Monitoring Outcomes of PEPFAR Orphans and Vulnerable Children Programs in Nigeria:

Institute of Human Virology 2016 Survey Findings

Walter Obiero, PhD, Elizabeth Omoluabi, PhD, Akanni Akinyemi, PhD, and **Adesegun Fatusi, PhD**

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MEASURE Evaluation

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This report presents the findings of a study of the Monitoring, Evaluating, and Reporting (MER) Essential Survey Indicators for orphans and vulnerable children (OVC) in Nigeria, which MEASURE Evaluation conducted among beneficiaries of the Institute of Human Virology, Nigeria (IHVN), in partnership with the Center for Research, Evaluation Resources and Development (CRERD) and the Academy for Health and Development (AHEAD), two research organizations based in Ile-Ife. The CRERD/AHEAD consortium was responsible for finalizing the design and study protocol, obtaining ethical clearance, and conducting all data collection activities, such as: co-facilitating the training for data collectors; piloting final tools and consent forms; developing the field manuals, data quality procedures, data collection tracking database, and electronic data collection scripts in Open Data Kit; and undertaking data collection in the field, data cleaning, analyses, and report writing.

Walter Obiero, of MEASURE Evaluation, Palladium, led the technical support throughout the survey. The report was compiled by Dr. Elizabeth Omoluabi, Dr. Akanni Akinyemi, and Prof. Adesegun Fatusi (CRERD/AHEAD Consortium) with technical support from Walter Obiero and colleagues from the Nigeria office. We acknowledge technical support and guidance received from Susan Settergren and Lisa Parker (MEASURE Evaluation, Palladium) and wish to thank Lisa Marie Albert (MEASURE Evaluation, Palladium) for assistance with weighting the survey data. We are grateful to the MEASURE Evaluation knowledge management team at the University of North Carolina at Chapel Hill for their editorial and production support.

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CONTENTS

TABLES

ABBREVIATIONS

AHEAD	Academy for Health Development
APIN	AIDS Prevention Initiative in Nigeria
ARFH	Association for Reproductive and Family Health
ART	antiretroviral therapy
CAC	Corporate Affairs Commission
CBO	community-based organization
CDC	Centers for Disease Control and Prevention
CRERD	Centre for Research Evaluation, Resource, and Development
CRS/SMILE	Catholic Relief Services/Sustainable Mechanism for Improving Livelihoods and Household Empowerment
DNA	deoxyribonucleic acid
DRM	drug resistance monitoring
FBO	faith-based organization
FMWASD	Federal Ministry of Women Affairs and Social Development
IHVN	Institute of Human Virology, Nigeria
IP	implementing partners
LGA	local government area
LOPIN	local partners for orphans and vulnerable children
M&E	monitoring and evaluation
MER	monitoring, evaluation, and reporting
MUAC	mid-upper arm circumference
NGO	non-governmental organization
NPA	National Plan of Action
OVC	orphans and vulnerable children
PCR	polymerase chain reaction
PEPFAR	United States President's Emergency Plan for AIDS Relief
RAAAPP	rapid assessment, analysis, and action planning process
USAID	United States Agency for International Development
VACS	Violence Against Children Survey
WEWE	Widows and Orphans Empowerment Organization

EXECUTIVE SUMMARY

Introduction

Nigeria has an estimated 17.5 million orphans and vulnerable children (OVC), and AIDS, maternal mortality, ethnic violence, and poverty have an impact on their lives. The United States President's Emergency Plan for AIDS Relief (PEPFAR) and the Government of Nigeria have made substantial investments designed to improve the well-being of OVC in Nigeria (PEPFAR, 2012). To measure the impact of this support, PEPFAR introduced in 2014 a set of outcome indicators for OVC programs, referred to as monitoring, evaluation, and reporting (MER) essential survey indicators. PEPFAR required that the indicators be collected every two years by a research organization external to the OVC program. These outcome indicators reflect internationally-accepted developmental milestones and collectively measure holistic well-being of children over time. Our survey is designed to use standardized methods developed for application across multiple countries to provide measurable indicators on PEPFAR-supported projects that aim to improve the well-being of OVC in Nigeria.

Objective of the Survey

The objective of this survey was to collect the first round of the nine essential survey indicators for registered active OVC beneficiaries of the Institute of Human Virology, Nigeria (IHVN), a nongovernmental organization focusing on research, health services, and capacity building. This survey provides the first estimates of the essential outcome indicators and will be repeated at two-year intervals to monitor changes in the well-being of OVC and their caregivers over time.

Survey Design and Methods

The survey design is a descriptive cross-sectional survey assessing the well-being of vulnerable households, caregivers, and children enrolled in the IHVN project in the Federal Capital Territory (FCT) and the states of Benue and Nasarawa. The targeted population groups are registered beneficiaries of the IHVN project including primary caregivers 18 years or older and children ages 0–17 years (questions were directed to the primary caregiver in each sampled household). In all, 2,146 children and 596 caregivers are covered in this survey.

Major Findings

A summary of responses for the MER essential survey indicators and Nigeria-specific indicators are presented in Table 1, disaggregated by gender.

Table 1. Summary of responses for nine essential survey indicators and four Nigeria specific indicators

Essential Survey Indicators	All		Male	Female
	N	% [95% C.I]	% [95 % C.I]	% [95% C.I]
OVC_HIVST: Percent of children (aged 0–17 years) whose primary caregiver knows the child's HIV	2146	47.0 [38.9-55.2]	47.2 [37.4-57.3]	46.7 [39.3-54.3]
OVC_NUT: Percent of children (aged 6–59 months) who are undernourished	476	3.2 [1.7-5.9]	1.2 [0.2-5.5]	5.1 [2.4-10.4]
OVC_SICK: Percent of children (aged 0–17 years) too sick to participate in daily activities	2146	33.3 [26.1-41.3]	32.5 [25.6-40.4]	34.0 [25.9-43.2]
OVC_BCERT: Percent of children (aged 0–17 years) who have birth certificate	2146	21.3 [12.3-34.1]	21.1 [11.9-34.5]	21.4 [12.1-35.2]
OVC_SCHATT: Percent of children (aged 5–17 years) regularly attending school	1315	70.4 [58.9-79.7]	69.7 [57.1-79.9]	71.1 [60.1-80.0]
OVC_PRGS: Percent of children (aged 5–17 years) who progressed in school during the last year	1337	91.7 [89.0-93.7]	88.7 [83.5-92.4]	94.7 [91.7-96.7]
OVC_STIM: Percent of children <5 years of age who recently engaged in stimulating activities with any household member >15 years of age	525	96.6 [91.4-98.7]	94.8 [86.1-98.2]	98.4 [93.4-99.6]
OVC_CP: Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control of children in the home or at school	596	88.1 [84.3-91.1]	88.3 [83.0-92.1]	88.1 [82.4-92.1]
OVC_MONEY: Percent of households able to access money to pay for unexpected household expenses	473	53.7 [43.8-63.3]	53.8 [42.2-64.9]	56.3 [46.6-65.6]
Nigeria-Specific Indicators				
OVC_NG1: Percent of households that have attained food security in the last three months	596	27.6 [18.6-38.7]	29.1 [18.8-42.0]	28.0 [20.3-37.2]
OVC_NG2: Proportion of children and caregivers with adequate shelter	596	62.5 [49.4-73.9]	60.5 [46.4-73.0]	62.9 [48.5-75.4]
OVC_NG3: Percent of children having access to basic health care services	2146	84.9 [76.2-90.7]	84.3 [74.9-90.7]	85.4 [76.7-91.2]
OVC_NG4: Percent of children who went to bed without food in the last 4 weeks	2146	53.5 [42.6-64.2]	50.0 [38.5-61.5]	57.1 [46.3-67.4]

BACKGROUND

Study Overview and Rationale

Substantial investments have been made by the United States and Nigeria to improve the well-being of OVC and their households. However, not enough is known about the impact of this support regarding "what works" in improving OVC well-being (PEPFAR, 2012). To address this, PEPFAR in 2014 launched its new monitoring, evaluation, and reporting (MER) guidance with a set of outcome indicators for OVC programs. These outcome indicators reflect internationally accepted developmental milestones and collectively measure holistic well-being for children and their families over time. These outcome indicators are designated as essential survey indicators; PEPFAR considers them critical to track progress within PEPFAR-funded projects and has made them a reporting requirement. A standardized survey method and tools have been developed to collect these data in countries where PEPFAR is supporting OVC programs. PEPFAR/Nigeria has asked the MEASURE Evaluation (MEval) project to conduct a survey to collect these indicators among five OVC projects. Conducting the MER OVC essential indicator surveys supports the purposes of USAID's evaluation policy for accountability and promoting learning to generate greater positive change. The MER OVC essential survey indicators' technical guidance helps missions and implementing partners meet USAID's evaluation policy requirements by encouraging the use of external data collectors for objectivity (unbiased measurement and reporting) and use of the best methods to generate high-quality data and credible evidence.

Purpose of the Survey

The purpose of collecting the MER OVC essential survey indicators is to obtain a snapshot of program outcomes at a point in time and to assess changes in outcomes among OVC program beneficiaries over time (a two-year period). The survey is not designed to assess outcomes among children in the general population. MEval, in collaboration with USAID, CDC and the five OVC projects, conducted the OVC MER essential indicator survey in order to obtain the first snapshot of program outcomes in 2016 and will track two-year changes in outcomes in 2018.

Objectives

The objective of this first survey is to examine the well-being of OVC and their caregivers at one point in time through a series of nine internationally accepted indicators and four additional indicators specific to Nigeria. The survey is driven by the research question: "What are the estimates of the 13 OVC MER essential survey indicators in a household-based, project-representative sample of OVCs ages 0–17 and caregivers ages 18+ years?"

OVC in Nigeria and National Response

About half of Nigeria's 140 million people are younger than 18 years of age, and about 17.5 million of them are considered vulnerable to adversity and at risk of not fulfilling their full potential to live safe and productive lives (Federal Ministry of Women Affairs and Social Development, 2014; Tagurum, et al., 2015). Among the vulnerable children are 7.3 million orphans; about one-third of them lost one or both parents (Center for Global Health and Development, 2009; UNICEF, 2013). In addition to HIV and AIDS, other factors contributing to the large population of orphans are road accidents, maternal mortality, and ethnoreligious conflicts (Case, Paxson, & Ablieidinger, 2004). Major challenges facing OVC are child labor, violence against children, insufficient food, inadequate legal protection, and poor access to social, health, and education services. Girls often face greater challenges than boys stemming from pervasive, harmful gender norms and practices that discriminate against females.

The national response to the needs of OVC is currently coordinated by the Federal Ministry of Women Affairs and Social Development (FMWASD). It started with the Rapid Assessment, Analysis, and Action Planning Process (RAAAPP), and the National OVC Conference in 2004. Since then, Nigeria has put in place the following policies, strategies, structures, and systems to respond to challenges posed by the country's large OVC population:

- National standards for improving the quality of life of vulnerable children
- Orphans and vulnerable children, National Plan of Action, 2006–2010 (FMWASD, 2014)
- Guidelines and standards of practice for OVC (defining a minimum package of services for OVC)
- National OVC M&E framework
- OVC eligibility criteria
- OVC advocacy package
- Psychosocial training manual
- OVC unit in FMWASD
- Priority actions to end violence against children
- President declared 2015 the year of action to end violence against children

PEPFAR OVC Program in Nigeria

In addition to Nigerian governmental agencies at various levels, many other organizations are involved in OVC work in Nigeria. These include international non-governmental organizations (NGOs), such as U.S. and Global Fund implementing partners, local NGOs, faith-based organizations (FBOs), and community- based organizations (CBOs). With the exception of the MTN Foundation, the contribution of the private sector has been very limited.

Nearly 700,000 OVC received care and support in Nigeria in 2015, according to PEPFAR/Nigeria's annual progress report (PEPFAR, 2016). The PEPFAR OVC service delivery package follows the national OVC service standards guide (FMWASD, 2014). Children benefit from need-based and age-appropriate interventions supporting: access to health care and education; HIV prevention, testing, counseling, treatment, and adherence; nutrition assessments and counseling; caregiver and community

capacity building for parenting, early childhood development, and child protection; and household economic strengthening.

The PEPFAR program aims to control the spread of HIV in targeted local government areas (LGAs) by scaling up services for:

- HIV case detection, links to care and treatment, and viral load assessments.
- Referral coordinators to strengthen ART access and adherence among children with HIV and their caregivers.
- Prevention messages for adolescent OVC, especially females, with links to adolescent-friendly reproductive health services.

The program empowers communities and households living with HIV by showing them strategies for sustainable care and support for OVC. Services are delivered with strong facility-community referral systems to provide HIV-positive OVC with seamless health services where they live.

PEPFAR OVC MER surveys in Nigeria

The PEPFAR/Nigeria team selected five OVC projects in Nigeria to be surveyed out of seven USAID funded projects and nine projects funded by the Centers for Disease Control (CDC). The team used the following selection criteria:

- diversification of U.S. agency support
- project funding levels
- geographic burden of HIV
- planned continued support to the beneficiary populations for at least two more years

The five selected projects are:

- AIDS Prevention Initiative in Nigeria (APIN) Public Health Initiatives
- Association for Reproductive and Family Health (ARFH) Local Partners for Orphans and Vulnerable Children (LOPIN 1)
- Catholic Relief Services (CRS), Sustainable Mechanism for Improving Livelihoods and Household Empowerment (SMILE)
- Institute of Human Virology, Nigeria (IHVN)
- Widows and Orphans Empowerment Organization (WEWE) LOPIN

Two of the selected projects (APIN and IHVN) are supported by the CDC, and the other three (ARFH/LOPIN 1, CRS/SMILE, and WEWE/LOPIN) are supported by USAID. All five projects are located in LGAs with high HIV prevalence rates, where enhanced intervention for OVC is expected to continue until at least 2018 and it will be feasible to administer the OVC MER essential indicator survey every two years. Although there is some overlap in the counties served by the projects, all beneficiaries receive services from just one of the projects. The size of the beneficiary population for each project ranges from 9,000–300,000 OVC and caregivers.

Study Implemented by MEASURE Evaluation

This study was implemented by MEval through a consortium of the Center for Research, Evaluation, Resource and Development (CRERD) and the Academy for Health Development (AHEAD). These two research organizations, based in Ile-Ife, Nigeria, implemented the surveys for all five projects. They were responsible for all data collection activities, such as co-facilitating the training for data collectors; piloting final tools and consent forms; developing the field manuals, data quality procedures, data collection tracking database, and electronic data collection scripts in Open Data Kit; data collection in the field; and data cleaning, analyses, and report writing.

PEPFAR and the five OVC partners in Nigeria helped to ensure that the surveys were successfully completed. A MEval consultant served as MER survey coordinator and the liaison officer for all survey partners.

This report covers only the survey involving IHVN. The IHVN survey, like the other four, was implemented by MEval in partnership with CRERD and AHEAD in Ile-Ife. MEval provided overall leadership for the survey and was responsible to USAID for all the survey activities. The MEval activity leader was responsible for all technical, management, and supervisory work, such as survey protocol development, quality assurance, analysis, technical writing, and dissemination of findings. The activity leader and CRERD/AHEAD ensured that the survey was conducted in accordance with the protocol, to the highest quality standards and on schedule, and for the safety, and protection of survey participants. The IHVN project staff played supportive roles in making sure that the survey was successfully completed.

How the Results Will Be Used

The data obtained from the findings in all five MER OVC essential indicator surveys will be used in combination with input/output data at the U.S. government mission level to support program planning, targeting, resource allocation, and implementation. The Office of the Global AIDS Coordinator will synthesize data for a report to the U.S. Congress on the progress of PEPFAR OVC programs in improving children's well-being globally.

Results from the surveys also will be triangulated with findings from routine M&E of OVC projects, thus strengthening the evidence base for U.S.-funded OVC programs. PEPFAR requires that data for the MER essential indicator surveys be collected every two years in order to track progress over time. This report covers data at one point in time, that is, the first round of data for these indicators from IHVN in Nigeria.

IHVN

The IHVN was established in 2004 to scale up the PEPFAR/Nigeria program for conducting research and training to strengthen health systems through evidence-based data collection and reporting. Today the Institute has more than 230 staff members (95 percent are Nigerians) and has expanded its activities to meet the growing public health challenges in Nigeria. Its mission is to provide excellent care, treatment, training, and research; respect the dignity of the person; and instill hope for the people of Nigeria.

The IHVN supports a network of prevention, care, and treatment facilities (governmental and non-governmental) and community-based organizations in 24 states across Nigeria. Its model of care links

HIV prevention and treatment, providing ART, HIV counseling and testing (HCT), and a range of care and support to people living with HIV (PLHIV). The OVC component covers eight states (Benue, Delta, FCT, Kano, Katsina, Nasarawa, Ogun, and Osun) and offers the following services:

- Education block grants supporting school enrollments, academic performance monitoring, and vocational education
- Household economic strengthening for caregivers; caregiver support groups
- Nutrition education at facility and community levels; support with ready-to-use therapeutic food (RTUF) for children under five years of age who are at-risk of malnutrition
- Capacity building for CBOs regarding OVC programming and gender norms
- Social and legal protection; birth registration through the national population commission
- Child protection committees and services at the community level
- Preventive health talks; deworming drugs and vitamins for caregivers and children; referrals to health centers for treatment
- Psychosocial support through youth clubs
- HTC with referrals to health facilities for treatment

This survey was conducted in three LGAs targeted for scale-up because of the high burden of HIV and OVC (namely FCT, Benue, and Nasarawa States).

STUDY DESIGN AND METHODS

IHVN Survey Design Overview

The survey design used a descriptive cross-sectional approach assessing the well-being of vulnerable households, caregivers, and children enrolled in the IHVN project.

We sought information about two IHVN beneficiary groups:

- Primary caregivers ages 18+ years
- Children ages 0–17 years (questions were directed to the primary caregivers)

We sampled beneficiaries from 16 CBOs in three states (Benue, FCT, and Nasarawa) with the expectation that the project will still be active in selected sites when the required follow-up survey is conducted in 2018.

Outcome Measures

This survey obtained the following types of information:

- socioeconomic characteristics of the household, its primary caregiver, and children (based on caregiver's knowledge of children's HIV status, possession of children's birth certificates, school attendance record, progression in school, and stimulating activities with children under five years of age)
- caregiver's attitudes about physical punishment for discipline at home or school
- MUAC of children ages 6–59 months (interviewer took the measurement to assess risk for malnutrition)

Table 2 shows the essential survey indicators collected, the rationale for their inclusion in the survey, and the IHVN program components involved.

Table 2. Description and rationale for PEPFAR MER essential survey indicators and Nigeria-specific indicators for OVC programs

No.	Outcome Indicator	Rationale for inclusion	IHVN Program component that contributes to the indicator
OVC_ HIVST	Percent of children (aged 0–17 years) whose primary caregiver knows the child's HIV status	If a child's HIV status is unknown to her/his caregiver, the child will not have access to life-saving care, treatment, and support interventions.	HTC with referrals to the health facilities for treatment
OVC_ NUT	Percent of children (aged 6–59 months) who are undernourished *Interviewer takes MUAC measurement for children ages 6–59 months. It is the only indicator measurement requiring direct interaction with a child.*	Nutrition is a critical factor in reducing infant mortality and builds a strong foundation for a child's health, growth, and development.	Nutrition education at the facility and community, and support with RTUF for children <5 years at- risk of malnutrition
OVC_ SICK	Percent of children (aged 0–17 years) too sick to participate in daily activities	PEPFAR OVC programs support critical linkages to health services and treatment, aiming to reduce the number of sick children and improve functional well-being.	Preventive health talks, provision of deworming drugs and vitamins to caregivers and children, and referrals to health centers for treatment
OVC_ BCERT	Percent of children (aged 0–17 years) who have a birth certificate	Ensuring children access to basic legal rights, such as birth certificates, enables them to access other essential services and opportunities when they are older, such as health, education, legal services, and legal employment.	Social and legal protection; birth registration through the national population commission; child protection services; child protection committees in communities
OVC_ SCHATT	Percent of children (aged 5–17 years) regularly attending school	Despite being important in its own right, efforts to keep children in school have positive impacts on HIV prevention.	Education block grant projects; school enrollment and monitoring of child's academic performance; vocational education for older OVC
OVC_ PRGS	Percent of children (aged 5–17 years) who progressed in school during the last year	Studies in many countries have linked higher education levels with increased AIDS awareness and knowledge, higher rates of contraceptive use, and greater communication regarding HIV prevention among partners.	Education block grant projects; school enrollment and monitoring of child's academic performance; vocational education for older OVC
OVC_ STIM	Percent of children <5 years of age who recently engaged in stimulating activities with any household	Early childhood cognitive, social, and physical stimulation is essential for promotion of long-term learning, growth, and health.	Psychosocial support through youth clubs

No.	Outcome Indicator	Rationale for inclusion	IHVN Program component that contributes to the indicator
	member >15 years of age		
OVC_CP	Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or school	Reducing harsh physical discipline, violence, and abuse against children is a PEPFAR priority. Perceptions of physical discipline have been linked to actual use of physical discipline against children.	Child protection services; establishment of child protection committees in communities
OVC_ MONEY	Percent of households able to access money to pay for unexpected household expenses	The key goal of household economic strengthening programs is to improve household's resiliency to economic shocks, such as unexpected household expenses. Child well-being is assumed to be affected by the household's resiliency to economic shocks.	Household economic strengthening for caregivers and establishment of caregiver support groups
OVC_ NG.1	Percent of households that have attained food security in the last three months	Food insecurity has a negative impact on the overall nutritional and health status of those infected or affected by HIV and AIDS; PLHIV often say that food is the greatest need for themselves and their families. There are intrinsic linkages between HIV, food insecurity, and malnutrition (USAID, 2014b).	
OVC_ NG2	Proportion of households (with children and caregivers) with adequate shelter	An adequate dwelling unit provides protection for OVC against the weather and gives them a sense of membership among family. Children and young people should have a safe and conducive place to live.	
OVC_ NG.3	Percent of children having access to basic healthcare services	Access to basic health- care service is especially important to OVC. The human right to health states that everyone has the right to the highest attainable standard of physical and mental health, which includes access to all medical services.	
OVC_ NG.4	Percent of children who went to bed without food in the last four weeks	It is especially important for OVC to have food.	

Survey Instruments

The survey utilized the MER questionnaire developed under the MEval project (Chapman, Foreit, Hickmann, & Parker, 2013). The questionnaire includes three key sections: caregiver, children ages 0–4 years, and children ages 5–17 years. All survey questions (except the MUAC measurement) were directed to the caregivers, who were asked to respond to questions about themselves, the household, and the children in the household under their care. While most of the questions were asked about all children, questions related to nutrition and stimulating activities were only about the children ages 0–4 years. Questions related to education were asked only about children ages 5–17 years. The questionnaire and the consent forms used during IHVN's survey were created in English and translated into Hausa, the commonly spoken language in Benue and Nasarawa States. English and Hausa were used to administer the interviews. Translations aimed to maintain the core meaning of the questions rather than translating them verbatim. The translation and survey tools (questionnaire and consent forms) were pre-tested in Lagos November 4–5, 2016 with 10 team supervisors to ensure accuracy, acceptability, and feasibility. Some questions were then fine-tuned for clarity and accuracy (see example below).

Before Pretest:

3a	Have you personally ever received services or participated in activities from [insert name of OVC CBO]? By this I mean, have you ever been visited by a community worker, or have you ever participated in any activities organized by this organization such as educational support, food and nutritional support, health care, shelter and care, etc.?	Yes 1 No 2

After Pretest:

3a	Have you personally ever received services or participated in activities from [insert name of OVC CBO]? By this I mean, have you ever been visited by a community worker from [insert name **of OVC CBO],** or have you ever participated in any activities organized by [insert name of **OVC CBO]** such as: **Educational support** **1) Yes** **2) No** **Food and nutritional support** **1) Yes** **2) No** **Health care** **1) Yes** **2) No** **Shelter and care** **1) Yes** **2) No**	

A second pretest was done in the field as part of the data collectors' training in Unguwar Koro in the Dutsen Alhaji ward of the Bwari Area Council in Abuja on November 17, 2016. The aim was to test the procedures and competence of field teams in collecting the data and taking the MUAC measurements. This pretest also tested comprehension of the instrument.

This second pretest involved 29 interviews in beneficiary households that had not been selected for the survey sample. Participants in the pretest were told that it was a pretest. The data collected from these households were not included in the study. After the pretest, the survey tools were updated; the MUAC

procedure was revised to accommodate options in cases where OVC are not available or the caregiver refuses to have a child be measured. In addition, precautionary steps concerning unavailable children were discussed during a meeting held with colleagues from CRERD/AHEAD, MEval, and implementing partners. The group decided that the field staff should interview caregivers of such children but should not finalize the questionnaire until the eligible children would be available for the MUAC measurement to be taken. Interviewers were told to ask the caregivers when the children would be at home for follow-up visits to take the MUAC measurements. While we adjusted the wording of questions slightly to align with Nigerian discourse and enhance clarity, we did not change recall periods. Issues emerging from the pretesting exercise, such as proposed changes to the questionnaire and translation, were addressed during a pretest feedback session. (See Appendix A for final questionnaire.)

The field interviews lasted an average of 45 minutes, ranging from 20–60 minutes depending on the number of children ages 0–17 years in the households.

Sampling Frame

The survey sampling frame involved all households registered as active beneficiaries of the IHVN project in the scale-up LGAs of Benue, FCT, and Nasarawa States. The scale-up LGAs cover 82 communities served by the IHVN project. An initial assessment of the accuracy of the household listing was conducted by selecting a convenience sample of 40 households to test whether they could be located during the survey field work. All of them were located using the information provided by the projects.

The survey team worked directly with the local CBO implementing partners and their community volunteers in 43 randomly selected communities (out of the 82) to construct a current list of beneficiary households within the scale-up LGAs. The updated list was constructed from community volunteers' notes or information from the CBO's office. We harmonized the lists to ensure that no beneficiary household was omitted or duplicated. Survey staff and volunteers reviewed each household listed to confirm eligibility and make any necessary changes. Once a household was confirmed, it was then entered into an updated sampling frame listing. The updated sampling frame included 82 communities and a total of 7,842 households from 43 randomly selected communities

Selection of Households

The target sample size was 621 households, based on calculations assuming 80 percent power to detect a 10 percent change in indicator prevalence from the Round One survey in 2016 to the Round Two survey in 2018 (with Round One prevalence assumed to be near 50 percent) with 95 percent confidence. (See Appendix D for sample size calculation.)

The IHVN local community volunteers verified the presence of every selected caregiver. This assistance meant that the survey was conducted on a sampling frame that was up to date. It also meant that interviews started immediately after random selection of eligible households and not with a "cold" sample frame. The verification exercise revealed a wide variation in the number of verified households in each community. The average number of verified households in a community was 182, ranging from five to 1,012 households.

After the systematic verification of households/caregivers, the data auditor and the supervisor visited each selected community and randomly selected 14 households from each community sampling frame of verified households; they used the random number generator application in their smartphones. We aimed

to randomly select fourteen households from each of the 43 communities (clusters), yielding a total sample size of 602. To achieve a 621-household sample, 19 extra households were randomly selected from some of the largest communities (clusters). In some communities, we found fewer than 1 verified beneficiary households. The protocol was to select all verifiable households and then randomly select the balance as part of the next community (cluster) selection process.

The supervisor and the data auditor were jointly responsible for making and documenting the selections, which were then verified by the quality assurance team. At the community level, the probability of selecting a beneficiary household was: 1 divided by the number of verified beneficiary households. Response rate for households/caregivers was 96 percent (see Table 3).

Table 3. Summary of sampling information for IHVN survey

Total number of communities (clusters) in scale-up areas	82
Number of communities[1] (clusters) randomly selected with equal probability	43
Total number of households actually verified and listed at the time of the survey from the 43 selected communities (clusters)	7,842
Target number of households planned to be randomly selected per community (cluster)	14
Number of households randomly selected from the list of actually verified households in the selected communities (clusters)	621
Total number of caregivers not available after three attempts	1
Number of caregivers who refused an interview	6
Number of households with no children under age 18 years	18
Number of households with completed interviews in the cleaned dataset	596
Survey household/caregiver response rate	**96%**

[1]A community is the primary sampling unit defined on the basis of the area where a CBO provides services within an LGA

Fieldwork and Quality Assurance Procedures

The training for the fieldwork was conducted November 2–5, 2016, in Abuja. The fieldwork was conducted December 6–20, 2016, in all the scale-up LGAs in the three states selected for this study. For this survey, 10 interviewers, 1 supervisor, 1 data auditor and 1 quality assurance officer participated in the fieldwork exercise. Each supervisor was assisted by a data auditor.

Data were collected using an Android phone with the Survey CTO application. The phones were pre-programmed with questionnaires that were linked to a cloud server through wireless connection. Data were transmitted daily to the cloud server based in CRERD headquarters. The phones were also pre-programmed to enforce completeness of the data, correct skips of questions, logical and consistent entries of data elements, and automatic checking of the total number of children ages 0–17 years in each household. The field team uploaded data daily to the web-based database.

Supervisors and data auditors (DAs) went to the field to initiate the fieldwork. At each selected community, they met with a community volunteer and reviewed the list of selected households in the community to verify which beneficiary households were present for interviews that particular day. After identifying the households, the local volunteer allowed the interviewer to conduct the caretaker interviews

in private. Supervisors and data auditors checked the data quality. The supervisor checked the work of the data collectors in the field to ensure the right caregivers were interviewed; the DA checked the quality of downloaded data. Each DA downloaded the survey data daily from our cloud server for verification and cleaning. The quality assurance officers were in the field to ensure strict compliance to the research protocol. The survey protocol and guidelines were strictly followed.

Interview time was checked and interviews that took place in less than 20 minutes were flagged for verification. Individual data collectors' work was also checked for typos or other errors. Where errors were identified, data collectors were called by phone from the office to either correct errors on the spot or return to the household to redo an interview if necessary. At the end of the survey, the final dataset was exported in CSV format for analysis.

Analysis Methods

All of the evaluation survey indicator (ESI) outcome measures are expressed as proportions of appropriate denominators and disaggregated by sex and age in accord with PEPFAR OVC ESI reporting requirements. We used *Chi-square* statistics to test for independence between outcome indicators and active beneficiaries' gender and t-statistics for continuous variables, such as age. Sample weights were used in the analysis to account for differential probabilities of selection into the sample; the sampling did not use the probability-proportionate-to-size (PPS) procedure that could have resulted in self-weighting data. All estimates were calculated unweighted and weighted. Ninety-five percent confidence intervals were calculated on the weighted data.

Data were downloaded in a CSV text file format (comma-separated values) from the server database to CRERD/AHEAD computers. Data were analyzed using the STATA software, Version 14.0. The data elements were realigned and then reshaped into an easy-to-analyze format. For example, data that caregivers reported on the children under their care were linked to data on the caregivers themselves. Variable names for the data about the children were renamed for uniformity across the different age categories (0–4, 5–9, 10–17).

RESULTS

Age, Gender, and Education of Caregivers

The basic background characteristics of caregivers are presented in Table 4. Of the 621 randomly selected caregivers invited to participate in this survey; 596 (96%) responded. The mean age is about 39 years, with about 60 percent ages 31–50 years. Most of the caregivers (96%) are females, and they are significantly younger than the male caregivers. Almost half of sampled caregivers (49%) have no education; about one-fourth have only primary education and one-fourth have secondary or upper education

Table 4. Age, gender, and education of primary caregivers in the study population

Variable	All Primary Caregivers	
Mean Age	39.3 years (SD=11.2)	
	Unweighted n (%)	**Weighted %**
Age Group (N=596)		
18–30 years	158 (26.7)	24.2
31–50 years	358 (60.1)	60.5
51+ years	79 (13.3)	15.3
Sex (N=596)		
Female	572 (96.0)	95.8
Male	24 (4.0)	4.2
Education (N=596)		
No education/Islamiyah	270 (45.3)	48.5
Primary	178 (29.9)	25.6
Secondary or Upper	148 (24.8)	25.8

Characteristics of Children

Table 5 shows the age and gender of children covered by the survey. In all, 2146 children are counted within the 596 households of the sampled caregivers: an average of about four children per caregiver. The average age of sampled children is 8.5 years. More than half (53%) are age 1–9 years, about 42 percent are 10 years or older, and about 3 percent are younger than one year. The population of children is split about evenly between females (about 51 percent) and males (about 49 percent).

Table 5. Age and gender of children in the study population

Variable	All Children (N=2146)		Female Children (N=1087)		Male Children (N=1059)	
Mean Age (SD)	8.5 years (±4.8)		8.5 years (±4.7)		8.5 years (±4.6)	
Age Group	**Unweighted (n) %**	**Weighted (%)**	**Unweighted (n) %**	**Weighted %**	**Unweighted n %**	**Weighted %**
0–5 months	(37) 1.7	1.2	(18) 1.7	1.2	(19) 1.8	1.2
6–11 months	(38) 1.8	1.9	(20) 1.8	2.0	(18) 1.7	1.9
1–4 years	(450) 21.0	21.9	(230) 21.2	22.4	(220) 20.8	21.5
0–4 years	(525) 24.5	25.0	(268) 24.7	25.6	(257) 24.3	24.6
5–9 years	(696) 32.4	31.3	(353) 32.5	30.0	(343) 32.4	32.6
10–14 years	(608) 28.3	29.0	(311) 28.6	31.1	(297) 28.1	26.9
15–17 years	(317) 14.5	14.6	(155) 14.3	13.3	(162) 15.3	15.9

Participation and Services Received from IHVN

Each selected beneficiary household in the survey had one caregiver as the respondent. Caregivers were asked about the following kinds of support their households had received from IHVN: education, health care, nutrition education, and psychosocial needs. Table 6 shows that 80 percent had received some service from IHVN.

Table 6. Households that have received support services from IHVN

All Caregivers (N=596)				
Variable	**Unweighted**	**Weighted**	**95% Confidence Interval**	
	(n) %	**%**	**Lower Limit**	**Upper Limit**
Ever received service/support?				
Never received any support	(161) 27.0	19.7	13.1	28.5
Received at least one support	(435) 73.0	80.3	71.5	86.9

Table 7 shows the type of support that survey households had received from IHVN. About 86 percent of caregivers reported their households had received support for healthcare, nearly 80 percent had received support for nutrition education, about 65 percent for education, and more than half for psychosocial services.

Table 7. Households that have received support from IHVN by type of support

All Caregivers (N=435)				
Variable	**Unweighted**	**Weighted**	**Confidence Interval**	
	(n) %	**%**	**Lower Limit**	**Upper Limit**
Services of CBO[1]				
Educational support	(253) 58.2	65.4	54.1	75.2
Healthcare support	(371) 85.3	86.4	80.4	91.4
Nutrition education support	(296) 68.1	78.5	70.1	85.0
Psychosocial support	(231) 53.1	50.9	41.1	60.3

[1]Multiple response allowed

Table 8 shows the households that had received one or more of the four types of services from CBOs that are highlighted in the survey (named in Table 7): 16 percent had received one of the services, 24 percent had received two, 24 had received three, and 37 percent had received all four services. On average, each household had received nearly three of the services. More than half of the households reported they had received support for less than one year, with about 48 percent reporting that they had been receiving support for more than one year.

Table 8. Households receiving one or more of four specific services from CBOs

All Caregivers/Households (N=435)				
Variable	**Unweighted**	**Weighted**	**Confidence Interval**	
	n (%)	**(%)**	**Lower Limit**	**Upper Limit**
Services of CBO				
1 service	(96) 22.1	15.6	9.6	24.3
2 services	(103) 23.7	23.8	17.3	31.7
3 services	(95) 21.8	24.2	17.3	32.7
4 services	(141) 32.4	36.5	26.6	47.7
Mean number of services (SD)	2.65 (1.15)	2.82 (1.09)		
Time since households started receiving services from CBO (among those who reported having received at least one type service)				
< 1 year	(281) 64.6	51.8	38.0	65.3
1–2 years	(120) 27.6	32.9	23.2	44.3
> 2 years	(34) 7.8	15.4	5.8	35.0

Core MER OVC Indicators

The outcome measures presented in this section are based on reported responses from the caregivers in households in areas with a high burden of HIV and OVC. Caregivers were asked about themselves, their households, and the children in the household under their care (see Appendix A for questionnaire). Based on this information, we were able to present data for nine essential survey indicators and four Nigeria-specific measures, all disaggregated by age and sex in accordance with PEPFAR MER guidance for OVC.

OVC_HIVST: Percent of children (aged 0–17 years) whose primary caregiver knows the child's HIV status

Caregivers were asked if the children in their care had been tested for HIV in the previous six months and if so, did they know the results of the HIV test(s)? Table 9 shows that caregivers knew the HIV status of fewer than half (47%) of the children in sampled beneficiary households. Caregivers' knowledge about the HIV status of these children did not generally vary by the children's gender, but it did vary somewhat by children's ages. Caregivers' knowledge of the HIV status of male children was higher among those ages 10–14 years than among those ages 0–4 or 15–17. Caregivers' knowledge of the HIV status of female children increased with the age of the female child.

Table 9. Percent of children (aged 0–17 years) whose primary caregiver knows the child's HIV status

Variable	All Children				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=2146)					
0–4 years	525	(220) 41.9	42.8	32.9	53.3
5–9 years	696	(363) 52.2	48.4	39.8	57.0
10–14 years	608	(300) 49.3	48.2	39.5	57.1
15–17 years	317	(160) 50.5	48.8	37.7	60.0
Sex					
Male	1059	(511) 48.3	47.2	37.4	57.3
Female	1087	(532) 48.9	46.7	39.3	54.3
All Children	**2146**	**(1043) 48.6**	**47.0**	**38.9**	**55.2**
	Male Children				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group (N=1059)					
0–4 years	257	(119) 46.3	44.5	34.6	54.8
5–9 years	343	(177) 51.6	47.6	37.7	57.8
10–14 years	297	(145) 48.8	50.7	37.7	63.7
15–17 years	162	(70) 43.2	44.8	28.7	62.1
All Male Children	**1059**	**(511) 48.3**	**47.2**	**37.4**	**57.3**
	Female Children				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group (N=1087)					
0–4 years	268	(101) 37.7	41.2	29.1	54.4
5–9 years	353	(186) 52.7	49.2	40.3	58.1
10–14 years	311	(155) 49.8	46.0	36.8	55.6
15–17 years	155	(90) 58.1	53.6	34.8	71.5
All Female Children	**1087**	**(532) 48.9**	**46.7**	**39.3**	**54.3**

Indicator OVC_NUT: Percent of children (aged 6–59 months) who are undernourished

According to the OVC MER guidance, a child younger than five years of age is considered undernourished if his or her MUAC measurement is less than 12.5 centimeters. Table 10 shows that 3 percent of the children ages 6–59 months in the survey were undernourished. Our data show that undernourishment was more likely to happen among the children ages 6–11 months (6%) than among those ages 12–59 months (3%), but the difference is not statistically significant. Male children were less likely to be undernourished (1%) than female children (5%), though again, the difference is not statistically significant. Given the small sample sizes, these figures should be interpreted with caution.

Table 10. Percent of children (aged 6–59 months) who are undernourished

Variable	All Children (N=476)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
6–11 months	38	(4) 10.5	6.3	1.4	24.5
12–59 months	438	(10) 2.3	2.9	1.4	5.9
Sex					
Male	231	(3) 1.3	1.1	0.2	5.5
Female	245	(11) 4.5	5.1	2.4	10.4
All Children < 5 Years	**476**	**(14) 2.9**	**3.1**	**1.7**	**5.9**
	Male Children (N=231)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
6–11 months	18	(1)5.6	4.8	0.0	4.1
12–59 months	213	(2) 0.9	1.2	0.2	6.2
All Male Children < 5 Years	**231**	**(3) 1.3**	**1.1**	**0.2**	**5.5**
	Female Children (N=245)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
6–11 months	20	(3) 15.0	11.9	2.1	46.0
12–59 months	225	(8) 3.6	4.5	1.9	10.5
All Female Children < 5 Years	**245**	**(11) 4.5**	**5.1**	**2.4**	**10.4**

[1]Of the 488 children ages 6 months to 4 years, MUAC measurements were taken for 476 (97.5%) available children. Those whose MUAC measurements were taken are used in the denominator for this indicator.

Indicator OVC_SICK: Percent of children (aged 0–17 years) too sick to participate in daily activities

Children who are unable to participate in daily activities may need immediate medical care and could be in an especially vulnerable state. Primary caregivers in our survey were asked whether any children (ages 0–17 years) in their household had been too sick to participate in daily activities within the previous two weeks. Table 11 shows that almost a third of the 2,146 children had been that sick, with no statistical difference been males and females. This condition was even more prevalent (40%) among children ages 0–4 years of age.

Table 11. Percent of children (aged 0–17 years) too sick to participate in daily activities in the last two weeks

Variable	All Children				
	Unweighted		Weighted	Confidence Interval	
	N	n %	%	Lower Limit	Upper Limit
Age Group (N=2146)					
0–4 years	525	(208) 39.6	40.3	31.1	50.2
5–9 years	696	(229) 32.9	32.0	24.5	39.2
10–14 years	608	(197) 32.4	29.4	20.4	40.4
15–17 years	317	(116) 36.6	31.8	21.8	43.9
Sex of child					
Male	1059	(354) 33.4	32.5	25.6	40.4
Female	1087	(396) 36.4	34.0	25.9	43.2
All Children	**2146**	**(750) 35.0**	**33.3**	**26.1**	**41.3**
	Male Children				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=1059)					
0–4 years	257	(97) 37.7	40.3	26.0	56.5
5–9 years	343	(113) 32.9	32.4	26.1	39.5
10–14 years	297	(83) 28.0	22.9	14.8	33.9
15–17 years	162	(61) 37.7	37.0	26.1	49.5
All Male Children	**1059**	**(354) 33.4**	**32.5**	**25.6**	**40.4**
	Female Children				
	Unweighted		Weighted	Confidence Interval	
	N	n (%	(%)	Lower Limit	Upper Limit
Age Group (N=1087)					
0–4 years	268	(111) 41.4	40.2	32.4	48.6
5–9 years	353	(116) 32.9	31.5	21.3	43.8
10–14 years	311	(114) 36.7	35.1	23.6	48.5
15–17 years	155	(55) 35.5	25.4	14.2	41.3
All Female Children < 5 Years	**1087**	**(396) 36.4**	**34.0**	**25.9**	**43.2**

Indicator OVC_BCERT: Percent of children (aged 0–17 years) who have a birth certificate

One key PEPFAR indicator for OVC programming is the percentage of children in possession of a birth certificate—an essential document for tracking vital health statistics and for households to receive some forms of support. Overall, about 60 percent of all 2,146 children in our survey had been issued a birth certificate. (See additional tables in Appendix B.) However, Table 12 below shows that the caregivers we surveyed could produce official birth certificates for only 21 percent of the children in their care. In most cases, the caregivers either could not find the official documents or presented the wrong documents.

Having a verifiable birth certificate varied somewhat across age groups, with the smallest share (17%) in the oldest age group (15–17 years), and the largest share (23%) in the youngest age group (0–4 years). About 26 percent of male children ages 10–14 years had verifiable birth certificates, as did about 29 percent of the youngest females (ages 0–4 years).

Table 12. Percent of children (aged 0–17 years) who have a verifiable birth certificate

Variable	All Children				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=2146)					
0–4 years	525	(125) 23.8	23.3	13.6	36.9
5–9 years	696	(153) 22.0	21.5	13.4	32.7
10–14 years	608	(115) 18.9	21.2	11.1	36.6
15–17 years	317	(64) 20.2	17.3	7.6	34.7
Sex of Child					
Male	1059	(228) 21.5	21.1	11.9	34.5
Female	1087	(229) 21.1	21.4	12.1	35.2
All Children	**2146**	**(457) 21.3**	**21.3**	**12.3**	**34.1**
	Male Children				
	Unweighted		Weighted	Confidence Interval	
	N	n %	%	Lower Limit	Upper Limit
Age Group (N=1059)					
0–4 years	257	(61) 23.7	17.4	8.6	32.0
5–9 years	343	(73) 21.3	19.2	11.6	30.1
10–14 years	297	(57) 19.2	26.4	13.6	45.1
15–17 years	162	(37) 22.8	21.7	8.5	45.4
All Male Children	**1059**	**(228) 21.5**	**21.1**	**11.9**	**34.5**
	Female Children				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=1087)					
0–4 years	268	(64) 23.9	29.1	18.5	42.6
5–9 years	353	(80) 22.7	24.1	14.0	38.4
10–14 years	311	(58) 18.7	16.6	6.5	36.4
15–17 years	155	(27) 17.4	11.9	5.3	24.6
All Female Children < 5 Years	**1087**	**(229) 21.1**	**21.4**	**12.1**	**35.2**

Indicator OVC_SCHATT: Percent of children (aged 5–17 years) regularly attending school

In Nigeria, children usually begin grade school at age five. To generate data for this indicator, primary caregivers in our survey were asked two questions regarding school attendance of children ages 5–17 years:

1) Are the children currently enrolled in school?

2) If so, have they missed any day of school in the prior week, for any reason?

Table 13 presents the results of the combination of these two questions. Overall, 70 percent of children were reported as regularly attending school at the time of the survey. Children ages 10–14 years were more likely to be attending school (76%) than the 5- to 9-year-olds (70%). There was no significant difference between males and females on these questions.

Table 13. Percent of children (aged 5–17 years) regularly attending school

Variable	All Children (5–17 Years)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group (N=1315)					
5–9 years	582	(386) 66.3	65.5	55.8	74.0
10–14 years	516	(348) 67.4	76.0	61.4	86.3
15–17 years	217	(145) 66.8	69.2	53.1	81.6
Sex of Child					
Male	655	(434) 66.3	69.7	57.1	79.9
Female	660	(445) 67.4	71.1	60.1	80.0
All Children (5–17 Years)	**1315**	**(879) 66.8**	**70.4**	**58.9**	**79.7**
	Male Children (5–17 Years)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group (N=655)					
5–9 years	289	(194) 67.1	66.3	53.4	77.2
10–14 years	255	(168) 65.9	74.7	57.1	86.7
15–17 years	111	(72) 64.9	67.6	54.6	78.4
All Male Children (5–17 Years)	**655**	**(434) 66.3**	**69.7**	**57.1**	**79.9**
	Female Children (5–17 Years)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group (N=660)					
5–9 years	293	(192) 65.5	64.5	56.0	72.2
10–14 years	261	(180) 69.0	77.2	62.3	87.4
15–17 years	106	(73) 68.9	71.3	43.9	88.8
All Female Children 5–17 Years	**660**	**(445) 67.4**	**71.1**	**60.1**	**80.0**

Indicator OVC_PRGS: Percent of children (aged 5–17 years) who progressed in school during the last year

This is a composite indicator, measured by a series of four related questions related to school enrollment and grade in school at the time of the survey. Caregivers were asked about each child's school enrollment and current grade level at the time of the survey, and during the previous school year. The indicator requires looking at all children ages 5–17 years who were in a more advanced grade level at the time of the survey compared to the previous school year (the denominator is all children ages 5–17 years who were enrolled in school during the previous academic year). Table 14 presents the results of this composite indicator, disaggregated by age and sex.

About 92 percent of the children progressed to a higher grade (ranging from 82 percent of the youngest children to 98 percent of the oldest). Across gender, 89 percent of males and 95 percent of females progressed. Further disaggregating by gender, we found a relatively lower progression rate among the children ages 5–9 years, with 24 percent of the boys and 12 percent of the girls not progressing to a higher grade.

Table 14. Percent of children (aged 5–17 years) who progressed in school during the last year

Variable	All Children (5–17 Years) (N=1337)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group					
5–9 years	543	(435) 80.1	81.8	73.7	87.8
10–14 years	537	(522) 97.2	97.7	93.9	99.2
15–17 years	257	(254) 98.8	98.5	91.9	99.7
Sex of Child					
Male	661	(590) 90.6	88.7	83.5	92.4
Female	676	(621) 91.9	94.7	91.7	96.7
All Children (5–17 Years)	**1337**	**(1211) 90.6**	**91.7**	**89.0**	**93.7**
	Male Children (5–17 Years)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group (N=661)					
5–9 years	267	(207) 77.5	76.3	64.5	85.1
10–14 years	260	(250) 96.2	95.6	87.9	98.5
15–17 years	134	(133) 99.3	99.8	98.7	100.0
All Male Children (5–17 Years)	**661**	**(590) 89.3**	**88.7**	**83.5**	**92.4**
	Female Children (5–17 Years)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group (N=676)					
5–9 years	276	(228) 82.6	87.8	80.1	92.8
10–14 years	277	(272) 98.2	99.6	98.5	99.9
15–17 years	123	(121) 98.4	96.8	83.8	99.5
All Female Children (5–17 Years)	**676**	**(621) 91.9**	**94.7**	**91.7**	**96.7**

Indicator OVC_STIM: Percent of children <5 years of age who recently engaged in stimulating activities with a household member >15 years of age

This indicator measures whether caregivers and other adults are engaging young children. Caregivers were asked if anyone in the household ages 15 years or older had done any of the following stimulating activities with children in the household in the past three days: read a book or looked at pictures, sang, played, counted, or drew things.

Table 15a shows most children had been playing (96%) and singing (80%), but fewer than half had engaged in the other stimulating activities: storytelling (44%), reading books or looking at pictures (41%), and counting or drawing (41%). A higher percentage of girls than boys had engaged in most of the stimulating activities; exceptions were counting and drawing activities, where the percentage was higher for boys.

Table 15a. Percent of children < 5 years of age who engaged in stimulating activities with a household member >15 years of age during the last three days

Variable	All Children < 5 Years N=525			
	Unweighted	Weighted	95% Confidence Interval	
	(n) %	%	Lower Limit	Upper Limit
Read books or looked at picture with	(220) 41.9	41.4	31.8	51.7
Told stories to	(248) 47.2	44.0	33.2	55.4
Sang sons to or lullabies	(431) 82.1	80.1	70.3	87.3
Played with	(499) 95.1	95.9	91.2	98.1
Counted or drew things to or with	(227) 43.2	41.4	31.2	52.4
	Male Children <5 Years			
	N= 257			
	Unweighted	Weighted	95% Confidence Interval	
Read books or looked at pictures with	(105) 40.9	35.8	24.7	48.7
Told stories to	(121) 47.1	41.3	29.3	54.5
Sang sons to or lullabies	(209) 81.3	77.5	65.6	86.1
Played with	(244) 94.9	94.8	86.1	98.2
Counted or drew things to or with	(120) 46.7	42.0	31.4	53.5
	Female Children <5 Years			
	N= 268			
	Unweighted	Weighted	95% Confidence Interval	
Read books or looked at picture with	(115) 42.9	46.9	35.3	58.8
Told stories to	(127) 47.4	46.6	36.0	57.5
Sang sons to or lullabies	(222) 82.8	82.7	72.0	89.9
Played with	(255) 95.2	96.9	92.7	98.7
Counted or drew things to or with	(107) 39.9	40.8	25.4	58.3

Multiple activities allowed per child.

Table 15b shows the number of different activities in which young children had engaged with a household member older than 15 years of age. Fewer than one-third of children (29%) had engaged in all

five stimulating activities (30% of girls and 27% of boys). About 5 percent of boys and only 2 percent of girls had not participated in any of these activities.

Table 15b. Percent of children < 5 years of age who engaged in a certain number of stimulating activities with any household member over 15 years of age during the last 3 days

Variable	All Children < 5 Years (N=525)		Female Children < 5 Years (N=268)		Male Children < 5 Years (N=257)	
Number of Activities	Unweighted (n) %	Weighted %	Unweighted n %	Weighted %	Unweighted (n) %	Weighted %
No activities	(23) 4.4	3.4	(10) 3.7	1.6	(13) 5.1	5.2
1	(60) 11.4	11.9	(31) 11.6	13.2	(29) 11.3	10.6
2	(148) 28.2	31.4	(74) 27.6	26.8	(74) 28.8	36.1
3	(70) 13.3	14.0	(43) 16.0	16.8	(27) 10.5	11.3
4	(61) 11.6	10.4	(32) 11.9	11.4	(29) 11.3	9.4
5	(163) 31.1	28.9	(78) 29.1	30.3	(85) 33.1	27.4

Table 15c shows that nearly all the children (97%) had recently engaged in at least one of the stimulating activities (94% of boys and 98% of girls).

Table 15c. Percent of children < 5 years of age who engaged in at least one stimulating activity with a household member >15 years of age during the last 3 days

Variable	All Children Ages (5–17 Years) (N=525)				
	Unweighted		Weighted	Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group (N=525)					
0–11 months	75	(66) 88.0	93.4	80.3	98.0
12–23 months	91	(85) 93.4	91.2	70.4	97.8
2–4 years	359	(351) 97.8	98.8	95.6	99.7
Sex of child					
Male	257	(244) 94.9	94.8	86.2	98.2
Female	268	(258) 96.3	98.4	93.9	99.6
All Children < 5 Years	**525**	**(502) 95.6**	**96.6**	**91.4**	**98.7**
	Male Children Ages (5–17 Years)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=257)					
0-11 months	37	(34) 91.9	95.3	81.9	98.9
12-23 months	48	(43) 86.9	83.0	50.6	95.9
2-4 years	172	(167)98.5	98.5	94.7	99.6
All Male Children <5 Years	**257**	**(244) 94.9**	**94.8**	**86.1**	**98.2**
	Female Children Ages (5–17 Years)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=268)					
0–11 months	38	(32) 84.2	91.5	71.1	97.7
12–23 months	43	(42) 97.7	99.8	98.6	100.0
2–4 years	187	(184) 98.4	99.2	95.2	99.9
All Female Children <5 Years	**268**	**(258) 96.3**	**98.4**	**93.4**	**99.6**

Indicator OVC_CP: Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control of children at home or school

This indicator measures caregiver attitudes about the use of harsh physical punishment to discipline children. It derives from two variables: attitudes about punishment at home and attitudes about punishment at school (these are disaggregated in additional tables in Appendix B).

Table 16 presents the distribution of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or in school. Overall, 88 percent of the caregivers supported harsh punishment as appropriate for children, either at home or in school. This view was more prevalent among caregivers between the ages of 31–50 years (92%) and less so among caregivers older than 50 years of age (85%) and between the ages of 18–30 years (80%). Females were more likely to agree with physical punishment (89%) than were males (63%).

Table 16. Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control of children at home or school

Variable	All Caregivers				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=596)					
18–30 years	159	(128) 80.5	80.0	69.1	87.7
31–50 years	358	(314) 87.7	92.2	86.5	95.6
50+ years	79	(67) 84.8	84.9	70.4	93.0
Sex (N=596)					
Male	24	(19) 79.2	62.6	29.8	86.3
Female	572	(490) 85.7	89.3	84.1	92.9
All Caregivers	**596**	**(509) 85.4**	**88.1**	**84.3**	**91.1**

Indicator OVC_MONEY: Percent of households able to access money to pay for unexpected household expenses

This indicator measures household resilience to economic shock. About 79 percent of the caregivers interviewed for this study said they had recently experienced an unexpected household financial need. Table 17 shows that 54 percent overall of caregivers with unexpected financial needs had been able to access money to meet those needs, but only 28 percent of such caregivers older than 50 and 62 percent of such caregivers ages 18–30 years could do so. About 37 percent of the males and 55 percent of the females had been able to access funds for unexpected household expense.

Table 17. Percent of households with unexpected expenses able to access money to pay for them

Variable	All Caregivers[1]				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age-Group (N=473)					
18–30 years	119	(72) 60.5	62.2	45.3	76.5
31–50 years	292	(179) 61.3	56.8	47.5	65.7
50+ years	62	(34) 54.8	27.9	10.2	56.8
Sex of Caregiver (N=473)					
Male	19	(10) 52.6	37.1	19.6	58.9
Female	454	(275) 60.6	54.5	45.0	63.7
All Households	**473**	**(285) 60.3**	**53.7**	**43.8**	**63.3**
Average Household Size= 7					

[1]Of the 596 caregivers, 473 (79.4%) reported unexpected expenses. Those who reported unexpected expenses are used in the denominator for this indicator.

Nigeria-Specific Indicators

OVC_NG1: Percent of households that have attained food security in the last three months

All caregivers were asked if there had been any moment(s) in the previous three months when the household did not have enough food to eat, which would represent food insecurity. These data helped us present findings on food security: consistently having enough to eat. Table 18 shows that only 28 percent of households attained food security within the past three months before the survey. Food security was highest among caregivers who were 50 years of age or older (40%) and lowest among caregivers ages 31–50 years (24%). About half of male primary caregivers (50%) and more than one-fourth of female caregivers (27%) were in households that had recently attained food security.

Table 18. Percent of households that have attained food security in the last three months

Variable	All Caregivers				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=596)					
18–30 years	159	(56) 35.2	29.0	16.4	46.0
31–50 years	358	(108) 30.2	23.8	14.9	36.0
50+ years	79	(27) 34.2	39.9	14.1	72.8
Sex of Caregiver (N=596)					
Male	24	(12) 50.0	50.3	18.2	82.2
Female	572	(179) 31.3	26.6	18.4	36.8
All Households	**596**	**(191) 32.1**	**27.6**	**18.6**	**38.7**

OVC_NG2: Percent of caregivers and children with adequate shelter

Table 19 shows that nearly two in three caregivers (63%) considered their dwellings to be adequate. This view was more prevalent among caregivers ages 18–30 years (69%) and male caregivers overall (67%); there was little difference across the other age groups.

Table 19. Percent of caregivers who consider their dwelling unit to be adequate

Variable	All Caregivers (N=596)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
18-30 years	159	(90) 56.6	69.0	52.1	82.0
31-50 years	358	(187) 52.2	60.0	47.0	71.8
50+ years	79	(45) 57.0	61.8	39.9	79.8
Sex of Caregiver					
Male	24	(15) 62.5	66.8	46.1	82.6
Female	572	(307) 53.7	62.3	48.8	74.1
All Households	**596**	**(322) 54.0**	**62.5**	**49.4**	**73.9**

OVC_NG3: Percent of children with access to basic health care

Table 20 shows that caregivers said that 85 percent of children in their households had access to basic healthcare services for minor sickness, such as diarrhea, malaria, fever, and rashes. There were no significant differences between male and female children, and only small variations across age groups.

Table 20. Percent of children having access to basic health care services

Variable	All Children (N=2146)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group					
0–4 years	525	(443) 84.4	83.9	72.5	91.1
5–9 years	696	(586) 84.2	88.2	80.5	93.2
10–14 years	608	(504) 82.9	82.9	73.6	89.4
15–17 years	317	(264) 83.3	83.2	71.8	90.6
Sex of Child					
Male	1059	(880) 83.1	84.3	74.9	90.7
Female	1087	(917) 84.4	85.4	76.7	91.2
All Children	**2146**	**1797 (83.7)**	**84.9**	**76.2**	**90.7**
	Male Children (N=1059)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0–4 years	257	(215) 83.7	88.8	78.1	94.7
5–9 years	343	(291) 84.8	87.6	77.4	94.5
10–14 years	297	(238) 80.1	78.2	62.9	88.4
15–17 years	162	(136) 84.0	81.2	69.6	89.0
All Male Children	**1059**	**(880) 83.1**	**84.3**	**74.9**	**90.7**
	Female Children (N=1087)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**n (%)**	**%**	**L**	**U**
Age Group					
0–4 years	268	(228) 85.1	79.0	63.7	87.4
5–9 years	353	(295) 83.6	89.0	78.9	94.6
10–14 years	311	(266) 85.5	87.0	80.9	91.4
15–17 years	155	(128) 82.6	85.8	67.0	94.0
All Female Children	**1087**	**(917) 84.4**	**85.4**	**76.7**	**91.2**

OVC_NG4: Percent of children who went to bed without food at least once in the last four weeks

This Nigeria-specific indicator measures food insecurity. Table 21 shows that caregivers reported more than half (53.5%) of children in their households went to bed without food at least once in the previous four weeks. Larger proportions of children in the older age-groups (56%–60%) had gone to bed without food at least once, and a lower percentage of children ages 0–11 months (31%, not shown in the table) might have done so, as well, although the infants were probably breastfed. Across the wealth index of caregiver households (not shown in the table), higher proportions of children in lower terciles (67%) and middle terciles (73%) had gone to bed without food than did children in the upper terciles (39%). Feeding in the households also differed by the sex of the child, with 50 percent of males and 57 percent of females going to bed without food at least once.

Table 21. Percent of children who went to bed without food in the last four weeks

Variable	All Children (N=2146)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
0–4 years	525	(213) 40.6	40.4	29.6	52.2
5–9 years	696	(407) 58.5	56.2	43.2	68.4
10–14 years	608	(380) 62.5	59.9	44.8	73.3
15–17 years	317	(200) 63.1	57.8	39.9	73.9
Sex of Child					
Male	1059	(582) 55.0	50.0	38.5	61.5
Female	1087	(618) 56.9	57.1	46.3	67.4
All Children	**2146**	**(1200) 55.9**	**53.5**	**42.6**	**64.2**
	Male Children (N=1059)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	257	(95) 37.0	35.9	23.9	50.0
5–9 years	343	(197) 57.4	49.5	36.9	62.1
10–14 years	297	(186) 62.6	57.2	41.1	72.0
15–17 years	162	(104) 64.2	60.7	37.4	80.0
All Male Children	**1059**	**(582) 55.0**	**50.0**	**38.5**	**61.5**
	Female Children (N=1087)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	268	(118) 44.0	44.7	32.3	57.8
5–9 years	353	(210) 59.5	63.7	49.3	76.0
10–14 years	311	(194) 62.4	62.3	47.6	75.0
15–17 years	155	(96) 61.9	54.2	35.7	71.6
All Female Children	**1087**	**(618) 56.9**	**57.1**	**46.3**	**67.4**

DISCUSSION AND RECOMMENDATIONS

Nigeria faces many challenges in addressing the enormous needs of an estimated 17.5 million orphans and vulnerable children (FMWASD, 2014). This survey was designed to measure progress by collecting data on a range of essential survey indicators of child well-being. Such data can be used to monitor and evaluate programs and reinforce the commitment of stakeholders and partners at all levels to strengthen support for OVC, especially in the most burdened areas. In this section, we briefly discuss a range of findings, followed by recommendations in italics.

Access to Services

Our survey found one in five caregivers in beneficiary households reported they received no services in the previous six months. This is surprising coming from areas where IHVN and the Nigeria government have provided support and services to OVC for more than five years. It is not clear whether these responses are accurate or a reflection of recall bias or other factors. *Further follow-up on these findings were not part of the scope of this survey, but IHVN service providers should clarify or verify findings to address any gaps in channeling services as needed.*

HIV Testing for Children

Knowledge of HIV status has implications for early detection and uptake of health interventions, especially among OVC (Thurman, Luckett, Taylor, & Carnay, 2016; Schenk, Kiragu, Murugi, & Sarna, 2008; Violari, et al., 2008). In our survey, nearly half of all children (47%) had primary caregivers who said they knew the children's HIV status. While we have found no comparable data collected from other sources, we use the Nigeria Demographic and Health Survey (DHS) 2013 data on children/young adults ages 15–19 years who are tested and know their status (7.6%) as a comparison (National Population Commission and ICF International, 2014). However, the NDHS data are based on self-reported information, while the data for our survey are based on each caregiver's reported knowledge of the HIV status of children under his/her care. Looking at our survey data for the closest comparable age group (15–17 years) to the NDHS data, we found that 49 percent of the teens in our survey were reported to have received an HIV test and their caregiver knows the result. This percentage is much greater than the 2013 NDHS figure. This could be because our sample households are in areas with high HIV prevalence, and many children ages 15–17 years have access to HIV tests. *In any case, IHVN must work to increase testing rates for children, especially OVC in areas that are most affected by HIV. Interventions with caregivers should incorporate support and education for early HIV testing among OVC.*

Infant Nutrition

Poor nutrition contributes to fetal growth restriction, stunting, wasting, micronutrient deficiencies, and suboptimal breastfeeding, which are well-documented factors in child mortality (USAID, 2014b; Bhutta, et al., 2008; Black, et al., 2008; Rice, Sacco, Hyder, & Black, 2000; UN Standing Committee on Nutrition, 2014). Undernutrition influences a child's overall health, growth, cognitive functioning and development. Our survey found only 3 percent of children ages 0–17 years are undernourished, an indication that IHVN nutritional services may be having a positive impact. The most crucial time to meet a child's nutritional requirements for growth and development is during the 1,000 days from pregnancy through the child's second birthday (UNICEF, 2013). *IHVN should maintain its emphasis on policies and programs that support children before the age of two years, especially effective infant feeding and care practices. In more advanced countries,*

formal support in terms of food parcels and stipends are provided to vulnerable homes. This approach could be adapted in Nigeria.

Health

The indicator for "percent of children too sick to participate in daily activities" is a direct outcome indicator of a child's well-being (MEASURE Evaluation, 2015). It helps us measure the impact of sickness, impairment, and mental health on a child's daily life. Our survey found that nearly one-third (33%) of the children in the sample of beneficiary households were too sick to participate in daily activities. This may be expected, because IHVN is a treatment program. Disaggregation enables programs to define interventions to reach specific subpopulations based on need. For example, this survey found that children ages 0–4 years (40%) were sick more often than any other age group. *IHVN should disaggregate data into narrower age bands, to target its interventions more precisely.*

Child Protection

A birth certificate is an official document provided as evidence of birth registration by the National Population Commission (NPopC). The process of obtaining a birth certificate is relatively easy through local government authorities, but it is not free: Fees range from N300–N1000 (USD1–USD4). However, it is important to apply for it before it can be issued. Possession of a birth certificate us often required for admission to schools and other institutions and for applications for an ID card, international passport, and some forms of support. In our survey, only about one in five children (21%) had verifiable birth certificates (presented to the interviewers by the caregiver). Possession of a birth certificate among IHVN beneficiary children is higher than among other children in Benue (10%) and Nasarawa (14%), while the rate in FCT (27%) is higher (Nigerian Multiple Indicator Cluster Survey 2011). *The project must try to address the reasons for these low numbers in the beneficiary households. The IHVN should raise awareness of the importance of birth registration among the caregivers and ensure coordination between relevant government ministries and institutions involved in birth registration processes.*

School Attendance and Progression

Our survey shows outstanding results for school progression, with 92 percent of enrolled school-age children advancing to the next grade. The rate was even higher (98%) for children ages 10–14 years and 15–17 years. Overall, 70 percent of children were reported to be attending school regularly at the time of the survey. School enrollment is crucial for childhood development, especially for OVC (Akinyemi & Isiugo-Abanihe, 2014). The percent of children regularly attending school is a direct outcome measure of school attendance (Measure Evaluation, 2015). Research on children has demonstrated that education can contribute to significant improvements in the lives of children and their families. In addition to fostering basic educational competencies, such as reading, writing, and mathematics, learning opportunities can provide students with chances to develop life skills and expose them to health education interventions. School attendance indicates that children and youth can engage in formal learning, and are not required to join the workforce or quit school to care for younger siblings or family members. *Disaggregation is necessary to identify subpopulations that are at high-risk of dropping out of school. For example, the survey data show a slightly lower percentage who progressed in school among 5- to 9-year-olds (82%) and among male children (89%). While universal coverage is recommended, the IHVN project should maintain the efforts that are geared towards school enrollment and progression.*

Early Childhood Development

Nearly all children under the age of five years in our survey (97 percent) had engaged in at least one stimulating activity with someone in their household who was older than 15 years. Stimulating activities enhance young children's physical and mental development. Programs to improve infant stimulation, especially in low-resource communities, can strengthen children's long-term development, psychosocial well-being, and mental health (Milteer & Ginsburg, 2012; Kieling, et al., 2011; Walker, Chang, Powell, & Grantham-McGregor, 2005). *Promoting stimulating activities among OVC will strengthen their cognitive skills and help them develop healthy lifestyles. This is one of the strongest findings in our survey of outcome indicators in the IHVN beneficiary households.*

Child Discipline

Studies across the globe have documented the negative impacts of harsh physical punishment on the well-being of children (Afifi, Brownridge, Cox, & Sareen, 2006; Bugental, Martorell, & Barraza, 2003; Turner & Muller, 2004; Javo, Ronning, Heyerdahl, & Rudmin, 2004; Rodriguez, 2003; Coyl, Roggman, & Newland, 2002; Palmer & Hollin, 2001; MacMillan, et al., 1999). It is a concern that most of the caregivers (88%) in the IHVN beneficiary households in our sample said that harsh physical punishment is an appropriate way to discipline children at home or school. This generally accepted cultural practice has deep implications for children who are already vulnerable. *Reducing harsh physical discipline, violence, and abuse against children is a PEPFAR priority. Parenting and child protection efforts should address attitudes of corporal punishment in both the school and home setting. This may require different messaging directed to caregivers and educators.*

Economic Strengthening

About 79 percent of surveyed households reported that they had recently experienced an unexpected economic need, and only about half of them (54%) were able to access money to pay the unexpected expense. This indicates the economic volatility of OVC households and the absence of adequate safety nets for them. It is possible that some caregivers did not report this indicator accurately and said they had unexpected expenses that they could not meet as a way to secure additional support. *The IHVN project should develop mechanisms for follow-up and feedback (if not already in place) to assess what unexpected economic challenges their beneficiary households can encounter, and how IHVN may be able to improve services and support to help address them. Village savings and loan projects and other successful examples of improving OVC economic coping strategies have been documented in Zimbabwe (Williamson, 2003,) Kenya (Adato & Bassett, 2008), and other East Africa countries (McPeak, Doss, Barrett, & Kristjanson, 2009). Such interventions could be successfully implemented in Benue, FCT, and Nasarawa States, if caregivers have the capacity to use them.*

Food Security and Adequate Shelter

HIV, food insecurity, and malnutrition are intrinsically linked (USAID, 2014b). Millions of PLHIV live in countries with high levels of poverty and food insecurity. Food insecurity has a negative impact on the overall nutritional and health status of those who are HIV- positive and those who are affected by HIV and AIDS. PLHIV often say that food is what they and their families need most (Aberman, et al., 2014; Palermo, Rawat, Weiser, & Kadiyala, 2013). We found that only 28 percent of surveyed households are food-secure (72 percent are not). We also found about 63 percent of households say they have adequate shelter. *IHVN should do more research on food security among its active beneficiaries to clarify their situation.*

CONCLUSION

This report has presented the findings of the OVC survey of essential indicators among the beneficiaries of the IHVN project in the scale-up LGAs of Benue, FCT, and Nasarawa States. The objectives of the survey were to examine the well-being of OVC and their caregivers at one point in time through a series of nine internationally accepted indicators and four additional indicators specific to Nigeria. The survey interviewed 596 caregivers and obtained information on 2,146 OVC ages 0–17 years.

We are impressed with the quality of data on OVC provided by IPs, CBOs, and community volunteers. The IHVN paper-based registers are an accurate representation of the active beneficiaries in the communities. However, as timely data are important for effective service delivery, there is a need for electronic data that are well-structured, harmonized, consistently maintained, and supported for use in services and studies.

The findings from this survey will help the IHVN project and CDC to better understand the characteristics and well-being of vulnerable and HIV-affected households in Benue, FCT, and Nasarawa States. The data collected by our survey will provide the basis for revised targets on specific indicators (such as the numbers of caregivers who know children's HIV testing status, the number of children benefitting from services supporting early childhood development, and the number of caregivers who believe harsh physical punishment is appropriate for child discipline) to strengthen reporting and programs.

The survey design is subject to limitations of cross-sectional surveys such as response and recall biases. Data reported by caregivers on OVC may reflect a perceived desirability of appropriate responses (social desirability bias) rather than actual knowledge or practices and may be affected by response bias. IHVN collects similar data on some of the indicators on a routine basis and therefore could assess the future measurements to compare with our survey results.

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APPENDIX A. NIGERIA OVC MER ESSENTIAL SURVEY INDICATOR QUESTIONNAIRE

A	INTERVIEWER'S NAME:	
B	STATE	*[pre-populates from the cell phone]*
C	IMPLEMENTER	*[pre-populates from the cell phone]*
D	CBO	*[pre-populates from the cell phone]*
E	LGA	*[pre-populates from the cell phone]*
F	COMMUNITY	*[pre-populates from the cell phone]*
G	ADDRESS	---------- ---------- -
H	HOUSEHOLD NUMBER/CAREGIVER'S NUMBER IN THE REGISTER	[- - - -]
I	NUMBER OF VISITS:	Visit 1 1 Visit 2 2 Visit 3 3

MER Indicator Consent Form for Caregivers

Hello. My name is _____ and I am working with CRERD/AHEAD consortium. We are conducting a survey about child and caregiver well-being so that we can improve the impact of our services and programs. To gather this information, we are interviewing caregivers in some households. We have randomly chosen to visit your household.

We would very much appreciate your participation in this survey. Participation involves answering some easy questions about children ages 0-17 under your care. If you care for a child who is older than 5 months but less than 5 years, I will also measure that child's mid-upper arm circumference.

The interview with you will not take too long, depending on the number of children that you care for. If you agree to participate, we will ask you questions from a questionnaire and we will note your answers on the cell phone. The risks to you as a participant in this survey are minimal. Some of the questions are personal and some people may find them difficult to answer. You do not need to answer any questions that you do not want to.

Your participation in this survey is voluntary. You will not be given any money or other compensation for participating. If you don't want to answer my questions, it is OK. If you agree to participate, you can decide not to answer certain questions and can stop the interview at any time. Your decision about whether to participate in this survey or to answer any specific questions will in no way affect any services that you receive.

Other people will not know if you participated in this survey. We will put things we learn about you together with things we learn about other people from your community, so no one can tell

what answers came from you. We will never use your name, so no one will ever know what answers you gave me. Only a few data collectors will have access to this information, and all information will be stored in a locked cabinet under the care of CRERD/AHEAD consortium until it is destroyed in in about three (3) months from the conclusion of the survey. The stored data will have de-identified survey data that will be submitted to all stakeholders.

Your participation in this survey will not benefit you directly, but it may benefit others in the future, as your responses will improve our understanding of ways to provide better services to people in communities like yours.

Before you say yes or no to participating, we will answer any questions you have. You can also ask me questions later. Do you have any questions now?

[PAUSE & ANSWER ALL QUESTIONS]

If you have any questions later, you may contact the survey coordinator (Dr. Elizabeth Omoluabi) at 07015809204 or the office of the National Health Research Ethics Committee of Nigeria (NHREC) on +234095238363

	ASK: May I begin the interview now?	Yes 1 No 2	=> end

CONSENT STATEMENT FOR SIGNATURE OF RESPONDENT

I have read this entire consent form, or I have had it read to me, and any questions have been answered to my satisfaction. I agree to participate in this survey.

- First name of respondent: ……
- Signature of respondent: ……
- Signature of Data collector: ……

Household Roster

Starting from the eldest to the youngest person in this household, I am now going to ask a series of questions about each usual member of the household or anyone who slept in the house last night.

[Repeats for the total number of usual household members including the caregiver]

No	Question	Coding Category	Skip
1	First name	_____	
2	Sex	Male 1 Female 2	
3	Age *Note:* *In complete years* *If less than 1, record 0* *If unknown, record '-998'* *If no response, record '-999'*	[_____] years *Record months if age is less than 1 year, record months.*	0 => 4
4	Age *Note:* *In complete months*	[_____] months	
4	Relationship to caregiver	Caregiver 1 Wife/Husband 2 Son/Daughter 3 Son/Daughter-in-law 4 Grandchild 5 Parent 6 Parent in law 7 Brother/Sister 8 Other 96 Don't know 98 No response 99	
5	Is this person a usual member of the household or has he/she slept in the house last night?	Yes 1 No 2	
6	Is the caregiver responsible for taking care of [**NAME**]?		

MER Indicator Questionnaire: Caregivers

First, I have a few questions to ask

No	Question	Coding Category	Skip
Q1	What is your highest level of education?		
Q2	What is your main occupation/economic activity?		
Q3	What is your religion?	Christianity 1 Islam 2 Other (Specify) _____ 96	
Q4	Please tell me about items that your household owns. Does your household have: *[Select all that apply]*	Electricity? 1 A wall clock? 2 A radio? 3 A black/white television? 4 A color television? 5 A mobile telephone? 6 A non-mobile telephone? 7 A refrigerator? 8 A cable TV? 9 A generating set? 10 An air conditioner? 11 A computer? 12 An electric iron? 13 A fan? 14 A watch? 15 A bicycle? 16 A motorcycle/motor scooter? 17 An animal-drawn cart? 18 A car or truck? 19 A canoe? 20 A boat without a motor? 21 None of the above 77 No response 99	
	ARFH		
Q5	Have you personally ever received services or participated in activities from **"CBO"**? By this I mean, have you ever been visited by a community worker from **"CBO"**, or have you ever participated in any of the follow activities organized by **"CBO"**: *[Select all that apply]* Educational support 1) Yes 2) No Food and Nutrition 1) Yes 2) No Shelter and care 1) Yes 2) No Household Economic Strengthening 1) Yes 2) No		=>Q5b
	APIN		

Q5	Have you personally ever received services or participated in activities from **"CBO"**? By this I mean, have you ever been visited by a community worker from **"CBO"**, or have you ever participated in any of the follow activities organized by **"CBO"**: *[Select all that apply]* Educational Support 1) Yes 2) No Food and Nutritional Support 1) Yes 2) No Health Care 1) Yes 2) No Shelter and care 1) Yes 2) No	=>Q5b
	CRS/SMILE	
Q5	Have you personally ever received services or participated in activities from **"CBO"**? By this I mean, have you ever been visited by a community worker from **"CBO"**, or have you ever participated in any of the follow activities organized by **"CBO"**: *[Select all that apply]* Health support 1) Yes 2) No Educational training 1) Yes 2) No Vocational training 1) Yes 2) No Household economic strengthening 1) Yes 2) No	=>Q5b
	IHVN	
Q5	Have you personally ever received services or participated in activities from **"CBO"**? By this I mean, have you ever been visited by a community worker from **"CBO"**, or have you ever participated in any of the follow activities organized by **"CBO"**: *[Select all that apply]* Educational support 1) Yes 2) No Health support 1) Yes 2) No Nutrition education 1) Yes 2) No Psychosocial Support through adolescent and kids' clubs 1) Yes 2) No	=>Q5b
	WEWE	
Q5	Have you personally ever received services or participated in activities from **"CBO"**? By this I mean, have you ever been visited by a community worker from **"CBO"**, or have you ever participated in any of the follow activities organized by **"CBO"** on: *[Select all that apply]* Nutrition education and counselling 1) Yes 2) No Measuring of MUAC for children 6 months to 4 years 1) Yes 2) No Provision of food for malnourished children 1) Yes 2) No Provision of nutrition supplement for malnourished children 1) Yes 2) No	=>Q5b

Q5b	How long ago did you start receiving services or participating in activities from **"CBO"**?	[_____] months	
Q6	Have you personally received services or participated in activities from **"CBO"** in the last six months?	Yes 1 No 2	
Q7	In the last 3-months has there been a moment or moments when your household did not have enough food to eat?	Yes 1 No 2	
Q8	Do you feel that your current house/living area is adequate for you and your household?	Yes 1 No 2	
Q9	Has your household been able to cover expected household expenses in the last 12 months?	Yes 1 No 2	
Q10	Did your household incur any unexpected household expenses, such as a house repair or urgent medical treatment, in the last 12 months?	Yes 1 No 2	=>Q12
Q11	Was your household able to pay for these unexpected expenses?	Yes 1 No 2	
Q12	Do you think that hitting or beating a child is an appropriate means of discipline or control in the home?	Yes 1 No 2	
Q13	Do you think that hitting or beating a child is an appropriate means of discipline or control at school?	Yes 1 No 2	

MER Indicator Questionnaire for Children Ages 0–4 years

[Repeats for the total number of children aged 0-4]

I am now going to ask a series of questions about **"NAME"**

No	Question	Coding Category	Skip
A1	Does **"NAME"** have a birth certificate?	Yes, seen 1 Yes, not seen 2 No 3	
A2	In the past 3 days, did you or any household member over 15 years of age engage in any of the following activities with **"NAME"**:		
	(a) Read books to or looked at picture books with **"NAME"**?	Yes 1 No 2	
	(b) Told stories to **"NAME"**?	Yes 1 No 2	
	(c) Sang songs to **"NAME"** or with **"NAME"** including lullabies?	Yes 1 No 2	
	(d) Played with **"NAME"**?	Yes 1	

		No 2	
	(e) Named, counted, or drew things with **"NAME"**?	Yes 1 No 2	
A3	In the last 2 weeks, has **"NAME"** been too sick to participate in daily activities?	Yes 1 No 2	
Now, I would like to take the measurement of the Mid Upper Arm Circumference of **"NAME"**			
A4	May I measure **"NAME"**'s mid-upper arm circumference now?	Yes 1 No. Child not at home 2 No. Caregiver declines 3 No. Other reasons 4	 =>A5 =>A5 =>A5
A4b	MUAC measurement **Note**: *The measurement must be taken on the **left upper** arm.* *Every measurement below 12 cm should be re-confirmed and reported to the supervisor*	[_____] cm	
A5	Has **"NAME"** ever received services or participated in activities from **"CBO"**	Yes 1 No 2	 =>A6
A5b	How long ago did **"NAME"** start receiving services or participating in activities from **"CBO"**? **Note**: *In months*	[_____] months	
A6	Has **"NAME"** received services or participated in activities from **"CBO"** in the last 6 months?	Yes 1 No 2	
A7	I don't want to know the results, but has **"NAME"** ever been tested to see if he/she has the AIDS virus?	Yes 1 No 2	 =>A9
A8	I don't want to know the results, but do you know the results of **"NAME"** test?	Yes 1 No 2	
A9	When **"NAME"** is ill with minor sicknesses such as diarrhea, malaria fever, rashes, is it easy for you to obtain medical treatment for **"NAME"** at primary health care centres? **Explain**: *A PHC is the basic structural and functional unit of the public health services. They are essentially single-physician clinics usually with facilities for minor surgeries.*	Yes 1 No 2	

A9b	The last time "**NAME"** was ill with minor sicknesses such as diarrhea, malaria fever, rashes, where did you seek treatment? Hint: *Do not read*	Did not seek treatment1 Self-medication for him/her 2 Traditional health attendant3 PPMV 4 Primary Healthcare Centre 5 Secondary Healthcare Centre 6 Other (Specify)_____ 96	
A10	Has there been any time when **"NAME"** has not had sufficient food to eat during the last 12 months?	Yes 1 No 2	
A11	Has **"NAME"** gone to sleep without food in the last 4 weeks?	Yes 1 No 2	

MER Indicator Questionnaire for Child Ages 5–17 years

[Repeats for the total number of children aged 5-17]

I am now going to ask a series of questions about **"NAME"**

No	Question	Coding Category	Skip
B1	Does **"NAME"** have a birth certificate? **NOTE**: *Request to see the birth certificate and record "NO" if birth certificate is not sighted.*	Yes 1 No 2	
B2	Is **"NAME"** currently enrolled in school?	Yes 1 No 2	=>B5
B3	During the last school week, did **"NAME"** miss any school days for any reason?	Yes 1 No 2	
B4	What grade/form/year is **"NAME"** in now?	Pre-primary 1 Primary 1 2 Primary 2 3 Primary 3 4 Primary 4 5 Primary 5 6 Primary 6 7 JSS1 8 JSS2 9 JSS3 10 SS1 11 SS2 12 SS3 13 Tertiary/university 14	
B5	Was **"NAME"** enrolled in school during the previous school year?	Yes 1 No 2	=>B7

B6	What grade/form/year was **"NAME"** during the previous school year?	Pre-primary 1 Primary 1 2 Primary 2 3 Primary 3 4 Primary 4 5 Primary 5 6 Primary 6 7 JSS1 8 JSS2 9 JSS3 10 SS1 11 SS2 12 SS3 13 Tertiary/university 14	
B7	At any point in the last 2 weeks, has **"NAME"** been too sick to participate in daily activities?	Yes 1 No 2	
B8	Has **"NAME"** ever received services or participated in activities from **"CBO"**?	Yes 1 No 2	=>B9
B8b	How long ago did **"NAME"** start receiving services or participating in activities from **"CBO"**?	[_____] months	
B9	Has **"NAME"** received services or participated in activities from **"CBO"** in the last 6 months?	Yes 1 No 2	
B10	I don't want to know the results, but has **"NAME"** ever been tested to see if he/she has the AIDS virus?	Yes 1 No 2	=> B12
B11	I don't want to know the results but do you know the results of **"NAME"**'s test?	Yes 1 No 2	
B12	When **"NAME"** is ill with minor sicknesses such as diarrhea, malaria fever, rashes, is it easy for you to obtain medical treatment for **"NAME"** at primary health care centres? **Explain**: *A PHC is the basic structural and functional unit of the public health services. They are essentially single-physician clinics usually with facilities for minor surgeries.*	Yes 1 No 2	
B12b	The last time "**NAME"** was ill with minor sicknesses such as diarrhea, malaria fever, rashes, where did you seek treatment? Hint: *Do not read*	Did not seek treatment 1 self-medication for him/her 2 Traditional health attendant 3 PPMV 4 Primary Healthcare Centre 5 Secondary Healthcare Centre 6 Other (Specify)_____ 96	

B13	Has there been any time when **"NAME"** has not had sufficient food to eat during the last 12 months?	Yes 1 No 2	
B14	Has **"NAME"** ever gone to sleep without food in the last 4 weeks	Yes 1 No 2	

Thank you very much for your time. We have now come to the end of the survey.

Interview comment codes:	Interview completed 1 Appointment made for later today 2 Appointment made for another day 3 Refused to continue and no appointment made 4 Other (Specify) _____ 96			
Interview language	English 1 Hausa 2 Ibibio 3 Igala 4 Pidgin 5 Tiv 6 Yoruba 7 Other (Specify) _____ 96			
GPS: **Note**: *Please step outside and record the GPS coordinate*	Latitude	Longitude	Altitude	Accuracy

APPENDIX B. ADDITIONAL TABLES

Table B1. Percent of children ages 0–17 years whose caregivers report the child has been tested for HIV

Variable	All Children (N=2146)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group					
0-4 years	525	(269) 51.2	54.4	46.19	62.4
5-9 years	696	(437) 62.8	61.9	52.5	70.5
10-14 years	608	(352) 57.9	56.1	45.8	65.9
15-17 year	317	(199) 62.8	63.2	51.4	73.7
Sex					
Male	1059	(612) 57.8	59.0	49.5	67.8
Female	1087	(645) 59.3	58.1	49.3	66.4
All Children	**2146**	**(1257) 58.6**	**58.5**	**50.4**	**66.2**
	Male Children (N=1059)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 year	257	(142) 55.3	55.6	47.5	63.5
5-9 years	343	(211) 61.5	61.9	51.7	71.2
10-14 years	297	(167) 56.2	57.1	42.5	70.6
15-17 year	162	(92) 56.8	61.1	46.8	73.7
All Male Children	**1059**	**(612) 57.8**	**59.0**	**49.5**	**67.8**
	Female Children (N=1087)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 year	268	(127) 47.4	53.1	42.4	63.6
5-9 years	353	(226) 64.0	61.9	52.7	70.3
10-14 years	311	(185) 59.5	55.2	43.6	66.2
15-17 year	155	(107) 69.0	65.9	39.6	85.0
All Female Children	**1087**	**(645) 59.3**	**58.1**	**49.3**	**66.4**

Table B2. Percent of children who have a birth certificate that was not verifiable

Variable	All Children (N=2146)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group					
0-4 years	525	(149) 28.4	32.2	21.7	45.0
5-9 years	696	(223) 32.0	41.4	29.4	54.6
10-14 years	608	(220) 36.2	40.0	27.9	53.5
15-17 years	317	(111) 35.0	40.2	23.3	59.8
Sex					
Male	1059	(344) 32.5	39.8	27.4	53.7
Female	1087	(359) 33.0	37.2	26.8	48.9
All Children	**2146**	**(703) 32.8**	**38.5**	**27.5**	**50.9**
	Male Children (N=1059)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 years	257	(81) 31.5	37.4	26.7	49.5
5-9 years	343	(108) 31.5	44.7	27.7	63.0
10-14 years	297	(104) 35.0	36.0	24.7	49.1
15-17 years	162	(51) 31.5	40.0	22.0	61.0
All Male Children	**1059**	**(344) 32.5**	**39.8**	**27.4**	**53.7**
	Female Children (N=1087)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 years	268	(68) 25.4	27.1	14.5	45.0
5-9 years	353	(115) 32.6	37.7	29.1	47.2
10-14 years	311	(115) 37.3	43.6	29.6	58.7
15-17 years	155	(60) 38.7	40.4	23.1	60.5
All Female Children < 5 years	**1087**	**(359) 33.0**	**37.2**	**26.8**	**48.9**

Table B3. Percent of children who have a birth certificate (either verifiable or not)

Variable	All Children (N=2146)				
	Unweighted		Weighted	Confidence Interval	
	N	(n) %	%	L	U
Age Group					
0-4 years	525	(274) 52.2	55.5	45.4	65.2
5-9 years	696	(376) 54.0	62.9	50.8	73.6
10-14 years	608	(335) 55.1	61.2	47.9	73.0
15-17 years	317	(175) 55.2	57.4	41.4	72.1
Sex					
Male	1059	(572) 54.0	60.9	48.9	71.7
Female	1087	(588) 54.1	58.6	48.5	68.1
All Children	**2146**	**(1160) 54.1**	**59.8**	**48.9**	**69.8**
	Male Children (N=1059)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 years	257	(142) 55.3	54.8	45.9	63.4
5-9 years	343	(181) 52.8	63.9	47.5	77.6
10-14 years	297	(161) 54.2	62.4	47.7	75.1
15-17 years	162	(88) 54.3	61.7	43.4	77.2
All Male Children	**1059**	**(572) 54.0**	**60.9**	**48.9**	**71.7**
	Female Children (N=1087)				
	Unweighted		**Weighted**	**Confidence Interval**	
	N	**(n) %**	**%**	**L**	**U**
Age Group					
0-4 years	268	(132) 49.3	56.2	39.8	71.4
5-9 years	353	(195) 55.2	61.9	51.9	71.0
10-14 years	311	(174) 56.0	60.2	44.5	74.0
15-17 years	155	(87) 56.1	52.3	34.7	69.3
All Female Children < 5 years	**1087**	**(588) 54.1**	**58.6**	**48.5**	**68.1**

Table B4. Proportion of children ages 5–17 years currently enrolled in school

Age Group	All Children (N=1621)			Female Children (N=819)			Male Children (N=802)		
	N	Unweighted n (%)	Weighted (%)	N	Unweighted (n) %	Weighted %	N	Unweighted (n) %	Weighted %
5-9 years	696	582 (83.6)	84.5	353	(293) 83.0	84.2	343	(289) 84.3	84.7
10-14 years	608	516 (84.9)	87.0	311	(261) 83.9	85.5	297	(255) 85.9	88.6
15-17 years	317	217 (68.5)	70.8	155	(106) 68.4	67.7	162	(111) 68.5	73.3
Overall (5-17 years)	1621	1315 (81.1)	82.8	819	(660) 80.6	81.8	802	(655) 81.7	83.7

APPENDIX C: RESEARCHERS WHO IMPLEMENTED THE PROJECT

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CRERD/AHEAD

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Muhammed Aisha
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APPENDIX D. CALCULATION OF SAMPLE SIZE

n = D [(Z□□ + Z□)2 * (P1 (1 - P1) + P2 (1 - P2)) /(P2 - P1)²]

n = required minimum sample size per survey round

D = design effect (assumed in the following equations to be the *default* value of 2)

P1 = the estimated level of an indicator measured as a proportion at the time of the first survey

P2 = the *expected* level of the indicator either at some future date or for the project area such that the quantity (P2 - P1) is the size of the magnitude of change it is desired to be able to detect

Z□□ = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (P2 - P1) would not have occurred by chance (□□ - the level of statistical significance), and

Z□□ = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size (P2 - P1) if one actually occurred (□□ -statistical power).

In our case we assume increase of 10 percentage points in the EIS indicators. Assume further that at the time of the first survey, about 50 percent of households have access to financial support. In this case, P1 = .50 and P2 = .60. Using standard parameters of 95 percent level of significance (□) and 80 percent power (□), Z□□ = 1.645 and Z□□ = 0.840 are chosen. Inserting these values in the above formula yields the following result:

n = 2 [(1.645 + 0.840)2 * ((.5)(.5) + (.6)(.4))] / (.6 - .5)²

= 2 [(6.175 * 0.49) / .10²]

= 2 [(3.02575) / .01] = 2 (302.575) = 605.15,

or 606 households per survey round.

To account for non-response rate the sample size was adjusted to 621 for this survey.

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