators are defined upon presentation in the results section. This report presents unweighted frequencies and counts, and weighted percentages, point estimates, 95% confidence intervals (CI), and significance tests. Weighted analyses also account for the multistage sample design. (Procedures for weighting can be found in Appendix B.) Pearson chi-square tests were applied to test for the significance of the association between categorical outcomes and characteristics of interest (e.g., child sex, child age group, caregiver sex, caregiver age group, HH size, and urban/rural location); and Wald tests of differences in means were applied to test for the significance of the association between continuous outcomes and characteristics of interest. Low cell frequencies (fewer than 25 cases in a subgroup) are noted in the results tables; figures based on these low frequencies should be interpreted with caution because the weighted percentages may not be reliable population estimates.

Comparative analyses of the PEPFAR OVC MER ESIs were conducted by household savings group status. That is, indicators were compared between households in which the caregiver currently participated in a savings group and those where this was not the case. This analysis reflects the second objective of this study, to evaluate the contribution of savings group participation on outcomes. Findings are presented in Appendix C.

[3] https://www.measureevaluation.org/resources/publications/ms-14-90

Ethics Review

We received ethics approval from the National Health Research Ethics Committee in Tanzania and from the Health Media Lab institutional review board in Washington, DC (www.HealthMediaLabIRB.com).

Limitations

The study has a few limitations:

- The sample size lacks sufficient statistical power to allow for comparisons of indicator estimates by age group or province.
- As with all self-report studies, social desirability and recall biases may have affected the results. However, we trained the data collectors to administer the questionnaires using interviewer methods that minimize these biases.
- The survey findings represent only the beneficiary populations of the project and are not generalizable to the overall population or other subpopulations of OVC in Tanzania.
- The sampling frame is all beneficiary HHs enrolled in year 1 of the project. Some of these HHs may have graduated from receiving support by the time of the end line survey because they no longer have immediate needs. We predict that it will be harder to find graduated, exited, and transferred HHs, which may bias our sample toward beneficiaries still active in the project. The overall effect will be a reduction in the magnitude of positive change detected.

RESULTS

Respondent Characteristics

Caregiver Characteristics

Caregiver characteristics are presented in Table 5.

Table 5. Caregiver characteristics

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
Sex			525	77.3	154	22.7
Age (years)* [a]	50.9	(14.8)	49.9	(14.4)	54.4	(15.5)
Age (years)						
<18	1	0.2 †	1	0.2 †	0	0.0 †
18-30	51	7.1	43	7.7	8	5.0 †
31-50	327	47.5	261	49.4	66	41.2
51+	300	45.2	220	42.7	80	53.9
Education: highest level attended						
Never attended school*	212	31.7	175	34.0	37	24.0
Primary	427	63.0	325	61.6	102	67.5
Secondary or higher	40	5.3	25	4.4	15	8.6 †
Marital status						
Married or cohabitating	289	42.4	161	30.7	128	82.2
Never married	36	5.2	35	6.5	1	0.6 †
Divorced, separated, widowed, other***	354	52.4	329	62.8	25	17.2
Caregiver worked for cash/in-kind in the past three months	466	67.7	366	68.4	100	65.2
Any disability	57	8.3	41	7.8	16	9.9 †
HIV positive (self-report)	139	25.9	103	24.8	36	29.3
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and standard deviations (SDs) are presented for continuous variables. Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a] Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Three-quarters (77.3%) of caregivers were female. The average age of caregivers surveyed was 51 years (50 among females and 54 among males, p=0.0234). The majority of caregivers reported some primary education; however, one-third (31.7%) reported no education whatsoever. Female caregivers were approximately 10 percentage points more likely to have never attended school than male caregivers (p=0.0281). Forty-two percent of caregivers were married; more than one-half (52.4%) were divorced,

separated, or widowed. Female caregivers were more likely than male caregivers to be divorced, separated, or widowed (62.8 percent versus 17.2 percent, p=0.0000). Eight percent of caregivers surveyed reported a disability of some sort. Two-thirds (67.7%) of caregivers reported working in the three months before the survey.

Child Characteristics

The characteristics of children surveyed are presented in Table 6.

Table 6. Child characteristics

	All children		Female children		Male children	
	n	W%	n	W%	n	W%
Sex			1176	50.9	1139	49.1
Age (years) ¤	9.7	(4.7)	9.7	(4.6)	9.6	(4.9)
Age (months) ¤	115.9	(56.7)	116.1	(55.3)	116.1	(55.3)
Age groups[4]						
0-4 years	432	18.1	211	17.5	221	18.7
0-5 months	41	10.0	19	9.4 †	22	10.6 †
6-11 months	31	6.8	15	6.5 †	16	7.0 †
12-23 months	57	12.8	25	11.4	32	14.1
24-59 months	303	70.5	152	72.7	151	68.3
5-9 years	655	28.1	326	27.3	329	28.9
10-14 years	813	35.7	442	38.3	371	32.9
15-17 years	415	18.2	197	16.9	218	19.5
Relationship to caregiver (respondent)						
Biological mother	864	37.0	433	37.0	431	36.9
Biological father	327	13.7	168	14.0	159	13.5
Grand-parent	848	37.5	418	35.7	430	39.3
Other (sibling, aunt, uncle, neighbor, other)	276	11.8	157	13.3	119	10.3
Biological parent lives in the HH						
Both parents	664	27.7	347	28.9	317	26.5
Mother only	834	36.0	419	35.7	415	36.4
Father only	101	4.5	51	4.5	50	4.5
Neither parent	716	31.7	359	30.9	357	32.6
Orphan (yes/no)	913	40.0	469	39.8	444	40.1

[4] The proportion of female children ages 10 to 14 years was significantly higher than the proportion of male children in the same age group (p=0.0047); however, we did not detect a significant difference in mean age in years or mean age in months between boys and girls.

Orphanhood group						
Both parents alive	1402	60.0	707	60.2	695	59.9
Mother alive only	605	26.1	310	26.1	295	26.1
Father alive only	135	6.3	74	6.6	61	5.9
Both parents deceased	173	7.5	85	7.0	88	8.0
Any disability[5]	58	2.6	22	1.9 †	36	3.3
HIV positive (caregiver report)	56	6.5	24	5.2 †	32	7.9
Total	**2315**	**100.0**	**1176**	**100.0**	**1139**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by child sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a.] Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

One-half (51%) of the children surveyed were female, with an average age of 9.7 years. Sixty percent of the children had two living biological partners; however, only one-quarter (27.7%) of the children lived in a HH with both biological parents. Forty percent of the children were orphaned (either by one or both parents) and 7.5 percent of the children had no living biological parents (double orphans). A larger proportion, approximately one-third (31.7%), lived in a HH without either biological parent. Less than three percent of the children had a disability.

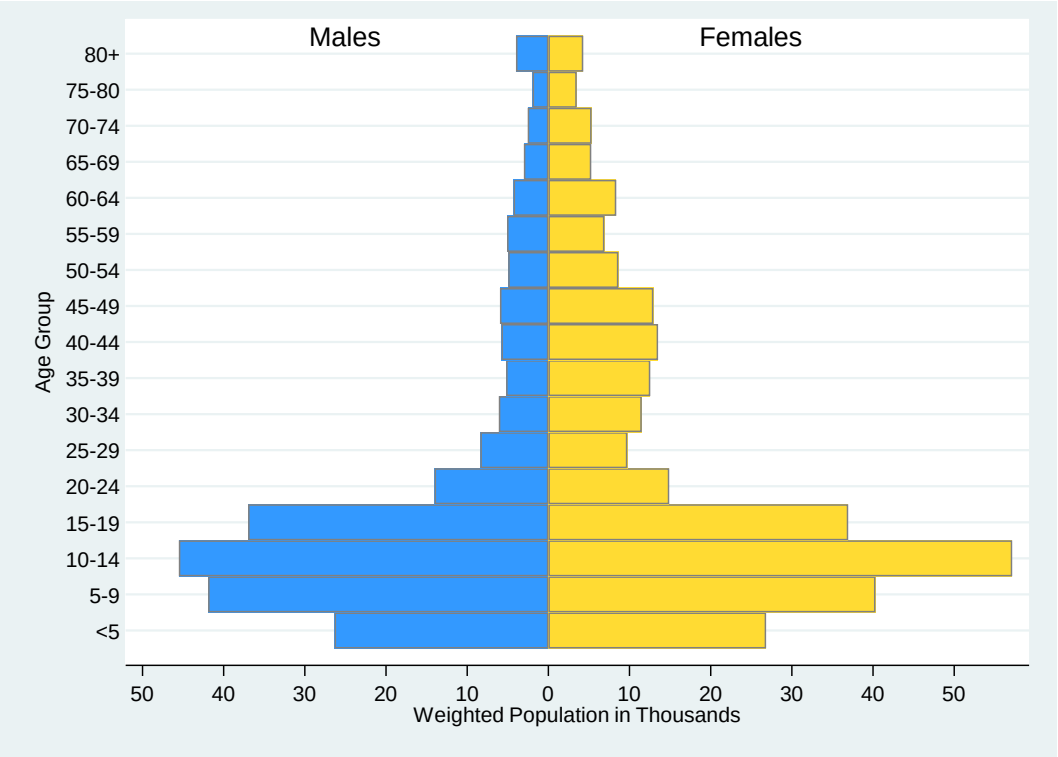
[5] We found a higher prevalence of any disability among male children than among female children (p=0.0394), but the results should be interpreted with caution due to the small subgroup sizes.

HH Characteristics

HH Composition

The population structure of surveyed HHs is represented in Figure 2.

Figure 2. Population pyramid for the Kizazi Kipya baseline survey



The majority of HH members in this population were under age 18, and there were more female adult HH members listed than male adult HH members. This population structure reflects the targeting strategy of the Kizazi Kipya project, which aims to enroll children affected by HIV and AIDS.

Table 5 presents the HH characteristics by rural and urban location. HHs had an average of 5.5 members, with 3.3 children under age 18. Sixty-five percent (64.7%) of the HHs surveyed had an orphaned child,[6] with 18.8 percent of the HHs having a double-orphaned child. Six percent of the HHs suffered from apparent alcohol abuse, with rural HHs more likely to report this (p=0.0501).

Table C3.1 in Appendix D presents additional HH characteristics by rural and urban location, and Table C3.2 presents HH characteristics by caregiver sex.

[6] Female-headed HHs were more likely to have an orphaned child than male-headed HHs (68.2 percent versus 52.6 percent, p=0.0027).

HIV in the HH

Nearly one-third (29.2%) of the HHs had a HH member living with HIV (14.2 percent of HHs had a child living with HIV), and 36.4 percent of caregivers reported that an immediate family member had died of AIDS (Table 6).

HH Economic Status[7]

HH poverty was assessed using the Poverty Probability Index (Schreiner, 2016) for Tanzania, using the 2011/2012 scorecard.

HH poverty data are presented in Table 7. The average poverty likelihood for all surveyed HHs was 48.4 percent using the US$1.25/per person/per day (1,139 Tanzanian Shillings [TZS]) cutoff and applying the 2005 purchasing power parity (PPP) conversion factor. The average poverty likelihood was 34.3 percent when using the national poverty line (1,191 TZS per adult/per day), and 12.4 percent when applying the food poverty line (852 TZS per adult/per day). Across all measures of poverty, rural HHs and HHs with more HH members had a higher likelihood of being below the poverty line.[8]

In other words, for any given HH surveyed, that HH had a 48.4 percent likelihood of being below the US$1.25/day poverty line, a 34.3 percent likelihood of being below the national poverty line, and a 12.4 percent likelihood of being below the food poverty line. Rural HHs were more likely to be below the poverty line that urban HHs.

Additional data are provided in Table C3.3 by caregiver sex. No significant differences were detected by caregiver sex.

Data on the HHs' experience of economic shocks in the 12 months before the survey are presented in Table 8. A majority of the HHs (92.9%) reported experiencing at least one economic shock to their HH in the year before the survey, with a rise in food prices being most commonly reported (73.7%), followed by lower crop yields than expected in rural areas (62.3%), and business failure in urban areas (45.4%).

Table C3.4 displays these data disaggregated by caregiver sex. Male caregivers were less likely to report that their HHs experienced a lower than expected crop yield (p=0.0206).

List of Tables

[7] In the theory of change, we postulated that the savings group intervention may change income, assets, access to money, and expenditures. Therefore, we considered these components of HH economic status in a later section on HH outcomes.

[8] Larger HHs had a higher likelihood of being below the poverty line (p=0.0000 for all measures). Rural HHs had a higher likelihood of being below the poverty line for all measures (p=0.0000 for the US$1.25 poverty line and the national poverty line and p=0.0001 for the food poverty line).

Table 7. HH characteristics, by location

	All HHs		Urban HHs		Rural HHs	
	n	W%	n	W%	n	W%
Number of HH members (continuous) [a]	5.5	(2.0)	5.5	(2.1)	5.5	(2.0)
Number of children < 18 years in the HH (continuous) [a]	3.3	(2.0)	3.2	(1.8)	3.4	(2.1)
Any orphan child in the HH	435	64.7	156	72.5	279	61.3
Any double orphan child in HH	128	18.8	52	24.2	76	16.5
Any HH member drinks alcohol everyday/most days*	40	6.0	6	2.5 †	34	7.5
Total	**679**	**100.0**	**216**	**100.0**	**463**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a]. Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001.

Table 8. HIV among HH members

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Any HIV-positive HH member	198	679	29.2	[23.3,	36.0]	145	525	27.6	[21.8,	34.2]	53	154	34.9	[23.5,	48.3]
HIV-positive caregiver	139	549	25.9	[20.0,	32.8]	103	422	24.8	[18.7,	32.2]	36	127	29.3	[18.1,	43.7]
Any HIV-positive child	51	382	14.2	[9.9,	19.9]	38	297	13.8	[7.7,	28.5]	13	85	15.4 †	[9.6,	19.6]
Immediate family member has died due to HIV/AIDS	243	671	36.4	[32.9,	40.0]	195	517	38.1	[34.0,	42.5]	48	154	30.6	[22.4,	40.3]

Notes: Eight respondents did not complete the HIV module. W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

Table 9. Median and mean HH poverty likelihood, by location

	All HHs				Urban HHs				Rural HHs			
	N	Median	Mean	SD	N	Median	Mean	SD	N	Median	Mean	SD
US$1.25 poverty line***												
1-4 members	242	35.2	40.7	19.3	78	23.5	32.3	22.2	164	48.0	44.1	17.1
5-8 members	344	59.6	51.6	22.6	106	35.2	39.5	24.6	238	59.6	56.7	19.6
9+ members	93	59.6	58.1	26.9	32	35.2	40.0	24.2	61	71.9	67.5	22.8
All HHs	679	48.0	48.4	22.9	216	35.2	37.0	24.0	463	59.6	53.3	20.6
National poverty line***												
1-4 members	242	20.2	26.9	15.2	78	14.0	20.8	16.5	164	32.9	29.4	14.0
5-8 members	344	40.3	37.0	21.3	106	20.2	27.3	21.6	238	40.3	41.1	19.8
9+ members	93	40.3	45.1	27.2	32	20.2	27.7	22.6	61	51.2	54.0	24.6
All HHs	679	32.9	34.3	21.0	216	20.2	25.0	20.3	463	40.3	38.3	20.0
National food poverty line***												
1-4 members	242	4.4	8.5	7.1	78	2.8	6.3	7.1	164	10.4	9.5	6.9
5-8 members	344	13.3	13.5	10.4	106	4.4	9.3	10.2	238	13.3	15.2	10.0
9+ members	93	13.3	19.2	17.6	32	4.4	10.9	18.3	61	21.0	23.4	15.5
All HHs	679	10.4	12.4	11.1	216	4.4	8.5	11.0	463	13.3	14.1	10.7

Notes: Weighted median, mean, and SDs are presented. The Wald test was used to test the difference in means. The US$1.25 poverty line (2005 PPP) valued at TZS1,139 per person per day; the 2011/2012 National Poverty Line (basic needs poverty line) valued at TZS1,191 per adult equivalent per day; the 2011/2012 National Food Poverty Line valued at TZS852 per adult equivalent per day.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table 10. HHs' experience of economic shocks by location

	All HHs (N=679)		Urban HHs (N=216)		Rural HHs (N=463)	
	n	W%	n	W%	n	W%
Shocks in the past 12 months						
Lower crop yields due to drought, flood, crop disease, or pests***	350	51.0	55	24.9	295	62.3
Business failure***	194	26.9	102	45.4	92	18.9
Loss of livestock or poultry to disease or pests*	211	32.5	37	19.5	174	38.2
Significant fall in sales price of crops, livestock, or poultry	183	28.3	39	20.3	144	31.7
Significant rise in food prices	503	73.7	171	80.0	332	71.0
Salary loss*	108	15.3	50	22.0	58	12.5
Death of a HH member	114	16.3	43	17.9	71	15.6
Theft	108	15.8	35	16.3	73	15.6
Damage to dwelling	115	17.4	38	19.8	77	16.4
End of regular assistance, aid, or remittances from outside the HH	43	6.4	15	6.5 †	28	6.3
Other	11	1.5 †	5	2.3 †	6	1.1 †

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001.

HH Participation in Interventions

The Kizazi Kipya Program

Table 9 displays data on HH participation in the Kizazi Kipya project. On average, HHs had been receiving support from the Kizazi Kipya program for nine months at the time of survey (11 months in urban areas and seven months in rural areas, p=0.0305). (It is important to note that one-third of the caregivers surveyed could not pinpoint when they started receiving services.)

Caregivers were asked whether their HHs had ever received various services from the project. The majority of the HHs (74.4%) reported having received a HH visit. One-quarter (22.8%) of the HHs reported being linked to savings and loan groups by the project, and one-quarter (24.9%) reported receiving nutritional guidance from the Kizazi Kipya project. On average, urban HHs started receiving Kizazi Kipya services 11.0 months ago and rural started receiving services 8.1 months ago, p=0.0356.

Table C3.5 displays these data by caregiver sex. No significant differences were detected by caregiver sex.

The tables in Appendix E include further information on participation in the savings group intervention.

Receipt of External Financial Assistance

Table 10 details information on the HHs' receipt of financial assistance during the 12 months before the survey. Nearly one-half (44.2%) of the HHs received some form of financial assistance, with nearly one-quarter (22.4%) reporting participation in the government cash transfer scheme. Among the HHs reporting educational expenses in the past 12 months, 18.9 percent received financial support for school-related expenses.

Table C3.6 displays these data by caregiver sex. No significant differences were detected by caregiver sex.

List of Tables

Table 8. HH participation in the Kizazi Kipya program, by location

	All HHs		Urban HHs		Rural HHs	
	n	W%	n	W%	n	W%
Length of time since the HH member first received project services						
< 1 month	35	5.1	11	5.3 †	24	5.1 †
1-5 months	146	20.8	19	7.3 †	127	26.6
6-11 months	100	16.6	58	29.7	42	11.0
12-23 months	142	20.0	44	18.0	98	20.9
24-62 months	21	3.0 †	12	5.5 †	9	1.8 †
Don't know	235	34.5	72	34.2	163	34.6
Number of months since the HH member first received project services* (note - of the 444 who knew the time)¤	9.0	(7.5)	11.0	(7.0)	8.1	(7.5)
Project services received (ever)						
Home visit	508	74.4	156	70.4	352	76.1
Referral for health services	90	13.0	27	12.6	63	13.2
Parenting support group	81	11.9	32	13.8	49	11.0
Savings and loan group	163	22.8	60	24.6	103	22.1
Nutritional guidance	176	24.9	51	21.9	125	26.2
Other	46	6.7	15	6.7 †	31	6.7
Total	**679**	**100.0**	**216**	**100.0**	**463**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table 9. HH receipt of financial assistance during the past 12 months, by location

	All HHs (N=679)		Urban HHs (N=216)		Rural HHs (N=463)	
	n	W%	n	W%	n	W%
Any financial assistance	298	44.2	100	45.2	198	43.8
Cash from the government	147	22.4	37	16.9	110	24.8
Remittances from family or friends*	117	17.2	51	22.7	66	14.8
Food support/handouts*	37	5.5	19	8.8 †	18	4.1 †
Among HHs with school-related expenses in the past 12 months	**All HHs (N=524)**		**Urban HHs (N=163)**		**Rural HHs (N=361)**	
Financial support for school-related expenses	96	18.9	32	20.2	64	18.3

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

HH Outcomes

This study measured two overarching HH outcomes: economic well-being and food security.

Economic Well-Being

Perceived Financial Stability (Income)

Table 11 presents data on the caregivers' perceptions of their HHs' financial security. The majority of caregivers (82.6%) expressed that their total HH income was lower at the time of the survey compared with the year prior. Similarly, 77.5 percent of the caregivers perceived that the financial security of their HHs was lower at the time of survey compared with the prior year. There were no differences by location.

Data are presented in Table C3.7 by caregiver sex. No significant differences were detected by caregiver sex.

Assets

Data on HH assets are presented in Table 12. Approximately one-half of HHs owned some agricultural land (56.6%) and some livestock (49.6%), with rural HHs more likely to own both (p=0.0000 and p=0.0001, respectively).

Expenses and Ability to Pay

The data in Table 13 pertain to HH expenditures and ability to pay. Seventy-two percent (71.9%) of the HHs incurred food-related expenses in the past four weeks, and 11.3 percent of them were able to pay for these expenses. Similarly, 76.7 percent of the HHs incurred education-related expenses in the 12 months before the survey; 16.2 percent of these HHs were able to pay for these expenses. Approximately two-thirds (66.8%) of all HHs incurred a healthcare-related expense during the past 12 months; of those HHs, only 15.5 percent reported having enough money to pay the healthcare expenses. Just under half (45.9%) of the HHs incurred an unexpected HH expense in the 12 months before the survey. Of these, 14.6 percent reported being able to pay. There were no differences in ability to pay by location.

These data are presented in Table C3.8 by caregiver sex. Male caregivers were more likely to report an ability to pay for educational expenses incurred as compared with female caregivers (20.2 percent versus 15.1 percent, p=0.0324).

HH Savings and Investment Behaviors

Data on HH savings and investment behaviors are presented in Table 14. Eight percent (8.2%) of HHs reported having savings. Of those with savings, the majority (63.7%) had these savings in a savings group. Only 4.9 percent of the HHs had a bank account (urban HHs were more likely to report this, p=0.0001); however, one-third (34.8%) of the HHs reported having a mobile money account (urban HHs were more likely to report this, p=0.0016). Forty percent (39.9%) of the HHs reported having participated in a savings group and 8.2 percent reported participating in a microfinance activity (with urban HHs more likely to report this, p=0.0000).

Table C3.9 in Appendix C displays these data by caregiver sex. Female caregivers were more likely to report that their HHs participated in a savings group than male caregivers (43.2 percent versus 28.9 percent, p=0.0246).

HH Food Security

We measured HH food security using the Household Hunger Scale (Deitchler, Ballard, Swindale, & Coates, 2010; Ballard, Coates, Swindale, & Deitchler, 2011). This scale was designed to measure HH hunger in food-insecure areas. It focuses on the food quantity dimension of food access; it does not measure dietary quality, food availability, or food utilization. The scale includes three questions about hunger: no food in the HH at any time in the past four weeks; any HH member going to bed hungry for lack of food; and/or any HH member going 24 hours without eating for lack of food. Each "yes" answer is followed with an inquiry about the frequency of the occurrence. Scores may range from 0 to 6, where a higher number indicates worse hunger. Scores are then collapsed into three categories to indicate little to no hunger in the HH (0-1), moderate hunger in the HH (2-3), or severe hunger in the HH (4-6).

HH food security data are presented in Table 15. Over one-half (56.6%) of caregivers reported that at some point in the past four weeks there was no food to eat in their HH due to a lack of resources. Forty-eight percent responded that someone in their HH went to sleep at night hungry (60.1 percent of urban HHs versus 43 percent of rural HHs, p=0.0158), and 38.7 percent reported that someone in their HH did not eat for a whole day and night due to the lack of food in the past four weeks. Over one-half (51.4%) of all HHs were determined to have little to no hunger, with an average HH hunger score across surveyed HHs of 1.7 (2.1 among urban HHs and 1.5 among rural HHs, p=0.0145). Nearly 11 percent (10.8%) of the HHs surveyed were facing severe HH hunger. Overall, urban households were more likely to be food insecure than rural households.

Table C3.10 provides data by caregiver sex. Female caregivers were more likely than male caregivers to report severe hunger (12.1 percent versus 6.2 percent, p=0.0416).

We measured HH dietary quality using the Household Dietary Diversity Scale (Swindale & Bilinsky, 2006). This scale uses a set of 12 food groups consumed by anyone in the HH during the past day and night. The scores ranged from 0 to 12 and are reported as an average.

In general, the HHs surveyed reported high diet diversity scores (HDDS), with a mean HDDS of 10.4 out of 12.0 (Table C3.10).

List of Tables

Table 10. Perceptions of financial stability relative to the previous year by location

	All HHs (N = 679)			Urban HHs (N = 216)			Rural HHs (N = 463)		
	n	W%	95% CI	n	W%	95% CI	n	W%	95% CI
Total HH income									
More	23	3.5 †	[1.9, 6.6]	182	83.4	[75.0, 89.3]	384	82.3	[75.0, 87.9]
Less	566	82.6	[77.2, 87.0]	33	16.1	[9.9, 25.2]	57	12.8	[8.5, 18.8]
The same	90	13.8	[10.2, 18.5]						
HH financial security				1	0.3 †	[0.03, 2.0]	16	3.4 †	[1.5, 7.6]
More	17	2.5 †	[1.1, 5.5]	168	76.1	[67.9, 82.7]	365	78.1	[69.4, 84.9]
Less	533	77.5	[71.1, 82.9]	47	23.6	[17.0, 32.0]	82	18.5	[13.2, 25.1]
The same	129	20	[15.6, 25.3]	47	23.6	[17.0, 32.0]	82	18.5	[13.2, 25.1]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a.] Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 11. HH assets, by location

	All HHs		Urban HHs		Rural HHs	
	n	W%	n	W%	n	W%
Any HH member owns agricultural land***	374	56.6	48	23.5	326	70.9
Any HH member owns livestock***	325	49.6	46	23.0	279	61.1
Total	**679**	**100.0**	**216**	**100.0**	**463**	**100.0**

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories,

*p<0.05; ** p<0.01; ***p<0.001

Table 12. Incidence of expenditures and percentage of HHs able to pay for expenses, by location

	All HHs (N = 697)					Urban HHs (N = 216)					Rural HHs (N = 463)				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Needed to buy food in the past four weeks to feed family***	492	679	71.9	[61.7,	80.3]	192	216	89.1	[82.6,	93.4]	300	463	64.5	[52.6,	74.9]
Had enough money to buy needed food	57	492	11.3	[8.5,	14.9]	26	192	12.5	[9.2,	16.8]	31	300	10.6	[6.9,	15.9]
Any education-related expenses for children in the past 12 months	524	679	76.7	[71.0,	81.7]	163	216	73.9	[64.0,	81.8]	361	463	78.0	[70.6,	83.9]
Had enough money to pay for education expenses	82	524	16.2	[12.5,	20.7]	19	163	11.3 †	[6.7,	18.7]	63	361	18.2	[13.7,	23.8]
Any HH member had healthcare-related expenses in the past 12 months	458	679	66.8	[62.9,	70.6]	150	216	68.5	[61.6,	74.7]	308	463	66.1	[61.1,	70.8]
Had enough money to pay for healthcare expenses	67	458	15.5	[10.9,	21.5]	20	150	13.7 †	[7.8,	22.9]	47	308	16.3	[11.0,	23.5]
HH incurred any unexpected expenses in the past 12 months*	308	679	45.9	[39.3,	52.6]	118	216	56.8	[45.1,	67.8]	190	463	41.1	[34.6,	48.0]
HH able to pay for unexpected expenses	46	308	14.6	[10.9,	19.4]	15	118	11.5 †	[7.3,	17.8]	31	190	16.5	[11.5,	23.0]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001.

Table 13. HH savings and investment behaviors, by location

	All HHs		Urban HHs		Rural HHs	
	n	W%	n	W%	n	W%
HH has money saved	59	8.2	19	8.2 †	40	8.2
Location of cash savings						
In the house	17	28.0 †	6	30.6 †	11	26.8 †
Savings group	38	63.7	11	55.1 †	27	67.4
Bank	2	4.0 †	0	0.0 †	2	5.7 †
Mobile money	9	16.5 †	5	29.6 †	4	10.8 †
Any HH member has a bank account***	36	4.9	23	10.1 †	13	2.6 †
Any HH member has a mobile money account**	236	34.8	104	48.6	132	28.8
Borrowed money in the past 12 months	64	26.9	21	28.7 †	43	26.3
Any outstanding debt	98	40.2	34	46.0	64	38.1
HH member ever participated in a microfinance activity	56	8.2	33	16.4	23	4.7 †
HH member ever participated in a savings group***	287	39.9	89	37.7	198	40.9
Total	**679**	**100.0**	**216**	**100.0**	**463**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table 14. HH food security, by location

	All HHs (N = 679)				Urban HHs (N = 216)				Rural HHs (N = 463)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Household Hunger Scale (past four weeks)												
Ever no food to eat due to lack of resources to get food**	390	56.6	[46.1,	66.5]	157	74.2	[65.1,	81.6]	233	48.9	[36.9,	61.1]
Any HH member went to sleep at night hungry because there was not enough food*	333	48.2	[39.0,	57.4]	128	60.1	[50.8,	68.7]	205	43	[32.3,	54.4]
Any HH member went a whole day and night without eating anything because there was not enough food	272	38.7	[30.1,	48.1]	97	44.8	[32.6,	57.8]	175	36.1	[26.0,	47.6]
Household Hunger Scale categorical indicator*												
Little/no hunger (scored 0-1)*	342	51.4	[41.9,	60.8]	84	37.9	[28.6,	48.2]	258	57.2	[45.7,	68.0]
Moderate hunger (scored 2-3)**	260	37.8	[31.3,	44.9]	104	48.9	[42.5,	55.3]	156	33.1	[25.6,	41.5]
Severe hunger (scored 4-6)	77	10.8	[7.4,	15.4]	28	13.2	[8.7,	19.4]	49	9.7	[5.8,	15.8]
HH consumed foods rich in Vitamin A	650	95.3	[92.2,	97.1]	213	97.7	[86.2,	99.7]	437	94.2	[90.7,	96.5]
Food Security Scores	**Median**	**Mean**	**Std. Dev.**		**Median**	**Mean**	**Std. Dev.**		**Median**	**Mean**		**Std. Dev.**
Household Hunger Scale Score	1	1.7	1.7		2	2.1	1.7		1	1.5	1.7	
Household Diet Diversity Score (past 24 hours)	12	10.4	3.0		12	11.1	2.4		12	10.1	3.1	

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

HIV Outcomes

This study measured four HIV outcomes among caregivers and children: HIV knowledge (among caregivers only); HIV testing uptake; retention in care; and adherence to medication.

HIV Knowledge

Data on caregiver knowledge of HIV are presented in Table 16. Almost all (98.6%) of caregivers had heard of HIV and almost all (97.3%) were able to name a place where they could get tested for HIV. However, only one-third (32.7%) had comprehensive knowledge of HIV.[9] Approximately sixty percent (61.2%) were knowledge about HIV prevention methods, and 40.8 percent were knowledgeable about the modes of HIV transmission. One-half of caregivers (51.2%) had comprehensive knowledge of prevention of mother-to-child transmission (PMTCT). Female caregivers were more likely than male caregivers to have comprehensive knowledge of PMTCT (54.3 percent versus 40.6 percent, p=0.0194).

HIV Testing

Caregivers

More than four-fifths of caregivers (82.1%) reported ever being tested for HIV, with no difference by sex, but differences by age group (p=0.0000). Just under one-half (45.7%) of all caregivers reported having been tested for HIV in the 12 months before the survey, with no difference by sex, but differences by age groups (p=0.0104) (Table 17).

Children

The survey found that 43.9 percent of children had been tested for HIV at some point in their lives. Caregivers reported knowing the status of 39.1 percent of children, which differed slightly by age group of the child (p=0.0081) (Table 18).

Retention in Care

Caregivers

One-quarter (25.9%) of caregivers surveyed reported that they were HIV positive, with no differences by sex, but differences by age group (p=0.0002). Of these, 94.6 percent had initiated treatment and 91.9 percent were currently on treatment. Nearly ninety percent (88.7%) of HIV-positive caregivers reported attending their last HIV checkup (Table 17).

Children

Caregivers reported that 6.5 percent of children were HIV positive. Of these, 95.3 percent had initiated treatment and 90.1 percent were currently on treatment (Table 18). In 94.8 percent of the HHs with at least one HIV-positive child, caregivers reported that all HIV-positive children in the HH had initiated treatment. Similarly, in 89.1 percent of the HHs with at least one HIV-positive child, caregivers reported that all HIV-positive children in the HH were currently on treatment (Table 19).

[9] "Comprehensive knowledge of HIV" is comprised of two subindicators: "knowledge of HIV prevention methods" and "knowledge of HIV transmission."

Caregivers reported that 76.7 percent of HIV-positive children had attended their last HIV checkup (Table 18). In 74.5 percent of the HHs with at least one HIV-positive child, caregivers reported that all HIV-positive children had attended their last HIV checkup (Table 19).

Adherence to Medication

Caregivers

Of the HIV-positive caregivers currently on treatment, 95.8 percent reported adherence to their medication (taking their medication exactly on schedule in the seven days before the survey). Data collectors were able to verify the presence of HIV medication in the homes of 93 percent of HIV-positive caregivers on treatment (Table 17).

Children

Of the HIV-positive children currently on treatment, caregivers reported that 70.5 percent were adherent to their medication (had taken their medication exactly on schedule in the seven days before the survey). Data collectors were able to verify the presence of HIV medication for 72.2 percent of the HIV-positive children on treatment (Table 18). In 71.8 percent of the HHs with at least one HIV-positive child, caregivers reported that all HIV-positive children in the HH were adherent to their HIV medications (Table 19).

List of Tables

Table 15. Knowledge of HIV/AIDS by caregiver sex and age

.	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Has heard of AIDS illness															
18-30	52	52	100.0	[.,	.]	44	44	100.0	[.,	.]	8	8	100.0 †	[.,	.]
31-50	323	327	98.7	[96.7,	99.5]	257	261	98.4	[95.9,	99.4]	66	66	100.0	[.,	.]
51+	296	300	98.3	[94.8,	99.5]	216	220	97.7	[92.9,	99.3]	80	80	100.0	[.,	.]
All ages	671	679	98.6	[96.6,	99.5]	517	525	98.2	[95.6,	99.3]	154	154	100.0	[.,	.]
Knows of a place to get tested for HIV/AIDS															
18-30	52	52	100.0	[.,	.]	44	44	100.0		(100, 100)	8	8	100.0 †	[.,	.]
31-50	316	323	97.7	[94.7,	99.0]	252	257	98.0	[95.3,	99.2]	64	66	96.6	[86.6,	99.2]
51+	286	296	96.3	[92.2,	98.3]	207	216	95.7	[91.1,	97.9]	79	80	98.1	[86.2,	99.8]
All ages	654	671	97.3	[94.7,	98.6]	503	517	97.2	[94.5,	98.6]	151	154	97.6	[92.4,	99.2]
Comprehensive knowledge of HIV															
18-30	13	52	25.5 †	[14.2,	41.4]	10	44	22.5 †	[11.2,	40.1]	3	8	41.6 †	[16.0,	72.6]
31-50	129	327	38.8	[33.4,	44.5]	98	261	36.8	[30.4,	43.7]	31	66	47.3	[38.6,	56.2]
51+	85	300	27.4	[22.7,	32.7]	60	220	26.4	[20.8,	32.8]	25	80	30.3	[22.1,	40.1]
All ages	227	679	32.7	[28.6,	37.1]	168	525	31.2	[26.0,	36.8]	59	154	37.9	[32.2,	43.9]
Knowledge of HIV prevention methods															
18-30	28	52	52.9	[37.3,	67.9]	23	44	50.9 †	[33.7,	67.8]	5	8	63.6 †	[30.9,	87.3]
31-50	221	327	67.9	[60.7,	74.4]	172	261	66.2	[57.8,	73.7]	49	66	74.8	[64.8,	82.6]
51+	167	300	55.5	[48.4,	62.5]	117	220	53.3	[45.6,	60.9]	50	80	61.6	[50.9,	71.3]
All ages	416	679	61.2	[55.4,	66.7]	312	525	59.5	[53.0,	65.7]	104	154	67.1	[58.9,	74.4]
Knowledge of HIV transmission															
18-30	20	52	37.8 †	[24.7,	52.9]	17	44	37.1 †	[22.9,	53.9]	3	8	41.6 †	[16.0,	72.6]
31-50	151	327	45.4	[39.5,	51.4]	115	261	43.0	[35.9,	50.3]	36	66	55.1	[44.8,	65.0]
51+	112	300	36.5	[32.0,	41.4]	81	220	36.0	[29.9,	42.5]	31	80	38.1	[29.3,	47.8]
All ages	283	679	40.8	[36.6,	45.2]	213	525	39.5	[33.9,	45.4]	70	154	45.3	[38.2,	52.5]
Comprehensive knowledge of PMTCT*															
18-30	25	52	48.9	[36.7,	61.2]	21	44	49.6 †	[36.0,	63.2]	4	8	45.1 †	[14.4,	80.1]

.	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
31-50	184	327	56.9	[49.9,	63.6]	153	261	59.5	[51.2,	67.4]	31	66	46.1	[32.7,	60.1]
51+	135	300	45.5	[37.2,	54.1]	106	220	49.0	[39.9,	58.2]	29	80	36.0	[25.8,	47.7]
All ages	344	679	51.2	[45.1,	57.2]	280	525	54.3	[47.7,	60.7]	64	154	40.6	[30.6,	51.4]

Notes: Eight respondents did not complete the HIV knowledge section. W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001.

Table 16. HIV testing and treatment by child sex and age

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Caregiver ever tested for HIV															
18-30	49	52	94.7	[84.1,	98.4]	42	44	96.2	[84.4,	99.2]	7	8	86.6†	[37.0,	98.6]
31-50	291	323	90.0	[85.4,	93.2]	231	257	89.5	[84.3,	93.1]	60	66	91.8	[82.2,	96.4]
51+	218	296	71.7	[63.7,	78.5]	154	216	69.4	[61.3,	76.4]	64	80	77.8	[61.9,	88.3]
All ages	558	671	82.1	[76.8,	86.4]	427	517	81.5	[76.1,	85.9]	131	154	84.0	[75.3,	90.0]
Caregiver received HIV test in the past 12 months															
18-30	29	52	54.1	[38.1,	69.2]	24	44	52.3 †	[34.3,	69.7]	5	8	63.6 †	[30.9,	87.3]
31-50	170	323	52.2	[44.7,	59.6]	138	257	53.2	[44.6,	61.7]	32	66	48.1	[33.5,	63.0]
51+	114	296	37.4	[30.0,	45.3]	81	216	36.2	[29.1,	43.8]	33	80	40.6	[27.5,	55.1]
All ages	313	671	45.7	[39.9,	51.6]	243	517	45.9	[39.9,	52.1]	70	154	44.8	[33.5,	56.7]
Caregiver self-reports as HIV positive															
18-30	4	49	9.1 †	[3.2,	23.1]	4	42	10.6 †	[3.7,	26.8]	0	7	0.0 †	[.,	.]
31-50	95	288	33.8	[25.3,	43.5]	75	229	33.5	[24.9,	43.3]	20	59	35.3	[18.8,	56.2]
51+	40	212	18.9	[13.6,	25.6]	24	151	15.5 †	[10.4,	22.5]	16	61	27.0 †	[17.6,	39.1]
All ages	139	549	25.9	[20.0,	32.8]	103	422	24.8	[18.7,	32.2]	36	127	29.3	[18.1,	43.7]
HIV+ caregiver attended last HIV checkup															
18-30	3	4	75.2 †	[20.9,	97.2]	3	4	75.2 †	[21.0,	97.2]					
31-50	81	95	85.6	[67.2,	94.5]	63	75	84.8	[66.0,	94.1]	18	20	88.6 †	[63.1,	97.2]
51+	39	40	97.4	[83.2,	99.7]	24	24	100.0 †	[.,	.]	15	16	93.9 †	[63.3,	99.3]
All ages	123	139	88.7	[72.8,	95.8]	90	103	87.8	[69.7,	95.8]	33	36	91.0	[75.2,	97.1]
HIV+ caregiver initiated treatment															
18-30	4	4	100.0 †	[.,	.]	4	4	100.0 †	[.,	.]					
31-50	88	95	92.1	[81.2,	96.9]	69	75	91.6	[77.0,	97.3]	19	20	93.8 †	[66.2,	99.1]

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
51+	40	40	100.0	[.,	.]	24	24	100.0 †	[.,	.]	16	16	100.0 †	[.,	.]
All ages	132	139	94.6	[86.7,	97.9]	97	103	93.8	[82.6,	98.0]	35	36	96.6	[79.0,	99.5]
HIV+ caregiver currently on treatment															
18-30	4	4	100.0 †	[.,	.]	4	4	100.0 †	[.,	.]					
31-50	84	95	88.2	[76.4,	94.5]	65	75	86.7	[71.1,	94.6]	19	20	93.8 †	[66.2,	99.1]
51+	40	40	100.0	[.,	.]	24	24	100.0 †	[.,	.]	16	16	100.0 †	[.,	.]
All ages	128	139	91.9	[83.0,	96.3]	93	103	90.2	[77.9,	96.0]	35	36	96.6	[79.0,	99.5]
HIV+ caregiver takes medication exactly on schedule in the past seven days															
18-30	4	4	100.0 †	[.,	.]	4	4	100.0 †	[.,	.]					
31-50	80	84	95.9	[89.3,	98.5]	62	65	96.0	[87.4,	98.8]	18	19	95.4 †	[70.0,	99.5]
51+	38	40	95.3	[83.5,	98.8]	22	24	92.0 †	[73.9,	97.9]	16	16	100.0 †	[.,	.]
All ages	122	128	95.8	[90.1,	98.3]	88	93	95.2	[86.9,	98.3]	34	35	97.6	[82.0,	99.7]
HIV+ caregiver has antiretroviral (ART) drugs at home (verified by the enumerator)															
18-30	3	4	63.9 †	[13.7,	95.2]	3	4	63.9 †	[13.7,	95.2]					
31-50	78	84	92.2	[80.6,	97.1]	61	65	92.8	[82.0,	97.4]	17	19	89.9 †	[63.4,	97.8]
51+	39	40	97.9	[86.1,	99.7]	23	24	96.4 †	[78.4,	99.5]	16	16	100.0 †	[.,	.]
All ages	120	128	93.0	[85.3,	96.8]	87	93	92.4	[84.8,	96.4]	33	33	94.6	[77.8,	98.9]

Notes: Eight respondents did not complete the HIV module. W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 20. HIV testing and treatment by child sex and age

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Child ever received HIV test															
0-4	188	413	44.8	[38.2,	51.5]	88	199	44.7	[34.9,	54.9]	100	214	44.9	[37.8,	52.2]
5-9	272	633	41.2	[35.0,	47.6]	138	312	42.4	[33.4,	51.9]	134	321	40.0	[33.9,	46.4]
10-14	359	792	43.7	[37.9,	49.7]	197	435	43.5	[36.6,	50.8]	162	357	43.9	[37.4,	50.6]
15-17	188	392	47.9	[42.2,	53.5]	96	188	50.7	[43.7,	57.7]	92	204	45.3	[36.5,	54.3]
All ages	1007	2230	43.9	[39.2,	48.7]	519	1134	44.6	[38.8,	50.6]	488	1096	43.2	[38.5,	48.0]
Primary caregiver knows the child's HIV status															
0-4	172	432	39.3	[33.0,	46.0]	81	211	38.8	[30.4,	48.0]	91	221	39.8	[32.6,	47.5]
5-9	251	655	36.7	[30.7,	43.2]	127	326	37.5	[29.0,	46.8]	124	329	36.0	[30.2,	42.3]
10-14	331	813	39.1	[33.4,	45.1]	182	442	39.2	[31.8,	47.1]	149	371	38.9	[32.4,	45.8]
15-17	177	415	42.3	[37.4,	47.4]	89	197	44.5	[37.7,	51.5]	88	218	40.4	[32.6,	48.7]
All ages	931	2315	39.1	[34.3,	44.0]	479	1176	39.6	[33.8,	45.7]	452	1139	38.5	[34.0,	43.2]
Caregiver reports child is HIV positive															
0-4	2	172	1.2 †	[0.3,	4.8]	1	81	1.3 †	[0.2,	10.0]	1	91	1.0 †	[0.1,	7.0]
5-9	10	251	4.1 †	[2.1,	7.7]	5	127	4.3 †	[1.6,	10.7]	5	124	4.0 †	[1.3,	11.6]
10-14	27	331	8.8	[5.9,	12.9]	11	182	6.1 †	[3.3,	11.2]	16	149	12.0 †	[6.7,	20.5]
15-17	17	177	10.6 †	[5.0,	20.9]	7	89	8.1 †	[3.5,	17.7]	10	88	13.0 †	[5.6,	27.5]
All ages	56	931	6.5	[4.4,	9.5]	24	479	5.2 †	[3.1,	8.5]	32	452	7.9	[5.0,	12.2]

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
HIV+ child attended last HIV checkup															
0-4	1	2	44.4 †	[3.9,	94.1]	0	1	0.0 †	[.,	.]	1	1	100.0 †	[.,	.]
5-9	8	10	79.1 †	[45.4,	94.5]	5	5	100.0 †	[.,	.]	3	5	56.3 †	[25.1,	83.1]
10-14	21	27	76.9 †	[56.2,	89.6]	9	11	81.1 †	[49.1,	95.0]	12	16	74.3 †	[45.6,	90.8]
15-17	13	17	78.4 †	[61.7,	89.1]	5	7	79.8 †	[38.8,	96.1]	8	10	77.5 †	[53.3,	91.2]
All ages	43	56	76.7	[61.5,	87.1]	19	24	81.1 †	[55.1,	93.8]	24	32	73.6 †	[57.1,	85.3]
HIV+ child initiated treatment															
0-4	2	2	100.0 †	[.,	.]	1	1	100.0 †	[.,	.]	1	1	100.0 †	[.,	.]
5-9	10	10	100.0 †	[.,	.]	5	5	100.0 †	[.,	.]	5	5	100.0 †	[.,	.]
10-14	24	27	90.2 *	[70.7,	97.2]	9	11	86.0 †	[51.7,	97.2]	15	16	92.8 †	[62.7,	99.0]
15-17	17	17	100.0 †	[.,	.]	7	7	100.0 †	[.,	.]	10	10	100.0 †	[.,	.]
All ages	53	56	95.3	[84.0,	98.7]	22	24	93.7 †	[73.7,	98.8]	31	32	96.4	[76.9,	99.5]
HIV+ child currently on treatment															
0-4	2	2	100.0 †	[.,	.]	1	1	100.0 †	[.,	.]	1	1	100.0 †	[.,	.]
5-9	10	10	100.0 †	[.,	.]	5	5	100.0 †	[.,	.]	5	5	100.0 †	[.,	.]
10-14	22	27	81.7 †	[59.0,	93.2]	9	11	86.0 †	[51.7,	97.2]	13	16	79.0 †	[48.7,	93.7]
15-17	16	17	96.4 †	[73.0,	99.6]	6	7	90.6 †	[49.2,	99.0]	10	10	100.0 †	[.,	.]
All ages	50	56	90.1	[76.1,	96.3]	21	24	90.9 †	[70.9,	97.6]	29	32	89.4	[69.5,	96.9]

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
HIV+ child takes medication exactly on schedule in the past seven days															
0-4	2	2	100.0 *	[.,	.]	1	1	100.0 †	[.,	.]	1	1	100.0 †	[.,	.]
5-9	6	10	60.4 †	[29.2,	84.9]	4	5	79.3 †	[25.1,	97.8]	2	5	39.7 †	[14.7,	71.5]
10-14	16	22	72.2 †	[39.4,	91.2]	8	9	88.5 †	[51.8,	98.2]	8	13	61.2 †	[22.6,	89.5]
15-17	12	16	70.7 †	[46.4,	87.1]	6	6	100.0 †	[.,	.]	6	10	54.5 †	[27.1,	79.3]
All ages	36	50	70.5	[49.2,	85.6]	19	21	90.3 †	[67.8,	97.6]	17	29	56.5 †	[34.8,	75.9]
HIV+ child has ART drugs at home (verified by the enumerator)															
0-4	1	2	44.4 †	[3.8,	94.1]	0	1	0.0 †	[.,	.]	1	1	100.0 †	[.,	.]
5-9	7	10	68.3 †	[35.5,	89.4]	4	5	79.3 †	[25.1,	97.8]	3	5	56.3 †	[25.1,	83.1]
10-14	18	22	79.1 †	[46.6,	94.2]	7	9	77.0 †	[25.8,	97.0]	11	13	80.4 †	[41.4,	96.0]
15-17	11	16	68.4 †	[50.7,	82.0]	5	6	84.6 †	[44.6,	97.4]	6	10	59.5 †	[35.1,	80.0]
All ages	37	50	72.2	[54.1,	85.1]	16	21	76.0 †	[43.0,	93.0]	21	29	69.4 †	[48.5,	84.5]

Notes: Eight respondents did not complete the HIV module. W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 21. HIV indicators among all HIV-positive children in the HH

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
All HIV+ children attended last health checkup	38	51	74.5	[59.2,	85.4]	27	38	70.7	[52.0,	84.3]	11	13	86.0 †	[59.4,	96.3]
All HIV+ children have initiated treatment	48	51	94.8	[82.9,	98.6]	35	38	93.2	[77.6,	98.2]	13	13	100.0 †	[.,	.]
All HIV+ children are currently on treatment	45	51	89.1	[74.5,	95.8]	33	38	87.6	[69.2,	95.7]	12	13	93.6 †	[59.9,	99.3]
All HIV+ children take medication exactly on schedule in the past seven days	33	45	71.8	[54.8,	84.2]	25	33	73.8	[53.5,	87.4]	8	12	66.1 †	[35.4,	87.4]

Notes: Eight respondents did not complete the HIV module. W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Caregiver Outcomes

This study assessed three caregiver outcomes that were determined to be changeable through project interventions: psychosocial well-being; attitudes and practices about child discipline and parenting; and health.

Psychosocial Well-Being

We measured five aspects of psychosocial well-being: self-efficacy, self-esteem, social support, hopefulness, and decision-making power. The data are presented in Table 20 (self-efficacy, self-esteem, social support, and hopefulness) and Table 21 (decision-making power).

Self-Efficacy

We measured self-efficacy using the General Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). The General Self-Efficacy Scale assesses a general sense of perceived self-efficacy and aims to predict coping with daily hassles and adaptation after experiencing stressful life events. Scores range from 0 to 20; higher scores indicate higher self-efficacy. The mean self-efficacy score among caregivers surveyed was calculated to be 9.2 (Table 20).

Self-Esteem

We measured self-esteem using the Rosenburg (1965) scale. This is a 10-item scale that measures positive and negative feelings about the self to get a sense of the respondent's global self-worth. Scores range from 0 to 30, with higher scores indicating higher self-esteem. The mean self-esteem score among caregivers surveyed was calculated to be 15.7 (Table 20).

Social Support

We used two scales to measure social support. First, we applied the three-item Oslo Social Support Scale (Dalgard, 1996). This scale measures perceived social support from family, friends, and the neighborhood. Scores range from 0 to 11; higher scores indicate more support. The mean score among caregivers surveyed was 5.5. The Oslo Social Support Scale categorizes people into groups based on their score. Per this scale, nearly one-half of the respondents (47.7%) were categorized as having poor social support (scores of 0 to 5), and only 7.5 percent reported strong social support (scores of 9 to 11) (Table 20).

The second social support scale used was an adapted version of the Rand Medical Outcomes Survey Social Support Scale (Rand, 2013; do Nascimento, Chapman, & Parker, 2014). This scale uses four items from the original 19-item scale to measure concepts of emotional support, tangible support, affectionate support, and positive social interactions. Scores range from 0 to 4; higher scores indicate greater social support. Caregivers surveyed had a mean score of 3.4 (Table 20).

Hopefulness

We used the Adult Hope Scale (Snyder, Harris, Anderson, Holleran, Irving, Sigmon... Harney, 1991) to measure hopefulness. This is a 12-item measure of a respondent's level of hope for the future. The Hope Scale has two subscales on agency (goal-directed energy) and pathways (planning to accomplish goals). Both subscales have a range of 0 to 28. Together, the Hope Scale offers a range of possible scores from 0 to 56, with higher scores indicating more hope. The mean score on the full Adult Hope Scale was 30.1.

Caregivers' mean score on the agency subscale was 13.4 and their mean score on the pathways subscale was 16.6 (Table 20).

Decision-Making Power

Female caregivers were asked several questions about their decision-making power in HH affairs involving money, using tested Demographic and Health Survey (DHS) questions.

A majority of female caregivers reported high decision-making power.[10] Nine-tenths of female caregivers participated in decisions (either jointly or on their own) about major HH purchases (88.4%), daily HH needs (90.1%), and taking loans (92%). Just over one-half (53.1%) of female caregivers earned money, and 95.3 percent of these reported that they participated in decision making or make decisions about how the money they earned was spent (Table 21).

Attitudes and Practices around Parenting and Child Discipline

Nearly one-quarter (22.3%) of caregivers reported that a child in their HH had been hit, slapped, or beaten in the four weeks before the survey by a HH member. Female caregivers were more likely to report this than male caregivers (24.6 percent versus 14.5 percent, p=0.0235). **Half of caregivers (50.2%) agreed that harsh physical punishment is an appropriate means of discipline or control in the home or school**, with 40.9 percent indicating that harsh physical punishment was acceptable at home compared with 47.1 percent who indicated that it was acceptable at school. These data are presented in Table 22.

Health

Nearly one-half (46.8%) of caregivers reported that they had been too sick or too tired to participate in daily activities at least once during the month before the survey. Among these, 28.6 percent reported that they were too sick or too tired to participate in daily activities at least once a week. These data are presented in Table 23.

List of Tables

[10] This analysis does not take into account whether the female caregiver respondent was the head of the HH, whether the female caregiver respondent resided in a HH with a male head of HH, or the marital status of the female caregiver respondents.

Table 17. Caregiver psychosocial well-being: self-esteem, self-efficacy, social support, and hopefulness

	All caregivers (N=679)		Female caregivers (N=525)					Male caregivers (N=154)				
	Median	Mean	SD	Median	Mean		SD	Median	Mean	SD		
Caregiver reports self-efficacy (range 0-20)	10	9.2	4.8	10	9.2		4.9	10	9.2	4.5		
Caregiver reports self-esteem (range 0-30)	16	15.7	4.2	16	15.7		4.3	15	15.4	4.0		
Caregiver reports social support (Oslo; range 0-11)	6	5.5	2.2	6	5.4		2.2	6	5.6	2.3		
	n	W%	95% CI	n	W%	95% CI		n	W%	95% CI		
Caregiver reports social support (Oslo - categorical)												
Poor support	327	47.7	[44.1,	51.3]	253	48.0	[43.6, 52.4]	74	46.8	[39.2,	54.5]	
Moderate support	299	44.5	[40.3,	48.8]	232	44.3	[39.7, 49.1]	67	45.0	[36.4,	53.9]	
Strong support	53	7.8	[5.6,	10.7]	40	7.7	[5.6, 10.6]	13	8.2 †	[4.5,	14.4]	
	N	Median	Mean	SD	N	Median	Mean	SD	N	Median	Mean	SD
Caregiver reports social support (Rand; range 0-4)	679	4	3.4	1.1	525	4	3.3	1.1	154	4	3.6	0.9
Caregiver reports being hopeful (range 0-56)	679	31	30.1	11.2	525	31	29.8	11.4	154	31	31.0	10.4
Caregiver Adult Hope Scale - Agency (range 0-28)	679	14	13.4	6.0	525	14	13.3	6.1	154	13	13.7	5.5
Caregiver Adult Hope Scale - Pathway (range 0-28)	679	17	16.6	6.2	525	17	16.4	6.2	154	17	17.3	6.1

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 18. Caregiver psychosocial well-being: female decision-making power (female caregiver participates alone or jointly in decisions)

	n	N	W%	95% CI	
Major HH purchases					
18-30	35	44	78.5	[65.7,	87.5]
31-50	231	254	90.6	[86.3,	93.6]
51+	191	216	87.9	[83.4,	91.3]
All ages	457	514	88.4	[85.9,	90.6]
Daily HH needs					
18-30	34	44	77.2	[65.5,	85.9]
31-50	240	260	91.9	[87.4,	94.9]
51+	199	219	90.5	[85.3,	94.0]
All ages	473	523	90.1	[86.9,	92.7]
Taking loans					
18-30	21	24	87.0 †	[62.1,	96.5]
31-50	162	176	92.3	[86.0,	95.9]
51+	121	131	92.4	[84.2,	96.5]
All ages	304	331	92.0	[86.4,	95.4]
Female caregiver personally earns money					
18-30	28	44	60.1	[44.7,	73.8]
31-50	144	261	54.8	[47.9,	61.4]
51+	114	220	49.9	[41.6,	58.1]
All ages	286	525	53.1	[47.3,	58.8]
How to spend money female caregiver earns					
18-30	27	28	95.1	[71.3,	99.3]
31-50	136	144	94.8	[88.8,	97.7]
51+	110	114	96.0	[90.2,	98.4]
All ages	273	286	95.3	[91.9,	97.3]

Notes: Not all female caregivers completed the decision-making module. W% indicates the weighted percentage, presented with weighted 95% CI.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 19. Attitudes and practices around parenting and child discipline

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Caregiver reports any children in the HH has been hit, slapped, or beaten by HH member in the past four weeks*															
18-30	13	52	25.4 †	[12.5,	44.6]	12	44	28.1 †	[13.2,	50.1]	1	8	10.6 †	[2.5,	34.8]
31-50	82	327	24.9	[18.9,	32.0]	71	261	27.0	[20.2,	35.2]	11	66	16.1 †	[8.6,	27.9]
51+	58	300	19.0	[14.2,	25.0]	46	220	21.1	[15.6,	27.8]	12	80	13.6 †	[6.5,	26.4]
All ages	153	679	22.3	[17.8,	27.5]	129	525	24.6	[19.7,	30.1]	24	154	14.5 †	[8.4,	23.7]
Caregiver agrees that harsh physical punishment is an appropriate means of discipline or control in the home															
18-30	16	52	32.4 †	[20.8,	46.6]	15	44	36.4 †	[23.0,	52.4]	1	8	10.6 †	[2.5,	34.8]
31-50	136	327	41.0	[32.3,	50.3]	107	261	40.4	[31.3,	50.2]	29	66	43.7	[31.2,	57.0]
51+	128	300	42.2	[34.4,	50.3]	95	220	42.6	[34.4,	51.2]	33	80	41	[26.3,	57.6]
All ages	280	679	40.9	[33.8,	48.4]	217	525	41.0	[33.7,	48.7]	63	154	40.6	[28.8,	53.6]
Caregiver agrees that harsh physical punishment is an appropriate means of discipline or control in the school															
18-30	19	52	37.9 †	[26.3,	51.1]	18	44	43.0 †	[29.4,	57.7]	1	8	10.6 †	[2.5,	34.8]
31-50	156	327	47.0	[37.9,	56.2]	120	261	45.4	[35.6,	55.6]	36	66	53.3	[42.7,	63.6]
51+	149	300	48.8	[41.9,	55.7]	110	220	49.1	[41.7,	56.5]	39	80	48	[33.1,	63.3]
All ages	324	679	47.1	[40.1,	54.3]	248	525	46.8	[39.3,	54.4]	76	154	48.3	[37.4,	59.4]
Caregiver agrees that harsh physical punishment is an appropriate means of discipline or control in the home or the school															
18-30	20	52	39.4 †	[27.7,	52.5]	19	44	44.8 †	[31.0,	59.4]	1	8	10.6 †	[2.5,	34.8]
31-50	169	327	50.5	[41.3,	59.8]	131	261	49.1	[39.2,	59.2]	38	66	56.3	[44.1,	67.9]
51+	158	300	51.7	[44.3,	59.0]	118	220	52.6	[44.0,	61.0]	40	80	49.2	[34.6,	64.0]
All ages	347	679	50.2	[42.9,	57.6]	268	525	50.3	[42.4,	58.1]	79	154	50.2	[38.8,	61.7]
Caregiver agrees that children under age 10 need to earn money to support the HH															
18-30	3	52	5.9 †	[1.9,	17.0]	3	44	7.0 †	[2.3,	19.5]	0	8	0 †	[.,	.]
31-50	19	327	5.9 †	[3.6,	9.6]	14	261	5.5 †	[3.3,	9.1]	5	66	7.3 †	[3.2,	16.1]
51+	24	300	7.7 †	[4.7,	12.6]	14	220	6.1 †	[3.3,	11.1]	10	80	12.2 †	[5.6,	24.7]
All ages	46	679	6.7	[4.8,	9.4]	31	525	5.9	[4.0,	8.6]	15	154	9.6 †	[5.6,	16.0]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 20. Caregiver health: incidence and frequency of illness

	All caregivers				Female caregivers				Male caregivers			
	n	N	W%	95% CI	n	N	W%	95% CI	n	N	W%	95% CI
Caregiver too sick/tired to participate in daily activities during the past month												
18-30	27	52	49.7	[37.7, 61.7]	23	44	48.9 †	[35.7, 62.2]	4	8	54.0 †	[25.6, 80.0]
Once in a while	20		75.6 †	[52.9, 89.5]	17		78.3 †	[56.0, 91.1]	3		62.1 †	[11.1, 95.6]
At least once/week	7		24.4 †	[10.5, 47.1]	6		21.7 †	[8.9, 44.0]	1		37.9 †	[4.4, 88.9]
31-50	139	327	43.2	[35.0, 51.9]	116	261	45.1	[36.7, 53.8]	23	66	35.5 †	[23.6, 49.5]
Once in a while	100		72.4	[64.0, 79.5]	82		70.9	[61.5, 78.9]	18		80.3 †	[62.5, 90.9]
At least once/week	39		27.6	[20.5, 36.0]	34		29.1	[21.1, 38.5]	5		19.7 †	[9.1, 37.5]
51+	153	300	50.0	[42.3, 57.8]	107	220	47.5	[39.9, 55.3]	46	80	56.7	[44.7, 68.0]
Once in a while	108		69.7	[61.9, 76.5]	75		69.1	[57.8, 78.5]	33		71.0	[56.3, 82.3]
At least once/week	45		30.3	[23.5, 38.1]	32		30.9	[21.5, 42.2]	13		29.0 †	[17.7, 43.7]
All ages	319	679	46.8	[40.6, 53.1]	246	525	46.4	[40.3, 52.7]	73	154	47.8	[38.1, 57.8]
Once in a while	228		71.4	[66.3, 76.0]	174		70.8	[63.2, 77.3]	54		73.4	[61.5, 82.6]
At least once/week	91		28.6	[24.0, 33.7]	72		29.2	[22.7, 36.8]	19		26.6 †	[17.4, 38.5]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Child Outcomes

This study assessed four child outcomes that were determined to be changeable through project interventions: child protection and labor; education and early childhood development; food consumption and nutrition; and health and use of health services.

Child Protection and Labor

Data related to child protection and labor are presented in Table 24. Only 10.8 percent of children had a birth certificate that could be verified by the data collector, with differences by age group (0=0.0041). Children ages 0 to 4 years were most likely to have a birth certificate (17.1%).

Less than one percent (0.9%) of children were categorized as participating in "child labor": working for more than three hours per day on a school day during the past week. At the HH level, 1.8 percent of caregivers reported that at least one child ages 5 to 14 years in their HH worked for more than three hours per day on a school day in the past week (Table 24).

Education and Early Childhood Development

Education data are presented in Table 25. **Over one-half (55.7%) of children ages 5 to 17 years were regularly attending school** (enrolled and did not miss any school days in the past school week).[11] Across all age groups (5 to 9 years, 10 to 14 years, and 15 to 17 years), females were more likely than males to report attending school (p=0.0264). Children ages 10 to 14 years were most likely to be regularly attending school (p=0.0000).

A majority (84.3%) of children who were enrolled in school during the previous school year had progressed in school grade, with some differences among the age groups (p=0.0107).

One-quarter of the children were not enrolled in school, with differences by age group (p=0.0000). Children ages 15 to 17 years were the least likely to be enrolled (41.9 percent were not enrolled). For 16.8 percent of the children not enrolled, poverty was the main reason for nonenrollment.

At a HH level, in one-third (34.9%) of the HHs, all children ages 5 to 17 years were regularly attending school. (In 42.6 percent of the HHs, all children ages 7 to 17 years were regularly attending school) [Table 26]).

Data on early childhood development (ECD) are presented in Table 27. Nearly one-fifth (19.6%) of children ages 3 to 5 years attended preschool, with children in urban areas more likely to report this compared with those living in rural areas (26.9 versus 17.1 percent, respectively, p=0.1596) (urban/rural data not shown in the table).

Over two-thirds (70.4%) of children ages 0 to 4 years had reportedly participated in a stimulating activity (e.g., playing, singing songs, reading books/looking at pictures, telling stories, naming/counting/drawing things) with a HH member over age 15 in the three days before the survey. Being engaged in play and being sung songs were most commonly reported (64.6 percent and 48.6 percent, respectively) (Table 27).

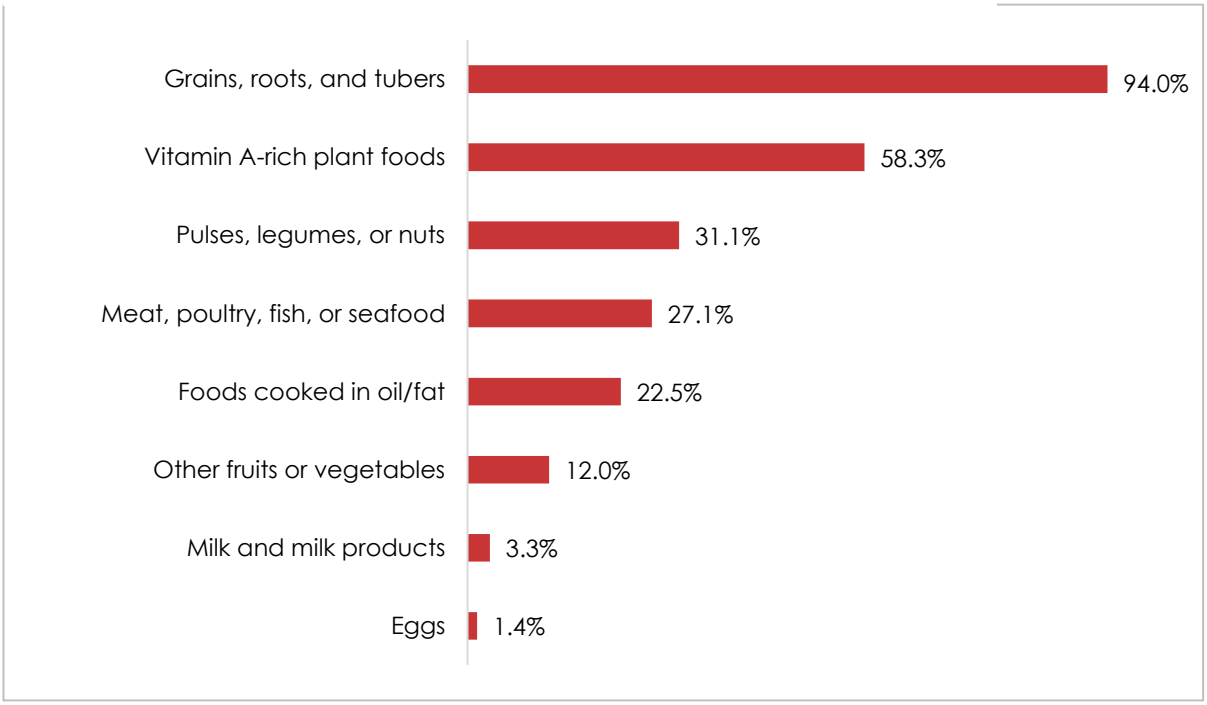
[11] This question was asked to all children who were not on school holidays the week prior to survey. Eight hundred and eleven (811) school-aged children (43% of all school-aged children in the sample) reported that they were on school holidays and thus were not asked about recent school attendance. Data should be interpreted with care.

Food Consumption and Nutrition

Data on food consumption are presented in Table 28 (individual level) and Table 30 (HH level). At some point in the four weeks before the survey, 41.6 percent of children ages 2 to 17 years went to bed hungry. Among 7.2 percent of the children, this occurred often (more than 10 times in the past four weeks). In one-third (34.2%) of the HHs, at least one child went to bed hungry at some point in the past four weeks. Similarly, at some point in the past four weeks, 34.2 percent of children ages 2 to 17 years went a whole day and night without eating due to the lack of food. For 6.3 percent of the children, this occurred often. In more than one-quarter (28.1%) of the HHs, at least one child went a whole day and night without food in the past four weeks.

Dietary diversity was low, with only 8.2 percent of children ages 2 to 17 years eating a minimally diverse diet (at least four out of the seven food groups) (Table 28). In only 4 percent of the HHs with children ages 2 to 17 years were all children reporting a minimally diverse diet (Table 30). Overall, the children's mean score on the dietary diversity scale was 2.3 (out of a possible range from 0 to 7). The types of foods eaten are given in Figure 3.

Figure 3. Food group consumption in the past day and night: children ages 0 to 17 years (N = 2,315; weighted percent-ages)



Less than three percent (2.5%) of children ages 6 to 59 months were undernourished (had a MUAC score under 125mm) (Table 29). Over three percent (3.3%) of HHs with one or more children ages 6 to 59 months had a malnourished child (Table 30).

Health and Use of Health Services

Data on the children's experience of illness and use of health services in the two weeks before the survey are presented in Table 31. **Nearly one-fifth (17.7%) of the children were reportedly too sick to participate in daily activities at least once in the two weeks before the survey**. Among children

under age five, one-third (31%) had a fever in the two weeks before the survey. Among the children ages 0 to 4 experiencing fever, 77.9 percent received treatment at a health facility.

List of Tables

Table 21. Child protection and labor

	All children				Female children				Male children			
	n	N	W%	95% CI	n	N	W%	95% CI	n	N	W%	95% CI
Child has a verified birth certificate												
0-4	75	432	17.1	[11.9, 24.1]	33	211	16.3	[9.9, 25.6]	42	221	18.0	[11.2, 27.6]
5-9	74	655	11.2	[8.2, 15.2]	38	326	10.9	[7.1, 16.2]	36	329	11.6	[7.5, 17.6]
10-14	71	813	8.9	[5.9, 13.3]	34	442	7.6	[4.2, 13.4]	37	371	10.5	[6.2, 17.3]
15-17	34	415	7.8	[4.6, 12.7]	15	197	7.1	[4.0, 12.1]	19	218	8.4	[4.5, 14.9]
All ages	254	2315	10.8	[8.1, 14.4]	120	1176	9.9	[7.2, 13.6]	134	1139	11.8	[8.6, 15.9]
Child ages 5 to 14 years worked outside the home more than three hours on a school day during the past week												
5-9	0	649	0.0	[., .]	0	324	0.0	[., .]	0	325	0.0	[., .]
10-14	13	809	1.6	[0.8, 3.1]	5	439	1.2	[0.5, 2.7]	8	370	2.1	[0.9, 5.0]
All ages	13	1458	0.9	[0.5, 1.7]	5	763	0.7	[0.3, 1.6]	8	695	1.1	[0.5, 2.7]
	All caregivers				Female caregivers				Male caregivers			
	n	N	W%	95% CI	n	N	W%	95% CI	n	N	W%	95% CI
Any child ages 5 to 14 years in the HH worked outside the home more than three hours on a school day during the past week	11	608	1.8 †	[0.9, 3.4]	11	471	2.3 †	[1.2, 4.3]	0	137	0.0 †	[., .]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 22. Education indicators: attendance, progression, and nonenrollment

	All children				Female children				Male children			
	n	N	W%	95% CI	n	N	W%	95% CI	n	N	W%	95% CI
Child regularly attends school												
5-9*	196	370	52.3	[42.9, 61.6]	102	179	56.1	[45.0, 66.5]	94	191	48.8	[38.4, 59.4]
10-14*	291	436	66.3	[57.3, 74.2]	166	240	68.2	[57.4, 77.3]	125	196	63.8	[54.7, 72.1]
15-17*	112	267	43	[31.7, 55.2]	53	122	44.6	[29.8, 60.5]	59	145	41.7	[29.8, 54.6]
All ages*	599	1073	55.7	[47.4, 63.6]	321	541	59	[50.1, 67.3]	278	532	52.3	[43.7, 60.8]
7-9*	151	218	68.1	[57.5, 77.1]	75	107	68.7	[57.8, 77.9]	76	111	67.5	[54.2, 78.4]
7-17*	553	919	59.8	[51.3, 67.8]	294	469	62.2	[53.4, 70.2]	259	450	57.4	[47.7, 66.5]
Child progressed in school during the past year												
5-9	234	296	78.1	[71.1, 83.8]	116	150	75.9	[66.4, 83.4]	118	146	80.2	[71.6, 86.7]
10-14	568	644	88.1	[84.4, 91.1]	310	351	88.1	[83.6, 91.5]	258	293	88.1	[83.5, 91.6]
15-17	197	241	83	[75.7, 88.5]	95	116	82.7	[73.1, 89.4]	102	125	83.3	[73.7, 89.9]
All ages	999	1181	84.6	[81.6, 87.2]	521	617	84.2	[80.4, 87.5]	478	564	85	[81.1, 88.3]
7-9	209	239	86.2	[80.9, 90.2]	104	118	86.8	[80.3, 91.4]	105	121	85.6	[78.1, 90.8]
7-17	983	1132	86.8	[84.2, 89.0]	513	589	86.9	[83.6, 89.6]	470	543	86.7	[83.3, 89.5]
Child not currently enrolled in school												
5-9	190	653	29	[23.3, 35.4]	91	326	28	[21.3, 35.9]	99	327	30	[23.1, 37.9]
10-14	117	812	14.6	[11.4, 18.5]	63	441	14.6	[10.4, 20.0]	54	371	14.6	[11.2, 18.9]
15-17	175	411	41.9	[34.9, 49.2]	84	197	41.1	[32.3, 50.5]	91	214	42.6	[33.6, 52.1]
All ages	482	1876	25.6	[21.9, 29.6]	238	964	24.5	[20.3, 29.1]	244	912	26.7	[22.6, 31.2]
7-9	49	399	12.2	[8.8, 16.8]	22	194	11.2 *	[7.3, 16.7]	27	205	13.3	[8.7, 19.7]
7-17	339	1291	20.7	[17.6, 24.3]	169	837	20	[16.4, 24.0]	170	793	21.6	[17.5, 26.2]
Main reason child is not currently enrolled in school is because there is no money for materials or transport												
5-9	21	190	11.1 †	[7.2, 16.9]	9	91	9.9 †	[5.3, 17.7]	12	99	12.3 †	[6.2, 22.9]

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
10-14	22	117	18.7 †	[12.6,	26.9]	12	63	20.5 †	[11.8,	33.3]	10	54	16.6 †	[9.0,	28.6]
15-17	38	175	21.6	[14.0,	31.7]	20	84	24.3 †	[14.5,	37.7]	18	91	19.2 †	[9.9,	33.8]
All ages	81	482	16.8	[12.7,	22.0]	41	238	17.8	[12.2,	25.2]	40	244	15.9	[10.3,	23.6]
7-9	5	49	11 †	[4.0,	26.8]	3	22	15.8 †	[5.4,	38.1]	2	27	7.3 †	[1.6,	27.8]
7-17	65	339	19.2	[14.0,	25.7]	35	169	21.8	[14.4,	31.5]	30	170	16.7	[10.4,	25.6]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 23. HH summary of education indicators

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
All school age children in HH regularly attend school	142	418	34.9	[24.8,	46.5]	110	319	34.6	[25.6,	44.9]	32	99	35.7	[19.5,	56.1]
All children ages 7 to 17 regularly attend school	170	404	42.6	[33.1,	52.7]	127	307	41.4	[32.6,	50.8]	43	170	46.2	[29.5,	63.7]
All children ages 14 to 17 regularly attend school	113	266	42.5	[32.9,	52.8]	80	198	39.8	[31.8,	48.3]	33	68	50.4	[30.9,	69.8]
All children ages 5 to 9 regularly attend school	107	237	45.3	[34.1,	57.0]	82	175	46.8	[34.0,	60.0]	25	62	41.1	[28.5,	55.0]
All children ages 7 to 9 regularly attend school	120	175	67.8	[57.9,	76.4]	88	129	67.6	[55.3,	77.9]	32	46	68.5	[53.4,	80.5]
All children ages 10 to 14 regularly attend school	167	281	59	[49.1,	68.3]	122	207	57.6	[46.2,	68.3]	45	74	62.8	[49.2,	74.7]
All children ages 15 to 17 regularly attend school	83	213	42.6	[33.1,	52.7]	60	160	41.4	[32.6,	50.8]	23	53	46.2 †	[29.5,	63.7]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 29. Participation in early childhood development activities

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Child ages 3 to 5 years participated in ECD (preschool)	42	220	19.6	[13.6,	27.3]	22	115	20.0 †	[13.2,	29.2]	20	105	19.0 †	[11.1,	30.8]
Child under age 5 years engaged in any stimulating activity with a HH member over 15 years of age in the past three days															
0-5 months	19	41	46.8 †	[31.5,	62.7]	9	19	44.5 †	[24.1,	66.9]	10	22	48.7 †	[28.0,	70.0]
6-11 months	20	31	64.7 †	[46.0,	79.8]	11	15	70.5 †	[46.1,	87.0]	9	16	59.5 †	[31.7,	82.3]
12-23 months	41	57	72.7	[58.5,	83.4]	18	25	73.8 †	[50.0,	88.8]	23	32	71.8 †	[53.6,	84.9]
2-4 years	229	303	73.8	[62.7,	82.6]	110	152	70.6	[57.1,	81.2]	119	151	77.2	[65.7,	85.7]
All ages	309	432	70.4	[62.3,	77.3]	148	211	68.5	[56.9,	78.1]	161	221	72.2	[65.2,	78.3]
Stimulating activity															
Read books or looked at pictures with child	67	432	15.4	[10.7,	21.7]	30	211	14.5	[8.9,	22.6]	37	221	16.4	[11.8,	22.3]
Told stories to child	116	432	27.0	[19.7,	35.8]	57	211	27.4	[19.2,	37.4]	59	221	26.6	[18.8,	36.1]
Sang songs to child	212	432	48.6	[40.6,	56.7]	104	211	48.8	[39.4,	58.2]	108	221	48.5	[40.1,	57.0]
Played with child	282	432	64.6	[57.5,	71.1]	138	211	63.9	[52.7,	73.8]	144	221	65.2	[59.4,	70.7]
Named, counted, or drew things with child	102	432	22.8	[16.6,	30.4]	40	211	18.2	[12.3,	26.0]	62	221	27.3	[19.3,	37.0]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 30. Food security and nutrition

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Child went to bed hungry at night because there was not enough food (past four weeks)															
Never	1322	2290	58.4	[50.0,	66.3]	685	1165	59.2	[51.0,	67.0]	637	1125	57.4	[48.2,	66.1]
Rarely/sometimes	797	2290	34.4	[28.6,	40.8]	402	1165	34.1	[28.1,	40.8]	395	1125	34.7	[28.3,	41.7]
Often	171	2290	7.2	[4.7,	11.0]	78	1165	6.6	[4.4,	9.9]	93	1125	7.9	[4.9,	12.4]
Child went whole day and night without eating because there was not enough food (past four weeks)															
Never	1494	2288	65.9	[57.6,	73.3]	766	1163	66.2	[58.2,	73.3]	728	1125	65.6	[56.1,	73.9]
Rarely/sometimes	646	2288	27.9	[22.3,	34.2]	332	1163	28.4	[22.7,	34.7]	314	1125	27.3	[21.1,	34.6]
Often	148	2288	6.3	[3.9,	9.9]	65	1163	5.4	[3.4,	8.5]	83	1125	7.1	[4.3,	11.5]
Child has minimally diverse diet (4/7 food groups, excluding oils and fats)	180	2315	8.2	[5.5,	12.2]	90	1176	8.3	[5.6,	12.1]	90	1139	8.2	[5.2,	12.6]
Food groups (consumed past day and night)															
Grains, roots, and tubers	2177	2315	94.0	[92.8,	95.0]	1112	1176	94.6	94.6	[92.6,	96.1]	1139	93.3	[91.6,	94.7]
Vitamin A-rich plant foods	1349	2315	58.3	[51.6,	64.7]	686	1176	58.5	[51.7,	65.0]	663	1139	58.1	[50.8,	65.1]
Other fruits or vegetables	261	2315	12.0	[8.2,	17.3]	141	1176	12.7	[9.1,	17.5]	120	1139	11.4	[7.2,	17.4]
Meat, poultry, fish, or seafood	638	2315	27.1	[21.0,	34.1]	320	1176	27.1	[20.9,	34.2]	318	1139	27.1	[20.7,	34.6]
Eggs	31	2315	1.4	[0.8,	2.3]	13	1176	1.1 †	[0.4,	3.1]	18	1139	1.6 †	[0.9,	2.7]
Pulses, legumes, or nuts	710	2315	31.1	[25.2,	37.8]	352	1176	30.4	[24.7,	36.8]	358	1139	32.0	[25.4,	39.3]
Milk and milk products	80	2315	3.3	[2.4,	4.5]	42	1176	3.3	[2.3,	4.8]	38	1139	3.3	[2.2,	4.9]
Foods cooked in oil/fat	536	2315	22.5	[17.9,	28.0]	283	1176	23.4	[18.3,	29.5]	253	1139	21.6	[17.1,	26.8]

	All Children				Female Children				Male Children			
	N	Median	Mean	SD	N	Median	Mean	SD	N	Median	Mean	SD
Children's Dietary Diversity Score (excluding oil/fat; range 0 to 7)	2315	2	2.3	0.9	1176	2	2.3	0.9	1139	2	2.3	0.9
Children's Dietary Diversity Score (including oil/fat; range 0 to 8)	2315	2	2.5	1.1	1176	2	2.5	1.1	1139	2	2.5	1.1

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 31. Percentage of children ages 6 to 59 months who were undernourished (MUAC < 125mm)

	All children				Female children				Male children			
	n	N	W%	95% CI	n	N	W%	95% CI	n	N	W%	95% CI
6-11 months	4	85	5.0 †	[1.9, 12.4]	4	39	10.9 †	[4.0, 26.3]	0	46	0.0 †	[., .]
12-59 months	5	295	1.8 †	[0.6, 5.0]	1	146	0.7 †	[0.09, 4.8]	4	149	3.0 †	[0.9, 9.9]
All ages 6-59 months	9	380	2.5 †	[1.3, 4.7]	5	185	2.7 †	[1.2, 6.2]	4	195	2.3 †	[0.7, 7.6]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 24. HH summary: food security and nutrition

	All caregivers					Female caregivers					Male caregivers				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Any child ages 6 to 59 months in the HH malnourished	9	286	3.3 †	[1.7,	6.2]	7	217	3.3 †	[1.5,	7.1]	2	69	3.2 †	[0.8,	11.3]
Any child age 2+ years went to bed hungry during the past four weeks															
Never	440	671	65.8	[57.2,	73.4]	338	519	65.1	[56.0,	73.2]	102	152	68.1	[57.8,	76.8]
Rarely/sometimes	195	671	29.1	[22.9,	36.1]	148	519	28.8	[22.3,	36.2]	47	152	30.2	[22.1,	39.7]
Often	36	671	5.1	[3.3,	8.0]	33	519	6.1	[3.9,	9.5]	3	152	1.8 †	[0.4,	7.5]
Any child age 2+ went all day and night without food in the past four weeks															
Never	480	671	71.8	[63.0,	79.3]	372	519	71.8	[62.2,	79.8]	108	152	71.9	[60.8,	80.8]
Rarely/sometimes	159	671	23.6	[17.6,	31.0]	117	519	22.7	[16.2,	30.7]	42	152	27	[18.9,	37.1]
Often	32	671	4.5	[2.8,	7.3]	30	519	5.5	[3.4,	8.8]	2	152	1.1 †	[0.1,	8.2]
All children age 2+ received minimally diverse diet	26	675	4.0	[2.3,	6.7]	24	522	4.8 †	[2.8,	8.3]	2	153	1.1 †	[0.2,	4.7]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Table 25. Child health in the past two weeks

	All children					Female children					Male children				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Child was too sick to participate in daily activities															
0-4	101	432	22.8	[19.0,	27.1]	40	211	18.6	[14.6,	23.3]	61	221	26.9	[21.5,	33.0]
5-9	91	655	13.7	[10.5,	17.6]	46	326	14.1	[10.2,	19.2]	45	329	13.2	[9.3,	18.5]
10-14	143	813	18.2	[14.7,	22.4]	69	442	15.7	[11.7,	20.7]	74	371	21.3	[16.1,	27.6]
15-17	71	415	17.8	[13.0,	23.9]	33	197	17.7	[12.5,	24.5]	38	218	17.9	[12.0,	25.8]
All ages	406	2315	17.7	[15.3,	20.4]	188	1176	16.1	[13.4,	19.3]	218	1139	19.3	[16.3,	22.8]
Child under age 5 years was sick with fever during the past two weeks	138	432	31.0	[25.6,	37.0]	58	211	27.4	[20.2,	35.9]	80	221	34.6	[26.3,	43.9]
Sought any treatment	108	138	78.9	[71.0,	85.0]	46	58	79.3	[68.4,	87.2]	62	80	78.5	[66.7,	87.0]
Sought treatment at a health facility	106	138	77.9	[69.5,	84.4]	46	58	79.3	[68.4,	87.2]	60	80	76.7	[64.2,	85.9]

Notes: W% indicates the weighted percentage, presented with weighted 95% CI. Significance tests by sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

DISCUSSION

We collected information from 679 caregivers about 2,315 children. The indicators, including the nine PEPFAR MER OVC ESIs collected, provide a snapshot of the well-being of children and HHs served by the project. The findings reveal the beneficiary population's needs and will be used to inform program management decisions. These data will also help both the Kizazi Kipya project and USAID think through the path to graduating HHs from program support. It is important to note that the HHs had already started receiving program services at the time of the survey. On average, urban HHs reported receiving services for 11 months and rural HHs reported receiving services for seven months.

Surveyed HHs had an average of 5.5 members, with 3.3 children under age 18. This is only slightly higher than the national (mainland) average of 4.8 HH members (Ministry of Health, Community Development, Gender, Elderly and Children [MOHCDGEC] [Tanzania Mainland], Ministry of Health [MOH] [Zanzibar], National Bureau of Statistics [NBS], Office of the Chief Government Statistician [OCGS], & ICF, 2016) and is likely to reflect the reach of the Kizazi Kipya project. Sixty-five percent (64.7%) of the HHs surveyed had an orphaned child, with 18.8 percent of the HHs having a double-orphaned child. This diverges considerably from the general population, within which 12.9 percent of HHs include an orphan (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). The HHs surveyed were highly affected by HIV and AIDS. Nearly one-third (29.2%) of the HHs had a HH member living with HIV (14.2 percent of the HHs had a child living with HIV), and 36.4 percent of caregivers reported that an immediate family member had died of AIDS. This population structure reflects the targeting strategy of the Kizazi Kipya project, which aims to enroll children affected by HIV and AIDS. HIV prevalence in the general population is 4.5 percent (UNAIDS, 2017).

One criterion for "graduating" OVC HHs from program support is that they are **able to meet their own expenses**, especially school-related expenses, without PEPFAR support, in a context of unpredictable and frequent economic shocks. Nearly one-half of the HHs (44.2%) are receiving external financial support, including 22.4 percent who are part of the government social cash transfer scheme. Nevertheless, when caregivers were asked whether they were able to access money to pay for their last education expense (a marker for graduation), last healthcare expense, and last unexpected HH expense (PEPFAR MER indicator), only 16.2 percent, 15.5 percent, and 14.6 percent of caregivers, respectively, responded affirmatively.

Indeed, surveyed HHs had a higher **poverty** probability than the general population per the 2011/2012 Tanzania Household Budget Survey, which found an average poverty likelihood of 32.2 percent using the US$1.25 per person/per day line (versus 48.4 percent among the Kizazi Kipya project population) (National Bureau of Statistics [NBS] & Ministry of Finance, 2013).[12] The Tanzania Budget Survey has documented increasing poverty in recent years (NBS & Ministry of Finance, 2013). That said, many reported owning land and livestock, with rural HHs more likely to report this. On asking survey participants, a majority reported that their HHs had less income and that their HHs were less financially secure this year than the year prior.

One of the challenges in the path to economic resilience is a high prevalence of **economic shocks**, with inadequate liquid assets to weather the shocks. Almost all (92.9%) of the caregivers surveyed reported that their HHs experienced at least one economic shock in the 12 months before the survey. Three-quarters

[12] The Tanzania Household Budget Survey found an average poverty likelihood in the general population of 21.5 percent using the national poverty line (compared with 34.3 percent among the Kizazi Kipya project population) and 7.2 percent using the food poverty line (compared with 12.4 percent in the Kizazi Kipya project population).

(73.7%) of caregivers reported an increase in food prices and one-half (51.0%) reported a lower than expected crop yield. Indeed, the Tanzania Budget Survey has documented a stark increase in the cost of living in recent years (NBS & Ministry of Finance, 2013). In addition, 16.3 percent of caregivers indicated that a HH member had died in the 12 months before the survey. HH deaths pose an emotional, social, and financial burden on HHs, the latter including funeral costs and loss of HH income.

In this population, only 8.2 percent of HHs reported cash savings, which is a means to weather these shocks. This finding indicates a clear opportunity to link caregivers, especially female caregivers, to economic strengthening interventions, such as savings groups (39.9 percent of caregivers reported that someone in their HH had taken part in a savings group) and microfinance activities (8.2 percent of HHs have participated in microfinance). Noteworthy is the finding that 26.9 percent of caregivers indicated that their HH was affected by business failure during the year, underscoring the importance of training members of savings and lending groups in business skills.

As indicated by the economic shock data, one-half of the HHs surveyed were **food insecure** and 10 percent were facing severe hunger. This is in line with national data. The most recent DHS found that nearly one-half of HHs (43%) experienced problems satisfying their needs for food (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). Nevertheless, **dietary diversity** was relatively high at the household level (low at the child level), suggesting that food may not be equitably shared by household members. It is important to note that the lean season in Tanzania is September to March. Data collection was conducted for this study in September, before the start of the lean season, when indicators would be expected to worsen.

HIV Outcomes

Caregivers exhibited incomplete **knowledge of HIV**, and especially of HIV transmission. Only one-third (32.7%) of caregivers exhibited comprehensive knowledge of HIV, with modes of transmission being particularly poorly understood. Approximately one-half (51.2 percent) of caregivers had comprehensive knowledge of PMTCT.

Four-fifths (82.1%) of caregivers self-reported having ever taken an HIV test and just under one-half (45.7%) reported an **HIV test** in the 12 months before the survey and having received the results of their last test. Of caregivers that had *ever* tested for HIV, 25.9 percent disclosed to the data collector that they were HIV positive. Among these, 91.9 percent were on treatment and 95.8 percent of those on treatment self-reported to be adherent to their medication. UNAIDS (2017) estimates treatment coverage to be 68 percent among people living with HIV ages 15+; however, this proportion is higher among females (78%). (The majority of caregivers surveyed were female.)

Close to one-half (43.9%) of children had been tested for HIV at some point; 6.5 percent of tested children were disclosed by caregivers as being HIV positive. Overall, caregivers reported "**HIV status known**" for only one-third (39.1%) of the children. Following the clinical cascade, 90.1 percent of HIV-positive children were on treatment, and 70.5 percent of the children on treatment were reported to be adherent to their medication. UNAIDS (2017) estimates that only 46 percent of children ages 0 to 15 years are on ART.

These findings underscore the critical role of the Kizazi Kipya project in assessing children's HIV risk and linking at-risk children and caregivers to HIV testing services. Moreover, the findings reveal a considerable gap in adherence between adults and children. Almost all adults on treatment self-reported that they were adherent, but when asked about their children, the caregivers cited considerable adherence

challenges. Of further importance to this audience is the recent evidence that orphaned children have worse adherence outcomes than nonorphaned children (Vreeman, Ayana, Muick, Yiannoutsos, Cohen, Nash… Wiehe, 2018). OVC projects have an important role to play in adherence counselling for pediatric clients.

Caregiver Outcomes

Caregiver health and psychosocial well-being have been linked to child well-being (Thielman, Ostermann, Whetten, Whetten, & O'Donnell, 2012). In this study we measured self-efficacy, self-esteem, social support, hopefulness, and decision-making power. Generally, we calculated caregiver psychosocial well-being to be at the midpoint of each scale—not great, not bad. Social support was measured by two different scales and results are difficult to compare. One scale indicated that one-half of the caregivers had some support and one-half did not, and the other scale showed that caregivers had relatively high social support. Overall, female caregivers had high decision-making power with regard to financial matters, but in many cases this will be conflated with the fact that they were the head of their HHs and possibly the sole provider.

A criterion for graduation is that children are in the care of a stable caregiver. Caregivers surveyed were sickly. Nearly one-half (46.8%) reported being too sick to participate in daily activities at least once in the past month, with one-quarter (28.6%) of those being sick often. This finding foreshadows a considerable risk to OVC beneficiaries. Sick caregivers are not enabled to adequately protect and support the children under their care. One opening for the Kizazi Kipya project will be to continue to link caregivers to health services.

One of the essential services offered through OVC programs is parenting support. As a measure of **parenting skills**, we asked caregivers whether they agreed that hitting or beating a child is an appropriate means of discipline in the home or in the school. Just over one-half (50.2%) of caregivers agreed that violence was acceptable in the home or school, with fewer agreeing that violence is acceptable in the home compared with school (40.9 percent versus 47.1 percent, respectively).

Child Outcomes

Another criterion for graduation from an OVC program is that children (and caregivers) are not experiencing or threatened by **violence**. Caregivers were asked whether any children in their HHs had experienced violence at home in the four weeks before the survey, and one-quarter (22.3%) responded affirmatively. The 2009 Tanzania Violence Against Children Survey found that nearly three-quarters of boys and girls had experienced physical violence in their childhood (UNICEF, U.S. Centers for Disease Control and Prevention, Muhimbili University, 2011). Campaigns to sensitize both caregivers and teachers to the effects of violence, combined with a stronger reporting system and the regular application of punitive measures for perpetrators, will help protect children.

Data collectors were able to confirm **birth certificates** for only 10.8 percent of the children (17.1 percent of the children under age five). This is similar to that reported among the general population. The last DHS found that 12.7 percent of children under five in mainland Tanzania had actual birth certificates, although a greater percentage reported being registered (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). This finding indicates a clear role for the Kizazi Kipya project to improve the rates of birth certification among this vulnerable population.

On a positive note, less than one percent of children were reported to be participating in **child labor**. This finding diverges substantially from that found in the 2014 Child Labor Survey, which documented that 28.8 percent of children ages 5 to 17 years were engaged in child labor (Tanzania NBS and ILO, 2016). This divergence is likely due, in part, to the differences in how child labor was measured. For the purposes of this survey, we defined child labor as participation in work for more than three hours per day on a school day; whereas the Labor Survey defined child labor more comprehensively, as participation in hazardous work, work below the minimum age, and engagement in hazardous unpaid HH service (long hours, unhealthy environment). The Positive Outcomes for Orphans Survey also found higher rates of child labor (among orphans and abandoned children, specifically) (Whetten, Messer, Ostermann, Whetten, Pence, Buckner… O'Donnell, 2011), but again measures (and populations) are different across surveys making comparisons challenging.

This study assessed three **education** indicators among children ages 5 to 17: enrollment, regular attendance, and progression. Three-quarters (74.6%) of the children were reportedly enrolled in school, with enrollment lowest among those ages 15 to 17 years (58.1%). This is somewhat higher than that documented in the 2015 DHS, which found primary school enrollment to be 76 percent and secondary school enrollment to be 23 percent (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016).

However, only 53.7 percent of all children surveyed were regularly attending school (not missing school regularly), with females more likely to be regularly attending than males across all age groups. The most recent DHS found that primary school enrollment was higher among girls than boys (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). A majority (84.6%) of children ages 5 to 17 enrolled in school during the survey year and the previous year reported progressing in school. It is important to note that data on progression are at best a proxy of actual scholastic achievement. Increasing preschool coverage might improve performance in later years and contribute to real progression, as would interventions to improve the quality of teaching.

The survey included two proxy indicators for **ECD** preschool enrollment among children ages 3 to 5 and engagement in stimulating activities among children ages 0 to 5. The study found that one-fifth (19.6%) of children ages 3 to 5 are enrolled in preprimary education. The World Bank reports that one-third of children are enrolled in preprimary education, with the age not specified (World Bank, 2018). Studies have demonstrated the role of preschool in child development, including cognitive, fine motor, and socioemotional (though not language) development, which can affect school readiness and primary school enrollment (Martinez, Naudau & Pereira, 2012). The long-term effects of a lack of early childhood stimulation certainly are well documented (e.g., Naudau, et al., 2010). The Kizazi Kipya project is in a strong position to extend the reach of ECD interventions to this vulnerable population, so long as this remains a focus of programming.

The survey found that 70.4 percent of children ages 0 to 5 had recently been engaged in stimulating activities with a HH member age 15 or over. The most commonly reported activity was playing (64.6%), followed by singing songs (48.6%). The less commonly reported engagement included reading or looking at picture books (15.4%), storytelling (27.0%), and naming and counting things (22.8%). The low rates of book reading are not surprising given the low caregiver literacy (per the 2015-2016 DHS, only 23 percent of women and 17 percent of men are illiterate); however, the project is well placed to educate caregivers on the importance of stimulating children through storytelling, counting, etc.

Study findings on the children's **food consumption** indicate very high food insecurity. One-third (34.2%) of children, according to their caregivers, went a whole day and night without eating in the four weeks before the survey. Moreover, dietary diversity was low: only 8.2 percent of the children were eating a

minimally diverse diet. Dietary diversity scores were much lower when the scale was applied to children versus the household as a whole. This may indicate inequity in food consumption across household members, with children having less access to diverse foodstuffs than adults do. Further analyses to determine to what extent HHs with high food insecurity are linked to social protection schemes would be helpful. Certainly, HHs where children are at risk of severe malnourishment should be prioritized for direct support.

We only measured **nutritional status** among children under five. Less than three percent (2.5%) of children ages 6 to 59 months were found to be malnourished based on a MUAC measurement of less than 125mm (the standard cutoff for severe malnutrition is <115mm).[13] The 2014 National Nutrition Survey and the 2015-2016 DHS found, respectively, that 3.8 percent and 5.6 percent of children under five were wasted[14] (Tanzania Food and Nutrition Center, 2014; MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016), which are in line with the estimates of acute malnutrition from this study. Although this study was not powered to determine whether children living with HIV were more at risk of acute malnutrition, other studies in Tanzania have found this. Sungaya and colleagues (2011) found that HIV-positive children had a higher likelihood of being wasted than other children. This is something that the Kizazi Kipya project may want to consider in applying case management approaches.

Regarding **children's health**, 17.7 percent of children were reportedly too sick to participate in daily activities at some point during the two weeks before the survey. Although there is no reference to compare these numbers to gauge the seriousness of the problem for children ages 0 to 17, the finding warrants closer examination of the causes of illness and possible interventions. In this HIV-affected beneficiary population, high rates of illness may certainly be related to AIDS, tuberculosis, and opportunistic infections. Malaria is also highly prevalent in Tanzania, affecting nearly 15 percent of children under age five (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). Indeed, one-third (31%) of children under five reported having a fever in the two weeks before the survey, which is higher than that reported in the general population (17.9%) (MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016). On a positive note, health service uptake, at least among those under five was high: 77.9 percent of children under five with a fever received health care (similar to that reported in the general population [MOHCDGEC, MOH, NBS, OCGS, & ICF, 2016]).

[13] Of note, MUAC measures *acute* undernutrition and is most commonly applied in famine contexts. Therefore, the low rate of undernutrition across children ages 0 to 4 years as measured by MUAC is expected. However, this measure does not account for *chronic* undernutrition, which is significant in Tanzania and, likely by extension, in the Kizazi Kipya project beneficiary population.

[14] MUAC was not collected in the Tanzania National Nutrition Survey or the DHS. However, weight-for-height, or wasting, is another measure of acute malnutrition, although weight-for-height and MUAC do not necessarily identify the same people as malnourished, especially among children ages 2 to 4 years (Tadesse, Tadesse, Berhane, & Ekström, 2017).

CONCLUSION AND RECOMMENDATIONS

This study provides a situational analysis of nearly 700 HHs, including over 2,300 children ages 0 to 17 served by the Kizazi Kipya project in 2017. The findings document the beneficiary population's needs and will be used to inform program management decisions.

The following are programmatic recommendations resulting from the study:

- Address the high rates of poverty (and food insecurity) through a combination of linkages to direct support (social protection schemes), and facilitation of savings groups, and income-generating activities. Provide families with the tools and skills they need to improve agricultural productivity, develop and grow their businesses, budget for their expenses, plan for shocks, and save money. Support HHs to retain and build their productive assets.
- Provide training in new agricultural techniques and support farmers to link to markets.
- Provide nutrition guidance to caregivers, explaining the importance of dietary diversity. Ensure that caregivers are aware of emergency feeding support services. Focus especially on HHs with children living with HIV.
- To improve health (and school attendance) indicators, continue assessing the health and HIV risk among children and their caregivers using standard protocols. Link children and caregivers, including men, at risk to HIV testing services, and if found to be HIV positive, to HIV care and treatment services. Link children and other family members found to be unwell to health facilities, accompanying them when possible.
- Support HIV-positive children (and their caregivers) with adherence counseling. Link adolescents to groups for youth living with HIV. Support children and caregivers to lobby for and access differentiated care models.
- Refresh HIV education for caregivers, children, and youth. Although the population has a basic understanding of HIV, comprehensive knowledge of the modes of transmission and prevention strategies are lacking. Knowledge of PMTCT is especially low, requiring urgent attention.
- To improve the rates of school attendance and progression, encourage caregivers to closely follow their children's school performance, improve access to school materials and uniforms, and work with families to reduce other barriers to education, such as poor health or a lack of money. Stress the importance of school attendance, including retention of girls in secondary school. Consider innovations around incentivizing school attendance among older adolescents.
- Support birth registration through both accompanying families to registration sites and by linking families to national birth registration campaigns.
- To address violence against children, provide caregivers with parenting training and support. Engage in community and school-based discussions around violence. Mobile change agents should advocate against violence and in support of child rights in the communities and schools. Train teachers and other school-based professionals on appropriate child discipline in the classroom and initiate punitive measures for teachers who hurt children. Reinforce community structures that support victims of violence and ensure that community workers are trained in how to identify and address violence in the HH, school, and community.

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APPENDIX A. THEORY OF CHANGE

This evaluation was guided by two theories of change, each one linked to an evaluation question.

Evaluation Question 1: What is the change in PEPFAR MER ESIs of well-being among Kizazi Kipya beneficiaries over time?

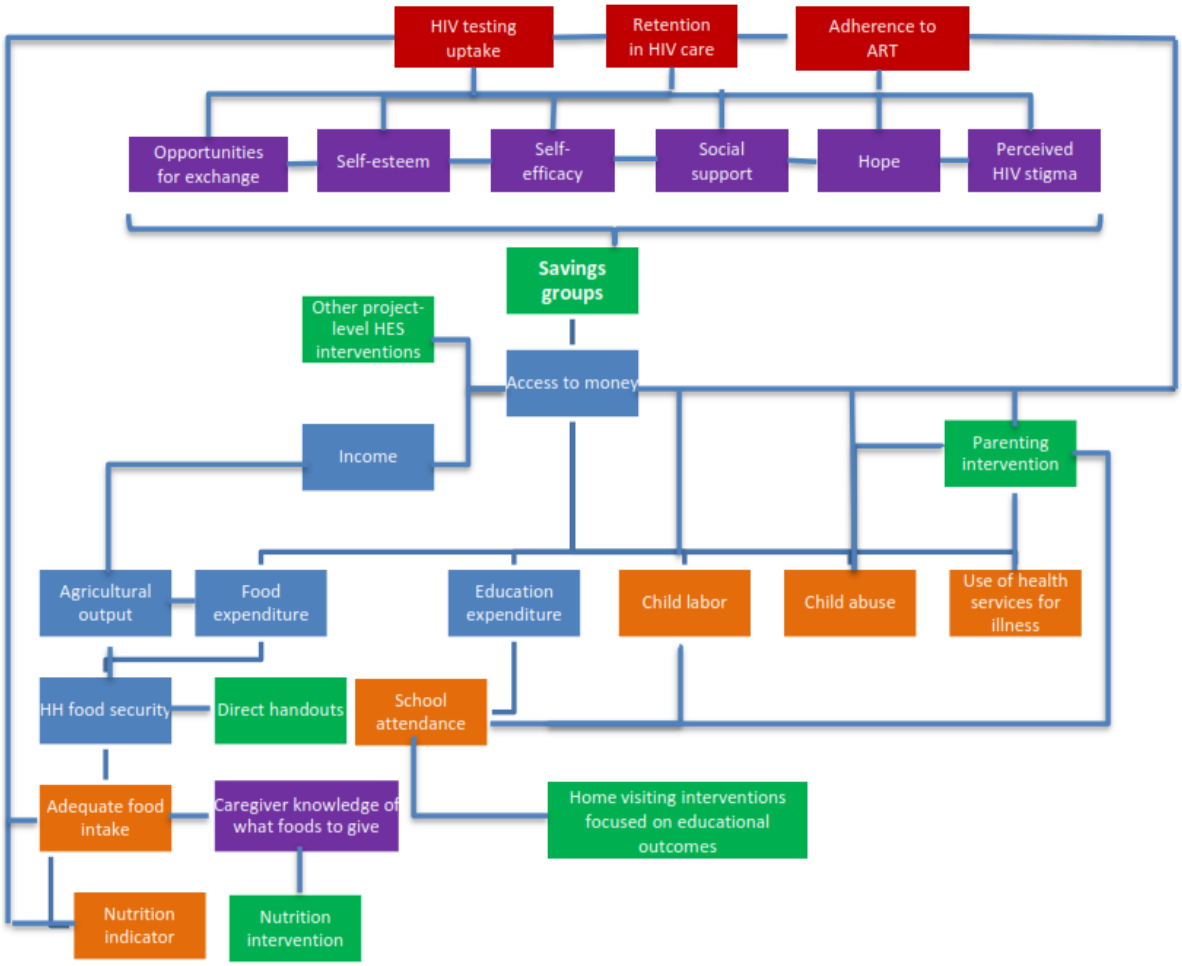
In Table A1.1, we present the hypothesized causal pathways of change – the links between project interventions and the PEPFAR MER ESIs.

Table A.1. Link between project interventions and the PEFAR MER ESI key outcome measures

No.	Indicator	Project interventions that will support changes in indicators
OVC_HIVST	Percentage of children (ages 0 to 17 years) whose primary caregiver knows the child's HIV status	Case management, standard HIV risk assessment, and targeted referrals to HIV services
OVC_NUT	Percentage of children (ages 6 to 59 months) who are undernourished	Case management, including nutritional assessments and linkages to nutrition-related services
OVC_HT1*	Types of sickness among children too sick to participate in daily activities in the past two weeks	Case management and referrals and linkages to health services
OVC_BCERT	Percentage of children (ages 0 to 17 years) who have a birth certificate	Case management
OVC_SCHATT	Percentage of children (ages 5 to 17 years) regularly attending school	Temporary school block grants, community engagement in primary school development plan and implementation
OVC_PRGS	Percentage of children (ages 5 to 17 years) who progressed in school during the past year	
OVC_STIM	Percentage of children < 5 years of age who recently engaged in stimulating activities with any HH member over 15 years of age	Parenting skills building
OVC_CP	Percentage of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or school	Parenting skills building
OVC_MONEY	Percentage of HHs able to access money to pay for unexpected HH expenses	Savings groups, money management and skills building interventions, financial literacy skills building

Evaluation Question 2: Under what circumstances does caregiver participation in a savings group contribute to changes in the uptake of HIV testing, retention in HIV care, and adherence to HIV medication among caregivers and children?

Figure A.1. Conceptual framework



In Figure 2 we present a conceptual framework linking the interventions to the outcomes. The green boxes represent project interventions, the blue boxes represent HH-level outcomes, the purple boxes represent caregiver-level outcomes, the orange boxes represent child-level outcomes, and the red boxes represent child/caregiver HIV outcomes.

APPENDIX B. PROCEDURES FOR WEIGHTING

The multistage sampling design for the Kizazi Kipya evaluation study employed the PPS methodology in the first stage of selection to sample 30 clusters, and then implemented equal probability of selection to randomly sample 25 HHs per sampled cluster. As shown below, this sample design is self-weighting.

Let c represent the total number of clusters to be sampled (30 wards), h_i is the number of HHs in ward i, H is the total number of HHs across all wards in the sample frame ($\sum_i h_i$ = 94,625), and h is the total number of HHs to randomly select in each sampled ward (25 HHs per ward). The first stage selection probability for cluster i is given in equation 1, and the second stage selection probability of HH j in cluster i is given in equation 2. The overall probability of selection, given in equation 3, is the product of the first and second stage selection probabilities.

$$(Eq.1)\ p_i = \frac{c * h_i}{H}$$

$$(Eq.2)\ p_j = \frac{h}{h_i}$$

$$(Eq.3)\ p_{ij} = p_i * p_j = \left(\frac{c * h_i}{H}\right) * \left(\frac{h}{h_i}\right) = \frac{c * h}{H}$$

The design weight, calculated on the basis of the sample design, is simply the inverse of the overall probability of selection.

$$(Eq.4)\ w_{ij} = \frac{1}{p_{ij}} = \left(\frac{H}{c * h_i}\right) * \left(\frac{h_i}{h}\right) = \frac{H}{c * h}$$

As can be seen in equation 4, all of the terms in the design weight equation are constants; because the design weight does not vary by cluster or HH, the sample is self-weighting. However, because the sampling methodology employed in the Kizazi Kipya baseline evaluation survey updated the HH listing in sampled wards before the second stage of selection (to increase the accuracy of HH selection and reduce sampling errors and nonresponse), the number of HHs in cluster i used in the first stage of selection is not equal to the number of HHs in cluster i used in the second stage of selection (denoted h_i`). Therefore, the design weight varies by cluster and the sample is no longer self-weighting.

$$(Eq.2`)\ p`_j = \frac{h}{h`_i}$$

$$(Eq.3`)\ p`_{ij} = p_i * p`_j = \left(\frac{c * h_i}{H}\right) * \left(\frac{h}{h`_i}\right)$$

$$(Eq.4`)\ w`_{ij} = \frac{1}{p`_{ij}} = \left(\frac{H}{c * h_i}\right) * \left(\frac{h`_i}{h}\right)$$

A cluster-level nonresponse adjustment is made to the design weights to reflect the probability that sampled HH j in cluster i completed a study interview. Here, h_i^R reflects the number of HHs with completed interviews in cluster i.

$$(Eq.5)\ w_{NR} = \frac{h}{h_i^R}$$

The final analytic weight used for data analysis is equal to the product of the design weight and the nonresponse weight adjustment.

$$(Eq.6)\ w_A = w`_{ij} * w_{NR}$$

The analytic weight is constant for all HHs in cluster *i*, and because HH member-specific nonresponse adjustments were not implemented for this study, all HH members in cluster *i* also have the same analytic weight.

APPENDIX C. COMPARING HOUSEHOLDS CURRENTLY IN SAVINGS GROUPS AND THOSE NOT IN SAVINGS GROUPS

Two hundred and eighty-seven (287) caregivers reported that someone in their household had ever participated in a savings group (SG). Two hundred and seventy-five caregivers (275) reported that they personally had ever participated in a SG (in 12 cases, another household member participated, and not the caregiver). Two hundred and forty (240) caregivers reported that they, themselves, currently participate in a SG. The average duration of participation was 24.07 months (range: 1-92 months). The following analyses compare the PEPFAR MER ESI between households in which the caregiver is a current participant of a SG (N=240) and households where this is not the case (N=439).

Tables present summary statistics for all households as well as statistics for the two subgroups. Summary statistics were described in the main report and are not repeated here. Differences detected between subgroups are highlighted.

Characteristics of the Subgroups

Household characteristics of subgroups are presented in Table 1. There were no differences between subgroups in rurality, the main material of the roof, or whether or not the household participates in the Government cash transfer program or whether or not the household receives remittances from another source. We did detect differences by subgroup in the main material of the exterior walls ($p=0.0028$), ownership of agricultural land (65.52% of SG households compared to 52.09% of non-SG households reported owning agricultural land, $p=0.0006$), and whether or not the household has savings (15.14% of SG households compared with 4.76% of non-SG households, $p<0.0001$).

Table C.1. Characteristics of households, by subgroup

	All HHs (N=679)		SG HHs (N=240)		Non-SG HHs (N=439)	
	n	W%	n	W%	n	W%
Location						
Rural	463	69.82	168	72.85	295	68.3
Urban	216	30.18	72	27.15	144	31.7
Main material of the roof						
Grass, mud, leaves	153	22.23	55	24.61	98	22.53
Iron sheets, tile, concrete, asbestos	526	76.77	185	75.39	341	77.47
Main material of the exterior walls**						
Baked bricks	290	41.29	122	49.45	168	37.20
Poles and mud, grass, sun-dried bricks, other	238	36.47	79	34.61	159	37.40
Stones, cement bricks, timber	151	22.24	39	15.93	112	25.40
Household owns agricultural land***	374	56.58	150	65.52	224	52.09
Household participates in national cash transfer program	147	22.39	54	23.23	93	21.97
Household receives other remittances	117	17.17	38	16.08	79	17.71
	All HHs (N=677)		SG HHs (N=240)		Non-SG HHs (N=437)	
	n	W%	n	W%	n	W%
Household has money saved ***	59	8.24	37	15.14	22	4.76

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

The characteristics of caregiver respondents are presented in Table 2, by subgroup. Caregivers in SG households were more likely to be female (87.5% vs. 72.17%, p<0.0001). We also detected differences in education status, with caregivers in SG households more likely to report higher levels of educational attainment (p=0.0104). Caregivers in SG households were also more likely to have worked in the three months prior to survey for payment (78.41% vs. 62.33%, p<0.0001). We did not detect differences between groups in age (data not shown) or age group of the respondent, marital status or disability status.

Table C.2. Caregiver characteristics, by subgroup

	All Caregivers (N=679)		Caregivers in SG HHs (N=240)		Caregivers in non-SG HHs (N=439)	
	n	W%	n	W%	n	W%
Sex***						
Female	525	77.29	210	87.5	315	72.17
Male	154	22.71	30	12.5	124	27.83
Age (years)						
<18	1	0.2 *	0		1	0.23
18-30	51	7.1	21	7.8	30	6.72
31-50	327	47.5	119	49.28	208	46.64
51+	300	45.2	100	42.9	200	46.41
Education: highest level attended*						
Never attended school	212	31.7	62	26.13	150	34.54
Primary	427	63	156	65.7	271	61.58
Secondary or higher	40	5.3	22	8.17	18	3.88
Marital status						
Married or cohabitating	289	42.4	104	43.73	185	41.73
Never married	36	5.2	9	3.33	27	6.14
Divorced, separated, widowed, other	354	52.4	127	52.94	227	52.13
Caregiver worked for cash/in-kind past 3 months***	466	67.7	192	78.41	274	62.33
Any disability	57	8.3	14	5.75	43	9.58

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

The characteristics of the children in the surveyed households is presented in Table 3, by subgroup. The two subgroups of children (those living in SG households and those not) differed by their relationship to the caregiver/respondent ($p<0.0001$) and orphanhood status (children in the non-SG households were more likely to be orphaned: 43.11% vs. 33.85%, $p<0.0001$). We did not detect any differences in the sample of children in each subgroup, by sex, age (data not shown) or age group, whether their biological parent lives in their households, or disability status.

Table C.3. Child characteristics

	All Children (N=2315)		Children in SG households (N=832)		Children not in SG households (N=1483)	
	n	W%	n	W%	n	W%
Sex						
Female	1176	50.93	411	49.24	765	51.81
Male	1139	49.07	421	50.76	718	48.19
Age groups						
0-4 years	432	18.1	163	18.89	269	17.69
0-5 months	41	10	13	8.62	28	10.73
6-11 months	31	6.8	8	4.24	23	8.14
12-23 months	57	12.8	22	12.85	35	12.74
24-59 months	303	70.5	120	74.29	183	68.38
5-9 years	655	28.1	226	26.95	429	28.66
10-14 years	813	35.7	299	36.30	514	35.31
15-17 years	415	18.2	144	17.86	271	18.34
Relationship to caregiver (respondent)***						
Biological mother	864	37	373	44.37	491	33.14
Biological father	327	13.7	69	8.00	258	16.69
Grandparent	848	37.5	311	37.78	537	37.30
Other (sibling, aunt, uncle, neighbor, other)	276	11.8	79	9.85	191	12.87
Biological parent lives in household						
Both parents	664	27.7	252	29.80	412	26.68
Mother only	834	36	296	35.69	538	36.18
Father only	101	4.5	31	3.62	70	4.98
Neither parent	716	31.7	253	30.90	463	32.16
Orphan (yes/no)***	913	40	282	33.85	631	43.11
Orphanhood group						
Mother alive only	605	65.41	191	66.73	414	64.87
Father alive only	135	15.76	38	14.95	97	16.09
Both parents deceased	173	18.83	53	18.32	120	19.03
Any disability	58	2.6	16	1.97	42	2.90

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Household-Level ESI

Percentage of households able to access money

We did not detect any difference between subgroups in households' ability to access money for unexpected expenses. See Table 4.

Caregiver-Level ESI

Percentage of caregivers that accept harsh physical punishment as an appropriate means of discipline at home and school

We did not detect any difference between subgroups in caregivers' attitudes around children discipline in the home and school. See Table 5.

Child-Level ESI

All child-level ESI are presented in Table 6 by subgroup.

Percentage of children who have a birth certificate

We did not detect any difference between subgroups of children in terms of their likelihood to possess a birth certificate.

Percentage of children ages 5-17 years regularly attending school

Children living in SG households were marginally more likely to be attending school regularly than children living in non-SG households (59% in SG households compared with 52.3% in non-SG households, $p<0.001$).

Percentage of children ages 5-17 years progressing in school

We did not detect any difference between subgroups of children ages 5-17 years in terms of school progression.

Percentage of children ages 6-59 months who are undernourished

We did not detect any difference between subgroups of children ages 6-59 months in terms of their nutritional status.

Percentage of children who are too sick to participate in daily activities

We did not detect any difference between subgroups of children in terms of their recent health.

Percentage of children for which HIV status is known by the caregiver

Children in SG households were slightly more likely to have had a previous HIV test, as reported by their caregiver (47.66% of children in SG households compared with 41.99% of children in non-SG households, $p=0.0104$). However, the difference between subgroups in the proportion of children whose HIV status is

known to the caregivers was marginal, with a trend toward statistical significance (41.71% in SG households, compared with 37.68% in non-SG households, p=0.0592).

Percentage of children ages 0-4 years who recently participated in stimulating activities with an adult household member

We did not detect any difference between subgroups of children ages 0-4 years in terms of their participation in stimulating activities with another household member over the age of 15 years, in the three days prior to survey.

Table C.4. MER ESI: Household level

	All HHs (N=679)					SG HHs (N=240)					Non-SG HHs (N=439)				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Household incurred any unexpected expenses past 12 months	308	679	45.9	[39.3,	52.6]	110	240	46.82	[40.36,	53.27]	198	439	45.38	[40.70,	50.06]
Household able to pay for unexpected expenses	46	308	14.6	[10.9,	19.4]	16†	110	14.72	[7.74,	21.70]	30	198	14.59	[9.59,	19.59]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table C.5. MER ESI: Caregiver level

Percent of caregivers who believe that harsh physical punishment is an appropriate means of discipline or control in the home or school

	All Caregivers					Caregivers in SG households					Caregivers not in SG households				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
All	347	679	50.2	[42.9,	57.6]	115	240	48.06	[41.65,	54.48]	232	439	51.35	[46.76,	55.93]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table C.6. MER ESI: Child level

Percent of children ages 0-17 years with a verified birth certificate															
	All Children					Children in SG households					Children not in SG households				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
0-17 years	254	2315	10.8	[9.58,	12.10]	80	832	9.54	[7.50,	11.59]	174	1483	11.51	[9.90,	13.13]
Percent of children ages 5-17 years regularly attending school															
5-9 years***	196	370	52.3	[42.9,	61.6]	102	179	56.1	[45.0,	66.5]	94	191	48.8	[38.4,	59.4]
10-14 years***	291	436	66.3	[57.3,	74.2]	166	240	68.2	[57.4,	77.3]	125	196	63.8	[54.7,	72.1]
15-17*	112	267	43	[31.7,	55.2]	53	122	44.6	[29.8,	60.5]	59	145	41.7	[29.8,	54.6]
All ages***	599	1073	55.7	[47.4,	63.6]	321	541	59	[50.1,	67.3]	278	532	52.3	[43.7,	60.8]
7-9 years***	151	218	68.1	[57.5,	77.1]	75	107	68.7	[57.8,	77.9]	76	111	67.5	[54.2,	78.4]
7-17 years***	553	919	59.8	[51.3,	67.8]	294	469	62.2	[53.4,	70.2]	259	450	57.4	[47.7,	66.5]
Percent of children ages 5-17 years progressing in school (among those that attended in the previous year)															
5-9 years	234	296	78.09	[73.25,	82.94]	88	114	75.02	[66.62,	83.42]	146	182	79.85	[74.04,	85.66]
10-14 years	567	644	87.97	[85.44;	90.51]	209	236	88	[83.67,	92.33]	358	408	87.97	[84.79,	91.14]
15-17	194	241	81.93	[77.20,	86.66]	64	77	86.84	[80.04,	93.63]	130	164	79.74	[73.70,	85.79]
All ages	995	1181	84.29	[82.18,	86.40]	361	427	84.37	[80.78,	87.96]	634	754	84.25	[81.62,	86.88]
7-9 years	222	252	86.91	[82.46,	91.36]	85	98	84.46	[76.56,	92.36]	137	154	88.34	[83.1,	93.57]
7-17 years	983	1137	86.46	[84.43,	88.48]	358	411	86.94	[83.55,	90.34]	625	726	86.2	[83.66,	88.74]
Percent of children ages 6-59 months who are undernourished (MUAC < 125mm)															
6-59 months	9†	380	2.5 *	[1.3,	4.7]	5†	148	3.67	[0.47,	6.88]	4†	232	1.81	[0.02,	3.61]
Percent of children ages 0-17 years who were too sick to participate in daily activities in the past two weeks															
0-17 years	406	2315	17.7	[16.11,	19.29]	138	832	16.35	[13.79,	18.92]	268	1483	18.4	[16.38,	20.42]

Percent of children ages 0-17 years whose caregiver knows their HIV status[15]															
	All children					Children in SG households					Children outside SG households				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Child ever received HIV test*	1007	2230	43.91	[41.87,	45.96]	393	795	47.66	[44.16,	51.16]	614	1435	41.99	[39.45,	44.53]
Primary caregiver knows the child's HIV status	931	2315	39.1	[37.09,	41.03]	361	832	41.71	[38.33,	45.09]	570	1483	37.68	[35.23,	40.13]
Percent of children ages 0-4 years exposed to stimulating activities in the last three days by an adult member of household															
Any Stimulating Activity	309	432	70.37	[66.21;	74.53]	124	163	74.31	[67.55;	81.06]	185	269	68.19	[62.68;	73.70]
Read books or looked at pictures with child	67	432	15.44	[12.09,	18.08]	21†	163	12.2	[7.25,	17.14]	46	269	17.25	[12.9,	21.60]
Told stories to child	116	432	26.97	[23.03,	30.92]	48	163	29.89	[22.74,	37.04]	68	269	25.36	[20.49,	30.23]
Sang songs to child	212	432	48.63	[44.11,	53.15]	82	163	49.39	[41.55,	57.23]	130	269	48.21	[42.58,	53.83]
Played with child	282	432	64.57	[60.15,	69.00]	112	163	67.74	[60.52,	74.95]	170	269	62.82	[57.05,	68.58]
Named, counted, or drew things with child	102	432	22.78	[18.99,	26.58]	34	163	19.58	[13.49,	25.66]	68	269	24.56	[19.60,	29.51]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

[15] The HIV module in the questionnaire was not completed for 8 children.

APPENDIX D. ADDITIONAL RESULTS TABLES

Table D.1. HH characteristics, by urban/rural location (supplemental to Table 5)

	All		Urban		Rural	
	HHs		HHs		HHs	
	n	W%	n	W%	n	W%
Region						
Dar es Salaam	105	15.8	97	47.8	8	2.0 †
Geita	44	5.4	0	0.0	44	7.7
Iringa	72	9.9	0	0.0	72	14.2
Kagera	25	3.5	0	0.0	25	5.0
Kilimanjaro	23	3.5 †	0	0.0	23	5.1 †
Mbeya	118	17.8	23	9.4 †	95	21.5
Morogoro	23	3.4 †	23	11.4 †	0	0.0 †
Mtwara	16	3.6 †	0	0.0 †	16	5.1 †
Mqanza	47	5.1	25	8.1 †	22	3.9 †
Njombe	44	8.5	0	0.0 †	44	12.2
Pwani	24	3.6 †	0	0.0 †	24	5.2 †
Rukwa	24	3.3 †	6	2.7 †	18	3.5 †
Ruvuma	47	6.1	0	0.0 †	47	8.8
Tabora	45	5.1	23	6.0 †	22	4.7 †
Tanga	22	5.1 †	19	14.6	3	1.0 †
Number of HH members						
1-4	242	36.8	78	35.8	164	37.3
5-8	344	50.4	106	49.8	238	50.6
9+	93	12.8	32	14.4	61	12.1
Number of children < 18 years in HH						
0-4 years [a]	0.6	(0.8)	0.5	(0.7)	0.6	(0.8)
0-5 months [a]	0.1	(0.3)	0.1	(0.3)	0.1	(0.2)
6-11 months [a]	0	(0.2)	0.0	(0.2)	0.0	(0.2)
12-23 months [a] *	0.1	(0.3)	0.0	(0.2)	0.1	(0.3)

	All		Urban		Rural	
	HHs		HHs		HHs	
	n	W%	n	W%	n	W%
24-59 months [a]	0.4	(0.7)	0.4	(0.6)	0.5	(0.7)
5-9 years [a]	0.9	(1.0)	0.9	(1.1)	1.0	(1.0)
10-14 years [a]	1.2	(1.0)	1.1	(1.1)	1.2	(1.0)
15-17 years [a]	0.6	(0.7)	0.7	(0.8)	0.6	(0.7)
HH with any child in age group						
0-4 years	315	44.5	92	41.7	223	45.8
0-5 months	39	5.7	12	6.1 †	27	5.5
6-11 months	30	4	7	2.7 †	23	4.5 †
12-23 months*	55	7.5	9	3.5 †	46	9.2
24-59 months	249	35	73	33.1	176	35.9
5-9 years	421	60.9	127	58.1	294	62.1
10-14 years	503	73.9	153	71.5	350	75.0
15-17 years	329	48.4	113	53.1	216	46.4
Total	**679**	**100**	**216**	**100.0**	**463**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a]. Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.2. HH characteristics, by caregiver sex (supplemental to Table 5)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
Caregiver sex						
Female	216	30.2	189	33.9	27	17.7
Male	463	69.8	336	66.1	127	82.3
Region						
Dar es Salaam	105	15.8	89	17.3	16	10.8 †
Geita	44	5.4	21	3.3 †	23	12.5 †
Iringa	72	9.9	60	10.7	12	7.2 †
Kagera	25	3.5	24	4.3 †	1	0.6 †
Kilimanjaro	23	3.5 †	22	4.4 †	1	0.7 †
Mbeya	118	17.8	79	15.7	39	25.1
Morogoro	23	3.4 †	22	4.3 †	1	0.7 †
Mtwara	16	3.6 †	16	4.6 †	0	0 †
Mqanza	47	5.1	36	5	11	5.5 †
Njombe	44	8.5	26	6.5	18	15.4 †
Pwani	24	3.6 †	17	3.3 †	7	4.7 †
Rukwa	24	3.3 †	17	3 †	7	4.2 †
Ruvuma	47	6.1	42	7.2	5	2.5 †
Tabora	45	5.1	36	4.8	9	6.1 †
Tanga	22	5.1 †	18	5.4 †	4	4.1 †
Number of HH members (continuous) [a] ***	5.5	(2.0)	5.3	(2.0)	6.0	(2.1)
Number of HH members						
1-4	242	36.8	207	40.3	35	24.9
5-8	344	50.4	260	49.6	84	53.1
9+	93	12.8	58	10.1	35	22
Number of children < 18 years in HH (continuous) [a]	3.3	(2.0)	3.2	(1.7)	43.7	(2.7)
Number of children < 18 years in HH						
0-4 years [a]	0.6	(0.8)	0.6	(0.8)	0.6	(0.8)
0-5 months [a]	0.1	(0.3)	0.1	(0.3)	0.1	(0.2)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
6-11 months [a] *	0	(0.2)	0	(0.2)	0.1	(0.3)
12-23 months [a]	0.1	(0.3)	0.1	(0.3)	0.1	(0.3)
24-59 months [a]	0.4	(0.7)	0.4	(0.7)	0.4	(0.6)
5-9 years [a]	0.9	(1.0)	0.9	(0.9)	1	(1.2)
10-14 years [a]	1.2	(1.0)	1.1	(1.0)	1.4	(1.2)
15-17 years [a]	0.6	(0.7)	0.6	(0.7)	0.6	(0.8)
HH with any child in age group						
0-4 years	315	44.5	238	44	77	46.4
0-5 months	39	5.7	29	5.6	10	6.2 †
6-11 months*	30	4	17	2.9 †	13	7.6 †
12-23 months	55	7.5	40	7.2	15	8.4 †
24-59 months	249	35	188	34.5	61	36.7
5-9 years	421	60.9	322	60.6	99	61.7
10-14 years*	503	73.9	384	72.8	119	77.5
15-17 years	329	48.4	252	48	77	49.8
Any orphan child in HH**	435	64.7	357	68.2	78	52.6
Any double orphan child in HH	128	18.8	105	20.3	23	13.8 †
Any HH member who drinks alcohol everyday/most days	40	6	34	6.6	6	3.7
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a]. Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.3. Median and mean HH poverty likelihood, by caregiver sex (supplemental to Table 7)

	All caregivers				Female caregivers				Male caregivers			
	N	Median	Mean	SD	N	Median	Mean	SD	N	Median	Mean	SD
$1.25 poverty line												
1-4 members	242	35.2	40.7	19.3	207	35.2	40.8	19.7	35	35.2	40.1	17.6
5-8 members	344	59.6	51.6	22.6	260	59.6	52.6	23.0	84	48.0	48.4	20.9
9+ members	93	59.6	58.1	26.9	58	59.6	58.5	25.8	35	59.6	57.6	28.4
All HHs***	679	48.0	48.4	22.9	525	48.0	48.4	22.9	154	48.0	48.3	22.8
National poverty line												
1-4 members	242	20.2	26.9	15.2	207	20.2	27.0	15.5	35	20.2	26.2	14.0
5-8 members	344	40.3	37.0	21.3	260	40.3	38.1	21.7	84	32.9	33.5	19.4
9+ members	93	40.3	45.1	27.2	58	40.3	44.5	25.9	35	40.3	45.9	28.9
All HHs***	679	32.9	34.3	21.0	525	32.9	34.3	20.8	154	32.9	34.4	21.7
National food poverty line												
1-4 members	242	4.4	8.5	7.1	207	4.4	8.6	7.2	35	4.4	8.1	6.8
5-8 members	344	13.3	13.5	10.4	260	13.3	14.1	10.7	84	10.4	11.4	9.1
9+ members	93	13.3	19.2	17.6	58	13.3	19.6	19.7	35	13.3	18.5	14.0
All HHs***	679	10.4	12.4	11.1	525	10.4	12.5	11.2	154	10.4	12.1	10.5

Notes: Weighted median, mean, and SDs are presented. Wald test of difference in means was conducted. The $1.25 poverty line (2005 PPP) valued at TZS1,139 per person per day; the 2011/2012 National Poverty Line (basic needs poverty line) valued at TZS1,191 per adult equivalent per day; the 2011/2012 National Food Poverty Line valued at TZS852 per adult equivalent per day.

*p<0.05; ** p<0.01; ***p<0.001

Table D.4. HH income, assets, and shocks, by caregiver sex (supplemental to Table 8)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
Any HH member owns agricultural land	374	56.6	278	54.5	96	63.8
Any HH member owns livestock*	325	49.6	238	46.9	87	58.6
HH experienced any shock in the past 12 months	631	92.9	487	93.0	144	92.8
Shocks in the past 12 months						
Lower crop yields due to drought, flood, crop disease, or pests*	350	51.0	251	47.6	99	62.7
Business failure	194	26.9	160	28.8	34	20.2
Loss of livestock or poultry to disease or pests	211	32.5	160	32.3	51	33.5
Significant fall in sales price of crops, livestock, or poultry	183	28.3	144	29.2	39	25.0
Significant rise in food prices	503	73.7	390	74.0	113	72.6
Salary loss	108	15.3	84	15.5	24	14.7 †
Death of a HH member	114	16.3	92	17.1	22	13.4 †
Theft	108	15.8	86	16.3	22	14.1 †
Damage to dwelling	115	17.4	89	17.3	26	17.8
End of regular assistance, aid, or remittances from outside HH	43	6.4	32	6.0	11	7.7 †
Other	11	1.5 †	11	1.9 †	0	0.0 †
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.5. HH participation in the Kizazi Kipya program, by caregiver sex (supplemental to Table 9)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
Length of time since HH member first received Kizazi Kipya services						
< 1 month	35	5.1	29	5.5	6	3.9 †
1-5 months	146	20.8	115	21.1	31	19.8
6-11 months	100	16.6	87	18.8	13	9.2 †
12-23 months	142	20.0	105	18.9	37	23.7
24-62 months	21	3.0 †	15	2.8 †	6	3.6 †
Don't know	235	34.5	174	32.9	61	39.7
Number of months since HH member first received Kizazi Kipya services (note - of the 444 who knew the time) [a]	9.0	(7.5)	8.7	(7.1)	10.0	(8.9)
Kizazi Kipya services received						
Home visit	508	74.4	393	74.6	115	73.7
Referral for health services	90	13.0	70	13.1	20	12.4 †
Parenting support group	81	11.9	67	12.5	14	9.7 †
Savings and loan group	163	22.8	131	23.4	32	21.0
Nutritional guidance	176	24.9	143	26.2	33	20.5
Other	46	6.7	40	7.6	6	3.5 †
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

[a]. Mean (SD) is presented for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.6. HH receipt of financial assistance during the past 12 months, by caregiver sex (supplemental to Table 10)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
Any financial assistance	298	44.2	239	45.8	59	38.7
Cash from the government	147	22.4	114	22.3	33	22.7
Remittances from family or friends	117	17.2	99	18.8	18	11.6 †
Food support/handouts	37	5.5	31	6.1	6	3.7 †
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**
Financial support for school-related expenses	96	18.9	82	20.6	14	12.5 †
Total HH with educational expense in the past 12 months	**524**	**100.0**	**410**	**100.0**	**114**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.7. Perceptions of financial stability relative to the previous year, by caregiver sex (supplemental to Table 11)

	All caregivers (N = 679)				Female caregivers (N = 525)				Male caregivers (N = 154)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Total HH income												
More	23	3.5 †	[1.9,	6.6]	16	3.3 †	[1.6,	6.6]	7	4.5 †	[2.0,	9.8]
Less	566	82.6	[77.2,	87.0]	435	82.2	[76.5,	86.7]	131	84.2	[74.4,	90.7]
The same	90	13.8	[10.2,	18.5]	74	14.5	[10.8,	19.3]	16	11.3 †	[6.1,	20.0]
HH financial security												
More	17	2.5 †	[1.1,	5.5]	13	2.4 †	[1.1,	5.3]	4	2.6 †	[0.8,	8.5]
Less	533	77.5	[71.1,	82.9]	408	77	[70.5,	82.4]	125	79.4	[70.0,	86.5]
The same	129	20	[15.6,	25.3]	104	20.6	[16.2,	25.9]	25	17.9	[11.7,	26.5]

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.8. Incidence of expenditures and percentage of HHs able to pay for expenses, by caregiver sex (supplemental to Table 13)

	All caregivers (N = 679)					Female caregivers (N = 525)					Male caregivers (N = 154)				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
Needed to buy food in the past four weeks to feed family	492	679	71.9	[61.7,	80.3]	387	525	73.7	[61.7,	82.9]	105	154	65.9	[52.7,	77.1]
Had enough money to buy needed food															
1-4 members	20	164	11.0 †	[6.2,	18.9]	20	143	12.7 †	[7.0,	21.9]	0	21	0 †	[.,	.]
5-8 members	30	257	11.7	[7.7,	17.3]	25	202	12.5	[7.9,	19.3]	5	55	8.2 †	[3.9,	16.6]
9+ members	7	71	10.9 †	[5.1,	21.7]	6	42	16.2 †	[7.8,	30.6]	1	29	3.5 †	[0.5,	21.9]
All HHs	57	492	11.3	[8.5,	14.9]	51	387	13	[9.4,	17.6]	6	105	5.1 †	[2.4,	10.7]
Any education-related expenses for children in the past 12 months	524	679	76.7	[71.0,	81.7]	410	525	77.4	[71.8,	82.1]	114	154	74.5	[64.8,	82.2]
Had enough money to pay for education expenses															
1-4 members	32	167	18.5	[13.3,	25.3]	27	147	17.5	[11.8,	25.1]	5	20	25.2 †	[10.3,	49.7]
5-8 members	47	280	17.7	[12.6,	24.4]	32	216	15.8	[10.1,	23.9]	15	64	24.3 †	[17.1,	33.2]
9+ members	3	77	4.6 †	[1.3,	14.4]	1	47	2.9 †	[0.3,	20.2]	2	30	7.1 †	[1.5,	26.9]
All HHs*	82	524	16.2	[12.5,	20.7]	60	410	15.1	[11.0,	20.4]	22	114	20.2 †	[14.3,	27.6]
Any HH member had healthcare-related expenses in the past 12 months	458	679	66.8	[62.9,	70.6]	356	525	67.4	[63.3,	71.2]	102	154	65	[56.0,	73.0]
Had enough money to pay for healthcare expenses															
1-4 members	24	150	16.3 †	[10.0,	25.4]	22	129	16.9 †	[9.9,	27.5]	2	21	12.6 †	[3.2,	38.6]
5-8 members	37	242	16.5	[11.3,	23.4]	28	186	16.2	[10.4,	24.4]	9	56	17.4 †	[8.3,	32.8]
9+ members	6	66	9.5 †	[4.5,	19.0]	3	41	8.3 †	[2.8,	21.7]	3	25	11.5 †	[3.3,	33.4]
All HHs	67	458	15.5	[10.9,	21.5]	53	356	15.6	[10.4,	22.8]	14	102	14.9 †	[9.8,	22.0]
HH incurred any unexpected expenses in the past 12 months	308	679	45.9	[39.3,	52.6]	235	525	45.2	[38.7,	51.9]	73	154	48	[36.5,	59.7]
HH able to pay for unexpected expenses															

	All caregivers (N = 679)					Female caregivers (N = 525)					Male caregivers (N = 154)				
	n	N	W%	95% CI		n	N	W%	95% CI		n	N	W%	95% CI	
1-4 members	13	100	11.8 †	[6.3,	21.1]	13	87	13.6 †	[7.3,	24.0]	0	13	0 †	[.,	.]
5-8 members	26	158	16.8	[11.4,	24.1]	17	122	14.3 †	[9.5,	20.9]	9	36	25.6 †	[13.8,	42.4]
9+ members	7	50	13.6 †	[8.5,	21.1]	4	26	15.5 †	[6.3,	33.1]	3	24	11.9 †	[3.9,	30.9]
All HHs	46	308	14.6	[10.9,	19.4]	34	235	14.1	[10.3,	19.0]	12	73	16.2 †	[9.1,	27.3]

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.9. HH savings and investment behaviors, by caregiver sex (supplemental to Table 14)

	All caregivers		Female caregivers		Male caregivers	
	n	W%	n	W%	n	W%
HH has money saved	59	8.2	48	8.5	11	7.2 †
Location of cash savings						
In the house	17	28.0 †	13	26.7 †	4	33.0 †
Savings group	38	63.7	33	67.9	5	47.0 †
Bank	2	4.0 †	2	5.0 v	0	0.0 †
Mobile money	9	16.5 †	7	15.6 †	2	19.9 †
Any HH member has a bank account	36	4.9	26	4.5	10	6.1 †
Any HH member has a mobile money account	236	34.8	181	34.1	55	36.9
Borrowed money in the past 12 months	64	26.9	53	25.7	11	35.8 †
Any outstanding debt	98	40.2	83	38.9	15	49.4 †
HH member ever participated in a microfinance activity	56	8.2	40	40.0	16	16.0 †
HH member ever participated in a savings group*	287	39.9	240	43.2	47	28.9
Total	**679**	**100.0**	**525**	**100.0**	**154**	**100.0**

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

Table D.10. HH food security, by caregiver sex (supplemental to Table 15)

	All caregivers (N = 679)				Female caregivers (N = 525)				Male caregivers (N = 154)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Household Hunger Scale (past four weeks)												
Ever no food to eat due to the lack of resources to get food	390	56.6	[46.1,	66.5]	302	57.2	[46.9,	67.0]	88	54.3	[39.2,	68.7]
Any HH member went to sleep at night hungry because there was not enough food	333	48.2	[39.0,	57.4]	255	48.2	[39.1,	57.4]	78	48.1	[35.1,	61.5]
Any HH member went a whole day and night without eating anything because there was not enough food	272	38.7	[30.1,	48.1]	206	38.1	[29.1,	48.0]	66	40.9	[29.6,	53.2]
Household Hunger Scale categorical indicator												
Little/no hunger	342	51.4	[41.9,	60.8]	207	50.7	[41.2,	60.2]	79	53.7	[40.8,	66.2]
Moderate hunger	260	37.8	[31.3,	44.9]	260	37.2	[30.8,	44.0]	65	40.1	[28.4,	53.0]
Severe hunger	77	10.8	[7.4,	15.4]	58	12.1	[8.4,	17.2]	10†	6.2 †	[3.0,	12.5]
HH consumed foods rich in Vitamin A	650	95.3	[92.2,	97.1]	503	95.3	[92.1,	97.3]	147	95.1	[89.1,	97.9]
Food Security Scores	**Median**	**Mean**	**Std. Dev.**		**Median**	**Mean**	**Std. Dev.**		**Median**	**Mean**		**Std. Dev.**
Household Hunger Scale Score	1	1.7	1.7		1	1.7	1.7		1	1.6	1.6	
Household Diet Diversity Score (past 24 hours)	12	10.4	3.0		12	10.5	2.9		12	10	3.2	

Notes: W% indicates the weighted percentage; weighted means and SDs are presented for continuous variables.

Significance tests by caregiver sex were conducted using the Pearson chi-square test for categorical variables and within categories; Wald test of difference in means was used for continuous variables.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001

APPENDIX E. ADDITIONAL INDICATORS RELATED TO SAVINGS GROUP PARTICIPATION

Two hundred and eighty-seven (287) caregivers reported that someone in their household had ever participated in a savings group (SG). Two hundred and seventy-five caregivers (275) reported that they personally had ever participated in a SG (in 12 cases, another household member participated, and not the caregiver). Two hundred and forty (240) caregivers reported that they, themselves, currently participate in a SG. Additional data on SG participation are presented here, for these 240 cases, with urban and rural disaggregations.

Participant characteristics

Participant characteristics are outlined in Table 1 below. Seventy percent of the sample caregivers were rural-dwelling. A majority (87.5%) were female and over age 30. One-quarter (26.13%) had never attended school; only 8.17 percent had attended secondary school. Half (52.94%) were divorced, separated or widowed. Three-quarters (78.41%) had worked at some point in the three months prior to survey. Just under six percent (5.75%) reported that they had a disability.

Table E.1. Caregiver characteristics, by subgroup

	All SG participants (N=240)		Urban (N=72)	Rural (N=168)		
	n	W%	n	W%	n	W%
Sex						
Female	210	87.5	65	88.1	145	87.3
Male	30	12.5	7†	11.9	23†	12.7
Age (years)						
18-30	21†	7.8	8†	8.6	13†	7.5
31-50	119	49.28	32	45.2	87	50.8
51+	100	42.9	32	46.2	68	41.7
Education: highest level attended						
Never attended school	62	26.13	13†	17.3	49	29.4
Primary	156	65.7	47	67.2	109	65.1
Secondary or higher	22†	8.17	12†	15.5	10†	5.4
Marital status						
Married or cohabitating	104	43.73	27	39.3	77	45.4
Never married	9†	3.33	6†	7.1	3†	1.9
Divorced, separated, widowed, other	127	52.94	39	53.6	88	52.7
Caregiver worked for cash/in-kind past 3 months	192	78.41	61	83.4	131	76.5
Any disability	14†	5.75	6†	8.0	8†	4.9

Notes: W% indicates the weighted percentage.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

Savings Group Characteristics

The majority (80.96%) of SG met weekly, 14.26 percent met monthly, 2.26 percent reported no set schedule, and 2.52 percent reported other schedules. Just under one-third (29.26%) of groups have a vulnerable children fund, and just under half (46.68%) of groups have a social fund, with urban groups more likely to have a social fund (60.17% vs. 41.66%, p=0.0101). See Table 2a. The average (median) contribution set by groups was 2000 Tanzanian Schillings (TSh), with urban groups averaging higher contributions that rural groups (2000 TSh vs. 1000 TSh, p=0.0070). The average interest rate set by groups was 8.52 percent. See Table 2b.

Caregivers' Participation in Savings Groups

The average duration of participation was 24.07 months (range: 1-92 months). See Table 3a. Twenty-five percent (25.21%) of SG participants had ever been an official in their group (chairperson, secretary, treasurer). Four-fifths of caregivers (80.44%) attended their SG's last meeting; however, only half (50.69%) reported that they attend all meetings. Reasons given for missing meetings include: poor health and a lack of time (cited by 34.6% and by 25.14% of those who do not always attend, respectively). See Table 3b.

Borrowing

See Tables 4a and 4b for a summary of data on borrowing behavior. Three-quarters (74.5%) of caregivers reported that they had previously borrowed money from their SG. The average (median) amount borrowed (last loan) was 46,042 TSh. Urban caregivers reported borrowing higher amounts than rural caregivers (91,250 Tsh vs. 35,550 TSh, p=0.0006). Borrowers used this money to purchase food for eating (40.42%), items or sell (30.36%), or poultry or other animals (24.86%). Urban caregivers were more likely to report, compared to rural caregivers, that they used the money that they borrowed to purchase items to sell (49.63% vs. 22.35%, p=0.0003).

One-third (32.28%) of caregivers who had borrowed money reported that they had already paid back their loan in full. On average, it took these caregivers 2.36 months to pay back their last loan. The overall cost of the loans, with interest payments averaged 55,000 TSh (5,000 TSh more than was borrowed, on average), or 120,000 TSh in urban areas and 44,000 TSh in rural areas (p=0.0514).

Of those who had not yet paid back their loan, one-third (36.14%) reported that they would pay it back within one month, one-third (30.29%) reported that they would pay it back within six months, and one-quarter (25.1%) reported that they were not sure when they would be able to pay back the loan. Three percent (2.97%) of respondents reported that they would never be able to pay back the loan and 5.5 percent have other responses.

One-quarter (26.94%) of caregivers had borrowed money from another source in the 12 months prior to survey. For the majority (71.81%) the source of this loan was family or friends, with 11.76 percent reporting borrowing from a money lender. Among all SG participants, half (51.67%) reported outstanding debt with a SG, one-quarter (22.12%) reported outstanding debt with friends or family, 12.98 percent reported outstanding debt with a money lender and three caregivers (1.26%) reported outstanding debt with a bank.

Share-outs

See Tables 5a and 5b for a summary of data on share-outs. Two-thirds (63.68%) of caregivers had ever belonged to a group that organized share-outs. Of these, the majority (83.55%) had already received a share-out at some point. The average (median) amount received was 70,000 TSh (120,000 TSh in urban areas and 54,000 in rural areas, p=0.0038). Of those that had previously received a share-out, the main uses of share-out funds were: to purchase food for eating (55.32%), to purchase seeds or farming equipment (30.69%) and to pay school fees (19.53%). There were differences between urban and rural households in how share-out funds were used. Urban households were more likely than rural households to report using funds to purchase food for eating (75.28%

vs.49.28%, p=0.0138) and items to sell (26.01% vs. 9.33%, p=0.0189) and rural households were more likely that urban households to purchase seeds or farming equipment (36.8% vs. 10.53%, p=0.0082).

Layered interventions

Some SGs offered layered interventions, such as behavior change communication or information on various health issues. Half of SG participants had received information on health (51.49%) and HIV/AIDS (52.04%) during their SG meetings. More than one-third had received information on nutrition (38.67%) and parenting (38.01%), 29.56 percent had received information on child discipline, and 22.39 percent had received information on child labor. Over half (55.5%) of participants had received training on record keeping / financial management. Just under one-fifth (18.73%) reported receiving training on ways to improve their agricultural productivity, with rural caregivers more likely to report this compared to urban caregivers (23.92% vs. 6.73%, p=0.0000). See Table 6.

Participation in other economic strengthening interventions

Only 8.23 percent of SG participants had also participated in a microfinance activity, with urban caregivers more likely to report this compared to rural caregivers (16.36% vs. 4.72%, p=0.0000). See Table 6.

Table E.2a. Savings group characteristics (categorical outcomes)

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Meeting schedule												
Weekly	197	80.96	[75.66,	85.32]	66	91.51	[81.51	96.34	131	77.03	[70.53,	82.45]
Monthly	31	14.26	[10.47,	19.14]	5†	5.94	[2.49,	13.51	26	17.37	[12.53,	23.57]
No set schedule	5†	2.26	[0.91,	5.49]	1†	2.55	[0.36,	16.08	4†	2.14	[0.79,	5.63]
Other	7†	2.52			0				7†	3.46	[70.53,	82.45]
Group has vulnerable children fund	68	29.26	[24.16,	34.94]	23	33.61	[23,	46.18]	45	27.63	[22.09,	33.96
Group has social fund*	108	46.68	[40.49,	52.98]	41	60.17	[48.14,	71.09]	67	41.66	[34.54,	49.13]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.2b. Savings group characteristics (continuous outcomes)

	All SG participants (N=240)					Urban (N=72)					Rural (N=168)				
	Mean	Median	SD	Range		Mean	Median	SD	Range		Mean	Median	SD	Range	
Contribution set by group**	3,329	2,000	6,896	200	50,000	7,168	2,000	11,853	500	50,000	2,052	1,000	3,263	200	30,000
Interest rate set by group	8.52	10	4.99	0	30	8.69	10	4.98	0	25	8.46	10	5.02	0	30

Notes: Wald test of difference in means was used for continuous variables. Standard error of the mean is presented for continuous variables.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.3a. Caregiver Participation in savings groups (categorical outcomes)

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Ever an official in a SG (yes)	62	25.21	[19.93,	31.34]	23	28.6	[19.08,	40.5]	39	23.94	[17.87,	31.3]
Attended last SG meeting (yes)	191	80.44	[74.78,	85.08]	56	79.25	[67.74,	87.42]	135	80.89	[74.12,	86.21]
Frequency of attendance												
Attend all	123	50.69	[44.22,	57.15]	33	42.04	[30.79,	54.19]	90	53.92	[46.23,	61.42]
Attend almost all	78	31.77	[26.08,	38.06]	23	31.17	[20.97,	43.59]	55	31.99	[25.37,	39.43]
Attend some	32	14.23	[10.15,	19.58]	12	19.55	[11.22,	31.84]	20	12.24	[7.97,	18.35]
Rarely attend	7	3.31	[1.54,	6.98]	4	7.24	[2.58,	18.66]	3	1.84	[0.59,	5.64]
Reasons for missing meetings	**N=117**				**N=39**				**N=78**			
Poor health	27	25.14	[17.69,	34.43]	9	26.76	[14.21,	44.63]	18	24.39	[15.82,	35.63]
Lack of time	2	1.73	[0.43,	6.74]	0	-			2	2.55	[0.63,	9.75]
Lack of childcare	42	34.6	[26.38,	43.85]	15	37.19	[22.63,	54.51]	27	33.38	[23.91,	44.42]
Other	46	38.53			15	36.05			31	39.69		

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.3b. Caregiver participation in savings groups (continuous outcomes)

	All SG participants (N=235)					Urban (N=70)					Rural (N=165)				
	Mean	Median	SD	Range		Mean	Median	SD	Range		Mean	Median	SD	Range	
Duration of time in any SG	23.53	16.64	1.09	1	92	20.18	16.26	1.51	1	64	24.76	16.82	1.38	1	92

Notes: Wald test of difference in means was used for continuous variables. Standard error of the mean is presented for continuous variables.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.4a. Borrowing behavior (categorical outcomes)

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Ever borrowed from an SG	182	74.5	[68.34,	79.81]	61	80.6	[68.05,	89.02]	121	72.23	[64.9,	78.53]
	All SG participants (N=182)				**Urban (N=61)**				**Rural (N=121)**			
Use of money borrowed from a SG												
Purchased food for eating	77	40.42	[33.55,	47.68]	27	42.43	[30.08,	55.81]	50	39.58	[31.5,	48.27]
Purchased items to sell***	59	30.36	[24.1,	37.44]	31	49.63	[36.64,	62.68]	28	22.35	[15.79,	30.63]
Purchased items for household	1†	0.48	[0.07,	3.35]	0	-			1†	0.68	[0.09,	4.69]
Paid school feels	29	16.32	[11.42,	22.78]	11†	18.89	[10.29,	32.11]	18†	15.25	[9.75,	23.06]
Purchased poultry, animals	45	24.86	[19.01,	31.8]	15†	25.69	[15.6,	39.25]	30	24.51	[17.71,	32.88]
Purchased seeds, farming equipment	6†	3.5	[1.56,	7.68]	1†	2.4	[0.34,	15.12]	5†	3.96	[1.63,	9.33]
Purchased other business equipment	19	10.55	[6.73,	16.14]	8†	13.96	[6.95,	26.08]	11†	9.12	[5.05,	15.94]
Made home improvements	6†	3.38	[1.46,	7.62]	3†	6.21	[1.84,	18.96]	3†	2.19	[0.70,	6.66]
Gave it to husband/wife/relative**	14	9.08	[5.40,	14.87]	0	-			14†	12.86	[7.69,	20.71]
Paid outstanding loans*	2†	1.41	[0.37,	5.25]	2†	4.8	[1.27,	16.55]	0	-		
Paid funeral costs**	11	5.24	[2.87,	9.37]	8†	11.88	[5.77,	22.86]	3†	2.47	[0.81,	7.28]
Paid dowry/wedding costs	1†	0.32	[0.04,	2.23]	1†	1.08	[0.15,	7.41]	0	-		
Other	23†	12.46			8†	12.75			15†	12.33		

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Already paid back SG loan in full	58	32.28	[25.64,	39.72]	19†	32.36	[21.08,	46.14]	39	32.25	[24.38,	41.26]
	All SG participants (N=124)				**Urban (N=42)**				**Rural (N=82)**			
Projected time to pay back SG loan (among those who have not paid back)												
Within 1 month	46	36.14	[27.98,	45.18]	17†	36.89	[23.47,	52.71]	29	35.82	[26.05,	46.93]
Within 6 months	38	30.29	[22.66,	39.18]	11†	26.65	[15.07,	42.65]	27	31.8	[22.56,	42.75]
Not sure	30	25.1	[17.98,	33.87]	9†	23.65	[12.49,	40.19]	21†	25.7	[17.23,	36.51]
Never	3†	2.97	[0.91,	9.21]	1†	2.56	[0.36,	16.14]	2†	3.14	[0.75,	12.21]
Other	7†	5.5			4†	10.26			3†	3.53		
	All SG participants (N=240)				**Urban (N=72)**				**Rural (N=168)**			
Borrowed money from a non-SG source in last 12 months	64	26.94	[21.5,	33.18]	21†	28.71	[18.88,	41.06]	43	26.28	[20.01,	33.69]
Source of other loans in last 12 months												
Friend / family member	47	71.81	[58.94,	81.89]	13†	60.22	[37.51,	79.24]	34	76.53	[60.51,	87.4]
Money lender	7†	11.76	[5.62,	22.97]	2†	11.74	[2.97,	36.65]	5†	11.76	[4.84,	25.89]
Bank	1†	1.67	[0.23,	10.97]	0	-			1†	2.35	[0.33,	14.95]
Other	9†	14.76			6†	28.03			3†	9.36		
Outstanding debt (all sources)												
Friends/family	55	22.12	[17.25,	27.9]	18†	22.72	[14.19,	34.31]	37	21.89	[16.27,	28.8]
Money lender	33	12.98	[9.31,	17.8]	11†	15	[8.33,	25.53]	22†	12.23	[8.14,	17.96]
Bank	3†	1.26	[0.40,	3.85]	2†	2.98	[0.74,	11.2]	1†	0.61	[0.09,	4.27]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.4b. Borrowing behavior (continuous outcomes)

	All SG participants (N=174)					Urban (N=56)					Rural (N=118)				
	Mean	Median	SD	Range		Mean	Median	SD	Range		Mean	Median	SD	Range	
Amount borrowed last time (TSh)***	69276	46042	4317	2000	300000	96786	91250	8929	5000	300000	56220	35500	4754	2000	300000
	All SG participants (N=58)					Urban (N=19)					Rural (N=38)				
Time to pay back loan among those that have already paid back loans (months)	2.36	2	1.56	0.5	6	2.94	3	1.64	0.5	6	2.12	2	1.49	0.5	5
	All SG participants (N=25)					Urban (N=11)					Rural (N=14)				
Full cost of loan (TSh)	94748	55000	115576	5500	440000	158157	120000	159215	5500	440000	51523	44000	35191	7000	110000

Notes: Wald test of difference in means was used for continuous variables. Standard error of the mean is presented for continuous variables.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.5a. Borrowing behavior (categorical outcomes)

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Ever belonged to a SG that shares out (yes)	149	63.68	57.45-	69.48	42	58.66	46.4-	69.92	107	65.55	58.24-	72.18
	All SG participants (N=149)				**Urban (N=42)**				**Rural (N=107)**			
Ever received a share-out from a SG (yes)	123	83.55	76.62,	88.73	32	77.65	61.91-	88.18	91	85.52	77.44-	91.04
	All SG participants (N=123)				**Urban (N=32)**				**Rural (N=91)**			
Use of share-out funds												
Purchased food for eating*	67	55.32	[46.39,	63.92]	23†	75.28	[56.79,	87.59]	44	49.28	[39.22,	59.4]
Purchased items to sell*	18†	13.2	[8.36,	20.24]	9†	26.01	[13.55,	44.08]	9†	9.33	[4.88,	17.12]
Purchased items for household	3†	3.38	[1.07,	10.16]	1†	5.61	[0.79,	30.76]	2†	2.7	[0.65,	10.49]
Paid school feels	25	19.53	[13.34,	27.68]	11†	30.31	[16.81,	48.34]	14†	16.27	[9.78,	25.84]
Purchased poultry, animals	2†	1.58	[0.40,	5.98]	0	-	-	-	2†	2.05	[0.52,	7.73]
Purchased seeds, farming equipment**	37	30.69	[23.38,	39.12]	3†	10.53	[3.39,	28.25]	34	36.8	[27.85,	46.76]
Purchased other business equipment	3†	2.31	[0.73,	7.06]	1†	4.25	[0.59,	24.59]	2†	1.72	[0.43,	6.65]
Made home improvements	12†	12.47	[7.18,	20.81]	3†	13.55	[4.32,	35.23]	9†	12.15	[6.41,	21.83]
Gave it to husband/wife/relative**	2†	2.29	[0.57,	8.79]	2†	9.85	[2.48,	32.01]	0	-	-	-
Paid outstanding loans*	10†	7.94	[4.14,	14.67]	4†	11.75	[3.89,	30.47]	6†	6.78	[3.01,	14.59]
Other	31	23.66			13†	37.13			18†	19.58		

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.5b. Borrowing behavior (continuous outcomes)

	All SG participants (N=123)					Urban (N=32)					Rural (N=91)				
	Mean	Median	SD	Range		Mean	Median	SD	Range		Mean	Median	SD	Range	
Amount of last share-out (TSh)**	121709	70000	150122	1000	700000	224870	120000	231307	13000	700000	90472	54000	96604	1000	500000

Notes: Wald test of difference in means was used for continuous variables. Standard error of the mean is presented for continuous variables.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

Table E.6. Participation in layered interventions and other economic strengthening interventions

	All SG participants (N=240)				Urban (N=72)				Rural (N=168)			
	n	W%	95% CI		n	W%	95% CI		n	W%	95% CI	
Layered Interventions												
Health	129	51.49	45.2-	57.72	37	45.06	33.67-	56.99	92	53.88	46.46-	61.13
HIV and AIDS	131	52.04	45.76-	58.26	40	47.56	36.1-	59.27	91	53.71	46.3-	60.96
Nutrition	97	38.67	32.84-	44.85	31	38.29	27.69-	50.12	66	38.82	32-	46.11
Child discipline	74	29.56	24.14-	35.64	23†	27.14	18.41-	38.07	51	30.47	23.95-	37.88
Child labor	56	22.39	17.52-	28.16	17†	21.25	13.1-	32.58	39	22.82	17.1-	29.76
Parenting	97	38.01	32.19-	44.20	33	40.38	29.41-	52.41	64	37.13	30.4-	44.4
Record keeping / financial management	137	55.5	49-	61.82	47	61.34	49.2-	72.22	90	53.33	45.62-	60.88
Other economic strengthening interventions												
Microfinance***	56	8.23	[6.38,	10.57]	33	16.36	[11.79,	22.26]	23†	4.72	[3.12,	7.07]
Training to improve agricultural productivity ***	129	18.73	[16.09,	21.7]	16†	6.73	[4.05,	10.99]	113	23.92	[20.37,	27.88]

Notes: W% indicates the weighted percentage. Significance tests by location were conducted using the Pearson chi-square test for categorical variables and within categories.

† There were fewer than 25 subgroup cases, therefore, the weighted percentages may not be reliable population estimates.

*p<0.05; ** p<0.01; ***p<0.001; p-values are based on chi-square statistics from bivariate analysis.

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