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

APIN Program 2016 Survey Findings in Lagos State

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MEASURE Evaluation

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ACKNOWLEDGMENTS

This report presents the findings of a survey on programs for the well-being of orphans and vulnerable children (OVC) in Nigeria. The survey used Monitoring, Evaluation, and Reporting (MER) Essential Survey Indicators developed by the United States President's Emergency Plan for AIDS Relief (PEPFAR). MEASURE Evaluation, funded by the United States Agency for International Development (USAID) and PEPFAR, conducted the survey among the beneficiaries of APIN Public Health Initiatives, Ltd/Gte, in partnership with the Center for Research, Evaluation Resources and Development (CRERD) and Academy for Health Development (AHEAD)—two research organizations based in Ile-Ife. The CRERD/AHEAD consortium was responsible for finalizing the design and survey protocol, obtaining ethical clearance, conducting all data collection activities including co-facilitating the training for data collectors, piloting final tools and consent forms, developing the field manuals and data quality assurance procedures, developing a data collection tracking database, developing the electronic data collection scripts in Open Data Kit, undertaking data collection in the field, data cleaning, analyses, and report writing.

We thank USAID, PEPFAR, and the United States Centers for Disease Control and Prevention for their support of this research.

MEASURE Evaluation provided technical support throughout the survey. Walter Obiero, of MEASURE Evaluation, Palladium, served as the technical lead. The report was compiled by Dr. Elizabeth Omoluabi, Dr. Akanni Akinyemi, and Adesegun Fatusi (CRERD/AHEAD Consortium) with technical support from Walter Obiero and colleagues from MEASURE Evaluation's Nigeria office. We acknowledge technical support and guidance received from Lisa Parker (MEASURE Evaluation, Palladium) and wish to thank Lisa Marie Albert (MEASURE Evaluation, Palladium) for assistance with weighting the survey data. We thank MEASURE Evaluation's Knowledge Management team at the University of North Carolina at Chapel Hill for their assistance with editing and production of this report.

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Finally, we are very grateful to our respondent OVC caregivers for their patience and support in responding to our numerous questions about themselves, their household, and the children under their care. They agree with us that good-quality data are essential for informed decision making.

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TABLES

ABBREVIATIONS

AHEAD	Academy for Health Development
APIN	APIN Public Health Initiatives in Lagos, Nigeria, Ltd/Gte
ARFH	Association for Reproductive and Family Health
CBO	community-based organization
CDC	United States 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
ESI	Essential Survey Indicator
FMWASD	Federal Ministry of Women Affairs and Social Development
IHVN	Institute of Human Virology, Nigeria
IP	implementing partner
LGA	local government area
LOPIN	Local Partners for Orphans and Vulnerable Children
MER	Monitoring, Evaluation, and Reporting
MUAC	mid-upper arm circumference
NGO	nongovernmental organization
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
USG	United States Government
VSLA	village savings and loan association
WEWE	Widows and Orphans Empowerment Organization

EXECUTIVE SUMMARY

Survey Background

Investment programs to improve the well-being of approximately 17.5 million orphans and vulnerable children (OVC) and their households in Nigeria have been substantial, and yet the impact of this investment is uncertain (PEPFAR, 2012). To address this, in 2014, the United States President's Emergency Plan for AIDS Relief (PEPFAR) introduced a set of outcome indicators for OVC programs, referred to as Monitoring, Evaluation, and Reporting (MER) Essential Survey Indicators (ESIs), with the requirement that these 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. This survey used a standard method 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 outcome indicators for registered active beneficiaries of APIN Public Health Initiatives Lte/Gte. 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 was a descriptive cross-sectional survey assessing the well-being of vulnerable households, caregivers, and children, registered in the APIN project in four local government areas (LGAs) in Lagos State. The targeted population groups are registered active beneficiaries of the APIN project, including primary caregivers ages 18 years and above and children ages 0–17 years (questions were directed to the primary caregiver). In all, 1,735 children and 598 caregivers were covered in this survey.

Major Findings

Weighted results for the 13 survey indicators (nine essential and four Nigeria-specific indicators) are presented in Table 1 below:

Table 1. Weighted results for the 13 survey indicators

MER Essential Indicators	All		Male	Female
	N	% [95% CI]	% [95 % CI]	% [95% CI]
OVC_HIVST: Percent of children (aged 0–17 years) whose primary caregiver knows the child's HIV status	1,735	20.6 [16.1 – 25.6]	22.5 [18.6 – 26.9]	18.7 [13.5 – 25.3]
OVC_NUT: Percent of children (aged 6–59 months) who are undernourished	412	6.1 [3.7 – 10.0]	1.7 [0.5 – 5.8]	11.1 [5.0 – 22.8]
OVC_SICK: Percent of children (aged 0–17 years) too sick to participate in daily activities	1,735	17.7 [14.9 – 21.0]	16.2 [10.7 – 23.7]	19.3 [17.5 – 21.2]
OVC_BCERT: Percent of children (aged 0–17 years) who have birth certificate	1,735	17.6 [12.2 – 24.8]	18.8 [13.1 – 26.2]	16.4 [11.1 – 23.7]
OVC_SCHATT: Percent of children (aged 5–17 years) regularly attending school	1,180	84.3 [80.7 – 87.3]	86.1 [84.9 – 87.4]	82.4 [75.2 – 87.8]
OVC_PRGS: Percent of children (aged 5–17 years) who progressed in school during the last year	1,217	89.0 [87.5 – 90.2]	91.3 [88.1 – 93.6]	86.7 [81.6 – 90.6]
OVC_STIM: Percent of children <5 years of age who recently engaged in stimulating activities with any household member over 15 years	440	93.0 [88.9 – 95.7]	97.6 [90.8 – 99.4]	88.0 [77.7 – 93.9]
OVC_CP: Percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control for children in the home or at school	598	59.1 [54.9 – 63.1]	38.6 [23.9 – 55.7]	59.9 [55.9 – 63.8]
OVC_MONEY: Percent of households able to access money to pay for unexpected household expenses	465	33.7 [22.1 – 47.5]	14.0 [4.8 – 34.5]	34.5 [23.2 – 47.9]
Nigeria-Specific Indicators				
OVC_NG1: Percent of households that have attained food security in the last 3 months	598	26.7 [22.5 – 31.5]	20.2 [7.9 – 42.7]	27.0 [22.8 – 31.7]
OVC_NG2: Proportion of children and caregivers with adequate shelter	598	40.5 [30.3 – 51.5]	36.1 [22.0 – 53.2]	40.7 [30.4 – 51.8]
OVC_NG3: Percent of children having access to basic healthcare services	1,735	44.5 [33.6 – 55.6]	41.8 [29.0 – 55.8]	47.3 [38.3 – 56.4]
OVC_NG4: Percent of children who went to bed without food in the last 4 weeks	1,735	63.6 [60.4 – 66.7]	64.7 [61.9 – 67.4]	62.5 [58.3 – 66.5]

BACKGROUND

Survey Overview and Rationale

Nigeria Government and U.S. Government investment programs to improve the well-being of orphans and vulnerable children (OVC) and their households have been substantial, and yet the impact of this investment is uncertain and there are still questions regarding "what works" in improving OVC well-being (PEPFAR, 2012). To address these concerns, in 2014, PEPFAR 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," which means that PEPFAR considers them critical to tracking progress of PEPFAR-funded projects and has therefore made them a reporting requirement. A standardized survey methodology and tools have been developed to collect these data in countries where PEPFAR is supporting OVC programs. PEPFAR/Nigeria has asked the MEASURE Evaluation project to conduct surveys to collect these indicators among five OVC projects. Conducting the MER OVC Essential Indicator Surveys supports the purposes of the evaluation policy of the United States Agency for International Development (USAID) for accountability and promoting learning to generate greater positive change. Likewise, the MER OVC Essential Survey Indicators' technical guidance helps USAID Missions and implementing partners (IPs) 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

MEASURE Evaluation, in collaboration with USAID, the U.S. Centers for Disease Control (CDC), and the five OVC projects, conducted the MER OVC Essential Indicator Survey in order to obtain a snapshot of program outcomes at one point in time and to track changes in outcomes over time (at two-year intervals) at round two in 2018.

Survey Objectives

The objective of this 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 MER OVC essential survey indicators in a household-based, project-representative sample of OVCs ages 0–17 and caregivers ages 18 years and above?

Situation of OVC in Nigeria and National Response

According to the 2014 National Standards for Improving the Quality of Life of Vulnerable Children Report, about half of Nigeria's 140 million population is under the age of 18 and an estimated 17.5 million of these children are considered vulnerable to adversity and at risk of not fulfilling their full potential to live a safe and productive life (Federal Ministry of Women Affairs and Social Development, 2014; Tagurum, et al., 2015). Among the vulnerable children, 7.3 million are orphans, of which 2.39 million were orphaned due to an AIDS-related death of one or both parents (Center for Global Health and Development & Initiative for Integrated Community Welfare in Nigeria, 2009; United Nations

Children's Foundation, 2013). In addition to HIV and AIDS, other major causes of orphanhood are road accidents, maternal mortality, and ethnoreligious conflicts (Case, Paxson, & Abieidinger, 2004). Major challenges facing OVCs are child labor, violence against children, insufficient food, inadequate legal protection, and poor access to social, health, and educational services. Girls often face greater challenges than boys because of pervasive, harmful gender norms and practices that discriminate against girls.

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 the challenges posed by the large numbers of OVC in the country:

- National Standards for Improving the Quality of Life of Vulnerable Children
- National Plan of Action (2006–2010) for OVC (FMWASD, 2006)
- Guidelines and Standards of Practice for OVC (defining a minimum package of services for OVC)
- National OVC Monitoring and Evaluation Framework
- OVC eligibility criteria
- OVC advocacy package
- Psychosocial training manual
- OVC Unit in FMWASD
- Priority actions developed to end violence against children
- President declaring 2015 the Year of Action to End Violence against Children

PEPFAR OVC Program in Nigeria

Apart from the government at various levels, many organizations are involved in OVC work in Nigeria. They include international nongovernmental organizations (NGOs), mainly the U.S. Government (USG) and Global Fund IPs, local NGOs, faith-based organizations, and community based organizations (CBOs). With the exception of the Mobile Transmission Network (MTN) Foundation, the contribution of the private sector has been very limited. According to the 2015 annual progress report compiled by PEPFAR/Nigeria, nearly 700,000 children orphaned by AIDS and other vulnerable children received care and support in Nigeria (PEPFAR, 2016). The PEPFAR OVC service delivery package follows the National OVC Service Standards guide. Children receive need-based and age-appropriate interventions including: support to access healthcare; HIV testing and counseling; linkages to treatment and adherence support for HIV-positive children; nutrition assessments and counseling; caregiver and community capacity-building for parenting, early childhood development, and child protection; household economic strengthening; prevention interventions for older OVC; and access to education.

The PEPFAR program aims to achieve epidemic control in scale-up LGAs through enhancement of HIV case detection, linkage to care and treatment, and viral load assessments. Community-based OVC programs recruit referral coordinators to facilitate access and adherence to antiretroviral therapy for HIV-positive children and caregivers. Prevention messaging targets adolescent OVC, especially girls, with linkages to adolescent-friendly reproductive health services. There is a strong focus across the program on strategies to empower households and communities for better parenting and sustainable care and support

to OVC. Services are delivered within the household and community, with strong facility-community referral systems to provide HIV-positive OVC with seamless services from the health facility and within the community where they reside.

PEPFAR MER OVC Surveys in Nigeria

The PEPFAR/Nigeria team selected the following five OVC projects in Nigeria to be surveyed out of seven USAID-funded and nine CDC-funded projects:

1. APIN Public Health Initiatives, Ltd/Gte
2. Association for Reproductive and Family Health (ARFH)/Local Partners for Orphans and Vulnerable Children (LOPIN 1)
3. SMILE: Sustainable Mechanism for Improving Livelihoods and Household Empowerment (SMILE)
4. The Institute of Human Virology, Nigeria (IHVN)
5. Widows and Orphans Empowerment Organization (WEWE)/LOPIN

Two of the IPs, APIN and IHVN, are supported by CDC while WEWE, ARFH, and Catholic Relief Services (CRS/SMILE) are supported by USAID. The selected projects are located in high HIV-prevalence local government areas (LGAs) and the coverage of these scale-up LGAs is where interventions for OVCs will continue up to or beyond 2018. Selection criteria included diversification of U.S. agency support, project funding levels, geographic burden of HIV, and planned continued support to the beneficiary populations served by these projects for at least another two years. The three projects deliver a similar comprehensive package of OVC services based on assessed needs of beneficiaries. Although there is some overlap in the counties served by the projects, all beneficiaries receive services from just one of the projects. Currently, the coverage of these five projects varies from 9,000 to over 300,000 OVCs and their caregivers being served. The OVC outcome MER Survey is expected to happen every two years and selection considers location where continuous OVC intervention ensures that the client/case load will be available for the next two years when the survey will be repeated following the MER Indicator guidance. Consideration also includes near-equal representatives of IPs funded by the two major donor agencies of the USG for the OVC program in Nigeria–CDC and USAID.

Survey Implemented by MEASURE Evaluation

The PEPFAR Team selected the five OVC projects mentioned above and asked MEASURE Evaluation to survey all of them, but this report discusses only one survey: APIN. The APIN survey was implemented by MEASURE Evaluation in partnership with the Center for Research, Evaluation Resource and Development (CRERD) and the Academy for Health Development (AHEAD), two research organizations based in Ile-Ife. MEASURE Evaluation provided overall leadership for the survey and was responsible to USAID for all activities undertaken. The MEASURE Evaluation activity lead held overall technical, management, and supervisory responsibility for the survey, including development of the survey protocol, quality assurance, analysis, technical writing, and dissemination of findings. The MEASURE Evaluation activity lead ensured that the survey was conducted in accordance with the protocol and for the safety and protection of survey participants.

The CRERD/AHEAD consortium was responsible for all data collection activities, including cofacilitating with MEASURE Evaluation the training for data collectors, piloting final tools and consent forms, developing the field manuals and data quality assurance procedures, developing a data collection tracking database, developing the electronic data collection scripts in Open Data Kit, data collection in the field, data cleaning, analyses, and report writing. CRERD/AHEAD ensured that the team performed survey activities to the highest quality standards and on schedule.

APIN project staff played supportive roles in making sure that the survey was successfully completed. The survey activities were coordinated by the MER survey coordinator, a consultant under MEASURE Evaluation. The MER survey coordinator served as the liaison officer among all partners during the survey.

How the Results Will Be Used

The data obtained from the findings in these MER Surveys will be used in combination with input/output data at the USAID Mission level to support program planning, targeting, resource allocation, and implementation. The Office of the Global AIDS Coordinator (S/GAC) will synthesize data to report to the U.S. Congress on the progress of PEPFAR OVC programs globally in improving children's well-being. Additionally, results from the MER OVC Essential Indicator Surveys will be triangulated with findings from OVC project routine monitoring and project evaluations, thus strengthening the evidence base for USG-funded OVC programs. PEPFAR requires that data for the MER OVC Essential Indicator Survey be collected every two years so that progress can be tracked over time. This report covers data at one point in time, that is, the first round of data for these indicators in Nigeria, specifically for APIN.

APIN Project

This report presents the findings from the survey of MER OVC essential indicators from one of the five selected IPs–APIN Public Health Initiatives, Ltd/Gte (formerly known as AIDS Prevention Initiative in Nigeria). APIN has a widespread network of service providers, communities, researchers and persons living with HIV and AIDS support groups in three states (Lagos, Oyo, & Plateau) in Nigeria. Our MER Indicator Survey was conducted only in Lagos State. Lagos State was chosen because it is earmarked for expansion beyond 2018. APIN is an NGO registered with the Nigerian Corporate Affairs Commission. In Lagos, it operates in the following LGAs: Mushin, Ikeja, Alimosho, Ifako-Ijaiye, Eti-Osa, Ibeju-Lekki, Ikorodu, Epe, Amuwo-Odofin, and Oshodi/Isolo. However, only the four scale-up LGAs were selected for the survey. They are: Ikeja, Mushin, Ifako-Ijaiye, and Alimosho.

APIN has built a strong partnership with the Nigerian Government through a memorandum of understanding with the National Planning Commission. The current five-year project that started in October 2012 supports the Federal Government of Nigeria to provide antiretroviral care and treatment directly as a USG IP to more than 53,000 patients in 38 treatment clinics and 150 primary healthcare centers in the three states. These clinics are equipped with state-of-the-art laboratories with capabilities for diagnosis and monitoring HIV including CD4, viral load, DNA PCR, and drug resistance monitoring. Similar strides have been made in prevention, systems strengthening, and human and infrastructural capacity-development efforts. In the states of Lagos, Oyo, and Plateau, the project provides the following OVC interventions at the community level and at home:

1. Educational support
    a. Enrollment and training of older children in vocational skills
    b. Enrollment into public schools for formal education, and monitoring for regular attendance
    c. Collaboration with school authorities and parent-teacher associations for waivers on levies
    d. Implementation of educational block grants
    e. Organization of after-school lessons for some children
    f. Collaboration with community on scholarship programs for educationally disadvantaged children, e.g., physically challenged

2. Food and nutritional support
    a. Nutritional assessment and counseling, with provision of food supplementation for households in dire need
    b. Collaboration with extended family and community on provision of food supplies to indigent households
    c. Food demonstration
    d. Referral to health programs in the community for nutritional support

3. Healthcare
    a. Health education on preventable diseases, personal, and environmental hygiene, and keying into programs; immunization, deworming, and other maternal and child health programs, HIV/AIDs education (with targeted testing)
    b. Curative measures for minor ailments such as diarrhea diseases, upper respiratory diseases
    c. Sexuality education, STI assessment, and syndromic management for sexually active adolescents
    d. Leveraging distribution of insecticides treated nets from health facilities and other programs
    e. Referrals to facilities for treatment of moderate to major health problems

4. Protection
    a. Establishment/strengthening of child protection committees in the community
    b. Facilitation of obtaining birth certificates
    c. Referrals to state social welfare departments and police on cases of abuse, assault, molestation, violence, and neglects
5. Psychosocial support
    a. Kids club: recreational activities, football tournaments, debates, quiz competition, life skills training, indoor games, etc.
    b. Caregivers' forum: discussions on parenting skills, infant and young child feeding, gender norms, and gender-based violence (GBV)
6. Shelter and care
    a. Provision of bedding to households in dire need, e.g., mattresses and bedsheets
    b. Support for minor repairs, e.g., broken windows, doors, and locks
    c. Refer and collaborate with community members in major repairs, e.g., roofing, in the house
7. Household economic strengthening
    a. Establishment/strengthening of village savings and loan associations (VSLAs)
    b. Training on income-generating activities, financial management, and development of business plan with appropriate monitoring
    c. Linkage to microfinance initiatives, cooperatives, and organizations for soft loans
    d. Enrollment and training in vocational skills acquisition programs for out-of-school adolescents/youths

APIN recruits OVC via the following processes:

1. Referrals of potential enrollees (household/children) from the comprehensive sites to the civil society organizations (working in the LGA where the clients reside) in the community via the OVC focal persons at the facilities
2. Referrals of the children of adults accessing care and treatment from the support groups of PLHIVs
3. Recruitment of eligible clients in identified communities with high HIV prevalence or with high-risk behavior, e.g., communities with high population of IDUs

The identification of potential enrollees in the community is done in collaboration with the community gatekeepers, after explaining the purpose of the project. While at the facility, the OVC focal person assesses the vulnerability of the potential enrollee using the Child Vulnerability Index (CVI) form, and then refers appropriately.

SURVEY DESIGN AND METHODS

Design Overview of the APIN Survey

The survey design used a descriptive cross-sectional approach, assessing the well-being of vulnerable households, caregivers, and children enrolled in the APIN project as one of the five OVC PEPFAR projects.

We sought information about two beneficiary groups of APIN project:

1) Primary caregivers ages 18 years and above
2) Children ages 0–17 years (questions were directed to the primary caregiver)

We sampled beneficiaries from APIN's four scale-up LGAs in Lagos State with the expectation that the project will still be active in those LGAs at least two years later, by the time the follow-up survey would be scheduled in 2018, therefore, with the ability to assess changes in indicators over time.

Outcome Measures

This survey obtained information on (1) socioeconomic characteristics of the household, (2) outcome measures on the well-being of caregivers and OVC (caregiver's knowledge of child's HIV status, possession of a birth certificate for child, child's school attendance, progression in school, if receiving project services), (3) attitudes of the caregiver towards physical punishment, and (4) stimulating activities with children below the age of five. (See Table 2.) All children ages 6–59 months from the sampled households were assessed for malnutrition using the mid-upper arm circumference (MUAC) measurement.

Table 2. PEPFAR MER Essential Survey Indicators for OVC Programs (MEASURE Evaluation, 2014)

No.	Outcome Indicator	Rationale for Inclusion	APIN 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.	HIV/AIDs education (with targeted testing)
OVC_NUT	Percent of children (aged 6–59 months) who are undernourished *For this indicator, the interviewer will obtain measurement of mid-upper arm circumference (MUAC) for children ages 6–59 months. It is the only indicator whose measurement requires 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.	Nutritional assessment and counseling, with provision of food supplementation for households in dire need. Collaboration with extended family and community on provision of food supplies to indigent households. Food demonstration. Referral to health programs in the community for nutritional support.
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.	Curative measures for minor ailments such as diarrhea diseases, upper respiratory diseases. Sexuality education, STI assessment, and syndromic management for sexually active adolescents. Referrals to facilities for treatment of moderate to major health problems.
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, including health, education, legal services, and legal employment when they grow older.	Establishment/strengthening of child protection committees in the community. Facilitation of obtaining birth certificates.
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.	Enrollment in public schools for formal education and monitoring for regular attendance. Collaboration with school authorities and parent-teacher associations for waivers on levies.

No.	Outcome Indicator	Rationale for Inclusion	APIN Program Component that Contributes to the Indicator
			Organization of after-school lessons for some children. Collaboration with community on scholarship programs for educationally disadvantaged children, e.g., physically challenged.
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.	Enrollment in public schools for formal education and monitoring for regular attendance. Collaboration with school authorities and parent-teacher associations for waivers on levies. Organization of after-school lessons for some children. Collaboration with community on scholarship programs for educationally disadvantaged children, e.g., physically challenged.
OVC_STIM	Percent of children <5 years of age who recently engaged in stimulating activities with any household member over 15 years of age	Early childhood cognitive, social, and physical stimulation is essential for promotion of long-term learning, growth, and health.	Kids Club: recreational activities, football tournaments, debates, quiz competition, life skills training, indoor games, etc. Caregiver's forum. Parenting programs.
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.	Establishment/strengthening of child protection committees in the community. Referrals to state social welfare departments on cases of abuse, assault, molestation, violence and neglect.
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.	Establishment/strengthening of VSLA groups. Training on income-generating activities, financial management, and development of business plan with appropriate monitoring. Linkage to microfinance initiatives, cooperatives, and organizations for soft loans.
OVC_NG1	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 and affected by HIV/AIDS, and PLHIV often express that food is the greatest need for	Provision of food supplementation for households in dire need.

No.	Outcome Indicator	Rationale for Inclusion	APIN Program Component that Contributes to the Indicator
		themselves and their families. According to USG multisectoral nutrition strategy 2014–2025, there are intrinsic linkages between HIV, food insecurity, and malnutrition.	
OVC_NG2	Proportion of households (with children and caregivers) with adequate shelter	An adequate dwelling unit provides protection for orphans and vulnerable children against the weather and gives them a sense of membership among family. Children and young people should have a safe and conducive shelter to live in.	Provision of bedding to households in dire need, e.g. mattresses and bedsheets. Support for minor repairs, e.g. broken windows, doors, and locks.
OVC_NG3	Percent of children having access to basic healthcare services	Access to basic health care service is important for children, especially vulnerable ones. The human right to health means that everyone has the right to the highest attainable standard of physical and mental health, which includes access to all medical services.	Curative measures for minor ailments such as diarrhea diseases, upper respiratory diseases. Referrals to facilities for treatment of moderate to major health problems.
OVC_NG4	Percent of children who went to bed without food in the last four weeks	It is important for children, especially vulnerable children, to have food.	Provision of food supplementation for households in dire need.

Survey Instruments

The survey utilized the *MER Questionnaire* developed under the MEASURE Evaluation project (Chapman, Foreit, Hickmann, & Parker, 2013). The questionnaire includes three key sections: caregiver, children ages 0–4, 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 on children ages 0–4 years. Questions related to education were asked about children 5–17 years of age. The questionnaire and the consent forms used during APIN's survey were created in English, but they were also translated into Yoruba, the language commonly spoken in Lagos State. English and Yoruba were the two languages used to administer the interviews. Translations aimed to maintain the core meaning of the questions rather than translate the question verbatim. The survey tools (questionnaire and consent forms) were pretested for two days (4–5 November) in Lagos with 10 team supervisors to check the translations. In addition, the English and the translated versions of the questionnaires were also pretested for accuracy, acceptability, and feasibility. As a result of pretesting, some questions were 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, healthcare, shelter and care, etc.?	Yes 1 No 2

Revision 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**	
	Healthcare	**1) Yes**	**2) No**	
	Shelter and care	**1) Yes**	**2) No**	

Other revisions included the addition of some sociodemographic variables and a question on where caregiver sought treatment the last time child was sick (see Appendix A, Q9B):

A second pretest was done in the field as part of data collector training in Unguwar Koro of Dutsen Alhaji ward of the Bwari Area Council in Abuja on Thursday, November 17, 2016. The aim was to test the procedures and competence of field teams to collect the data as well as take the MUAC measurements. This also included testing for comprehension of the instrument. This second pretest comprised 29 interviews among beneficiary households that had not been selected as part of the survey

sample. Participants in the pretest were told that they were participating in a pretest. The data collected from these households were not included as part of the survey. After the pretest, updates to the survey tools were made, particularly on the anthropometric measure (MUAC), to accommodate options for cases where OVC are not available or caregivers refused for a child to be measured. Also, precautionary steps were discussed during a meeting held in collaboration with CRERD/AHEAD staff, MEASURE Evaluation, and the IPs. The meeting decided that the field staff should interview caregivers of such children but not to finalize the questionnaire, pending when the eligible children would be available for the measurement to be taken. Interviewers were asked to inquire from the caregivers as to when the children will be at home to make callback visits to take the MUAC readings. While we slightly adjusted the wording of questions to align with Nigerian discourse and enhance clarity, recall periods were not changed. The interviews lasted an average of 45 minutes, with a minimum of 20 minutes and maximum of 60 minutes depending on the number of 0–17-year-olds in the households. Feedback and issues emerging from the pretesting exercise, including any proposed changes to the questionnaire and translation issues, were discussed and addressed during the pretest feedback session.

Sampling Frame

The survey sampling frame comprised all households located in the four scale-up LGAs in Lagos State that were registered as beneficiaries of the APIN project. The four scale-up LGAs cover 27 communities served by the APIN project. No electronic database was made available to the project for sampling purposes. APIN's sub partners worked from paper-based beneficiary registers. Before the survey, a community trace and verify exercise was conducted during which a list of 166 registered households from three communities (Ajuwon, Fagba, and Agbado-Kola) was provided by subpartners to the team. Out of the 166 households, 19 were selected for verification. Using the prime partner's project management database, only 14 (74%) of the 19 selected households were easily located using the information provided by the subpartner's database. This initial assessment through the community trace and verify exercise found that even the beneficiary lists maintained by APIN project's local CBOs were not up-to-date. Some beneficiaries who had either relocated or dropped off and were lost to follow-up were still found in the APIN's list of beneficiaries. We sampled 19 out of the 166 households and found 14, so five (26%) were lost to follow-up.

Based on the large number of discrepancies found in the initial assessment of the beneficiary database maintained by APIN, the survey team decided to reconstruct the household beneficiary listing from more current records maintained by the local CBOs rather than from the APIN beneficiary database. The survey team worked directly with the local CBO IPs and their community volunteers in the 27 communities (clusters) to construct an updated list of households of active beneficiaries residing in the communities within the four scale-up LGAs. The updated list was constructed from community volunteers' notebooks or sheets of paper printed from the CBO's office. Where a selected community had several community volunteers, we harmonized the lists of all volunteers to ensure that no beneficiary household was omitted or duplicated. Survey staff then verified this list by going through each and every household listed with volunteers to confirm the list or make changes. Once confirmed, a household was then entered in an updated sampling frame listing. The updated sampling frame included a total of 2,258 households with about 2,258 caregivers and 6,551 eligible children from 27 communities. However, the APIN project covers almost 20,000 households.

Selection of Households

Twenty-two households were randomly selected from each of the 27 communities (clusters), giving a total sample size of 594 households. To reach a target of calculated sample size of 616, 22 extra households were randomly selected from two of the largest communities (clusters). This sample size was chosen based on calculations assuming 80 percent power to detect a 10 percent change in indicator prevalence from survey round one to survey round two (with round one prevalence assumed to be near 50%) with 95 percent confidence (see sample size calculation formula in Appendix D).

We used the assistance of APIN's community volunteers who worked in the 27 communities to systematically verify 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 of the number of verified households per each community. The average number of verified households in a community was 84, a minimum was 15, and a maximum number was 1,118. After the systematic verification of households/caregivers, the data auditor and the supervisors then visited each selected community and randomly selected 22 households from each community sampling frame that contained a list of verified households, using the random number generator application in the smartphone. The supervisor and the data auditor were jointly responsible for making and documenting the selections which were in turn verified by the quality assurance team. Because we only had 27 communities in the scale-up LGAs, all 27 communities were surveyed. At the community, the probability of selecting a beneficiary household was 1/the number of verified beneficiary households. In some communities, we found fewer than 22 verified beneficiary households. The protocol was to select all verifiable households (in this case, less than target) and then randomly select the balance at the next community selection process. The response rate for households/caregiver was 97.1 percent (Table 3).

Table 3. Summary of sampling information for APIN

Total number of communities[1] (clusters) under scale-up areas	27
Number of communities (clusters) selected (all communities)	27
Total number of households verified and listed from the all 27 communities (clusters)	2,258
Target number of households planned to be randomly selected per community (cluster)	22
Total number of households randomly selected	616
Total number of caregivers not available for interview after 3 attempts	0
Number of caregivers who refused an interview	4
Number of households with no children under age 18 years	14
Number of households with completed interviews in the cleaned dataset	598
Survey household/caregiver response rate	97.1%

[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 in Lagos November 2–5, 2016. The staff trained in Lagos collected data for APIN (Lagos only). The fieldwork was implemented from November 28–December 20, 2016 in all four scale-up LGAs in Lagos where the APIN project is being implemented. Because of the time lapse between training and fieldwork in Lagos, a one-day refresher training was conducted among fieldworkers in the Southern States. For this survey, 14 interviewers, two supervisors, one data auditor, and one quality assurance officer participated in the fieldwork exercise. Each supervisor managed a team of about seven data collectors and was assisted by a data auditor.

Data were collected using an Android phone with the SurveyCTO (Open Data Kit-based) application. The smartphones were preprogrammed with questionnaires that were linked to a cloud server through wireless connection. Data were transmitted to the cloud server based in CRERD headquarters on a daily basis. The smartphones were preprogrammed 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 0–17-year-olds in the households. Data were uploaded by the field team on a daily basis to the web-based database.

Supervisors and data auditors went to the field to initiate the fieldwork. At each selected community, they met with the community volunteer and went over the list of selected households in the community to verify which beneficiary households were present for interview that particular day. From the list of selected households, the community volunteers assisted in identifying the household, after which they had to step back and allow the interviewer to conduct the interview in private with the caregiver. Supervisors and data auditors checked the data quality daily. While the supervisor checked the work of the data collectors in the field to ensure that the right caregivers had been interviewed, the role of the data auditor was critical to monitor the quality of downloaded data. Each data auditor downloaded the survey data from our cloud server on a daily basis 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 typing errors and if possible checked for flipping of age numbers, e.g., entering 25 as 52. Where errors were identified, data collectors were called by phone from the office to either correct 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 comma-separated values format for analysis.

Analysis Methods

All the Essential Survey Indicators outcome measures are expressed as proportions of appropriate denominators and disaggregated by sex and age in accord with PEPFAR OVC Essential Survey Indicators reporting requirements. We used Chi-square statistics to test for independence between outcome indicators and beneficiaries' gender and t-statistics for continuous variables like age. Sample weights were used in the analysis to account for differential probabilities of selection into the sample, because the sampling did not use probability proportional to size procedures 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 comma-separated values file format from the server database to CRERD/AHEAD headquarters desktop computers. Data were analyzed using STATA V14.0. The data elements were realigned and then reshaped into an easy-to-analyze format. For example, each caregiver had all the data from all the children under her/his care linked to his/her data. Variable names for the data about the children were renamed for uniformity across the different age categories (0–4, 5–9, 10–17).

RESULTS

Basis Characteristics of the Study Population

Of the 616 randomly selected caregivers in the four LGAs in Lagos State that were invited to participate in this survey, 598 caregivers responded (Table 4), yielding a 97.1 percent response rate. The mean age was 39.8 years (SD=10.3, minimum=16, maximum=84) with slightly more than 72 percent of caregivers ages 31–50 years. The survey sample consisted of 553 females (92%) and 45 (8%) males. There was a significant difference in the mean age for females (mean=38.4, SD=9.7) and males (mean=47, SD=13.8); t (584)=-5.3, p=0.000. These results suggest that female caregivers were significantly younger than male caregivers. Almost half of sampled caregivers (48.5%) had at least secondary education while about 14 percent had no education and 35.8 percent had primary education.

Table 4. Demographic characteristics of primary caregivers in the survey population

Variable	All Primary Caregivers	
Mean Age	39.8 years (standard deviation=10.3)	
	Unweighted n (%)	**Weighted %**
Age Group[1] (n=586)		
< 18 years	1 0.2	0.0
18–30 years	117 20.0	14.9
31–50 years	405 69.1	72.4
51+ years	63 10.8	12.7
Sex (n=598)		
Female	553 92.5	96.1
Male	45 7.5	3.9
Education Completed? (n=598)		
No education/Islamiyah	49 12.0	14.8
Primary	187 31.3	35.8
Secondary or higher	339 56.7	48.5

[1]Age is missing for 12 records; therefore, the denominator used to calculate proportions for age group is 586.

A total of 1,735 children were listed among the 598 households, which translates to an average of three children per household/caregiver. The caregivers were asked about all the 1,735 children ages 0–17 during the survey. The sex and age distribution of these children is given in Table 3.1.2. Overall, about 3 percent of the children were younger than age one year (0–5 months and 6–11 months) while about 42 percent were ages 1–9 years, and 43 percent older than 10 years. Almost an equal number of females (864) and males (871) were cared for by 598 caregivers.

Table 5. Sex and age of children ages 0–17 years under the care of caregivers in the survey

Variable	All Children (N=1,735)		Female Children (N=864)		Male Children (N=871)	
Mean Age (SD)	8.8 years (±4.7)		9.3 years (±4.8)		8.2 years (±4.0)	
Age Group	**Unweighted (n) %**	**Weighted %**	**Unweighted (n) %**	**Weighted %**	**Unweighted (n) %**	**Weighted %**
0–5 months	(24) 1.4	0.7	(13) 1.5	0.8	(11) 1.3	0.7
6–11 months	(48) 2.8	2.7	(30) 3.5	3.1	(18) 2.1	2.4
1–4 years	(368) 21.2	16.4	(172) 19.9	15.1	(196) 22.5	17.6
0–4 years	(440) 25.4	19.8	(215) 24.9	19.0	(225) 25.9	20.7
5–9 years	(590) 34.0	36.1	(288) 33.3	29.2	(302) 34.7	42.9
10–14 years	(499) 28.8	31.6	(251) 29.1	35.0	(248) 28.5	28.3
15–17 years	(206) 11.9	12.4	(110) 12.7	16.8	(96) 11.0	8.2

Participation and Services Received from APIN

In the MER survey, each selected beneficiary household had one caregiver as the respondent. Caregivers were asked whether their household had ever received services from APIN and, if so, what types of services they had received. Specifically, they were asked about educational support, food and nutritional support, healthcare, shelter, and repair support. Regarding each of these services, Table 6 shows that 64 percent of caregivers reported that their households had received some service from the APIN project, while 36 percent had not yet received any. It is important to note that the study sites selected for the MER survey were located in the scale-up LGAs, because they will still be in the program by 2018, when the MER surveys are expected to be conducted again.[1] Among households that had received services, educational support and healthcare services were the most prevalent form of support reported (Table 7). Among those who had received services, about 73 percent of caregivers reported that one or more children under their care had received educational support, while 67 percent of households had received healthcare services and 61 percent nutritional support. As many as 36 percent of caregivers reported that their households had received shelter and repair services.

Table 6. Percentage of caregivers who reported that they or members of their households have ever received services from APIN, by type of service

All Caregivers (N=598)				
Variable	**Unweighted**	**Weighted**	**95% Confidence Interval**	
	(n) %	**%**	**Lower Limit**	**Upper Limit**
Activities of CBO[1]				
Never received any support	(316) 52.8	35.9	20.3	55.2
Received any support	(282) 23.2	64.1	44.8	79.7
	(598) 100.0	100.0		

[1] It is possible that some CBOs had not yet started or fully rolled out their support projects in the scale-up LGAs at the time of the survey.

Table 7. Percentage of caregivers who reported that members of their household have ever received services from APIN, by type of service received

All Caregivers (N=282)				
Variable	**Unweighted**	**Weighted**	**95% Confidence Interval**	
	(n) %	**%**	**Lower Limit**	**Upper Limit**
Services of CBO[1] Received				
Educational support	(139) 49.3	73.3	50.0	88.3
Food and nutritional support	(197) 69.9	61.3	53.5	68.5
Healthcare	(174) 61.7	66.7	61.8	71.3
Shelter and repair care	(62) 22.0	36.1	26.2	47.4

[1]Multiple responses allowed

Table 8 presents the percentage distribution of caregivers who indicated how many types of services any member of their household had ever received from their CBO. Among those who reported that any household member had received at least one type of service, 22 percent had received one service, 43 percent had received two, 13 percent had received three, and only 23 percent had received all four highlighted types of services. The mean number of services received by households was 2.4. The majority of those who were enrolled had been receiving the services for less than one year, with about one-quarter reporting that they had been receiving the service for one to two years.

Table 8. Percentage of households that had ever received services, by number of services received from their CBO

All Caregivers (N=282)				
Variable	**Unweighted**	**Weighted**	**95% Confidence Interval**	
	(n) %	**(%)**	**Lower Limit**	**Upper Limit**
Number of Services				
1 service	(106) 37.6	21.6	11.5	36.8
2 services	(89) 31.6	42.5	32.5	53.3
3 services	(60) 21.3	12.9	5.8	26.4
4 services	(27) 9.6	23.0	13.5	36.4
	(282) 100.0	100.0		
Mean number of services received (Standard Deviation)	2.02 (0.99)	2.37 (1.06)		
Time since household started receiving services from CBO (among those who reported having received at least one type of service)				
< 1 year	(191) 67.7	72.1	64.0	79.0
1–2 years	(65) 23.1	23.9	19.7	28.7
> 2 years	(26) 9.2	4.0	0.7	18.9
	(282) 100.0	100.0		

Estimates of Outcome Indicators

The outcome measures in this section are based on reported responses from the caregivers when asked a series of questions (see questionnaire in Appendix A) about their household. A caregiver was then asked about all children ages 0–17 under her/his care. Based on this information, nine Essential Survey

Indicators and four Nigerian-specific measures are presented, disaggregated by age and sex in accordance with PEPFAR reporting guidance.

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

Caregivers were asked about every child under her/his care and if the child had ever been tested for HIV, if they had been tested in the last six months, and if they knew the results of the HIV test (Table 9). Caregivers reported knowledge of HIV status of only 21 percent of the 1,735 children under their care. Knowledge of HIV status was higher for male compared to female children (23% versus 19%). A chi-square test of independence was performed to examine the relation between a caregiver knowing the HIV status of the child and sex of the child. The relation between these variables was not significant, $X^2_{(1, N=458)} = 0.2106$, $p = 0.646$. Table 9 indicates that caregivers' knowledge about the HIV status of male children, is higher for male children ages 0–4 years and 15–17 years than for ages 5–9 years or 10–14 years. The pattern is different among female children, whose caregivers' knowledge about their HIV status increased with the age of the child.

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

	All Children				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group (N=1,735)					
0–4 years	440	(92) 20.9	19.8	16.6	23.5
5–9 years	590	(146) 24.8	17.4	10.6	27.3
10–14 years	499	(113) 22.7	17.7	11.5	26.1
15–17 years	206	(57) 27.7	38.2	30.5	46.7
Sex					
Male	871	(218) 25.0	22.5	18.6	26.9
Female	864	(190) 22.0	18.7	13.5	25.3
All Children	**1,735**	**(408) 23.5**	**20.6**	**16.1**	**25.9**
	Male Children				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group (N=871)					
0–4 years	225	(56) 24.9	28.5	22.5	35.5
5–9 years	302	(78) 25.8	20.1	15.5	25.7
10–14 years	248	(57) 23.0	16.9	9.7	27.9
15–17 years	96	(27) 28.1	38.5	28.0	50.3
All Male Children	**871**	**(218) 25.0**	**22.5**	**18.6**	**26.9**
	Female Children				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group (N=864)					

0–4 years	215	(36) 16.7	10.2	3.8	24.5
5–9 years	288	(68) 23.6	13.5	4.2	35.5
10–14 years	251	(56) 22.3	18.3	12.7	25.5
15–17 years	110	(30) 27.3	38.1	30.4	46.5
All Female Children	**864**	**(190) 22.0**	**18.7**	**13.5**	**25.3**

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

According to the OVC MER guidance, a child is undernourished if the measurement of their left mid-upper arm circumference is below 12.5 cm. Table 10 shows the percentage of children below five years (6–59 months of age) who were undernourished. Overall, 6 percent of 412 children under five years were undernourished. Undernourishment was more likely to happen among children 6–11 months old (32%) than among those 12–59 months old (1.7%), $\mathbf{X^2_{(1, N=412)} = 3.41, P<0.1}$. Male children were less likely to be undernourished (2%) than female children (11%). Fisher's exact test shows that the difference was not significant: **P=0.436**. Because of the small sample sizes, the figures should be interpreted with caution.

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

	All Children <5 Years				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group[1]					
6–11 months	48	(4) 8.3	32.4	14.5	57.5
12–59 months	364	(11) 3.0	1.7	0.5	5.1
Sex					
Male	212	(6) 2.8	1.7	0.5	5.8
Female	200	(9) 4.5	11.1	5.0	22.8
All Children < 5 Years	**412[1]**	**(15) 3.6**	**6.1**	**3.7**	**10.0**
	Male Children (N=212)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
6–11 months	18	(0) 0.0	0.0	-	-
12–59 months	194	(6) 3.1	1.8	0.5	6.3
All Male Children	**212**	**(6) 2.8**	**1.7**	**0.5**	**5.8**
	Female Children (N=200)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
6–11 months	30	(4) 13.3	57.3	15.0	91.1
12–59 months	170	(5) 2.9	1.6	0.4	5.8
All Female Children	**200**	**(9) 4.5**	**11.1**	**5.0**	**22.8**

[1] MUAC measurements were taken for 412 of the 416 children ages 6 months to 4 years. Four were too sick to participate in MUAC measurement.

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. For each child ages 0–17 years included in this survey, their primary caregiver was asked if the child had been too sick to participate in daily activities within the two weeks prior to the survey. Caregivers reported that 17.7 percent of children had been too sick to participate in daily activities at some point in the two weeks prior to the survey (Table 11). Sickness within the past two weeks was more prevalent among children 0–4 years than among children 5–17 years: $X^2_{(1,N=1,735)} = 25.4$, $P<0.0001$. About 16 percent of male children and about 19 percent of female children were reported to have been too sick to participate in daily activities. There was no statistical difference between male and female children in terms of proportions of children who had been too sick to participate in daily activities: $X^2_{(1, N=1,735)} = 2.51$, $P=0.113$.

Table 11. Core indicator: Percent of children (aged 0–17 years) too sick to participate in daily activities

	All Children (N=1,735)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	440	(126) 28.6	28.2	25.4	31.3
5–9 years	590	(89) 15.1	15.1	13.4	16.9
10–14 years	499	(87) 17.4	14.5	11.7	17.8
15–17 years	206	(50) 24.3	16.8	10.6	25.7
Sex of Child					
Male	871	(190) 21.8	16.2	10.7	23.7
Female	864	(162) 18.8	19.3	17.5	21.2
All Children	**1,735**	**(352) 20.3**	**17.7**	**14.9**	**21.0**
	Male Children (N=871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	225	(62) 27.6	30.6	25.6	36.0
5–9 years	302	(55) 18.2	13.9	10.1	18.9
10–14 years	248	(40) 16.1	7.3	2.0	23.2
15–17 years	96	(33) 34.4	22.7	8.8	47.3
All Male Children	**871**	**(190) 21.8**	**16.2**	**10.7**	**23.7**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	215	(64) 29.8	25.6	19.6	32.8
5–9 years	288	(34) 11.8	16.9	11.7	23.9

10–14 years	251	(47) 18.7	20.3	17.9	23.0
15–17 years	110	(17) 15.5	13.9	11.4	16.9
All Female Children	**864**	**(162) 18.8**	**19.3**	**17.5**	**21.2**

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

One key PEPFAR indicator for OVC programming is the number of children in possession of a birth certificate. Overall, about 68 percent of all 1,735 children were reported to have been issued a birth certificate, with roughly the same proportion across age group and sex of child (Appendix B, Table B3**)**. However, when caregivers were further asked to show the birth certificate, they either could not produce it or presented the data collectors with a document other than the actual birth certificate for more than half of the children (50%) initially reported to have a birth certificate (Appendix B, Table B2).

Table 12 presents the distribution of children whose birth certificates were verified to exist by the interviewer. Overall, only about 18 percent of all 1,735 children were reported to have been issued a birth certificate that was viewed by the data collector. Nineteen percent of male children and 16 percent of female children had a birth certificate. Among male children, 35 percent of those ages 15–17 years had birth certificates seen by data collectors, compared to 7 percent of female children of the same age. However, 23 percent of female children ages 0–4 years had a birth certificate that was verified, compared to 12 percent of male children the same age.

Table 12. Core indicator: Percent of children (aged 0–17 years) who had a birth certificate that was verified

	All Children (N=1,735)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	440	(103) 23.4	17.2	10.3	27.3
5–9 years	590	(144) 24.4	21.2	17.5	25.4
10–14 years	499	(115) 23.1	14.4	8.0	24.5
15–17 years	206	(45) 21.8	16.1	10.0	24.9
Sex of Child					
Male	871	(213) 24.5	18.7	13.1	26.2
Female	864	(194) 22.5	16.4	11.1	23.7
All Children	**1,735**	**(407) 23.5**	**17.6**	**12.2**	**24.8**
	Male Children (N=871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	225	(49) 21.8	12.2	4.0	31.9
5–9 years	302	(75) 24.8	19.5	15.5	24.4
10–14 years	248	(64) 25.8	17.8	9.8	30.0
15–17 years	96	(25) 26.0	34.7	22.1	50.0

All Male Children	**871**	**(213) 24.5**	**18.8**	**13.1**	**26.2**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	215	(54) 25.1	22.6	18.1	27.8
5–9 years	288	(69) 24.0	23.7	20.8	26.8
10–14 years	251	(51) 20.3	11.6	6.6	19.6
15–17 years	110	(20) 18.2	6.9	1.4	27.7
All Female Children	**864**	**(194) 22.5**	**16.4**	**11.1**	**23.7**

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

In Nigeria, children usually begin grade school at age five years. In this survey, primary caregivers were asked two questions regarding school attendance of the children ages 5–17 years under their care, to generate this indicator. First, caregivers were asked if the child was currently enrolled in school. Second, for those children who were enrolled in school, caregivers were asked if there was any day in the past school week that a child had missed school for any reason. Table 3.3.5 presents the results of the combination of the two questions related to school attendance that primary caregivers were asked about the children under their care. Overall, 84 percent of 1,180 children were regularly attending school at the time of the survey. Children ages 15–17 years were more likely to be regularly attending school (93%) than the 10- to 14-year-olds whose proportion of regular school attendance was the lowest (79%). Almost equal proportions of male children (86%) and female children (82%) were regularly attending school at the time of the survey.

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

	All Children Ages 5–17 Years Enrolled N=1,180				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
5–9 years	552	(465) 84.2	86.2	82.5	89.3
10–14 years	475	(378) 79.6	78.9	76.7	81.0
15–17 years	153	(125) 81.7	93.3	75.1	98.5
Sex of Child					
Male	587	(507) 86.4	86.2	84.9	87.4
Female	593	(461) 77.7	82.4	75.2	87.8
All Children 5–17 Years	**1180**	**(968) 82.0**	**84.3**	**80.7**	**87.3**
	Male Children Ages 5–17 Years Enrolled (N=587)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
5–9 years	286	(250) 87.4	91.4	86.5	94.7

10–14 years	232	(195) 84.1	76.3	67.1	83.6
15–17 years	69	(62) 89.9	95.0	83.5	98.6
All Males 5–17 Years	**587**	**(507) 86.4**	**86.1**	**84.9**	**87.4**
	Female Children Ages 5–17 Years Enrolled (N=593)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
5–9 years	266	(215) 80.8	78.5	74.8	81.9
10–14 years	243	(183) 75.3	81.0	72.6	87.2
15–17 years	84	(63) 75.0	92.5	68.3	98.6
All Females 5–17 Years	**593**	**(461) 77.7**	**82.4**	**75.2**	**87.8**

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 questions related to school enrollment and grade in school at the time of the survey. These questions include school enrollment and current grade at the time of the survey, and school enrollment and the grade the child was in during the previous school year. The indicator requires looking at all children ages 5–17 years who report being in a more advanced grade level at the time of the survey compared to the previous school year, with the denominator being 5- to 17-year-old children surveyed who report being enrolled in school during the academic year previous to the current/most recent academic year. Table 14 presents the results of this composite indicator, disaggregated by the age and sex of the child.

Overall, of the 1,217 children enrolled the previous year, 89 percent progressed to a higher grade, with the highest proportion of progression reported for the 10- to 14-year-olds (96%) **(P<0.0001**). Across gender, 91 percent of the 603 male children and 87 percent of 614 female children progressed to upper classes/grades during the past academic year, though the difference was not statistically significant **(P=0.180).** Further disaggregating by gender shows a relatively lower progression rate among the 5- to 9-year-olds, where 15 percent of male children and 24 percent of female children did not progress to a higher grade.

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

	All Children Ages 5–17 Years (N=1,217)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
5–9 years	550	(453) 82.4	81.3	79.2	83.3
10–14 years	482	(470) 97.5	96.4	95.2	97.4
15–17 years	185	(176(95.1	91.4	87.3	94.2
Sex of Child					
Male	603	(535) 88.7	91.3	88.1	93.6
Female	614	(564) 91.9	86.7	81.6	90.6

All Children 5–17 Years	1,217	(1,099) 90.3	89.0	87.5	90.2
	Male Children Ages 5–17 Years (N=603)				
	Unweighted		Weighted	95% Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
5–9 years	284	(226) 79.6	85.0	79.0	89.5
10–14 years	235	(227) 96.6	98.4	93.8	99.6
15–17 years	84	(82) 97.6	98.9	94.2	99.8
All Male Children 5–17 Years	**603**	**(535) 88.7**	**91.3**	**88.1**	**93.6**
	Female Children Ages 5–17 Years (N=614)				
	Unweighted		Weighted	95% Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
5–9 years	266	(227) 85.3	76.0	63.8	85.0
10–14 years	247	(243) 98.4	94.8	91.2	97.0
15–17 years	101	(94) 93.1	87.9	83.9	91.0
All Female Children 5–17 Years	**614**	**(564) 91.9**	**86.7**	**81.6**	**90.6**

*To be eligible for this indicator, the child must have been enrolled in school during the previous school year. Therefore, the denominator is children enrolled in the previous school year.

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

This is a direct outcome indicator of whether caregivers and other adults are engaging children at a young age. The survey asked if anyone age 15 and older in the household had read a book or looked at pictures with the OVC, told stories, sang to, played with, counted, or drawn with the child.

Tables 15a through 15c present the distribution of children under five years of age by experience of stimulating activities with any household member over 15 years of age. According to Table 15a, among the 440 children less than five years of age, 66 percent experienced stimulating activities with a book (reading or looking at pictures), and another 66 percent were told stories. The most common stimulating activity for children was being played with (93%), followed by being sung to (86%).

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

Variable	All Children < 5 Years (N=440)			
	Unweighted	Weighted	95% Confidence Interval	
	(n) %	%	Lower Limit	Upper Limit
Read books or looked at pictures	(274) 62.3	66.2	58.9	72.9
Told stories	(238) 54.1	66.1	49.6	79.3
Sang songs or lullabies	(364) 82.7	86.4	80.2	90.9
Played	(412) 93.6	92.5	88.8	95.0
Counted or drew	(242) 55.0	63.0	52.6	72.8

	Male Children <5 Years (N=225)			
	Unweighted	Weighted	95% Confidence Interval	
	(n) %	%	L	U
Read books or looked at pictures	(156) 69.3	74.8	64.3	83.0
Told stories	(124) 55.1	74.8	43.7	91.9
Sang songs or lullabies	(187) 83.1	90.9	75.7	97.0
Played	(214) 95.1	97.1	90.1	99.2
Counted or drew	(131) 58.2	69.5	53.3	82.0
	Female Children <5 Years (N=215)			
	Unweighted	**Weighted**	**95% Confidence Interval**	
	(n) %	**%**	**L**	**U**
Read books or looked at pictures	(118) 54.9	56.8	52.0	61.5
Told stories	(114) 53.0	56.4	51.3	61.5
Sang songs or lullabies	(177) 82.3	81.6	77.2	85.2
Played	(198) 92.1	87.4	78.0	93.1
Counted or drew	(111) 51.6	55.9	49.2	62.5

[1]Multiple activities allowed per child

Table 15b below shows the distribution of children younger than five years of age by the number of types of stimulating activities in which the children were engaged. Overall, over half of the children had been engaged in all five stimulating activities, which translates to 49 percent of female children and 57 percent of male children. About 12 percent of girls compared to only 3 percent of boys did not engage in any stimulating activities.

Table 15b. Core indicator: 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=440)		Female Children < 5 Years (N=215)		Male Children < 5 Years (N=225)	
Number of Types of Stimulating Activities	**Unweighted (n) %**	**Weighted %**	**Unweighted (n) %**	**Weighted %**	**Unweighted (n) %**	**Weighted %**
No activity	(23) 5.2	7.0	(14) 6.5	12.0	(9) 4.0	2.5
1 activity	(14) 3.2	1.9	(7) 3.3	1.7	(7) 3.1	2.0
2 activities	(94) 21.4	15.8	(54) 25.1	22.4	(40) 17.8	9.8
3 activities	(64) 14.6	12.0	(30) 14.0	8.6	(34) 15.1	15.1
4 activities	(89) 20.2	12.0	(37) 17.2	10.5	(52) 23.1	13.4
5 activities	(156) 35.5	51.4	(73) 34.0	44.8	(83) 36.9	57.4

The proportion of children who engaged in at least one stimulating activity is presented in Table 15c. Overall, among the 440 children below age five, 93 percent were reported to have been engaged in at least one stimulating activity. Even though high proportions of children within various age groups were engaged in at least one stimulating activity, the proportion decreased slightly with the age of the child. Across gender, 98 percent of 225 male children below the age of five years and 88 percent of their female counterparts were reported to have been engaged in at least one stimulating activity.

Table 15c. Core indicator: Percent of children < 5 years of age who engaged in at least one stimulating activity with any household member over 15 years of age during the last 3 days

Variable	All Children <5 Years				
	Unweighted		Weighted	95% Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=440)					
0–11 months	72	(66) 91.7	95.3	85.0	98.7
12–23 months	72	(67) 93.1	94.1	73.7	98.9
2–4 years	296	(284) 96.0	92.2	85.7	95.9
Sex of Child					
Male	225	(216) 96.0	97.6	90.9	99.4
Female	215	(201) 93.5	88.0	77.7	93.9
All Children < 5 Years	**440**	**(417) 94.8**	**93.0**	**88.9**	**95.7**
	Male Children <5 Years				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group (**N=225)**					
0–11 months	29	(27) 93.1	96.6	80.8	99.5
12–23 months	32	(30) 93.8	92.4	70.9	98.4
2–4 years	164	(159) 97.0	98.2	92.1	99.6
All Male Children < 5 Years	**225**	**(216) 96.0**	**97.6**	**90.8**	**99.4**
	Female Children <5 Years				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group **(N=215)**					
0–11 months	43	(39) 90.7	94.4	80.1	98.6
12–23 months	40	(37) 92.5	94.8	71.6	99.2
2–4 years	132	(125) 94.7	83.8	62.6	94.1
All Female Children < 5 Years	**215**	**(201) 93.5**	**88.0**	**77.7**	**93.9**

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

The indicator "percent of caregivers who agree that harsh physical punishment is an appropriate means of discipline or control in the home or school" was derived from two variables: whether harsh physical punishment is considered an appropriate means of discipline or control in the *home* or at *school*. Separate analyses that consider the view first at home, then in school, are presented in Appendix B, Tables B5 and B6.

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, 59 percent of the caregivers were in support of harsh punishment as appropriate for OVC either at home or in school. Across age, 60 percent of those in age group 31–50 years compared with 57 percent of those 50 years or more and 55 percent of those ages 18–30 years approved of harsh punishment as appropriate for OVC either at home or in school. Across sex, 60 percent of female caregivers compared with 39 percent of male caregivers

approved of it and this is statistically significant **(P<0.05)**, although the number of male caregivers in the sample is very small.

Table 16. Core indicator: Percent of caregivers of active beneficiaries who agree that harsh physical punishment is an appropriate means of discipline or control in the home or at school

Variable	All Caregivers[1]				
	Unweighted		Weighted	95% Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group (N=598)[1]					
<18 years	1	(0) 0.0	0	-	-
18-30 years	117	(68) 58.1	54.9	46.3	63.3
31-50 years	405	(245) 60.5	60.4	55.7	64.8
50+ years	63	(29) 46.0	57.4	43.0	70.6
Sex					
Male	45	(17) 37.8	38.6	23.9	55.7
Female	553	(332) 60.0	59.9	55.9	63.8
All Caregivers	**598**	**(349) 58.4**	**59.1**	**54.9**	**63.1**

[1]Age is missing for 12 caregivers, and therefore is not summarized here.

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

Ability of households to access funds for unexpected household expenses reflects issues around vulnerability and a measure of household resilience to economic shock. About 78 percent of households reported that they have recently experienced an unexpected need. However, only 34 percent of all households exposed to such shock could access money to meet such expenses (Table 17). Within the age groups, only 7 percent of caregivers over 50 years compared with 46 percent of those 18–30 years could access money for unexpected household expenses. Across sex, 35 percent of females compared with only 14 percent of males could access funds for such unexpected household expenses.

Table 17. Core indicator: Percent of households able to access money to pay for unexpected household expenses

	All Caregivers[1] (N=465)				
	Unweighted		Weighted	95% Confidence Interval	
Variable	**N**	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group[1]					
<18 years	1	(1)100.0	100	-	-
18–30 years	89	(26) 29.2	46.0	19.5	74.9
31–50 years	313	(75) 24.0	38.1	22.2	57.1
50+ years	54	(10) 18.5	6.8	1.4	28.0
Sex of Caregiver					
Male	34	(5) 14.7	14.0	4.8	34.5
Female	431	(107) 24.8	34.5	23.2	47.9
All Households	**465**	**(112) 24.1**	**33.7**	**22.2**	**47.5**

[1]Of the 598 caregivers, 465 (77.8%) reported unexpected expenses in the past 12 months. This question was asked only of those 465 caregivers.

Nigeria-Specific Outcome Indicators

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

All 598 caregivers were each asked if in the past three months there had been a moment or moments when his/her household did not have enough food to eat. Table 3.4.1 presents the distribution of households that had attained food security. Overall, only 27 percent of respondent households reported that they had attained food security within the past three months—that is, that there were no moments in the past three months when their household did not have enough food to eat. About 34 percent of households with caregivers ages 18–30 years had food security compared with 3 percent among the oldest caregivers. More than 20 percent of male caregivers' households and 27 percent of female caregivers' households were food secure.

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

	All Caregivers[1] (N=598)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group[1]					
<18 years	1	(0) 0.0	0.0	-	-
18–□–□30 years	117	(34) 29.1	34.4	22.4	48.9
31–□–□50 years	405	(97) 24.0	29.4	24.3	35.1
50+ years	63	(6) 9.5	3.2	0.6	15.7
Sex					
Male	45	(8) 17.8	20.2	7.9	42.7
Female	553	(131) 23.7	27.0	22.8	31.7
All Households	**598**	**(139) 23.2**	**26.7**	**22.5**	**31.5**

Indicator OVC_NG2: Percent of caregivers and children with adequate shelter

Table 19 below presents the distribution of households who considered their dwelling units to be adequate. Overall, among all 598 caregivers, only 41 percent of caregivers considered their dwelling units to be adequate for them and their children. Although generally low, this report was relatively higher among female caregivers (41%) compared with their male counterparts (36%).

Table 19. Country-specific: Percent of caregivers who considered their dwelling unit to be adequate

Variable	All Caregivers[1] (N=598)				
		Unweighted	**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group[1]					
<18 years	1	(1) 100	100.0	-	-
18–30 years	117	(41) 35.0	39.2	29.3	50.1
31–50 years	405	(118) 29.1	41.0	27.7	55.7
50+ years	63	(30) 47.6	39.5	30.5	49.3
Sex					
Male	45	(16) 35.6	36.1	22.0	53.2
Female	553	178) 32.2	40.7	30.4	51.8
All Caregivers	**598**	**(194) 32.4**	**40.5**	**30.3**	**51.5**

[1]Age is missing for 12 primary caregivers and therefore is not summarized under "Age Group."

Indicator OVC_NG3: Percent of children with access to basic healthcare

Table 20 below describes the percentage of children who had access to basic healthcare services for minor sickness such as diarrhea, malaria, fever, and rashes. Among all children, less than half (44.5%) were reported to have had access to primary healthcare during any episode of illness. Children 0–4 years were more likely to easily get healthcare compared to any child above five years (55%). Access to basic health services was least reported among older children (15–17 years) and was also reported relatively lower for male children (42%).

Table 20. Country-specific: Percent of children having access to basic healthcare services

	All Children (N=1,735)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	440	(227) 63.0	55.3	45.3	65.0
5–9 years	590	(318) 53.9	42.2	31.4	53.8
10–14 years	499	(266) 53.3	44.1	35.6	52.9
15–17 year	206	(104) 50.5	35.0	21.0	52.1
Sex of Child					
Male	871	(489) 56.1	41.8	29.0	55.8
Female	864	(476) 55.1	47.3	38.3	56.4
All Children	**1,735**	**(965) 55.6**	**44.5**	**33.6**	**55.6**
	Male Children (N=871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 year	225	(140) 62.2	48.6	33.7	63.7
5–9 years	302	(162) 53.6	40.4	30.8	50.7
10–14 years	248	(136) 54.8	41.4	28.5	55.6
15–17 year	96	(51) 53.1	33.4	12.4	64.1
All Male Children	**871**	**(489) 56.1**	**41.8**	**29.0**	**55.8**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
1–4 year	215	(137) 63.7	62.8	57.0	68.3
5–9 years	288	(156) 54.2	44.9	32.7	57.8
10–14 years	251	(130) 51.8	46.3	40.4	52.3
15–17 year	110	(53) 48.2	35.8	25.7	47.2
All Female Children	**864**	**(476) 55.1**	**47.3**	**38.3**	**56.4**

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

Table 21 describes the percentage of children who had gone to bed without food at least once in the past four weeks in the households surveyed. Overall, 63.6 percent of children in respondent households had slept hungry at least once in the past four weeks. Higher proportions of children in the older age groups (at least 63%) had gone to bed without food at least once within the reference period, compared with 22 percent of the children 0–4 years. Feeding in the households differed slightly by the sex of the child, with 65 percent of male children and 63 percent of female children going to bed without food at least once in the reference period of four weeks.

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

Variable	All Children (N=1,735)				
	Unweighted		Weighted	95% Confidence Interval	
	N	(n) %	%	Lower Limit	Upper Limit
Age Group					
0–4 year	440	(105) 23.9	22.0	16.3	29.1
5–9 years	590	(400) 67.8	62.6	57.3	67.6
10–14 years	499	(363) 72.8	74.1	71.3	76.8
15–17 year	206	(149) 72.3	63.8	52.5	72.9
Sex of Child					
Male	871	(579) 66.5	64.7	61.9	67.4
Female	864	(559) 64.7	62.5	58.3	66.6
All Children	**1,735**	**(1,138) 65.6**	**63.6**	**60.4**	**66.7**
	Male Children (N=871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 year	225	(70) 31.1	32.1	26.8	38.0
5–9 years	302	(197) 65.2	62.0	58.5	65.3
10–14 years	248	(181) 73.0	71.2	67.4	74.8
15–17 year	96	(74) 77.1	67.4	50.7	80.6
All Male Children	**871**	**(579) 66.5**	**64.7**	**61.9**	**67.4**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**(n) %**	**%**	**Lower Limit**	**Upper Limit**
Age Group					
0-4 year	215	(35) 16.3	10.9	3.5	29.1
5-9 years	172	(92) 53.5	42.8	53.6	72.5
10-14 years	288	(203) 70.5	63.5	72.2	80.3
15-17 year	251	(182) 72.5	76.5	53.6	68.4
15-17 year	110	(75) 68.2	61.2	58.3	66.5
All Female Children	**864**	**(559) 64.7**	**62.5**	**58.3**	**66.5**

DISCUSSION AND RECOMMENDATIONS

Nigeria has made progress in responding to the needs of OVC (FMWASD, 2014). This progress is, however, marginal when compared with the enormous needs of an estimated 17.5 million Nigerian children who are categorized as OVC. A 2008 national situation assessment and analysis showed that a significant proportion of OVC lost a parent to HIV/AIDS, road accidents, maternal mortality, ethnic conflicts, and terrorist insurgence. Other children were made vulnerable through poverty, harmful cultural practices, and gender inequality. This survey has provided outcome measures on core service areas that include education, health services, household economic strengthening, nutrition and food security, protection, and shelter and care that can be used to reinforce the commitment of all stakeholders at the federal, state and local government levels to strengthen care and support services for OVC.

Access to Services

High numbers of households (36%) had never received any services even in the past six months. These findings are unexpected given that APIN and the national government response have been implemented among the OVC beneficiaries for more than five years. It is not certain if this is a true reflection of the challenges these communities are facing in accessing these services for any number of reasons, or if it is the result of respondent bias either due to recall bias or purposely giving incorrect responses in the hopes of getting more services (see Table 6 for the results of this question). It is also possible that OVC support services had not yet been rolled out in several of the scale-up communities at the time of the MER baseline reported in this survey. If this is the case, then is to be expected that the next survey in 2018 would capture a higher percentage of households reached. In this survey, the interviewers asked the question as exactly written in the questionnaire. (See Appendix A, Questions 5 and 6, for the list of program items or services received.) Follow-up on these findings was not part of the scope of this survey. It is, however, important for APIN service providers to follow up on these issues to verify these findings and to address the gaps in channeling provision of their services if indeed these items and services are not being fully accessed by or provided to the program beneficiaries.

HIV Testing for Children

Knowledge of HIV status has implications for early detection and uptake of health interventions. Studies have documented the health and economic benefits as well as survival opportunities associated with early detection of HIV status among children and adolescents, particularly OVC (Violari, et al., 2008; Schenk, Kiragu, Murugi, & Sarna, 2014; Thurman, Luckett, Taylor, & Carnay, 2016).

In this survey, only about one-fifth of children ages 0–17 had primary caregivers who knew their HIV status. While there are no comparable data collected from other sources that we are aware of, we use the Nigeria Demographic and Health Survey (NDHS) 2013 data on children/young adults 15–19 years who are tested and know their status as a comparison. However, it should be recognized that this is a self-reported figure, as compared to the PEPFAR indicator, which asks about the caregiver's knowledge of the child's HIV status. Looking at our own data for the closest age group (15–17), 38 percent have ever received an HIV test and their caregiver knows their result. This number is far higher than the 2013 NDHS figure of 7.6 percent children ages 15–19 nationally who were ever tested and received their results. This paints a mixed picture for HIV testing of children, and given that these are not comparable indicators, there are few conclusions we can safely reach. For instance, many children in the 15- to 17-

year-olds age bracket are able to get their own HIV test, and therefore the caregiver may not know their status. Regardless, it is clear that APIN must work to increase testing rates for children–in particular given that they are in Lagos, one of the most HIV-affected states. Of note, a new PEPFAR routine monitoring indicator, OVC_HIVSTAT, which similarly measures caregiver awareness of a child's HIV status and will be reported by OVC IPs later this year, will provide an additional estimate of this indicator that can be triangulated with these survey results.

Infant Nutrition

The contribution of undernutrition to child mortality, stemming from fetal growth restriction, stunting, wasting, micronutrient deficiencies, and suboptimal breastfeeding have been well documented (Rice, Sacco, Hyder, & Black, 2000; Black, et al., 2008; Bhutta, et al., 2013; UN Standing Committee on Nutrition, 2014; USAID, 2014). Undernutrition also influences child's health, growth, and cognitive functioning and development. Although this survey found that only 6 percent of 0- to 17-year-old children were undernourished, the undernourishment was more prevalent among 6- to 11-month-olds (32%) than among 12- to 59-month-old children (1.7%). From a life cycle perspective and according to UNICEF, the most crucial time to meet a child's nutritional requirements is in the first 1,000 days, including the period of pregnancy and ending with the child's second birthday. During this time, the child has increased nutritional needs to support rapid growth and development. It is therefore recommended that APIN put more emphasis on policies and programs that support nutrition-related actions before the age of two years, especially on appropriate 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 can be adopted in Nigeria.

Health

The percentage of children too sick to participate in daily activities is a direct outcome indicator of a child's well-being (MEASURE Evaluation, 2015). It is a measure of the impact of sickness, impairment, and mental health on a child's daily life. This survey found that almost one-fifth of the children in the sample were too sick to participate in daily activities. It is especially important for APIN to monitor this indicator, because children who are unable to participate in daily activities may need immediate medical care and could be in an especially vulnerable state. Disaggregation enables programs to define interventions to reach specific subpopulations based on need. For example, this survey found that 0- to 4-year-olds had fallen sick more frequently than any other age group within the two weeks prior to the survey.

Child Protection

A birth certificate is an official document provided as evidence of birth registration. The National Population Commission is the ministry of the Federal Republic of Nigeria authorized to issue birth certificates accepted in Nigeria and abroad. The process of obtaining a birth certificate is relatively easy through local government authorities but is not free. A fee ranging from N 300 to N 1000 (between US$1 and US$4) is charged. However, it is important to apply for it before it can be issued. Possession of a birth certificate may be very important at critical points in life, for example, during admission to schools

and institutions, or application for an identification card or international passport. Birth certificate possession was quite still low according to the findings of this survey. Only about 18 percent of all 1,735 children ages 0–17 were reported to have been issued a birth certificate that was seen by the data collector. As a whole, the possession of a birth certificate among children 0–4 years (17%) is lower than the most recent Lagos State data (Nigeria National Bureau of Statistics, 2011), which show registration for children under five years at 33 percent. APIN must try to address the reasons for these low numbers. For example, APIN should intensify awareness raising of the importance of birth registration among caregivers and also ensure coordination between relevant government ministries and institutions involved in birth registration processes.

School Progression

School progression is at 89 percent for children 5–17 years according to the data collected in this survey. School progression figures for children in the program ages 5–9 and 10–14 were also high (81% and 96%). While universal coverage is recommended, the APIN project should maintain efforts geared towards school enrollment and progression. School enrollment is a major developmental issue among 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 age-appropriate, gender-sensitive life skills and can offer health education interventions. School attendance indicates that children and youth have the opportunity to engage in formal learning and are not required to join the workforce or quit school in order to care for younger siblings or family members. Disaggregation is necessary to identify subpopulations at high risk for dropping out of school, (for instance, at the age when youth transition from primary to secondary school is believed to be an area in need of specific targeting to encourage continued school attendance). For example, the survey data show a slight drop in the percentage who progressed in school from 96 percent among 10- to 14-year-olds to 91 percent among 15- to 17-year-olds.

Early Childhood Development

Stimulating activities enhance young children's physical and mental development. There is ample evidence from low-resource settings that programs to improve infant stimulation have very high resultant beneficial effects on children's long-term development, psychosocial outcomes, and mental health (Walker, Chang, Powell, & Grantham-McGregor, 2005; Kieling, et al., 2011; Milteer, Ginsburg, Council on Communications and Media Committee on Psychosocial Aspects of Child Health, & Mulligan, 2012). Promoting stimulating activities among OVC will help in their cognitive development and in developing a healthy lifestyle. This is one of APIN's strongest areas as per the findings of this survey. Overall, among the children less than five years, 93 percent were reported to have engaged in at least one stimulating activity.

Child Discipline

Studies across the globe on the influence of harsh physical punishment on children all converge on its negative outcomes on the children (MacMillan, Boyle, Wong, Duku, Fleming, & Walsh, 1999; Palmer & Hollin, 2001; Coyl, Roggman, & Newland, 2002; Rodriguez, 2003; Javo, Rønning, Heyerdahl, & Rudminet al., 2004; Turner & Muller, 2004; Bugental, Martorell, & Barraza, 2003; Afifi, Brownridge, Cox, & Sareen, 2006). Three out of five OVC caregivers in Lagos support harsh physical punishment as appropriate discipline for children, especially in schools. There is a generally accepted norm in Nigeria that children should be physically punished. For example, the 2011 Nigeria Multiple Indicator Cluster Survey reported that 91 percent of children ages 2–14 years were subjected to at least one form of psychological or physical punishment by their mothers/caretakers or other household members (Nigeria National Bureau of Statistics, 2011). In Lagos, the same survey reported that 74.6 percent of children ages 2–14 years experienced physical punishment**.** This generally accepted cultural practice has deep implications for children who are already vulnerable. Perceptions of physical discipline have been linked to actual use of physical discipline against children. It is therefore important to note that 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 settings, which may require different messaging strategies.

Economic Strengthening

About 78 percent of households reported that they have recently experienced an unexpected need. However, only 34 percent of all households exposed to such shock were able to access money to meet such expenses. This is quite low, indicating the economic volatility of and absence of adequate safety nets for OVC households. Perhaps members of these households who were interviewed purposefully reported that they were not able to pay for these unexpected expenses in anticipation of being given more support following the survey. We recommend that APIN develop mechanisms for follow-up and feedback (if not already in place) to assess what challenges are faced by these households and how best to improve service provision and support for effective interventions. There are well-documented successes of improving OVC economic coping strategies in Zimbabwe (Williamson, 2003), Kenya (Adato & Bassett, 2008), and other East African countries (McPeak, Doss, Barrette, & Kristjanson, 2009) that can be successfully implemented in Lagos or Nigeria. These include but are not limited to village savings and loan schemes for low-income groups. However, household economic strengthening programs should consider caregivers' level of readiness and capacity to succeed when determining whether a particular economic strengthening activity is appropriate.

Food Security

According to the USG multisectoral nutrition strategy 2014–2025, there are intrinsic linkages between HIV, food insecurity, and malnutrition. Millions of HIV-infected people 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 infected and affected by HIV/AIDS, and PLHIV often express that food is the greatest need for themselves and their families (Palermo, Rawat, Weiser, & Kadiyala, 2013; Aberman, 2014). The situation in Nigeria is quite similar. The four additional Nigeria-specific indicators show that 33 percent of Lagos State households surveyed are not food-secure (64% of children went to bed at least once

without food in the past three months), and about 60 percent of households do not have adequate shelter. APIN should do further research of the food security among its Lagos beneficiaries to ascertain the situation.

CONCLUSION

This report has presented the findings of the OVC survey among the beneficiaries of the APIN project being implemented in scale-up LGAs of Lagos State. 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 598 caregivers and obtained information on 1,735 orphans and vulnerable children ages 0–17 years.

One major lesson from this survey is the quality of data on OVC across the value chain from IPs to CBOs and community volunteers. In many cases, the databases are either not available in electronic format or information provided by IPs on OVC are either difficult to verify or not accurate. However, although CBOs and their community volunteers usually have more up-to-date information on the OVC they are directly serving, this is usually in hardcopy notebooks or pieces of paper. As accurate and timely data are critical for effective service delivery, there is the need for well-structured, harmonized electronic data consistently maintained to support data use for service provision and studies.

The findings from this survey will help APIN and CDC better understand the characteristics of vulnerable and HIV-affected households in Lagos State, as well as their current state of well-being measured by the nine essential indicators and the Nigeria-specific indicators. The data collected provide the basis for revised targets by both APIN and CDC on specific indicators (e.g., numbers of caregivers who know children's HIV testing status, number of children benefitting from early childhood development services, number of caregivers who believe harsh physical punishment is appropriate for child discipline) within the program for reporting and implementation purposes.

The survey design is subject to limitations of cross-sectional surveys, including response and recall biases. Data on OVC reported by caregivers may reflect social desirability bias rather than actual knowledge or practices and may be affected by response bias. However, APIN collects similar data on some of the indicators on a routine basis and thus, a possible next step could be to assess the comparability of measures and compare results.

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APPENDIX A. NIGERIA OVC MER ESSENTIAL SURVEY

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

INDICATOR QUESTIONNAIRE

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 ncluding 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 Food and Nutritional Support Health Care Shelter and care 2) No		1) Yes 1) Yes 1) Yes 1) Yes	2) No 2) No 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 Educational training Vocational training Household economic strengthening		1) Yes 1) Yes 1) Yes 1) Yes	2) No 2) No 2) No 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 Health support Nutrition education Psychosocial support through adolescent and kids' clubs		1) Yes 1) Yes 1) Yes 1) Yes	2) No 2) No 2) No 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 Measuring of MUAC for children 6 months to 4 years Provision of food for malnourished children Provision of nutrition supplement for malnourished		1) Yes 1) Yes 1) Yes	2) No 2) No 2) No	

	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 No	1 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 No	1 2	
Q8	Do you feel that your current house/living area is adequate for you and your household?	Yes No	1 2	
Q9	Has your household been able to cover expected household expenses in the last 12 months?	Yes No	1 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 No	1 2	=>Q12
Q11	Was your household able to pay for these unexpected expenses?	Yes No	1 2	
Q12	Do you think that hitting or beating a child is an appropriate means of discipline or control in the home?	Yes No	1 2	
Q13	Do you think that hitting or beating a child is an appropriate means of discipline or control at school?	Yes No	1 2	

MER Indicator Questionnaire for Children Ages 0–4 years

[Repeats for the total number of children ages 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 Yes, not seen No	1 2 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 No	1 2	
	(b) Told stories to **"NAME"**?	Yes No	1 2	
	(c) Sang songs to **"NAME"** or with **"NAME"** including lullabies?	Yes No	1 2	
	(d) Played with **"NAME"**?	Yes	1	

		No	2	
	(e) Named, counted, or drew things with **"NAME"**?	Yes No	1 2	
A3	In the last 2 weeks, has **"NAME"** been too sick to participate in daily activities?	Yes No	1 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 No. Child not at home No. Caregiver declines No. Other reasons	1 2 3 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 No	1 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 No	1 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 No	1 2	 =>A9
A8	I don't want to know the results, but do you know the results of **"NAME"** test?	Yes No	1 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 healthcare centres? **Explain**: *A PHC is the basic structural and functional unit of the public health services. They are essentially single-*	Yes No	1 2	

	physician clinics usually with facilities for minor surgeries.		
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 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	
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 ages 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 Primary 1 Primary 2 Primary 3 Primary 4 Primary 5 Primary 6 JSS1 JSS2 JSS3 SS1 SS2 SS3 Tertiary/university	1 2 3 4 5 6 7 8 9 10 11 12 13 14	
B7	At any point in the last 2 weeks, has **"NAME"** been too sick to participate in daily activities?	Yes No	1 2	
B8	Has **"NAME"** ever received services or participated in activities from **"CBO"**?	Yes No	1 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 No	1 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 No	1 2	=> B12
B11	I don't want to know the results but do you know the results of **"NAME"**'s test?	Yes No	1 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 healthcare 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 No	1 2	
B12b	The last time "**NAME"** was ill with minor sicknesses such as diarrhea, malaria fever, rashes, where did you seek treatment?	Did not seek treatment self-medication for him/her Traditional health attendant PPMV Primary Healthcare Centre	1 2 3 4 5	

	Hint: *Do not read*	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. SUPPLEMENTARY TABLES

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

Variable	All Children (N=1,735)				
	Unweighted		Weighted	95% Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group					
0–4 years	440	99 (24.2)	20.8	17.3	24.9
5–9 years	590	171 (29.0)	19.4	10.8	32.4
10–14 years	499	125 (25.1)	19.0	11.6	29.4
15–17 years	206	63 (30.6)	39.4	32.8	46.4
Sex					
Male	871	243 (27.9)	23.9	18.6	30.1
Female	864	215 (24.9)	20.2	13.6	28.8
All Children	**1,735**	**458 (26.4)**	**22.0**	**16.2**	**29.3**
	Male Children (N=871)				
	Unweighted		Weighted	95% Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group					
0–4 years	225	61 (28.1)	30.1	25.4	35.2
5–9 years	302	94 (31.1)	22.1	15.2	30.9
10–14 years	248	61 (24.6)	17.8	9.8	30.1
15–17 years	96	27 (28.1)	38.5	28.0	50.3
All Male Children	**871**	**243 (27.9)**	**23.9**	**18.6**	**30.1**
	Female Children (N=864)				
	Unweighted		Weighted	95% Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group					
0–4 years	215	38 (17.7)	10.6	4.0	25.4
5–9 years	288	77 (26.7)	15.5	4.8	39.8
10–14 years	251	64 (25.5)	19.9	12.8	29.7
15–17 years	110	36 (32.7)	39.9	34.4	45.5
All Female Children	**864**	**215 (24.9)**	**20.2**	**13.6**	**28.8**

Table B2. Percent of children who have a birth certificate (Not verified)

	All Children (N=1,735)				
	Unweighted		Weighted	95% Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group					
0–4 years	440	179(40.7)	50.5	37.5	63.3
5–9 years	590	287(48.6)	45.9	42.6	49.2
10–14 years	499	277 (55.5)	52.8	48.2	57.3
15–17 years	206	131 (63.6)	52.9	41.8	63.8
Sex of child					
Male	871	439 (50.4)	48.6	45.3	52.0
Female	864	435 (50.4)	51.1	48.2	53.9
All Children	**1,735**	**874 (50.4)**	**49.9**	**47.2**	**52.6**
	Male Children (N= 871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	225	93 (41.3)	52.5	37.8	66.8
5–9 years	302	153 (50.7)	49.9	47.5	52.2
10–14 years	248	133 (53.6)	46.6	38.1	55.2
15–17 years	96	60 (62.5)	39.9	14.0	73.1
All Male Children	**871**	**439 (50.4)**	**48.6**	**45.3**	**52.0**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age of Children					
0–4 years	215	86 (40.0)	48.2	36.6	60.1
5–9 years	288	134 (46.5)	40.0	32.0	48.6
10–14 years	251	144 (57.4)	57.9	54.9	60.8
15–17 years	110	71 (64.6)	59.4	54.5	64.1
All Female Children	**864**	**435 (50.4)**	**51.1**	**48.2**	**53.9**

Table B3. Percentage of children who have a birth certificate (sighted or not sighted)

	All Children (N=1,735)				
Variable		**Unweighted**	**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	440	282 (64.1)	67.6	61.2	73.4
5–9 years	590	431 (73.1)	67.1	61.4	72.3
10–14 years	499	392 (78.6)	67.2	54.7	77.6
15–17 years	206	176 (85.4)	69.0	50.3	83.1
Sex of child					
Male	871	652 (74.9)	67.4	59.0	74.9
Female	864	629 (72.8)	67.5	61.3	73.2
All Children	**1,735**	**1281 (73.8)**	**67.5**	**60.2**	**74.0**
	Male Children (N=871)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	225	142 (63.1)	64.7	57.9	71
5–9 years	302	228 (75.5)	69.4	65.0	73.4
10–14 years	248	197 (79.4)	64.3	45.8	79.8
15–17 years	96	85 (88.5)	74.6	49.2	90.0
All Male Children	**871**	**652 (74.9)**	**67.4**	**59.0**	**74.9**
	Female Children (N=864)				
	Unweighted		**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group					
0–4 years	215	140 (65.1)	70.8	60.8	79.1
5–9 years	288	203 (70.5)	63.7	54.1	72.3
10–14 years	251	195 (77.7)	69.5	61.6	76.4
15–17 years	110	91 (82.7)	66.2	51.9	78.1
All Female Children	**864**	**629 (72.8)**	**67.5**	**61.3**	**73.2**

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

Age Group	All Children (N=1295)			Female Children (N=649)			Male Children (N=646)		
	N	Unweighted n (%)	Weighted (%)	N	Unweighted n (%)	Weighted (%)	N	Unweighted n (%)	Weighted (%)
5–9 years	590	552 (93.6)	95.1	288	266 (92.4)	95.9	302	286 (94.7)	94.7
10–14 years	499	475 (95.2)	98.1	251	243 (96.8)	98.9	248	232 (93.6)	97.2
15–17 years	206	153 (74.3)	88.3	110	84 (76.4)	91.7	96	69 (71.9)	81.5
Overall (5–17 years)	1295	1180 (91.1)	95.3	649	593 (91.4)	96.3	646	587(90.9)	94.4

Table B5. Percentage of caregivers of active beneficiaries who agree that harsh physical punishment is an appropriate means of discipline or control in the home

	All Caregivers[1] (N=598)				
Variable	**Unweighted**		**Weighted**	**95% Confidence Interval**	
	N	**n (%)**	**(%)**	**Lower Limit**	**Upper Limit**
Age Group[1]					
<18 years	1	0 (0.0)	0	-	-
18–30 years	117	45 (38.5)	42.3	34.6	50.4
31–50 years	405	147 (36.3)	45.5	36.3	55.0
50+ years	63	16 (25.4)	29.4	22.4	37.4
Education of caregivers					
None/Islamiyah	72	24 (33.3)	42.6	31.5	54.4
Primary	187	76 (40.6)	46.8	41.3	52.4
Secondary or higher	339	115 (33.9)	40.4	31.7	49.8
Wealth Index					
Lower	233	79 (33.9)	36.9	28.8	45.8
Middle	228	91 39.9)	51.7	42.3	61.0
Upper	137	45 (32.9)	33.8	30.6	37.1
All Caregivers	**598**	**215 (36.0)**	**43.0**	**35.3**	**51.1**

[1]Age is missing for 12 primary caregivers, therefore is not summarized under age group.

Table B6. Percentage of caregivers of active beneficiaries who agree that harsh physical punishment is an appropriate means of discipline or control in the school

Variable	All Caregivers[1] (N=598)				
	Unweighted		Weighted	95% Confidence Interval	
	N	n (%)	(%)	Lower Limit	Upper Limit
Age Group[1]					
<18 years	1	0 (0.0)	0	-	-
18–30 years	117	66 (56.4)	54.1	45.7	62.2
31–50 years	405	229 (56.5)	58.4	53.8	62.9
50+ years	63	29 (46.0)	57.4	43.0	70.6
Education of caregiver					
None/Islamiyah	72	44 (61.1)	68.8	57.1	78.5
Primary	187	120 (64.2)	63.8	59.4	68.0
Secondary or Upper	339	167 (49.3)	49.3	43.8	54.8
Wealth Index					
Lower	233	130 (55.8)	63.0	43.2	79.2
Middle	228	133 (58.3)	63.7	58.5	68.6
Upper	137	68 (49.6)	41.6	31.1	52.9
All Caregivers	**598**	**331 (55.4)**	**57.5**	**52.9**	**62.1**

[1]Age is missing for 12 caregivers, and therefore is not summarized here.

APPENDIX C. RESEARCHERS WHO IMPLEMENTED THE PROJECT

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CRERD/AHEAD
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Ayodeji Omosebi	Olubumo Adesewa	Komolafe Olasupo
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Oyelaran Nehemiah	Quadri Habeeb	Olarewaju Sola Oreo
Alade Akinwole	Adesanya Kehinde	Oluyide Mojisola

APPENDIX D. SAMPLE SIZE CALCULATION

$n = D [(Z_{\alpha} + Z_{\beta})2 * (P1 (1 - P1) + P2 (1 - P2)) / (P2 - P1)^2]$

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_{α} = 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 (α - the level of statistical significance), and

Z_{β} = 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 (β -statistical power).

In our case we assume increase of 10 percentage points in the Essential Survey 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 (α) and 80 percent power (β), Z_{α} = 1.645 and Z_{β} = 0.840 are chosen. Inserting these values in the above formula yields the following result:

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

$= 2 [(6.175 * 0.49) / .10^2]$

$= 2 [(3.02575) / .01] = 2 (302.575) = 605.15$, or 606 households per survey round

For APIN, the sample was adjusted to 616 for nonresponse.

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