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Orphans and Vulnerable Children in Zambia: Descriptive Analysis of a Household-Based
National Survey

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Abstract

Orphans and Vulnerable Children in Zambia: Descriptive Analysis of a Household-Based National Survey

By Natalia Swartz

Background: The HIV epidemic in Zambia has contributed to a national population of orphans and vulnerable children (OVC) that has distinct characteristics and needs. We examined data from the 2016 Zambia Population-Based HIV Impacted Assessment (ZAMPHIA) survey to estimate the total number of OVC in Zambia, their sociodemographic characteristics, HIV prevalence, and levels of household support.

Methods: ZAMPHIA 2016 is a nationally representative, household-based survey with a cross-sectional, 2-stage cluster sampling design and provision of HIV testing. We used complex survey weights to produce weighted estimates of the count and profile of OVC ages 0-14 years in Zambia.

Results: We estimated that there were 1.06 million OVC in Zambia in 2016, consisting of 658,721 orphans and 399,069 vulnerable children. OVC constituted 14.5% of the total child population. The prevalence of orphans was higher among older children with 49.1% (95% confidence interval [CI]: 45.2 to 52.9) of all orphans in the oldest age group (10-14 years). HIV prevalence was 3.1 times as high among OVC compared to non-OVC (95% CI: 2.0 to 5.0). Of the estimated 585,498 households with OVC, only 0.5% to 7.7% received support, varying based on the type of support service.

Conclusion: OVC comprise a considerable proportion of children ages 0-14 years in Zambia. Despite the higher rates of HIV among OVC than non-OVC, most OVC households are not receiving support. Efforts should be placed on closing this gap in coverage and developing targeted interventions that address the needs of this underserved population.

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INTRODUCTION

Sub-Saharan Africa bears the greatest burden of human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) in the world, accounting for 12% of the global population but 75% of HIV infections (1). Zambia is heavily affected by this epidemic with an estimated 1.1 million people living with HIV (2). While alarming, these numbers do little to convey the full societal impact of HIV, because many uninfected children have become orphaned or vulnerable from HIV. This population of orphans and vulnerable children (OVC) is of key public health concern because they are more likely to experience negative health outcomes, abuse, school drop-out, homelessness, and exploitive labor. Furthermore, OVC may face a greater risk of HIV infection than the general population of children (3).

The mechanisms by which orphanhood or vulnerability lead to adverse outcomes are multifaceted and occur at multiple social-ecological levels (4). Orphans are more likely to suffer from internalizing disorders such as anxiety, a sense of failure, and suicidal thoughts (5). Orphanhood due to AIDS specifically has been associated with depression, conduct problems, stigmatization, delinquency and post-traumatic stress disorder (6). Many OVC households also lack financial stability and are unable to afford basic needs such as shelter and food. As a result, OVC face a higher risk of malnourishment and illness and are more likely to engage in dangerous or illicit labor, including commercial sex work, as a source of necessary income. They are often forced to drop out of school to work or care for siblings or ill parents, and may end up living on the street, in institutional care, or in child-headed households (7).

The combined effect of these factors has led to an increase in risky sexual behavior among OVC. For example, the psychological distress and stigma that OVC experience, in addition to their lack of education and psychosocial support, place them at greater risk for poor decision-making and reduced self-efficacy for safe sex practices (8,9). Orphans have nearly two-fold greater odds of HIV infection in comparison to their non-orphan peers (9). The higher levels of sexual exploitation endured by OVC also increase their risk of HIV infection (3).

With an estimated 21% of their child population comprised of orphans, Zambia is a priority country for OVC support (10). However, they lack an updated report of a national count and profile of OVC, as well as their levels of support. According to a 2009 report by USAID, there were an estimated 1.6 million OVC in Zambia, and per the Zambian National HIV/AIDS/STI/TB Council, approximately 1.3 million children in 2012 were orphaned or vulnerable to HIV (11,12). However, the demographic breakdown of these OVC has yet to be determined; describing these OVC will aid in designing targeted and effective interventions. For this reason, updated estimates are needed to understand the burden and trends of OVC in Zambia.

The Government of Zambia has recognized the need for a national response to their OVC population. In collaboration with development partners, they have enacted policies and strategic measures to address their high number and needs of OVC, including development of a National Child Policy and a National Plan of Action for OVC, and establishment of district level OVC services (11). Most of the organizations providing services are community-based, faith-based, or local NGOs, and include significant funding from the U.S. Government through the President's Emergency Plan

for AIDS Relief (PEPFAR) (11). However, more information is needed on the type and distribution of assistance administered, any gaps in coverage, and the profile of children receiving these services, including a breakdown of their HIV status. Our aim is to better understand the burden of OVC in Zambia, the HIV epidemic among OVC, and the support they are receiving to address their needs.

METHODS

Study Design

We examined data from the 2016 Zambia Population-Based HIV Impact Assessment (ZAMPHIA) survey which is a nationally representative, household-based survey conducted by the Republic of Zambia's Ministry of Health and funded by PEPFAR. The survey utilizes a cross-sectional, 2-stage cluster sampling design and aims to measure the national and regional HIV incidence and prevalence, as well as the country's response to the HIV epidemic. The results of this survey are described in the ZAMPHIA 2016: Final Report published in February, 2019.

Study Population

The sampling frame was based on the 2010 Zambia census and consisted of residential households located in 25,631 predefined enumeration areas within the ten provinces of Zambia. Lists of household residents, including guests who slept there the night before, were provided by the head of the household, who was defined as an individual 18 years or older who the household recognized as the head. In special cases, the head of the household could be 15-17 years old who was either married, had one or

more children, or was living alone. If the head of the household was not present, another person could be designated.

All adults ages 15-59 were asked to participate in the individual interview and HIV testing. The head of the household was also administered a household survey that included questions on the health and living status of parents for all children ages 14 and under in the household. Adults had to be able to provide written consent to participate or allow their children to participate. Half of the households were randomly selected for HIV testing of children.

Measures

The questionnaires captured individual and household-level data on demographic characteristics, sexual activity, HIV-related risk behaviors, and HIV testing and treatment. An orphan was defined as a child below the age of 15 who had lost one or both parents, with a single orphan having lost one parent and a double orphan having lost both. If a child had lost one parent but had missing data on the other parent, we classified them as a single orphan. We defined a vulnerable child as a child under 15 years whose birth mother or father had been too sick to be able to work or do normal activities for at least three of the past twelve months. An OVC household was defined as a household that had at least one OVC present.

HIV Testing

Adult participants in all households and children in half of the households were asked for their consent to collect a blood sample for home-based HIV counseling and

testing (HBCT). The HBCT occurred in a private location or room and included a rapid HIV test as well as a point-of-care CD4 test for those who tested HIV-positive and for 5% of randomly selected participants who tested HIV-negative. HBCT followed the Zambian national HIV rapid testing algorithm in which individuals with a non-reactive result on the screening test (Determine™ HIV-1/2) are reported as HIV-negative, and those with a reactive screening test proceed with confirmatory testing using Uni-Gold™. Individuals with a reactive result on both the screening and confirmatory tests are classified as HIV positive, and those with a reactive screening test and a non-reactive confirmatory test are asked to repeat the test in four weeks.

Statistical Analyses

We conducted our analyses using SAS version 9.4 (SAS Institute Inc, Cary, NC) with sample survey procedures, PROC SURVEYFREQ, to account for the weighting, stratification, clustering, and nonresponse of our 2-stage cluster sample design. We performed descriptive analyses of the questionnaire data and rapid HIV test results to produce weighted estimates of the number of OVC in Zambia, characterize their demographic and socioeconomic profile, and calculate their HIV prevalence, stratified by OVC subgroup. We also analyzed household level data to determine whether OVC households had received any medical, emotional/psychological, material (i.e. food, clothing or financial support), social, or school support in the previous twelve months, and assessed the distribution of this support by region, wealth, and hunger status. Household hunger was classified as either “never/rarely”, “sometimes”, or “often” in response to whether anyone in the household had gone to sleep at night hungry in the last

four weeks because there was not enough food.

RESULTS

A total of 13,441 households were selected for this survey, 8,541 of which had data available on OVC status. There were 24,266 children aged 14 or under included in this study; 24,147 (99.4%) provided information on OVC status. In total, 2,053 households and 3,505 children met our definition of OVC. This corresponds to a national estimate of 1,057,791 OVC and 585,498 OVC households in Zambia in 2016.

Characteristics of OVC

OVC comprised 14.5% of all children in the study who had data available on OVC status. Of all households in this survey with OVC data, about one in four were OVC households. The distribution of age was older among OVC than non-OVC. The median age of OVC was 7.9 years whereas non-OVC had a median age of 5.2 years (Table 1a). OVC were present in all ten provinces in Zambia, though among OVC, the greatest proportion (one in six) resided in the Northern province. This contrasts the non-OVC population, among whom about one in eleven lived in the Northern province. About 10% of OVC lived in households that experienced hunger sometimes or often, which is double the proportion of non-OVC that experienced household hunger. OVC were similar to non-OVC in some regards. Both groups had an equal distribution by sex. Nearly two thirds of OVC lived in rural areas and almost all had ever attended school, which is true of non-OVC as well. Both OVC and non-OVC were evenly distributed among wealth quintiles.

Characteristics of Orphans

Among the orphan population, 87.8% had lost one parent. The median age of single orphans was 8.7 years and the greatest proportion resided in the Copperbelt province (Table 1c). Single orphans were equally represented in all wealth quintiles and nearly all of them had ever attended school. Most lived in rural areas and were never or rarely hungry.

The remaining 12.2% of the orphan population had lost both their parents. Unlike single orphans, double orphans were not commonly observed in the 0-4 age group (Table 1c). Double orphans also had the highest median age of all OVC subgroups at 10 years old. The majority resided in rural areas, with the greatest proportion living in the Copperbelt province. Double orphans were distinct from all other OVC subgroups in that the largest proportion of them resided in households in the wealthiest quintile and the smallest proportion resided in households in the poorest quintile. Almost all double orphans had ever attended school and about 13% had experienced household hunger sometimes or often.

Characteristics of Vulnerable Children

Vulnerable children represented the youngest OVC subgroup with a median age of 5.7 years (Table 1b). Unlike orphans, a quarter of all vulnerable children lived in the Northern province and about three quarters resided in rural areas. More than half of all vulnerable children were in the two poorest wealth quintiles and nearly all of them had ever attended school. About one in nine were in households that faced hunger sometimes or often.

HIV Prevalence

HIV prevalence was two times higher among OVC than non-OVC (Table 2). Among all subgroups of OVC, single orphans had the highest HIV prevalence at 3.6% and a prevalence ratio of 4.0 in relation to non-OVC. Vulnerable children had the lowest HIV prevalence of all OVC at 1.6% and a prevalence ratio of 1.8 in comparison to non-OVC. In total, 29,378 OVC under the age of 15 were estimated to be living with HIV in Zambia in 2016.

Support Services for OVC Households

The most common source of support for OVC households was medical with 7.7% of all OVC households having received these services (Table 3). This was followed by school support (5.4%), material support (2.4), emotional/psychological support (1.5), and social support (0.4).

Levels of support differed not only by the type of service provided, but also by the province in which the OVC household resided. For example, 15.5% of OVC households in the Northern province received medical support, whereas only 2.9% of OVC households in the North-western province received medical support (Table 4). This variation in support levels per province was observed among all types of services.

The proportion of OVC households receiving support also differed depending on the region in which they lived (rural versus urban), their wealth classification, and their levels of hunger. Depending on the type of service, the proportion of rural OVC households receiving support ranged from 0.5% to 8.0% (Table 4). The proportion of urban OVC households receiving support ranged from 0.3% to 7.3%, also contingent on

the type of support. Higher priority was not given to OVC households that were poorer or hungrier, for a similar proportion of those households received support as households that were wealthier or never/rarely hungry.

DISCUSSION

The results of the 2016 ZAMPHIA survey show that approximately 9% of children ages 0-14 years in Zambia are orphans and 5% are vulnerable. This translates to 1,057,791 OVC in Zambia. Previous studies surrounding OVC in Zambia measured children under age 18, so an exact comparison is not possible. Nonetheless, according to the 2007 Zambian Demographic Health Survey, 19.2% of all children living in households were vulnerable and 14.9% were orphans (11). The lower estimate of the proportion of children who were OVC in 2016 could reflect the decreasing HIV incidence in Zambia; HIV incidence declined by 24% between 2010 and 2017 (2). Our results also indicate that orphanhood was associated with increasing age, with the highest proportion of orphans in the oldest age group and the smallest proportion in the 0-4 age group. This trend of increased orphanhood among the older age groups was also observed in the Zambia Demographic and Health Survey of 2013-2014 (13). Given that this is not the age distribution of the underlying child population in Zambia, it likely reflects an increasing lifespan among parents with HIV.

The most notable finding is that the burden of HIV was much greater among OVC than non-OVC. Specifically, OVC had 3.1 times the HIV prevalence of non-OVC, with single orphans having the highest HIV prevalence at 3.6%. Though not included in this analysis, the ZAMPHIA 2016 final report indicates that about half of children living with

HIV were unaware of their diagnosis (14). Although widespread community HIV testing is not recommended for children, it could be beneficial to prioritize specific populations that have been identified as high-risk (14). This analysis suggests that more effort to provide HIV testing and preventive services should be focused on the OVC population, in order to reduce the disparity in undiagnosed HIV among children.

The vast majority of OVC households did not receive support. As part of PEPFAR's initiative to mitigate the impact of HIV among children, 10% of their funds are earmarked for OVC programming. Their intention is to develop "prioritized and focused interventions that address children's most critical care needs" in areas such as education, psychosocial support, household economics, social and legal protection, and health and nutrition (3). Despite this, for every measured category of support, 92%-100% of OVC households reported that they did not receive services. In particular, this survey revealed that there is a great unmet need for social support, followed by emotional/psychological support and material support. Placed in the context of other African countries that have national OVC survey data, Zambia reported much lower levels of OVC support than Kenya (15). Although more research is needed in the domain of OVC support, our initial data suggests that OVC households in Zambia are greatly underserved, and emphasis should be placed on evaluating the design and delivery of existing programs in order to maximize their reach and impact among OVC.

This study had several limitations. ZAMPHIA only defines vulnerability as having a sick parent and does not include other forms of vulnerability such as poverty. Therefore, our results underestimate both the number of vulnerable children in Zambia and the need for support services among OVC households. We also classified children as

a single orphan if they had lost one parent but had missing data on the second parent. Given that the living status of the second parent would determine whether the child was a single or a double orphan, it is possible that we overestimated the population of single orphans and underestimated the population of double orphans. Additionally, ZAMPHIA only assesses orphan and vulnerability status among children aged 0-14. Since orphanhood in Zambia is more common among older children, it is likely that we are underestimating the OVC population and our estimates should be viewed as a minimum estimate of OVC. Nonetheless, our analysis for the 0-14 year old age group provides a good starting point for areas of further evaluation in regards to OVC support.

Another limitation is that ZAMPHIA was conducted exclusively among households, and so did not include children who live on the street or in institutional care. However, previous studies indicate that only 1% of children who have lost one or both parents to HIV live in an orphanage and 6% live on the street, so we do not believe that this subpopulation of OVC would heavily influence our results (11). Finally, we experienced a low response rate to certain questions, particularly ones that evaluated household support. More research is needed to determine the reason for this low response rate, and how we can better design the questionnaire to capture the true levels of household support.

Despite these limitations, ZAMPHIA 2016 provides the most extensive and up-to-date data available on the OVC population and HIV epidemic in Zambia (14). Our analysis suggests that while progress has been made in reducing the burden of OVC, there are still critical gaps in coverage that must be addressed. We hope this report will

inform the development of evidenced-based, targeted interventions that meet the evolving needs of Zambia's OVC population.

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TABLES

TABLE 1a. Sociodemographic Characteristics Among Children Ages 0-14 Years By OVC* Status,
Zambia Population-Based HIV Impact Assessment, 2016

	Non-OVC			OVC		
	Weighted, n	Weighted %	95% CI	Weighted, n	Weighted %	95% CI
Total	6,238,138		6,157,350 to 6,318,926	1,057,791		977,473 to 1,138,108
Age, years						
0-4	2,635,012	42.2	41.8 to 42.7	244,335	23.1	20.7 to 25.4
5-9	2,043,489	32.8	32.3 to 33.2	381,536	36.1	33.7 to 38.4
10-14	1,559,637	25.0	24.5 to 25.5	431,920	40.8	37.9 to 43.7
Median age, years		5.2	5.1 to 5.3		7.9	7.8 to 8.0
Sex						
Male	3,113,593	49.9	49.4 to 50.4	558,778	52.8	50.2 to 55.5
Female	3,124,545	50.1	49.6 to 50.6	499,012	47.2	44.5 to 49.8
Province						
Central	650,554	10.4	9.1 to 11.8	83,633	7.9	5.9 to 9.9
Copperbelt	852,433	13.7	11.9 to 15.4	145,123	13.7	10.7 to 16.7
Eastern	785,460	12.6	9.9 to 15.3	95,713	9.0	6.0 to 12.1
Luapula	510,418	8.2	7.0 to 9.4	69,543	6.6	3.4 to 9.7
Lusaka	954,203	15.3	13.0 to 17.6	145,588	13.8	9.9 to 17.7
Muchinga	435,322	7.0	6.1 to 7.9	66,531	6.3	4.5 to 8.1
Northern	539,853	8.7	7.2 to 10.1	171,531	16.2	12.6 to 19.8
North-Western	356,652	5.7	4.8 to 6.6	62,273	5.9	4.2 to 7.5

Southern	750,907	12.0	10.4 to 13.6	129,599	12.3	9.2 to 15.3
Western	402,335	6.4	5.3 to 7.6	88,258	8.3	5.2 to 11.5
Residence						
Rural	3,986,701	63.9	60.2 to 67.7	670,118	63.4	58.1 to 68.6
Urban	6,238,138	36.1	32.3 to 39.8	387,672	36.6	31.4 to 41.9
Ever Attended School						
Yes	1,495,907	96.0	94.0 to 97.9	419,049	97.0	95.4 to 98.7
No	63,086	4.0	2.1 to 6.0	12,872	3.0	1.3 to 4.6
Wealth Quintile						
Poorest	1,231,104	19.8	17.7 to 22.0	227,056	21.5	17.4 to 25.6
Second	1,360,902	21.9	19.7 to 24.1	231,687	21.9	18.0 to 25.9
Middle	1,307,222	21.1	18.7 to 23.5	208,496	19.7	15.9 to 23.6
Fourth	1,258,119	20.3	17.8 to 22.7	213,440	20.2	16.4 to 24.0
Richest	1,050,082	16.9	14.6 to 19.3	175,259	16.6	13.1 to 20.1
Household Hunger						
Never or Rarely	5,868,075	94.2	92.9 to 95.4	949,924	89.8	87.0 to 92.6
Sometimes	311,580	5.0	4.0 to 6.0	88,784	8.4	6.1 to 10.7
Often	50,423	0.8	0.3 to 1.3	19,083	1.8	0.2 to 3.4

*Orphan or vulnerable child

TABLE 1b. Sociodemographic Characteristics Among Orphans and Vulnerable Children Ages 0-14 Years, Zambia Population-Based HIV Impact Assessment, 2016

	Orphan (Single or Double)			Vulnerable Child		
	Weighted, n	Weighted %	95% CI	Weighted, n	Weighted %	95% CI
Total	658,721		593,778 to 723,665	399,069		338,737 to 459,402
Age, years						
0-4	93,313	14.2	11.6 to 16.7	151,022	37.8	33.5 to 42.2
5-9	242,251	36.8	33.4 to 40.1	139,284	34.9	31.3 to 38.5
10-14	323,157	49.1	45.2 to 52.9	108,763	27.3	23.5 to 31.0
Median age, years		8.9	8.5 to 9.3		5.7	5.0 to 6.4
Sex						
Male	349,280	53	49.3 to 56.7	209,499	52.5	47.8 to 57.2
Female	309,442	47	43.3 to 50.7	189,571	47.5	42.8 to 52.2
Province						
Central	63,201	9.6	7.2 to 12.0	21,270	5.1	2.2 to 8.1
Copperbelt	108,869	16.5	12.9 to 20.1	34,790	9.1	4.1 to 14.0
Eastern	62,379	9.5	5.2 to 13.7	25,760	8.4	3.4 to 13.3
Luapula	55,096	8.4	4.6 to 12.1	21,492	3.6	0.5 to 6.7
Lusaka	96,861	14.7	10.8 to 18.6	42,669	12.2	6.2 to 18.2
Muchinga	37,959	5.8	4.2 to 7.3	22,759	7.2	3.3 to 11.0
Northern	67,834	10.3	5.3 to 15.3	76,360	26.0	18.5 to 33.5
North-Western	39,223	6.0	4.1 to 7.8	18,582	5.8	2.5 to 9.1
Southern	74,365	11.3	8.2 to 14.4	45,981	13.8	8.2 to 19.5
Western	52,934	8.0	4.5 to 11.5	30,869	8.9	4.5 to 13.2
Residence						

Rural	382,096	58.0	51.8 to 64.2	288,022	72.2	64.5 to 79.9
Urban	276,625	42.0	35.8 to 48.2	111,047	27.8	20.1 to 35.5
Ever Attended School						
Yes	314,581	97.3	95.7 to 98.9	104,467	96.1	91.5 to 100.0
No	8,576	2.7	1.1 to 4.3	4,296	3.9	0.0 to 8.5
Wealth Quintile						
Poorest	125,918	19.2	14.4 to 23.9	101,138	25.4	18.7 to 32.0
Second	120,793	18.4	14.0 to 22.8	110,894	27.8	20.5 to 35.1
Middle	134,248	20.4	16.0 to 24.9	74,248	18.6	12.7 to 24.5
Fourth	145,222	22.1	17.1 to 27.1	68,218	17.1	11.0 to 23.2
Richest	131,057	19.9	15.1 to 24.8	44,202	11.1	6.8 to 15.4
Household Hunger						
Never or Rarely	595,488	90.4	87.6 to 93.2	354,436	88.8	83.9 to 93.7
Sometimes	73,023	8.6	6.1 to 11.1	32,148	8.1	4.1 to 12.0
Often	6,597	1.0	0.1 to 1.9	12,486	3.1	0.0 to 6.3

TABLE 1c. Sociodemographic Characteristics Among Children Ages 0-14 Years By Orphan Type, Zambia Population-Based HIV Impact Assessment, 2016

	Single Orphan			Double Orphan		
	Weighted, n	Weighted %	95% CI	Weighted, n	Weighted %	95% CI
Total	578,160		515,090 to 641,229	80,562		58,126 to 102,997
Age, years						
0-4	90,996	15.7	12.9 to 18.6	2,317	2.9	0.0 to 6.2
5-9	212,107	36.7	33.0 to 40.4	30,144	37.4	26.0 to 48.8
10-14	275,057	47.6	43.3 to 51.9	48,100	59.7	48.5 to 70.9
Median age, years		8.7	8.3 to 9.2		10	9.0 to 10.9
Sex						
Male	307,541	53.2	49.3 to 57.1	41,738	51.8	40.1 to 63.5
Female	270,619	46.8	42.9 to 50.7	38,823	48.2	36.5 to 59.9
Province						
Central	52,448	9.1	6.4 to 11.8	10,753	13.3	1.9 to 24.8
Copperbelt	93,240	16.1	12.4 to 19.8	15,629	19.4	9.5 to 29.3
Eastern	57,995	10.0	5.3 to 14.7	4,385	5.4	0.7 to 10.2
Luapula	47,384	8.2	4.0 to 12.4	7,712	9.6	0.3 to 18.8
Lusaka	83,787	14.5	10.3 to 18.7	13,074	16.2	2.9 to 29.5
Muchinga	31,723	5.5	3.9 to 7.1	6,236	7.7	3.1 to 12.4
Northern	60,818	10.5	5.2 to 15.8	7,016	8.7	0.0 to 18.5
North-Western	33,077	5.7	3.9 to 7.5	6,146	7.6	0.9 to 14.3
Southern	70,391	12.2	8.7 to 15.6	3,974	4.9	0.4 to 9.5
Western	47,298	8.2	4.4 to 12.0	5,636	7.0	1.4 to 12.5

Residence						
Rural	334,646	57.9	51.4 to 64.4	47,450	58.9	44.4 to 73.4
Urban	243,514	42.1	35.6 to 48.6	33,111	41.1	26.6 to 55.6
Ever Attended School						
Yes	267,757	97.3	95.4 to 99.3	46,824	97.3	93.0 to 100.0
No	7,300	2.7	0.7 to 4.6	1,276	2.7	0.0 to 6.9
Wealth Quintile						
Poorest	118,601	20.6	15.4 to 25.8	7,317	9.1	2.3 to 15.8
Second	102,084	17.7	13.1 to 22.4	18,709	23.2	11.3 to 35.1
Middle	115,636	20.1	15.5 to 24.6	18,612	23.1	11.8 to 34.4
Fourth	130,499	22.6	17.4 to 27.9	14,722	18.3	8.8 to 27.7
Richest	109,855	19.0	14.3 to 23.8	21,202	26.3	11.9 to 40.7
Household Hunger						
Never or Rarely	524,777	90.8	87.8 to 93.7	70,711	87.8	80.0 to 95.6
Sometimes	49,684	8.6	5.8 to 11.4	6,953	8.6	2.2 to 15.0
Often	3,699	0.6	0.1 to 1.2	2,898	3.6	0.0 to 8.3

TABLE 2. HIV Prevalence Among Children Ages 0-14 Years By OVC* Status,
Zambia Population-Based HIV Impact Assessment, 2016

	Weighted, n	Weighted %**	95% CI	Prevalence Ratio	95% CI
Non-OVC	54,649	0.9	0.6 to 1.1	REF	REF
OVC	29,378	2.8	1.7 to 3.8	3.1	2.0 to 5.0
Orphan (any)	23,100	3.4	2.0 to 4.9	3.9	2.4 to 6.4
Single Orphan	20,930	3.6	1.9 to 5.2	4.0	2.4 to 6.8
Double Orphan	2,170	2.7	0.0 to 6.0	3.1	0.9 to 10.7
Vulnerable Child	6,278	1.6	0.2 to 3.0	1.8	0.7 to 4.5

*Orphan or vulnerable child

**Weighted percent of row population that is HIV positive

TABLE 3. Proportion of OVC Households* That Received Support,
Zambia Population-Based HIV Impact Assessment, 2016

	OVC Household		
	Weighted, n	Weighted %	95% CI
Total	585,498		547,884 to 623,111
Medical Support			
No	364,498	92.3	90.5 to 94.0
Yes	30,616	7.7	6.0 to 9.5
Emotional/Psychological Support			
No	388,814	98.5	97.8 to 99.2
Yes	5,996	1.5	0.8 to 2.2
Material Support			
No	385,073	97.6	96.8 to 98.5
Yes	9,338	2.4	1.5 to 3.2
Social Support			
No	392,811	99.6	99.2 to 100.0
Yes	1,694	0.4	0.0 to 0.8
School Support**			
No	213,213	94.6	92.7 to 96.5
Yes	12,138	5.4	3.5 to 7.3

*Household with at least one orphan or vulnerable child under the age of 15

**Among those who attend school

TABLE 4. Proportion of OVC Households* That Received Support By Household Characteristics, Zambia Population-Based HIV Impact Assessment, 2016

	Medical Support	Emotional/ Psychological Support	Material Support	Social Support	School Support
Province					
Central	6.9 (0.0 to 14.6)	0.9 (0.0 to 2.8)	3.9 (0.0 to 9.0)	1.0 (0.0 to 2.9)	7.6 (1.0 to 14.2)
Copperbelt	13.3 (7.3 to 19.3)	1.6 (0.0 to 3.4)	1.0 (0.0 to 2.5)	0.5 (0.0 to 1.5)	6.9 (2.7 to 11.0)
Eastern	3.2 (0.0 to 6.7)	1.5 (0.0 to 3.7)	1.3 (0.0 to 3.4)	0.8 (0.0 to 2.7)	2.7 (0.0 to 8.2)
Luapula	4.2 (0.0 to 8.5)	0.0 (0.0 to 0.0)	0.0 (0.0 to 0.0)	0.0 (0.0 to 0.0)	1.9 (0.0 to 5.8)
Lusaka	4.3 (1.6 to 7.0)	2.7 (0.4 to 5.0)	3.0 (0.6 to 5.3)	0.0 (0.0 to 0.0)	2.7 (0.0 to 5.5)
Muchinga	7.0 (1.9 to 12.1)	0.8 (0.0 to 2.4)	2.0 (0.0 to 4.3)	0.0 (0.0 to 0.0)	2.2 (0.0 to 5.2)
Northern	15.5 (7.5 to 23.4)	1.2 (0.0 to 2.6)	2.3 (0.7 to 4.0)	0.0 (0.0 to 0.0)	5.7 (0.0 to 13.6)
North-Western	2.9 (0.0 to 6.4)	4.2 (0.0 to 10.0)	0.8 (0.0 to 2.2)	0.9 (0.0 to 2.6)	3.3 (0.0 to 8.0)
Southern	7.4 (2.0 to 12.7)	1.5 (0.0 to 3.6)	2.9 (0.1 to 5.7)	0.6 (0.0 to 1.8)	9.7 (2.2 to 17.3)
Western	7.0 (2.3 to 11.7)	0.9 (0.0 to 2.7)	6.0 (1.9 to 10.1)	1.0 (0.0 to 3.2)	11.5 (1.1 to 21.9)
Residence					
Rural	8.0 (5.6 to 10.4)	1.0 (0.3 to 1.6)	2.6 (1.4 to 3.8)	0.5 (0.0 to 1.1)	3.9 (1.8 to 6.0)
Urban	7.3 (4.6 to 10.1)	2.4 (1.0 to 3.8)	2.0 (0.8 to 3.2)	0.3 (0.0 to 0.7)	6.6 (3.5 to 9.6)
Wealth Quintile					
Poorest	7.7 (4.3 to 11.2)	0.8 (0.0 to 1.6)	2.8 (1.0 to 4.7)	1.1 (0.0 to 2.4)	2.9 (0.0 to 6.0)
Second	9.0 (5.0 to 13.0)	0.8 (0.0 to 2.0)	2.6 (0.5 to 4.6)	0.4 (0.0 to 1.3)	9.6 (3.9 to 15.3)
Middle	7.9 (3.9 to 11.9)	1.5 (0.0 to 3.1)	2.3 (0.4 to 4.2)	0.0 (0.0 to 0.0)	6.5 (2.4 to 10.5)
Fourth	6.2 (3.0 to 9.4)	1.9 (0.1 to 3.8)	2.1 (0.4 to 3.8)	0.3 (0.0 to 1.0)	3.3 (0.5 to 6.1)
Richest	8.0 (3.6 to 12.4)	2.8 (0.8 to 4.9)	1.9 (0.2 to 3.7)	0.2 (0.0 to 0.7)	4.9 (1.0 to 8.4)
Household Hunger					
Never or Rarely	8.0 (6.0 to 9.9)	1.4 (0.7 to 2.1)	2.4 (1.4 to 3.3)	0.4 (0.0 to 0.8)	4.9 (3.1 to 6.7)
Sometimes	5.0 (1.0 to 8.9)	2.6 (0.2 to 5.1)	2.1 (0.0 to 4.7)	0.6 (0.0 to 1.8)	10.1 (1.5 to 18.7)
Often	13.7 (0.0 to 29.5)	0.0 (0.0 to 0.0)	3.9 (0.0 to 12.1)	0.0 (0.0 to 0.0)	6.7 (0.0 to 20.9)

*Household with at least one orphan or vulnerable child under the age of 15