



# ZIMBABWE

## Working Papers

Based on further analysis of  
Zimbabwe Demographic and Health Surveys

### Trends in the Burden of Orphans and Vulnerable Children in Zimbabwe: Evidence from National Household Surveys, 1994-2006

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Evidence from National Household Surveys, 1994–2006**

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## **ABSTRACT**

This study assesses trends in the prevalence and status of orphans and vulnerable children (OVC) based on data from 2005–06, 1999, and 1994 Zimbabwe Demographic and Health Surveys (ZDHS). The study examines four categories of OVC—orphans, fostered children, children in households with no adults age 18–59, and children in households with chronic illness or recent death due to chronic illness. The study analyzes whether these groups are more disadvantaged in education and nutrition than the reference group—children who are not orphans, not fostered, live in households with an adult age 18–59, and live in households with no chronic illness and no recent death due to chronic illness. The study also examines whether adolescent OVC age 15–17 are more likely to engage in sexual risk-taking than the reference group.

Study results show that, consistent with other research findings in sub-Saharan Africa, the prevalence of orphans, fostered children, and child-headed households has increased in recent years. As expected, orphans, fostered children, and children living in households with no adults age 18–59 are generally less likely to be attending school compared with the reference group. Among all groups, however, school attendance is generally high, especially at older ages. Girls are more likely than boys to attend school.

Among OVC age 0–59 months, prevalence of undernourishment increased in the 2005–06 ZDHS compared with 1999. The prevalence of stunting and underweight increased most among fostered children. All categories of OVC are more likely than the reference group to be stunted and underweight, while there is little difference in wasting. Rural children are more likely than urban children to be undernourished, whether OVC or not.

Adolescent OVC age 15–17 are less likely than non-OVC to be attending school, according to the 2005–06 ZDHS. Adolescent OVC are more likely than non-OVC to have

initiated sex before age 15, and adolescent OVC are less likely than non-OVC to practice primary abstinence (i.e., never had sex). More than one in three adolescent OVC females reported having experienced physical or sexual violence, particularly so among those living in households with no adults age 18–59. Adolescent OVC females are more likely to have experienced violence than non-OVC. However, there are no clear differences between adolescent OVC and non-OVC on condom use.

These findings highlight that the OVC problem is multi-dimensional and that the burden of the OVC problem in Zimbabwe has increased over the past decade. While through the National Action Plan for OVC considerable attention is already being given to the needs of orphaned children, there is need to expand coverage to other groups of vulnerable children and to strengthen child welfare programs addressing OVC in Zimbabwe. Our findings regarding the disadvantage of OVC in education and nutrition have implications for educational and nutritional programs in the country. Our findings regarding vulnerabilities of adolescent OVC suggest the need to promote continued schooling and strengthen health education programs to promote sexual abstinence, and consistent condom use if abstinence fails. Finally, the reported levels of physical and sexual violence are unacceptably high, more so among adolescent OVC females than among non-OVC, necessitating vigorous efforts to sensitize the country and reach a large and growing population of OVC and their families in Zimbabwe.

**Key words:** *Orphans, OVC, HIV, AIDS, vulnerability, schooling, nutrition, sexual risk-taking, children, adolescents, Zimbabwe.*

## **INTRODUCTION**

In this study we analyze data from the 2005–06, 1999, and 1994 Zimbabwe Demographic and Health Surveys (ZDHS) to assess trends in the prevalence and status of orphans and vulnerable children (OVC). In particular, we are interested in learning whether orphaned children, fostered children, children in households with no adults age 18–59, and children in households with chronic illness or recent death due to chronic illness are more disadvantaged in education and nutrition than children who are not orphans, not fostered, live in households with an adult age 18–59, and live in households with no chronic illness and no recent death due to chronic illness. We also examine the prevalence of selected behaviors for adolescent children, including whether adolescent OVC are more likely than non-OVC to engage in sexual risk-taking.

There is evidence that both the incidence and prevalence of orphans are rising in Zimbabwe (Rusakaniko et al. 2006; Gomo et al. 2006; Munyati et al. 2006; UNAIDS, UNICEF, and USAID 2004; UNICEF 2003) and a reversal in child survival trends is also observed (Newell et al. 2004; Crampin et al. 2003; Nakiyingi et al. 2003; Nicoll et al. 1994), primarily as a result of AIDS-related adult deaths. Although HIV prevalence is declining in Zimbabwe, OVC prevalence and incidence are likely to continue increasing. In addition, a growing number of children are fostered and made vulnerable by the epidemic.

Orphans and other children affected by AIDS suffer a catalogue of deprivations and vulnerabilities, including family dissolution, depression, malnutrition, lack of access to education and health care, homelessness, stigma, discrimination, abuse, increased risk for HIV and other sexually transmitted infections (STIs), and unintended pregnancies. Consequently, they generally end up not realizing their full potential (UNICEF 2003; Maende 2002; UNICEF 2002; Urassa et al. 2001; Levine 2001). Adolescent girls whose parents have died of AIDS or have been

incapacitated due to AIDS are particularly at risk. The burden of caring for a sick parent often falls on children; many are forced to drop out of school and take on adult roles (Case et al. 2004; UNICEF 2003). Parental HIV-related illness and death often lead to changes in living arrangements, displacement, and reduced resources for schooling, health care, and food. When economic situations are difficult, some female OVC may engage in transactional sex for money or goods, and some may enter sex work (willingly or forced) to pay for school fees or support themselves and other members of the surviving families (Case et al. 2004; UNICEF 2003; UNICEF 2002). Desperate female OVC are also less likely to successfully negotiate for safe sexual practices, thereby further increasing their risk of experiencing adverse outcomes, including HIV infection (Ngom et al. 2003).

Orphans, particularly double orphans, have been found to be less advantaged than non-orphans with respect to schooling (Case et al. 2004; Monasch and Boerma 2004; Bicego et al. 2003). However, the evidence of adverse effects of orphanhood or fostering on education, nutrition, and chronic illness in children's families has not been consistent (Nyamukapa et al. 2005; Sarker et al. 2005; Crampin et al. 2003; Lindblade et al. 2003; Ainsworth et al. 2002; Panpanich et al. 1999; Kamali et al. 1996; Ryder et al. 1994). While many studies have focused on orphans, there is limited research on fostered children, children in households with no adults age 18–59, or children in households with chronic illness or recent deaths due to chronic illness, and the evidence that these children are more disadvantaged in schooling and nutrition is generally weak and inconclusive (Sherry et al. 2000; Castle 1995; Bledsoe et al. 1988).

As the number of OVC increases, the range of interventions for them is also increasing. However, very little has been done to examine trends in OVC status or to compare the vulnerability of different categories of OVC—information that would significantly inform the

expanding programming. Such analysis has only been carried out to examine the extent to which orphaned and vulnerable children are disadvantaged in comparison to other children. The present study therefore seeks to answer questions about the trends of OVC over the past decade and which among the various categories of OVC are more vulnerable, and which living arrangements are better for OVC.

## **METHODS**

The study uses data from three ZDHS, conducted in 1994, 1999, and 2005–06, in which nationally representative probability samples of households (5,984 in 1994, 6,369 in 1999, and 9,285 in 2005–06) were selected and interviewed, using a two-stage sample design. The first stage selected the enumeration areas (EAs); the second stage involved systematic probability selection of the households. For the 1994, 1999, and 2005–06 ZDHS, respectively, 230, 230, and 400 EAs were selected with probability proportional to size (PPS), the size being the number of households enumerated in the 1992 Census for the 1994 and 1999 surveys and the 2002 Census for the 2005–06 survey. In the second stage, a complete listing of households obtained was used as the sampling frame for the selection of households to be surveyed. All survey respondents were either permanent residents or visitors in the households on the night before the surveys. The surveys excluded the non-household population—people living in institutional arrangements (army barracks, hospitals, police camps, boarding schools, etc).

The analysis of trends in this study is based on 12,783, 11,313, and 18,174 children age 0–14 years, included in the 1994, 1999, and 2005–06 ZDHS, respectively. Of these, 3,946, 3,579, and 5,809 children, respectively, were age 0–4 years, and 8,836, 7,733 and 12,365, respectively, were age 5–14 years. The 200506 ZDHS additionally collected information on biological parents' survival status and living arrangements for adolescents age 15–17. All surveys asked about school attendance, and the 1999 and 2005–06 surveys obtained anthropometric measurements (height and weight) of children age 0–59 months, after obtaining informed consent from a parent or a guardian. All adolescents age 15–17 were also eligible for individual interview, along with all men age 18–54 and women age 18–49 in selected households.

For each child under age 15 in the 1994 and 1999 ZDHS, and under age 18 in the 2005–06 ZDHS, the household respondent was asked to ascertain the survival status of the natural mother and natural father, as well as child’s living arrangement with surviving parents. This information was used to group children into the following five categories:

1. *Orphaned children*: One or both biological parents of the child are dead.
2. *Fostered children*: Children not living with their biological parents, including single orphans not living with their biological parent.
3. *Children in households with no adults age 18–59*: Children living in households where there is no adult member between the ages of 18 and 59.
4. *Children in households with chronic illness or with recent adult death due to chronic illness*: Children living in households where at least one adult has been very sick for at least 3 months in the preceding 12 months or where at least one adult has died in the past 12 months after being ill for at least 3 months (information on biological fathers living separately is not available). This information was collected only in the 2005–06 ZDHS and is not available for the 1994 or 1999 ZDHS.
5. *Reference group*: Children who are not orphans, not fostered, who live in households with an adult age 18–59, and who live in households with no chronic illness and no recent death due to chronic illness. This category is used as the comparison group.

We analyze the data using descriptive statistics and 95% confidence intervals to test for statistically significant differences. First, we examine trends in the proportion of children age 0–14 years in the first three categories of OVC (orphans, fostered, and living in households with no adults) from 1994 to 2006, separately for boys and girls, separately for maternal, paternal, and double orphans, and separately for fostered orphans and fostered non-orphans. Next, we examine

trends in school attendance rates among children age 5–14 years during 1994–2006 and trends in under-nutrition among children age 0–59 months during 1999–2006 in these three OVC categories and compare them with the reference group (children who are not orphans, not fostered, and live in households with an adult age 18–59). The trends for school attendance rates by OVC status are presented separately for children age 5–9 years and children age 10–14 years.

For the 2005–06 ZDHS, we present differentials in the proportions of children age 5–17 attending school in all four categories of OVC, as well as differentials in indicators of under-nutrition for children age 0–4 in four categories of OVC, by age, sex, urban/rural residence, and household wealth status. Finally, for adolescents age 15–17 included in the 2005–06 ZDHS, we compare indicators of schooling, work status, sexual risk taking, and experience of violence (females only) in the four categories of OVC with non-OVC adolescents.

## **RESULTS**

### **Trends in OVC prevalence**

Table 1 shows that overall there is a statistically significant increase in the prevalence of orphanhood over the past decade—from 9% of children age 0–14 in 1994, to 14% in 1999, and 22% in 2005–06. According to the 2005–06 ZDHS, paternal orphanhood is most prevalent, followed by double orphanhood and maternal orphanhood. However, in the previous two surveys maternal orphanhood was more common than double orphanhood. Double orphanhood has grown more rapidly than paternal or maternal orphanhood during 1994–2006. The prevalence levels and trends in orphanhood are similar for boys and girls.

The proportion of fostered children has also risen, from 19% in 1994, to 22% in 1999, and 27% in 2005–06. The increase in the proportion of fostered children has been entirely due to an increase in the proportion of fostered orphans, since the proportion of fostered non-orphans has remained largely unchanged. Again, the prevalence levels and trends in the proportion of fostered children are similar for boys and girls.

There also has been a significant increase in the proportion of children living in households with no adults age 18–59, from 2.9% in 1994, to 4.2% in 1999, and 4.5% in 2005–06. Boys and girls are about equally likely to live in households with no adults.

**Table 1. Trends in the proportion of children age 0–14 who are orphans, fostered, and in households with no adults age 18–59, by sex, ZDHS 1994–2006**

<b>Category</b>	<b>1994 (95%CI)</b>	<b>1999 (95%CI)</b>	<b>2005–06 (95%CI)</b>
<b>Males</b>			
Orphans			
Maternal orphans	2.1(1.7 - 2.5)	2.7(2.2 - 3.4)	3.3(2.9 - 3.8)
Paternal orphans	6.2(5.3 - 7.2)	9.1(8.1 - 10.2)	13.4(12.4 - 14.4)
Double orphans	0.7(0.5 - 1.1)	1.9(1.5 - 2.5)	5.4(4.8 - 6.1)
Total orphans	9.0(8.0 - 10.1)	13.8(12.5 - 15.1)	22.1(20.8 - 23.4)
Fostered children			
Fostered orphans	3.9(3.4 - 4.6)	7.0(6.0 - 8.0)	13.1(12.2 - 14.2)
Fostered non-orphans	14.8(13.6 - 16.2)	14.5(13.2 - 15.9)	13.7(12.7 - 14.8)
Total fostered	18.8(17.3 - 20.4)	21.5(19.7 - 23.3)	26.8(25.4 - 28.4)
Children in households with no adults age 18-59	2.6(2.1 - 3.2)	4.2(3.5 - 5.1)	4.5(3.8 - 5.2)
Total number of male children age 0-14	6,414	5,659	9,199
<b>Females</b>			
Orphans			
Maternal orphans	2.0(1.6 - 2.5)	3.1(2.6 - 3.8)	3.5(3.1 - 4.1)
Paternal orphans	6.8(5.9 - 7.7)	9.7(8.6 - 10.8)	12.6(11.7 - 13.7)
Double orphans	0.7(0.5 - 1.1)	2.2(1.8 - 2.8)	5.7(5.0 - 6.5)
Total orphans	9.5(8.6 - 10.5)	15.0(13.7 - 16.5)	21.9(20.6 - 23.2)
Fostered children			
Fostered orphans	4.5(4.0 - 5.2)	7.7(6.7 - 8.8)	13.1(12.0 - 14.2)
Fostered non-orphans	16.4(15.1 - 17.8)	15.9(14.5 - 17.5)	13.9(12.9 - 15.0)
Total fostered	21.0(19.4 - 22.6)	23.6(21.8 - 25.5)	27.0(25.7 - 28.4)
Children in households with no adults age 18-59	3.2(2.6 - 3.9)	4.2(3.4 - 5.2)	4.5(3.9 - 5.2)
Total number of female children age 0-14	6,363	5,653	8,972
<b>All Children</b>			
Orphans			
Maternal orphans	2.0(1.7 - 2.4)	2.9(2.5 - 3.5)	3.4(3.1 - 3.8)
Paternal orphans	6.5(5.7 - 7.3)	9.4(8.5 - 10.3)	13.0(12.2 - 13.9)
Double orphans	0.7(0.5 - 1.0)	2.1(1.7 - 2.6)	5.6(5.0 - 6.2)
Total orphans	9.3(8.4 - 10.2)	14.4(13.3 - 15.6)	22.0(20.9 - 23.1)
Fostered children			
Fostered orphans	4.2(3.7 - 4.8)	7.3(6.5 - 8.2)	13.1(12.3 - 14.0)
Fostered non-orphans	15.6(14.5 - 16.8)	15.2(14.0 - 16.6)	13.8(13.0 - 14.7)
Total fostered	19.9(18.5 - 21.3)	22.5(21.0 - 24.2)	26.9(25.7 - 28.2)
Children in households with no adults age 18-59	2.9(2.4 - 3.5)	4.2(3.5 - 5.1)	4.5(3.9 - 5.1)
Total number of children age 0-14	12,783	11,313	18,174

Note: children for whom information on gender is missing are included in totals.

### **Trends in school attendance among OVC**

Table 2 shows that school attendance rates have increased during the past decade at about the same pace for both OVC and non-OVC. For example, among children age 5–14 years, the proportion of orphans attending school increased from 80% in 1994, to 82% in 1999, and 84% in 2005–06. By age group, the rates of school attendance have increased mostly among younger children age 5–9 years but have remained unchanged among older children age 10–14 years where the rates were already much higher in 1994. Overall in 2005–06, OVC age 10–14 were less likely to be attending school than non-OVC. However, there was little difference in school attendance rates for children age 5–9 years by whether they were OVC or not.

**Table 2. Trends in proportion of children age 5–14 attending school by whether they are orphans, fostered, or live in households with no adults age 18–59, by age group, ZDHS 1994–2006**

Category	1994 (95%CI)	n	1999 (95%CI)	n	2005-06 (95%CI)	n
<b>Age 5-9</b>						
Orphans	66.2(61.2 - 70.9)	403	70.2(65.9 - 74.1)	552	76.1(73.1 - 78.9)	1,380
Fostered children	62.1(58.2 - 65.8)	911	70.1(66.7 - 73.3)	967	75.0(72.1 - 77.6)	1,922
Children in households with no adults age 18-59	55.1(44.3 - 65.5)	125	79.8(71.2 - 86.4)	177	74.2(68.5 - 79.2)	307
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (reference group)	62.2(59.7 - 64.7)	3,295	68.0(65.6 - 70.2)	2,489	77.4(75.6 - 79.1)	3,818
Total number of children age 5-9		4,439		3,715		6,283
<b>Age 10-14</b>						
Orphans	88.6(85.6 - 91.1)	629	89.4(86.9 - 91.5)	866	88.5(86.6 - 90.2)	2,127
Fostered children	86.4(83.8 - 88.7)	1,122	86.4(83.6 - 88.7)	1,140	87.4(85.5 - 89.1)	2,186
Children in households with no adults age 18-59	88.3(81.5 - 92.9)	190	90.3(85.9 - 93.4)	242	88.5(84.3 - 91.7)	428
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (reference group)	93.3(91.6 - 94.7)	2,953	94.9(93.4 - 96.1)	2,455	92.3(90.5 - 93.8)	3,078
Total number of children age 10-14		4,398		4,018		6,083
<b>Age 5-14</b>						
Orphans	79.9(76.9 - 82.6)	1,032	81.9(79.4 - 84.2)	1,418	83.6(81.7 - 85.4)	3,507
Fostered children	75.5(72.7 - 78.1)	2,033	78.9(76.6 - 81.0)	2,108	81.6(79.7 - 83.3)	4,108
Children in households with no adults age 18-59	75.1(67.3 - 81.6)	315	85.9(81.1 - 89.6)	419	82.5(78.9 - 85.7)	735
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (reference group)	76.9(75.0 - 78.7)	6,248	81.3(79.8-82.8)	4,944	84.0(82.6 - 85.4)	6,896
Total number of children age 5-14		8,836		7,733		12,365

### **Trends in under-nutrition among OVC**

Table 3 shows proportions of children age 0–59 months who are stunted, underweight, or wasted by the OVC categories for the 1999 and 2005–06 ZDHS. Orphans and fostered children are much more likely to be stunted, underweight, and wasted in 2005–06 than in 1999. However, the proportion of children in the reference group who are stunted, underweight, and wasted has not changed much. (Information on stunting, underweight, and wasting is not available in the 1994 ZDHS.) In 2005–06 orphans, fostered children, and children living in households with no adults were much more likely to be stunted and underweight than the reference group of children. The wasting levels were similar between the OVC categories and the non-OVC category.

**Table 3. Trends in proportion of children age 0–59 months who are undernourished (stunted, underweight, wasted) by whether they are orphans, fostered, or live in households with no adults age 18–59, ZDHS 1999–2006**

Category	1999 (95%CI)	n	2005-06 (95%CI)	n
<b>Stunted</b>				
Orphans	37.2(29.7 - 45.3)	167	38.6(33.3 - 44.2)	408
Fostered children	32.4(27.5 - 37.7)	332	34.9(31.1 - 39.0)	661
Children in households with no adults age 18-59	(20.6)(11.3 - 34.8)	43	40.7(29.6 - 52.7)	69
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (Reference)	27.4(25.3 - 29.5)	2,413	28.5(26.6 - 30.6)	3,935
Total number of children age 0-59 months		2,860		4,815
<b>Underweight</b>				
Orphans	14.7(10.5 - 20.1)	167	25.1(19.8 - 31.3)	408
Fostered children	16.7(12.8 - 21.5)	332	22.2(18.6 - 26.2)	661
Children in households with no adults age 18-59	(18.8)(10.3 - 31.9)	43	24.3(15.1 - 36.7)	69
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (Reference)	13.6(12.0 - 15.3)	2,413	15.9(14.6 - 17.4)	3,935
Total number of children age 0-59 months		2,860		4,815
<b>Wasted</b>				
Orphans	4.2(1.6 - 10.4)	171	8.2(4.7 - 13.9)	411
Fostered children	7.3(4.7 - 11.3)	353	6.7(4.9 - 9.2)	680
Children in households with no adults age 18-59	(4.2)(1.0 - 15.6)	45	7.1(3.1 - 15.4)	73
Children who are not orphans, not fostered, and live in households with an adult age 18-59 (Reference)	6.8(5.7 - 8.0)	2,419	6.1(5.3 - 7.1)	3,939
Total number of children age 0-59 months		2,887		4,840

Numbers in parentheses are base on 25-49 unweighted cases.

### Differentials in the prevalence of OVC

Table 4 presents the distribution of OVC and non-OVC age 0–17 years, by age, sex, urban/rural residence, and household wealth status, using data from the 2005–06 ZDHS. Overall, OVC tend to be older, more likely to live in rural areas, and more likely to live in poorer households than non-OVC. For example, among the OVC categories, only 5% of children in households with no adults, 8% of children in households with chronic illness or recent death due to chronic illness, 12% of orphans, and 13% of fostered children are in the highest wealth quintile compared with 19% among the non-OVC reference group of children.

**Table 4. Distribution of children age 0–17 who are orphans, fostered, live in households with no adults age 18–59, and live in households with a chronically ill adult or recent adult death due to chronic illness, by selected characteristics, 2005–06 ZDHS**

<b>Characteristic</b>	<b>Orphans</b>	<b>Fostered children</b>	<b>Children in households with no adults age 18-59</b>	<b>Children in households with chronic illness or recent death due to chronic illness<sup>1</sup></b>	<b>Children who are not orphans, not fostered, live in households with an adult age 18-59, and live in households with no chronic illness and no recent death due to chronic illness (reference group)</b>	<b>Total number of children</b>
<b>Age</b>						
0-4	9.8(8.9 - 10.8)*	13.0(11.8 - 14.3)*	8.1(6.2 - 10.4)*	24.7(22.6 - 27.0)*	37.2(36.3 - 38.2)	5,809
5-9	27.6(26.4 - 28.9)	31.7(30.4 - 33.0)	30.4(27.3 - 33.6)	31.1(28.9 - 33.5)	29.7(28.9 - 30.5)	6,283
10-14	42.6(41.2 - 44.0)*	36.1(34.8 - 37.3)*	42.4(30.9 - 45.8)*	31.1(29.2 - 33.1)*	23.9(23.1 - 24.8)	6,083
15-17	20.0(18.8 - 21.2)*	19.2(18.1 - 20.4)*	19.2(16.7 - 22.0)*	13.0(11.6 - 14.6)*	9.2(8.6 - 9.8)	2,734
<b>Sex</b>						
Male	51.0(49.5 - 52.6)	49.0(47.7 - 50.1)	51.2(47.7 - 54.7)	51.3(48.9 - 53.7)	50.9(50.0 - 51.8)	10,561
Female	49.0(47.4 - 50.5)	50.1(49.6 - 52.3)	48.8(45.3 - 52.3)	48.7(46.3 - 51.1)	49.1(48.2 - 50.0)	10,344
<b>Residence</b>						
Urban	20.7(17.7 - 24.0)*	20.0(17.5 - 22.7)*	8.3(5.3 - 12.7)*	16.8(13.4 - 20.8)*	29.6(27.2 - 32.3)	5,413
Rural	79.3(76.0 - 82.3)*	80.0(77.3 - 82.5)*	91.7(87.3 - 94.7)*	83.2(79.2 - 86.6)*	70.4(67.8 - 72.8)	15,495
<b>Wealth</b>						
Lowest	23.3(20.4 - 26.5)	20.9(18.4 - 23.6)	30.8(25.9 - 36.3)*	30.4(25.6 - 35.7)*	22.4(20.2 - 24.8)	4,758
Second	22.2(20.0 - 24.5)	23.4(21.5 - 26.1)	23.9(19.7 - 28.6)	24.7(20.8 - 29.1)	21.7(19.3 - 24.3)	4,625
Middle	27.3(23.7 - 31.2)*	28.3(25.1 - 31.8)*	33.2(27.5 - 39.4)*	24.3(19.7 - 29.6)*	17.8(16.2 - 19.5)	4,495
Fourth	15.5(13.0 - 18.3)	14.5(12.6 - 16.6)*	7.2(5.0 - 10.4)*	12.4(9.5 - 15.9)*	18.8(16.9 - 21.0)	3,609
Highest	11.7(9.8 - 14.0)*	12.6(10.7 - 14.8)*	4.9(2.6 - 9.1)*	8.2(5.9 - 11.2)*	19.3(17.2 - 21.6)	3,421
<b>Total</b>	<b>4,995</b>	<b>6,062</b>	<b>1,011</b>	<b>1,911</b>	<b>11,938</b>	<b>20,908</b>

<sup>1</sup> Restricted to de jure household members

\* Indicates significantly different from the reference group

Categories are not mutually exclusive; Ns for individual categories do not sum to the total number of children.

### **Differentials in school attendance by OVC status**

Based on the 2005–06 ZDHS, Table 5 presents differentials in the proportion of OVC and non-OVC children age 5–17 years who were attending school by selected characteristics. By age, school attendance rates are higher among children age 10–14 than among children age 5–9 or 15–17, irrespective of OVC status. However, in older age groups OVC are less likely than non-OVC to be attending school. While 73% of the non-OVC reference group age 15–17 are in school, for example, the percentages are lower among the OVC groups: from 63% of orphans to just 53% of fostered children.

**Table 5. Differentials in the proportion of children age 5–17 attending school by whether they are orphans, fostered, live in households with no adults age 18–59, and live in households with a chronically ill adult or recent adult death due to chronic illness, by selected characteristics, 2005–06 ZDHS**

Characteristic	Orphans		Fostered children		Children in households with no adults age 18-59		Children in households with chronic illness or recent death due to chronic illness <sup>1</sup>		Children who are not orphans, not fostered, live in households with an adult age 18-59, and live in households with no chronic illness and no recent death due to chronic illness (reference group)	
		n		n		n		n		n
Age										
5-9	76.1(73.1 - 78.9)	1,380	75.0(72.1 - 77.6)	1,922	74.2(68.5 - 79.2)	307	72.7(68.3 - 76.6)	595	77.8(76.0 - 79.5)	3,539
10-14	88.5(86.6 - 90.2)*	2,127	87.4(85.5 - 89.1)*	2,186	88.5(84.3 - 91.7)	428	88.4(85.0 - 91.0)	595	92.3(90.8 - 94.1)	2,861
15-17	62.5(58.8 - 66.1)*	996	53.2(49.6 - 56.8)*	1,166	59.5(51.2 - 67.3)*	194	62.3(55.7 - 68.5)*	248	72.8(69.4 - 76.0)	1,095
Sex										
Male	79.1(77.0 - 81.0)	2,287	76.2(74.0 - 78.1)*	2,569	74.9(69.9 - 79.3)*	464	76.5(72.0 - 80.5)	748	81.4(79.6 - 83.0)	3,852
Female	79.0(76.7 - 81.0)*	2,214	74.6(72.4 - 76.6)*	2,702	80.6(75.7 - 84.7)	465	78.7(74.6 - 82.2)*	687	84.1(82.5 - 85.6)	3,643
Residence										
Urban	81.5(77.4 - 85.1)*	941	77.4(73.4 - 80.9)*	1,076	79.3(67.0 - 87.9)	82	83.2(78.3 - 87.3)	256	88.8(86.5 - 90.7)	2,231
Rural	78.3(76.4 - 80.1)	3,562	74.8(72.8 - 76.6)*	4,197	77.6(73.7 - 81.0)	848	76.1(72.7 - 79.2)	1,182	80.2(78.4 - 81.8)	5,264
Wealth										
Lowest	71.2(67.4 - 74.7)	1,029	68.3(64.9 - 71.5)*	1,077	67.6(62.1 - 72.7)*	280	64.3(58.1 - 70.1)*	409	76.0(73.2 - 78.5)	1,663
Second	80.0(76.6 - 83.0)	997	75.8(72.5 - 78.8)	1,237	78.7(72.7 - 83.7)	221	80.4(75.9 - 84.2)	353	78.7(76.1 - 81.2)	1,621
Middle	81.9(79.1 - 84.4)	1,247	78.5(75.7 - 81.0)	1,507	85.6(78.7 - 90.5)	309	82.7(78.0 - 86.6)	362	83.2(79.3 - 86.5)	1,333
Fourth	80.1(75.2 - 84.3)	699	74.5(69.3 - 79.0)*	773	76.8(63.9 - 86.1)	71	83.5(78.3 - 87.7)	191	83.6(80.2 - 86.5)	1,336
Highest	83.9(79.8 - 87.3)*	531	79.4(75.8 - 82.5)*	680	(83.5)(63.7 - 93.6)	48	86.9(79.5 - 91.9)	123	92.9(91.0 - 94.5)	1,543
Total		4,503		5,274		929		1,438		7,495

<sup>1</sup> Restricted to de jure household members

\* Indicates significantly different from the reference group

Numbers in parentheses are base on 25-49 unweighted cases.

### **Differentials in under-nutrition by OVC status**

Table 6 shows differentials in the proportion of children age 0–59 months who are undernourished (stunted, underweight, or wasted) by whether they are orphans, fostered, and live in households with a chronically ill adult or recent adult death due to chronic illness, by selected characteristics, for the 2005–06 ZDHS.

Boys are somewhat more likely to be stunted than girls, irrespective of their OVC status. By urban/rural residence, there is no significant differential in proportion stunted for orphans or fostered children, but rural children living in households with chronic illness or recent death due to chronic illness, as well as rural children in the non-OVC category are significantly more likely to be stunted than their urban counterparts. Generally, there is no clear pattern in the prevalence of stunting by household wealth status, except that highest wealth quintile children living in households with chronic illness or recent death due to chronic illness and those in the non-OVC category are less likely to be stunted than other children. While OVC are more likely to be stunted than non-OVC, as mentioned earlier, the OVC/non-OVC difference is greater among urban children and among children living in wealthier households than among their rural and poorer counterparts, respectively.

**Table 6. Differentials in the proportion of children age 0–59 months who are undernourished (stunted, underweight, wasted) by whether they are orphans, fostered, and live in households with a chronically ill adult or recent adult death due to chronic illness, by selected characteristics, 2005–06 ZDHS**

Characteristic	Orphans		Fostered children		Children in households with chronic illness or recent death due to chronic illness <sup>1</sup>		Children who are not orphans, not fostered, live in households with an adult age 18-59, and live in households with no chronic illness and no recent death due to chronic illness (reference group)	
		n		n		n		n
<b>Stunted</b>								
Sex								
Male	40.0(33.3 - 47.1)*	215	37.2(31.4 - 43.4)	337	39.7(32.9 - 46.9)*	189	29.7(26.9 - 32.7)	1,836
Female	37.1(28.7 - 46.3)	192	32.6(27.5 - 38.1)	324	28.6(22.5 - 35.6)	212	27.1(24.7 - 29.7)	1,825
Residence								
Urban	42.9(31.1 - 55.5)*	73	35.6(25.1 - 47.7)	99	23.7(13.2 - 38.8)	58	22.6(19.7 - 25.9)	979
Rural	37.7(31.8 - 43.9)	335	34.8(30.8 - 39.1)	562	35.5(30.2 - 41.2)	344	30.5(28.0 - 33.2)	2,681
Wealth								
Lowest	42.4(33.6 - 51.7)	106	43.9(36.7 - 51.4)*	160	36.5(28.7 - 45.0)	140	31.9(28.7 - 35.3)	874
Second	36.2(26.4 - 47.2)	93	36.0(28.9 - 43.8)	172	32.0(23.9 - 41.5)	98	32.2(27.7 - 36.9)	816
Middle	34.1(21.5 - 49.5)	103	26.9(19.4 - 35.9)	176	35.3(23.5 - 49.2)	92	29.2(25.0 - 33.7)	688
Fourth	38.9(26.8 - 52.5)	63	32.5(23.3 - 43.2)	86	(37.8)(22.8 - 55.6)	41	25.2(21.7 - 29.1)	742
Highest	(45.1)(27.8 - 63.7)*	42	34.9(21.8 - 50.9)	66	(17.5)(7.0 - 37.4)	30	20.6(17.2 - 24.5)	540
Total		408		661		402		3,660
<b>Underweight</b>								
Sex								
Male	23.6(18.0 - 30.3)	215	22.7(18.1 - 28.0)	337	20.9(15.7 - 27.4)	189	16.6(14.8 - 18.5)	1,836
Female	26.8(18.0 - 37.9)*	192	21.6(16.5 - 27.8)	324	19.6(14.3 - 26.3)	212	15.2(13.4 - 17.4)	1,825
Residence								
Urban	24.2(14.9 - 36.6)*	73	19.7(11.1 - 32.6)	99	15.9(7.6 - 30.3)	58	10.4(8.2 - 13.0)	979
Rural	25.3(19.3 - 32.5)	335	22.6(18.8 - 26.9)	562	20.9(16.5 - 26.2)	344	18.0(16.3 - 19.7)	2,681

(Cont'd)

Table 6 – cont'd

Characteristic	Orphans	n	Fostered children	n	Children in households with chronic illness or recent death due to chronic illness <sup>1</sup>	n	Children who are not orphans, not fostered, live in households with an adult age 18-59, and live in households with no chronic illness and no recent death due to chronic illness (reference group)	n
Wealth								
Lowest	24.6(16.8 - 34.5)	106	24.7(18.8 - 31.7)	160	22.3(15.4 - 31.1)	140	20.5(17.8 - 23.5)	874
Second	21.5(13.1 - 33.3)	93	26.9(20.8 - 34.1)	172	20.4(13.5 - 29.5)	98	19.6(17.0 - 22.4)	816
Middle	30.7(17.9 - 47.4)*	103	19.7(13.9 - 27.2)	176	18.8(10.4 - 31.5)	92	13.5(10.9 - 16.7)	688
Fourth	22.4(13.9 - 34.1)	63	15.4(9.2 - 24.5)	86	(23.1)(12.0 - 40.0)	41	14.9(12.1 - 18.3)	742
Highest	(24.8)(12.4 - 43.5)*	42	19.0(8.2 - 37.9)	66	(10.6)(3.2 - 29.7)	30	7.4(5.4 - 10.2)	540
Total		408		661		402		3,660
<b>Wasted</b>								
Sex								
Male	9.4(5.9 - 14.8)	216	6.8(4.3 -10.8)	342	4.5(2.2 -8.8)	190	6.7(5.5 - 8.0)	1,838
Female	6.9(2.1 -20.2)	194	6.6(4.3 -9.8)	337	5.6(3.3 -9.4)	215	5.8(4.7 - 7.2)	1,827
Residence								
Urban	8.1(3.5 - 17.6)	73	4.9(2.0 -11.6)	103	NC	60	4.3(3.1 - 5.9)	982
Rural	8.2(4.3 -15.1)	338	7.0(5.0 -9.8)	577	5.9(3.8 -9.1)	346	6.9(5.8 - 8.3)	2,683
Wealth								
Lowest	2.5(0.8 -7.6)	109	3.0(1.1 -7.8)	164	5.1(2.5 -9.8)	142	8.2(6.3 - 10.5)	875
Second	8.0(3.3 - 18.0)	93	6.1(3.1 -11.6)	177	7.3(3.6 -14.5)	98	6.8(5.1 - 9.1)	816
Middle	15.6(5.7 -35.8)	103	12.6(8.1 -19.1)	183	4.8(1.9 -11.4)	92	4.8(3.3 - 6.9)	688
Fourth	8.4(3.7 - 18.1)	63	3.9(1.4 -10.5)	88	(4.0)(1.0 -14.9)	43	6.6(4.8 - 8.9)	743
Highest	(5.3)(1.4 - 18.4)	42	5.2(1.6 -15.2)	68	NC	30	3.6(2.2 - 5.7)	542
Total		411		680		406		3,664

<sup>1</sup> Restricted to de jure household members

\* Indicates significantly different from the reference group

Numbers in parentheses are base on 25-49 unweighted cases.

NC indicates that a figure is based on fewer than 25 cases and has been suppressed.

There were too few children 0-59 months old living in households with no adults 18-59 years old to tabulate results by background characteristics.

Non-orphaned children living in urban areas are less likely to be underweight than those in rural areas. The sex differential in the prevalence of underweight is small, irrespective of the OVC category. The prevalence of underweight is generally lower among children living in wealthier households, except for orphans, where the differential is small. As in the case of stunting, the OVC/non-OVC difference in the likelihood of being underweight is more marked among children living in urban areas and those living in wealthier households. For wasting, there are no clear differentials by sex, residence, or wealth status.

### **Selected behaviors of adolescent OVC**

Table 7 compares adolescents age 15–17 years in the four OVC categories with the non-OVC reference group on selected behaviors, including work status among out-of-school adolescents, sexual debut, primary abstinence, condom use, and physical or sexual violence (females only), based on the 2005–06 ZDHS.

**Table 7. Prevalence of selected behaviors among adolescents (age 15–17) by whether they are orphans, fostered, live in households with no adults age 18–59, or live in households with a chronically ill adult or recent adult death due to chronic illness, 2005–06 ZDHS**

<b>Behavior</b>	<b>Orphans</b>	<b>Fostered children</b>	<b>Children in households with no adults age 18-59</b>	<b>Children in households with chronic illness or recent death due to chronic illness<sup>1</sup></b>	<b>Children who are not orphans, not fostered, live in households with an adult age 18-59, and live in households with no chronic illness and no recent death due to chronic illness (reference group)</b>	<b>Total number of children</b>
Working, among those not attending school	35.1(29.5 - 41.1)	36.6(31.6 - 41.9)	36.3(25.1 - 49.2)	36.2(26.2 - 47.6)	35.3(30.0 - 41.1)	857
Had sex before age 15	6.8(4.9 - 9.4)	6.0(4.4 - 8.1)	6.5(3.7 - 11.2)	6.4(3.7 - 10.7)	3.9(2.8 - 5.4)	2,350
Primary abstinence (i.e., never had sex)	81.8(77.4 - 85.4)	75.8(71.3 - 79.7)*	81.1(74.4 - 86.4)	83.8(77.9 - 88.4)	88.0(84.5 - 90.8)	2,350
Used condom at first sex, among those who ever had sex	30.5(22.1 - 40.4)	29.5(22.0 - 38.2)	(35.6) (19.4 - 56.0)	(24.7) (13.1 - 41.7)	20.5(12.3 - 32.3)	415
Used condom at last sex, among those who ever had sex	31.5(20.6 - 44.9)	19.1(12.8 - 27.4)	(40.9) (22.6 - 62.2)	(34.6) (19.0 - 54.4)	37.2(19.1 - 59.8)	312
Number of interviewed adolescents age 15-17	845	1,031	167	215	919	2,350
Ever experienced physical or sexual violence, among female adolescents age 15-17 who were asked questions about violence	37.9(31.0 - 45.3)	38.7(32.2 - 45.6)	41.7(29.6 - 54.9)	34.2(19.7 - 52.5)	31.6(23.8 - 40.6)	802
Number of female adolescents interviewed on domestic violence	277	384	50	70	317	802

<sup>1</sup> Restricted to de jure household members

\* Indicates significantly different from the reference group

Note: Attending school is based on all adolescents age 15-17, but other indicators in this table are based on interviewed adolescents.

Numbers in parentheses are base on 25-49 unweighted cases.

Table 7 shows that among children not attending school, OVC are about as likely to be working as non-OVC. Adolescents (age 15–17 years) in all four categories of OVC are more likely to have had their first sex before age 15 (6–7%) than non-OVC (4%). They are also less likely than non-OVC to be abstinent—that is to have never had sex. Adolescents in all four categories of OVC are somewhat more likely to have used a condom at their first sex than non-OVC, but these differences are not statistically significant. There is no clear pattern of differences between OVC and non-OVC adolescents in condom use at last sex. More than one in every three adolescent OVC females reported having experienced physical or sexual violence, particularly among those living in households with no adults age 18–59. Adolescent OVC females are more likely to have experienced violence than adolescent non-OVC females.

## **DISCUSSION**

Consistent with other recent research in sub-Saharan Africa (Mishra et al. 2008; Case et al. 2004; Monasch and Boerma 2004; Bicego et al. 2003), we find evidence of an increase in orphans, fostered children, and child-headed households in Zimbabwe. In 2005–06 paternal orphanhood was most prevalent, followed by double orphanhood and maternal orphanhood, according to the 2005–06 ZDHS. The preponderance of paternal orphans is a result of men having multiple wives, such that the death of a father affects several households, while the death of a mother affects only a single household. An increase in the proportion of all orphans, a faster increase in the proportion of double orphans, and a rapid increase the proportion of fostered orphans (but not fostered non-orphans) reflect the growing numbers of AIDS-related deaths in Zimbabwe during the past decade. The fact that the proportion of child-headed households has risen indicates that an increasing number of children are growing up without adult caretakers, despite the need for orphans to be cared for by a guardian or an adult relative.

Consistent with expectations, our study finds that children who are orphaned, fostered, and live in households with no adults age 18–59 are generally less likely than other children to be attending school. The burden of caring for a sick parent often falls on children, and many are forced to drop out of school and take on adult roles as a result.

Across all three indicators of under-nutrition—stunted, underweight, and wasted—the proportion of orphans, fostered children, and children living in households with no adults age 18–59 increased from 1999 to 2005–06. OVC are more likely than non-OVC to be stunted and underweight, but not wasted. Rural children are more likely than urban children to be undernourished, whether they are OVC or not. A substantial increase in the prevalence of stunting and underweight was noted in 2005–06 compared with 1999 among fostered children, while no

significant differences occurred among the other vulnerable groups. The pattern of rural–urban inequality in health and living standards remains a persistent and determining feature of social conditions in Zimbabwe, and a major challenge to be addressed in any social and economic policy and is in line with other findings elsewhere (Mishra et al. 2008).

Adolescent OVC are twice as likely as non-OVC to initiate sex before age 15. Adolescent OVC are also less likely than non-OVC to practice abstinence, a fact that supports the role that adult guidance may play in helping young people to avoid risky behavior. Nonetheless, the study results also show that OVC age 15–17 are more likely to abstain from initiating sex compared with non-OVC adolescents, who presumably have parental guidance about primary abstinence.

Finally, more than one in three adolescent OVC females reported having experienced physical or sexual violence, particularly so among those living in households with no adults age 18–59. Adolescent OVC females are more likely to have experienced violence than non-OVC. These results demonstrate a heavy burden of physical and sexual violence against young Zimbabwean women, more so among the OVC than non-OVC, which calls for action from relevant program implementers and policymakers.

### **Limitations**

This study has a number of limitations. The trend of OVC status was not assessed for all indicators since some indicators were not measured in the earlier years of the ZDHS. We were also unable to make certain comparisons due to small sample sizes. In addition, adolescent sexual behaviors as well as experience in domestic violence were based on self-reporting and therefore are subject to bias. The fact that nutritional indicators were measured for only surviving children and that vulnerability definition was restricted to children living in households, while

excluding street children and institutionalized children, can both lead to selection bias. Also, children's nutritional status was measured in relation to the current household where they were residing and this might not reflect the effect of the household they lived in before moving to the current household.

## **Conclusions**

Despite these limitations, the analysis of data from three ZDHS covering more than a decade has demonstrated that, irrespective of the declining trend in HIV prevalence in Zimbabwe, the prevalence of OVC continues to rise and that OVC are disadvantaged in schooling and nutrition compared with non-OVC. While through the National Action Plan for OVC considerable attention is already being given to the needs of orphaned children, there is need to expand coverage to other groups of vulnerable children and to strengthen child welfare programs reaching OVC in Zimbabwe. Our findings regarding the disadvantage of OVC in education and nutrition have implications for educational and nutritional programs in the country. Our findings regarding vulnerabilities of adolescent OVC suggest the need to promote continued schooling and strengthen health education programs to promote sexual abstinence, and consistent condom use if abstinence fails. Finally, the reported levels of physical and sexual violence are unacceptably high, more so among adolescent OVC females than among non-OVC, necessitating vigorous efforts to sensitize the country and to reach the large and growing population of OVC and their families in Zimbabwe.

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