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**Children Affected by AIDS:
A Review of the Literature on
Orphaned and Vulnerable Children**

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Abstract:

This paper presents a systematic review of the literature pertaining to orphans and vulnerable children in sub-Saharan Africa, with a particular focus on research in countries heavily impacted by HIV/AIDS. Despite study and data limitations, the literature provides evidence of growing orphan-based disparities, difficulties within households providing care, and insufficient capacity among social services. Still, additional research is urgently needed, including better OVC surveillance methods, qualitative data than answers persisting questions, the inclusion of more useful indicators in national household surveys, and longitudinal studies to determine the mechanisms by which parental HIV status and death impacts children, caregiving impacts households, and the orphan epidemic impacts communities and social systems.

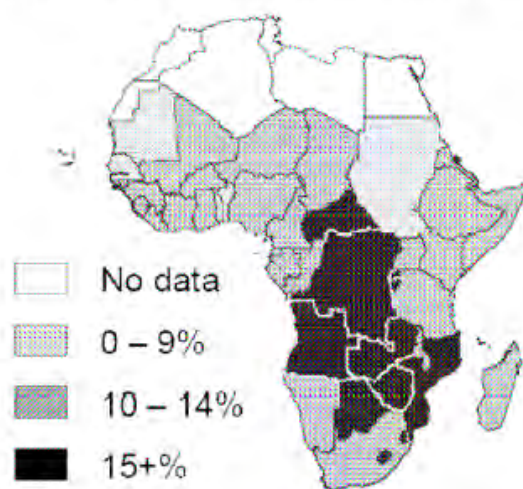
Key words: sub-Saharan Africa, children, orphans and vulnerable children, poverty, policy responses, AIDS

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Introduction

The escalating orphan crisis is trailing the 32 million AIDS deaths that have occurred globally since the pandemic began (UNAIDS, 2005). The sheer number of orphans is higher in Asia (87.6 million) than in sub-Saharan Africa (SSA), (43.4 million), yet the situation is disastrous in SSA, where the number of children orphaned by AIDS increased from 3 million in 1995 to more than 12.3 million by 2003. In SSA, 12.3% of all children are orphaned, while nearly one in five children are orphaned in Botswana, Swaziland and Lesotho (UNICEF, UNAIDS, & USAID, 2004)(Figure 1). SSA is now home to 64% of HIV infections worldwide, 65% of the world's new HIV infections in 2005, and 80% of the world's children orphaned by AIDS (UNAIDS, 2005).

Figure 1. Percent of children who were orphans in sub-Saharan Africa in 2003 (UNICEF et al., 2004)



This review focuses on the situation of children orphaned and made vulnerable by their parents failing health and/or death in SSA. Still, the AIDS epidemic is only one factor increasing the vulnerability of children, while orphans from all causes may confront heightened vulnerability without parental care. Nonetheless, this review focuses on research from countries heavily affected by AIDS because of the uniqueness of this pandemic. Prior to the HIV epidemic, the rate of orphaning was declining throughout SSA as adult life expectancy rose. Now, AIDS is the leading cause of death in many Southern African nations, reducing life expectancy by almost three decades in some countries (UNAIDS, 2002; UNDP, 2006). Adults aged 20-44, who are in their childbearing and rearing years, carry the greatest burden of disease; and given that HIV is sexually transmitted, children orphaned by AIDS will likely survive both parents in their childhood years.

While the epidemic appears stable or declining, there is still no foreseeable end with 3.2 million new infections throughout SSA in 2005, up from an estimated 2.9 million in 2002 (UNAIDS, 2005; UNAIDS 2006). Human resource and drug shortages still limit access to antiretroviral (ARV) treatment, while drug toxicity, transportation costs and other factors challenge ARV adherence. By 2005, 11% of the 4.7 million patients needing treatment received ARVs (WHO & UNAIDS, 2005). The extent to which ARVs will slow the rate of new orphaning is unclear. However, without widespread ARV access, by 2010 there will be

an estimated 18.4 million orphans due to AIDS and 50 million total orphans in SSA (UNICEF, UNAIDS, & USAID, 2004).

Definitions

An orphan is defined as a child under the age of 18 who has survived one or both parents (UNICEF, 2004a, Skinner, Tsheko, et al. 2006). Maternal orphans survive mothers; paternal orphans survive fathers and double orphans survive both parents. In 2003, of the 350 million children in SSA, an estimated 6.6% of children were maternal, 8% were paternal, and 2.2% were double orphans (UNICEF et al., 2004). Although the utility of identifying children who have only lost one parent as orphans is frequently debated, the death of a mother or father appears to impact child vulnerability, household poverty, residency, and caregiving differently (REF).

Various definitions of a “vulnerable child” exist, including children whose parent(s) or caregivers are ill or deceased, children in poverty or conflict, and children without caregivers (Skinner, Tsheko et al, 2006, Smart, 2003). Markers of vulnerability that allow the assessment of these children have only recently been developed and used in data collection and analyses (UNICEF, UNAIDS, et. al. 2005). This is an important advancement given that most studies only allow children to be distinguished based on orphan status so that children with sick parents are combined with non-orphans, therefore failing to identify vulnerable children and underestimating the magnitude of the negative sequelae that vulnerable children experience.

In this review, the literature was critically reviewed in order to better understand the situation of OVC and their families, the disparities and disadvantages that children face, and community and public sector responses. OVC may be disadvantaged or become at risk through a range of mechanisms, including inadequate care, psychological trauma, and the social and economic impact of parental illness and death. Moreover, OVC may face disparities which are influenced by the child’s age; gender; health, orphan, and socioeconomic status; characteristics of their caregiver; level of support from family and community members; the public sector response, and other determinants. Risk factors that further increase disparities and mechanisms by which children are disadvantaged were identified wherever possible.

Even in 2006, more than a decade and a half since the first sirens warned of the orphan epidemic, there is still a limited understanding of the situation OVC, a paucity of scientific research, and an over-reliance on anecdotal reports, grey literature, and non-generalizable studies. In fact, the majority of OVC policy documents are based mostly on grey literature (UNICEF 1999, 2003, 2004a). However, grey literature is of questionable quality in the absence of peer review and editorial control, and also difficult or impossible to find because it is not indexed (Birdthistle, 2004). Despite this, findings from grey literature that do not hold up to rigorous review still become conventional wisdom, crowding out the complexities and variation that does exist. In addition, because of the dearth of research, conclusions from one study’s context, such as in Kenya, South Africa, Uganda, and Zimbabwe, where most studies originate from, is generalized to other countries without peer reviewed research, such

as in Lesotho, Mozambique, Namibia, and Swaziland. This is dangerous given orphan and HIV incidence and prevalence patterns, which vary regionally by gender, age and virus strain. In addition countries and regions may vary by their historical, political, and economic context; culture; level of development and urbanization; health systems; respect for human rights; the nations' AIDS and orphan response; and household coping mechanisms.

This review aims to counter-balance the circulation of ideas and conclusions that have resulted from the proliferation of grey literature on the topic of OVC and to help the reader critically assess the generalizability and credibility of research. In turn, a more sophisticated understanding of this complex situation should better guide policymakers, programmers, donor partners, researchers and others in order to truly improve the health and development of OVC and support their families.

Methods

In order to answer questions about the living conditions of OVC, OVC-based disparities and vulnerabilities and the orphan response, a key-word search was conducted in English in the following databases: PubMed, Medline, Sociofile, Popline, Social Sciences Citation Index, Econlit, and Social Science Research Network. In addition, relevant articles cited in existing studies were obtained including several UN sponsored reports. The process of cross-referencing was continued until no new references were identified. The search was mostly limited to articles published from 1995 to mid-2006 due to the dynamic nature of the AIDS and orphan epidemics. However, several frequently cited, earlier articles were included.

Articles were critically reviewed, with specific attention to study design, sampling methods, year of data collection, and study context. This paper builds upon the review published by Foster and Williamson (2000) and the USAID-funded, unpublished manuscript by the Birdthistle (2004) by moving away from grey literature to mainly peer-reviewed research, offering a more critical analysis of research studies, placing research in the appropriate context, and exploring the limitations of data sources and measurement tools.

The literature on orphaned and vulnerable children

Research on OVC emerged by 1990 and is predominantly cross-sectional, with a heavy reliance upon situational analyses, qualitative studies, and data from national household surveys (Foster, Makufa, Drew, Mashumba, & Kambeu, 1997; Hunter, 1990; Lindblade, Odhiambo, Rosen, & DeCock, 2003). Situational analyses and qualitative studies offer insights into the lives of children and families. However, they usually rely on purposive samples of either the most destitute or the few families that actually receive assistance so that findings can only be generalized to a tiny fraction of the true population of OVC. In addition, many studies have relied heavily on very small sample sizes, which is more of a case-study method that does not permit the statistical comparison of groups.

In contrast, country-wide household surveys yield nationally representative data that are often used in cross-sectional OVC studies because they contain some useful indicators. The Demographic Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) are

commonly used (Macro International Inc, 2004; UNICEF et al. 2004) but limitations include the following:

- Surveys are administered too infrequently given the incidence of orphaning in high HIV prevalence countries. Between 2000 and 2003, the percentage of orphans rose from 15% to 20% of all children in Botswana and 14-19% in Lesotho, and yet most research still relies upon data from 2000;
- These surveys were not designed to assess the situation of orphans and do not contain theory-driven indicators to measure the impact of parental vital status on children or orphan caregiving on households. New indicators have been developed, but as of 2006, these had only been used in several locations and are not yet the standard (UNICEF, et. al. 2005).
- Despite ongoing debates on whether orphan-based disparities stem from orphanhood or poverty—which may disproportionately affect orphans—or some combination of the two (Ainsworth & Filmer, 2002; Case et al., 2004), many household surveys do not collect income and expenditure data, which directly relates to the resources that influence child welfare. Rather, data on housing characteristics and asset ownership is collected and used to construct a wealth index that estimates economic status (Filmer & Pritchett, 1998). However, wealth indices are an indicator of long-term wealth rather than current economic status, and provide little guidance to governments interested in child care grants and other social assistance programs. Income and expenditure data is used throughout South America for this very purpose, despite claims that obtaining accurate data is too difficult. Furthermore, researchers construct wealth indices differently: some using analytical techniques to calculate a relative index and others using simple counts of durable goods. These techniques can yield conflicting results so that households are not categorized consistently. Ideally, indicators of housing characteristics and asset ownership and income and expenditure data would be collected to improve our understanding of the determinants of orphan-based disparities, the effects of orphan caregiving on households, and interactions between poverty and orphanhood. In addition, because neither wealth indices, nor income and expenditure data provide insight into household resource allocation, and yet a lack of consanguinity may disadvantage OVC, additional indicators are needed to capture equity in the distribution of household resources based on OVC status.

Overall, a schedule with shorter intervals and the systematic inclusion of relevant indicators would vastly improve the utility of national household surveys to assess the situation of OVC.

Several longitudinal studies from East Africa that investigated child and adult mortality also contain limited data on OVCs (see Urassa, Boerma et al. 2001, Taha, Graham, et. al. 2000). Relevant data is primarily limited to findings on the survival of children with HIV-infected mothers. However, the recent, longitudinal study from Manicaland Zimbabwe yields studies on orphan incidence and prevalence rates, orphan's schooling, and HIV infection and reproductive health among OVC. This study contributes substantially to the literature by expanding the age range of children so that OVC status is included for 0-19 year olds; by doing HIV testing so that affected households can be identified in the analyses; and using markers to categorize vulnerable children (i.e. one whose parent is HIV-infected or seriously ill, or lives in a household with a death in the last year.) One important drawback however is

that socioeconomic status is measured by type of flooring and radio ownership in one paper from this study (Nyamukupa and Gregson, 2004) and by housing location in another (Watts et al. 2005). These methods may broadly categorize households but they are imprecise and fail to distinguish economic gradients in similar settings. They also provide little direction for policy makers. Nevertheless, additional longitudinal studies in various locations could vastly improve understanding of the long-term impacts of OVC status on children, caregiving on households, and the impact of growing OVC populations on communities.

Estimating the number of orphans and vulnerable children

Given that there has been a four-fold increase in the number of orphans in SSA over the last decade, surveillance systems should systematically collect and monitor OVC incidence and prevalence data in order to identify emerging trends, and gain insight into the circumstances of newly and previously orphaned children (Watts, Lopman et al., 2005), and understand the needs of children and families during periods of high vulnerability. However, simply quantifying the number of OVC remains a challenge. Few countries in SSA have established vital registration systems that would provide orphan incidence and prevalence rates (Grassly, Lewis, Mahy, Walker, & Timaeus, 2004). Botswana and Namibia have *orphan* registration systems, although only a portion of orphans were registered in 2005. Consequently, orphan incidence and prevalence estimates are primarily based on models or household surveys.

Orphan incidence

The open-cohort study from twelve areas of Manicaland, Zimbabwe is among the few studies measuring orphan incidence (Watts, Lopman, Nyamukapa, & Gregson, 2005). Data was collected at two intervals during 1998-2000 and 2001-2003. The incidence rate among 0-14 year olds was higher for paternal than for maternal orphans (20.1 vs. 9.1 per 1000 person years) and 82% of fathers and 83% of mothers who died were HIV positive. However, the incidence rate of maternal and double orphanhood for paternal orphans increased by 21% per year between 1998 and 2003, while there was no upward trend in maternal orphans losing their fathers. This shows the startling increase in the number of AIDS deaths among women. Moreover, increasing rates of HIV in women will drive up maternal mortality and maternal orphan incidence rates, possibly surpassing paternal orphan rates by 2010 (UNICEF 2004). This study is not nationally representative, but it provides important data for policy and programme planning and similar methodologies should be employed elsewhere to determine the rate and patterning of new orphaning.

Orphan prevalence

The UNAIDS Reference Group on Estimates, Modeling and Projections publishes prevalence data on 0-17 year old maternal, paternal and double orphans in 96 countries (Connolly, 2002; UNICEF et al., 2004a). Model estimates are derived using country and age-specific fertility, death, and HIV rates, and youth life tables. They account for the impact of maternal mortality on child survival, HIV on fertility, and MTCT (Connolly et al., 2002), but not for ARV treatment on mortality. Each of these parameters contains estimates and assumptions so that the true model precision is unknown.

Household survey estimates from DHS and MICS are based on the fraction of children aged 0-14 (excluding 15-17 year olds) whose mother, father, or both parents are deceased. These estimates are generally consistent between DHS and MICS surveys (Grassly et al., 2004). However, cultural interpretations of children may lead to the incorrect classification of non-biological children as non-orphans. Also, highly mobile, temporary foster, and children in child-headed households may be disproportionately absent from household studies, while institutionalized and street children are excluded altogether. Grassly (2004) compared DHS data with independent estimates of adult mortality from Zimbabwe and South Africa, which were in close agreement, indicating that under-enumeration by DHS may not be a major problem at least in those two countries.

In a comparison of procedures, several points should be considered. First, models are more inclusive because they calculate prevalence rates for 0-17 year olds, although surveys could easily collect parental survivorship for all children under the age of 18. Second, models can be calculated frequently if parameter estimates are updated, although with extra funding and human resources, surveys could be scheduled more frequently too. Also, household surveys could be augmented with additional methods to obtain data from hard-to-reach populations. Finally, models yield slightly higher orphan estimates than household surveys (Table 1). Again, surveys may underestimate prevalence because they exclude hard-to-reach populations more likely to be orphaned. Grassly (2004) suggests that model estimates may be high because of inadequate data on all-cause adult mortality. Also, a portion of disparate results may be explained by the way youth were categorized in the household surveys that were used to compare methods (Grassly et al., 2004; Monasch & Boerma, 2004). Children with “do-not-know” responses for parental vital status were omitted from the analysis. However, a parent with unknown vital status is unlikely contributing any support, so should be considered deceased for statistical purposes, rather than excluding the child from the sample. Surveys require sampling weights to provide a representative sample of the population and the number of omissions was large enough in some datasets to skew national estimates.

Ultimately, model projections and surveys are in broad agreement, but both methods only provide estimates of orphan prevalence, working vital registration systems, which are standard in middle and developed countries, are needed to determine the number of orphaned children.

Table 1. Household survey and model estimates of orphan prevalence in 2000 and 2003.

Country	Survey	Household survey estimates for orphans aged 0-14 by Grassly et al. around 2000	UNAIDS model estimates for all orphans aged 0-14 in 2000	UNAIDS model estimates for all orphans aged 0-17 in 2003	Adult HIV prevalence rate at the end of 2003 (UNAIDS)
Angola	MICS 2002	10.9	11.0	15.0	3.9
Benin	DHS 2002	6.2	8.6	9.0	1.9
Botswana	MICS 2001	13.2	15.3	20.0	37.3
Burkina Faso		-	-	11.0	4.2
Burundi*	MICS 2000	19.1	13.8	15.0	6.0
Cameroon	MICS 2001	8.5	10.2	12.0	6.9
Cameroon	DHS 1998	8.9	9.7	-	-
Central African Rep.	MICS 2001	10.3	14.6	16.0	13.5
Chad	MICS 2001	6.0	11.1	12.0	4.8
Cote d'Ivoire	MICS 2001	7.5	13.4	13.0	7.0
Congo		-	-	13.0	4.9
DR Congo	MICS 2001	9.4	10.7	17.0	4.2
Djibouti		-	-	11.0	2.9
Equatorial Guinea	MICS 2001	8.8	12.7	13.0	-
Eritrea	DHS	~9.8	-	10.0	2.7
Ethiopia	DHS 2001	10.7	12.0	11.0	4.4
Gabon	DHS 2001	6.0	11.1	11.0	8.1
Gambia	MICS 2000	7.9	11.4	9.0	1.2
Ghana	DHS 1999	6.0	9.2	10.0	3.1
Guinea	DHS 1999	7.9	10.9	10.0	3.2
Guinea-Bissau	MICS 2000	7.3	11.4	11.0	-
Kenya	DHS 1998	9.4	10.3	11.0	6.7
Kenya	MICS 2001	8.4	11.7	-	-
Lesotho	MICS 2000	15.7	13.0	19.0	28.9
Liberia	DHS 2001	7.2	8.9	13.0	5.9
Madagascar	MICS 2001	6.5	8.4	11.0	1.7
Malawi	DHS 2001	11.4	15.5	14.0	14.2
Mali	DHS 2001	~5.2	-	10.0	1.9
Mauritania	DHS 2001	~7.2	-	9.0	0.6
Mozambique	DHS 1997	12.1	11.3	15.0	12.2
Namibia	DHS 2001	11.2	10.9	12.0	21.3
Niger	MICS 2001	4.5	10.0	11.0	1.2
Niger	DHS 1998	5.5	10.4	-	-
Nigeria	DHS 1999	5.9	9.5	12.0	5.4
Rwanda*	MICS 2001	28.2	13.6	17.0	5.1
Senegal	MICS 2001	5.8	9.2	9.0	0.8
Sierra Leone	MICS 2000	12.3	12.6	14.0	-
Somalia	MICS 1999	~9.4	-	11.0	-
South Africa	DHS 1998	9.9	8.4	13.0	21.5
Sudan	MICS 2001	4.2	8.7	9.0	-
Swaziland	MICS 2001	11.4	13.5	18.0	38.8
Tanzania	DHS 2000	8.7	11.2	14.0	8.8
Togo	MICS 2001	9.1	9.6	9.0	4.1
Togo	DHS 1998	8.9	9.2	-	-
Uganda	DHS 2001	12.5	14.3	14.0	4.1
Zambia	SBS 2001	20.3	14.9	19.0	16.5
Zimbabwe	DHS	14.4	17.1	19.0	24.6
SSA Average	2000	9.9	11.5	12.3	7.7

Note: ~ Indicates estimates are from Monasch and Boerma (2004) * Indicates countries with prolonged wars

Vulnerable child estimates

In the past, models and national surveys have not been used to estimate the number of vulnerable children in the context of AIDS. However, with the addition of HIV testing and the collection of additional indicators in household surveys, prevalence estimates for vulnerable children are emerging. A 2004 survey from high density areas in 21 districts of Zimbabwe estimated that 24% of children were vulnerable, 31% orphaned, and 12% OVC (Ministry of Public Service Labour and Social Welfare, 2005). Children were classified as vulnerable if they lived in a household where there was a chronically-ill adult or an adult death in the previous year, or where the household head was under age 18. This survey revealed that on average vulnerable children tend to be younger than orphans. Among children classified as vulnerable, 54% were 0-9 years and 45% were 10-17 years, compared to orphans where 43% were 0-9 years, and 57% were 10-17 years. Globally in 2003, 12% of orphans were 0-5, 33% were 6-11, and 55% were 12-17 years old (UNICEF et al., 2004). This age pattern is partly due to the fact that women continue to bear children in the early stages of HIV infection but then fertility declines in the later stages of AIDS. Young children may be vulnerable with HIV-infected parents and later become orphans when their parents succumb to AIDS.

In a separate study from Manicaland Zimbabwe, it was estimated that 14% of children were vulnerable, 30% orphaned, and 6% OVC. Their definition also included children (ages 0-19) who lived in household where there was a chronically ill parent or an adult death in the previous year. While these definitions may not capture the full universe of characteristics and experiences that make a child vulnerable, they confirm the sizeable population of vulnerable children and should be systematically included in surveys in order to measure and follow incidence and prevalence trends and be used in programme and policy planning.

The characteristics of orphan households

In SSA, children frequently reside with numerous family members throughout their lifetime to ease the burden on single parents, for children to go to school, and for domestic or agricultural labor (Caldwell, 1997; Madhavan, 2004). Indeed this tradition is a vital coping mechanism in nations with growing orphan populations. By the year 2000, 7%-37% of households with children contained orphans throughout SSA (Monasch & Boerma, 2004).

The literature on the characteristics of caregiving households is primarily based on three cross-national comparison studies that use DHS and MICS surveys (See Ainsworth & Filmer, 2002; Case et al., 2004; Monasch & Boerma, 2004). Each of these analyses use data from 1992-2002 so do not necessarily reflect the current situation, nor do they focus on any one country. Also, countries with the highest rates of HIV and orphanhood (i.e. Swaziland and Lesotho) are not included. Finally, while these studies identify regional trends, household surveys were not designed to capture complex fostering patterns, the dissolution of households, and OVC mobility, all of which occurs in a dynamic epidemic. Other studies provide data on orphan households but contribute limited demographic insights because they use non-representative samples.

Nevertheless, the analysis of 10 SSA nations mostly in Eastern Africa, revealed that nearly half of 6-14 year old maternal and paternal orphans lived with surviving parents, followed by grandparents (20-23% respectively) (Case et. al. 2004). In addition, 86% of double orphans aged 6-14 lived with grandparents, other relatives, and adopted caregivers, while 9% lived with siblings and 4% lived with non-relatives. Likewise, Monasch and Boerma (2004) find similar results in their analysis of 13 SSA nations: Of youth not living with surviving parents, 90% of double and single orphans lived with extended family. The majority of orphans lived with grandparents in Namibia (62%) and Zimbabwe (63%). Grandparent-headed households became more common in Tanzania, Zimbabwe and Namibia, where 44% of children lived with grandparents in 1992 compared to 62% in 2000, perhaps indicating that other relatives are saturated with caregiving responsibilities. The mean age of the head of orphan households is 49 in West and Southern Africa, compared to the SSA average of 43 in non-orphan households (Monasch & Boerma, 2004).

Orphan households in SSA are more likely to be female-headed than households without orphans. Throughout SSA, 31% of households without orphans and 42% of households with orphans are female-headed (Monasch & Boerma, 2004), while in Southern Africa, 55% of households with orphans are female-headed. Children may be more vulnerable in female-headed households because women often have fewer years of formal schooling and lower earning potential than men; they frequently work longer hours for less pay, and fulfill caregiving responsibilities for children and older persons (UNESCO, 2005). Ethnographic research from Northern Uganda found that female-headed households received little support from their own clan (Oleke, Blystad, and Nekdar, 2005). In Zimbabwe, the percentage of orphans living in female-headed households grew from 36% in 1994 to 53% in 1999 (Bicego et al., 2003). However, increases in female-headed households may slow as the growing numbers of women with HIV die (Heuveline, 2004), which in turn, may force children to form their own households or live on the street in the absence of willing caregivers.

Women and older persons are the primary caregivers for orphans, so it is not surprising that orphans tend to live in poorer households than non-orphans in many of the highest HIV prevalence nations. Paternal orphans, in particular, lived in the poorest households in 10 East African nations (Case et al., 2004). Orphans aged 7-14 lived in poorer households than non-orphans in Ghana, Senegal, and South Africa, although the reverse is true in Uganda and Zambia (Ainsworth & Filmer, 2002; Bicego et al., 2003; Case & Ardington, 2005). In Botswana, household surveys revealed that orphan households had fewer assets, poorer housing quality, smaller living spaces, and worse dependency ratios than non-orphan households (Miller, 2006).

In many countries, orphans are living in households where the head has low levels of achieved education, which impacts employment opportunities, earned income, and caregiving behaviors. In Botswana, Kenya, and Tanzania, orphans were more likely than non-orphans to live in households where the head had no education (Bicego et al., 2003; Miller, 2005). In Zimbabwe, 36% of orphans lived with households where the head had no education, compared to 14% of non-orphans (Bicego et al., 2003). In addition, the dependency ratio is less favorable in orphan than non-orphan households throughout SSA so

that orphan households struggle to meet economic and caregiving responsibilities (Miller, Gruskin, et. al. 2006; Monasch & Boerma, 2004).

Consistent patterns in the distribution of orphans by urban and rural residence have not been found (Monasch and Boerma, 2004). A higher percentage of orphans lived in urban areas in 14 countries, such as Malawi and Uganda, while a higher percentage of orphans lived in rural areas in Kenya and Namibia. The location of a households impacts access to public services, employment options, and child protection mechanisms, yet insight into these situations is extremely limited.

These findings show the overall disadvantage that orphans may experience, but additional studies that document the emergence, characteristics, and dissolution of households that care for orphans are needed to guide programme planning and policymaking.

The impact of caregiving on households

While regional and country-wide variations exist, evidence is emerging from high HIV-prevalence countries that a growing number of households are saturated with orphan responsibilities (Miller, Gruskin et. al. 2006). Anecdotal evidence of selling off assets, shifting children to other households, and stinting on meals is heard across SSA (UNICEF, 1999, 2003, Cross, 2001). In Uganda, where the number of households fostering orphans jumped from 17% in 1992 to 28% in 2000, non-orphan households experienced significant growth in per capita income, expenditures, and rates of investment, while orphan households lagged behind (Deininger, Garcia, & Subbarao, 2003). In qualitative studies, caregivers from Kenya have reported that some orphans were turned away because the economic responsibility of further caregiving was more than they could handle; Also, family members offered less assistance than in the past, leading to children being forced to leave school to work (Nyambedha, Wandibba, & Aagaard-Hansen, 2001). In Gaborone, Molepolole, and Lobatse Botswana in 2001, 47% of a sample of working caregivers reported experiencing financial and other difficulties due to orphan care. Risk factors included caring for several orphans, caring for sick adults and orphans simultaneously, receiving no assistance with orphan care, and low income (Miller, Gruskin, et. al. 2006). Less than half of all caregivers from a convenient sample from Zimbabwe reported that they ate three meals per day, 64% reported financial difficulties from caregiving, and a third of caregivers reported feeling overwhelmed by responsibilities everyday (Howard, Phillips, Matinhure, et. al. 2006).

However, Case et al. (2004) assessed trends in household wealth using surveys from several countries, but did not find evidence that orphan households experienced deteriorating living standards. This study measured changes in economic status using a count of assets in two cross-sectional studies; however with this technique, a household owning a car in 1992 and a bike in 1997 would appear to have maintained the same economic status.

Moving forward, data sources must include indicators that capture the ability of households to adequately care for OVC, such as indicators of the quality and quantity of food that is eaten and household expenditure data. Research and longitudinal analyses that monitor changes in economic and social mechanisms related to orphan care are critical to policy

development, particularly around social welfare assistance for families in need (Wilton Park, 2006).

Decisions about orphan care

Family care for OVCs is usually preferred by children and families, and highly regarded by policymakers (Bhargava et al., 2003; Smart, 2003; UNICEF et al., 2004). However, in communities where the AIDS epidemic has advanced, there may be fewer available caregivers and a growing number of overwhelmed and dissolving households. Yet, even though the burden of orphan caregiving threatens the future of family care, there is still limited research examining how families make decisions about fostering OVC. Nevertheless, in a convenient sample from Zimbabwe in 2003, caregivers reported that the degree of relatedness to the child and financial resources and assistance were the main factors guiding fostering decisions. Two-thirds of respondents reported providing care to orphans because no one else was able to. Few families reported that they would not foster a child, but that lack of resources, a child having HIV, being ill or disabled, or the sacrifices that biological children would have to make were reasons listed for avoiding caring for orphans.

The child's age and gender were rarely mentioned as reasons to avoid fostering although the respondents were mostly women and it is fathers who are unlikely to remain caring for children, especially girls. Grandparents are most likely to care for orphans aged 0-4 (Howard, Phillips, et. al. 2006; Miller, 2005; Monasch and Boerma, 2004). According to caregivers, children under the age of 2 are the least desirable given their greater care needs (Howard, Phillips, et. al. 2006).

The quality of care that children receive depends upon who provides care and the caregiver's resources, time, and motivation to provide care. While girls and older children may suffer important disadvantages such as loss of access to school or forced domestic or other labor, infants and young children may be at heightened risk of neglect when appropriate caregivers do not step forward. Additional research on caregiving decisions is warranted, especially studies that uncover which children are at a disadvantage and excluded from family care and quality caregiving and what supports families need in order to provide quality care to OVC.

Child-headed households, street youth, and institutional care

Household survey data collected in 2000 revealed that less than 0.5% of households were child-headed in any one nation of SSA. However, the number of child-headed-households (CHH) appears to have grown between the early and late 1990s at least in Kenya and Zimbabwe (Monasch and Boerma, 2004). Although evidence is sparse, there is no reason to believe this trend has not continued, especially in high-HIV-prevalence countries where households are poor and saturated with caregiving responsibilities. Still, there are no recent incidence or prevalence estimates of CHH (Foster, Makufa, Drew, & Kralovec, 1997) and enumerating CHH is challenging because surveys are only conducted in homes where the head is at least aged 15. Youth may avoid surveys fearing separation from siblings and CHH maybe temporary situations.

Most of the 43 child or adolescent headed households in a qualitative study from Zimbabwe had recently been formed, indicating either a sudden increase or that these households were a temporary arrangement (Foster, Makufa, Drew, & Kralovec, 1997). Several of these households received support from extended family. While there was no relative able to provide care in some cases, the relative was either too sick, had no space, or did not want to provide care in other situations.

Throughout SSA, youth at the highest risk of slipping into child-headed households or street life are from migrant families with deteriorating family structures, from regions where urbanization has separated families, and the children of single mothers and sex workers (Ansell & Young, 2004; Foster, Makufa, Drew, & Kralovec, 1997).

Although street children have largely been excluded from orphan research (Panpanich, Brabin, Gonani, & Graham, 1999; Sarker, Neckermann, & Muller, 2005), the emergence of greater numbers of street children also appears inevitable if the poorest households are overwhelmed and unsupported. Orphans from Malawi and Lesotho revealed that they left households for a variety of reasons including abuse, because they were expected to work harder than other household members, and because of household changes related to marriage, illness, death or finances (Ansell & Young, 2004). Some of these orphans migrated as many as five times before becoming street children.

National incidence and prevalence estimates of street life are rare given that street children are a traditionally overlooked population. Also, there are no estimates of the number of children entering street life because of the impact of AIDS on families. Nevertheless, current data from appropriate sources is needed to improve estimates of the number child-headed households and street children, particularly in high-HIV-prevalence nations where maternal and double orphanhood is increasing.

Children live in institutional settings throughout SSA and yet there are few published estimates of the number of children living in these facilities or orphanages. In Zimbabwe, out of 1.3 million orphans, one third of which are double orphans, an estimated 4,000 children are cared for in the country's 45 registered institutions (UNICEF, 2004; Howard, Phillips, et. al. 2006). Orphanages and institutional facilities have proliferated in the past decade and many go unregistered with the government. A robust literature on the problems associated with institutional care in Europe and other Western countries (Frank, Klass, Earls and Eisenberg, 2006) warns against the use of orphanages because traditional models of institutional care generally lack the capacity to meet emotional needs, may lead to poor health, growth, and development, cost more per child than family care, and are potentially unsustainable because of a heavy reliance upon charitable giving (Subbarao, Mattimore, & K., 2001; UNICEF, 2003). Institutional care is only recommended when youth are abused, neglected, or homeless.

Still, there is evidence that children in institutional facilities can develop appropriately even if they have experienced severe trauma (Wolff & Fesseha, 1998). In Eritrea, an assessment of the cognitive development of 9-12 year old war orphans living in residential facilities for five years concluded that even with limited resources, environments can be created that foster

emotional and cognitive development (Wolff and Fesseha, 1999). In Rwanda, children living in orphanages had lower scores on a DSM-IV measuring PTSD than children living in child headed households, although there were no differences in exposure to traumatic events (Schaal and Elbert, 2006). Authors hypothesize that children in orphanages feel safe and accepted, know they are not alone, and basic needs may be met better in the institutional setting, than in CHH. While these studies examine the situation of children in post-conflict situations, their findings are important given the scale of the orphan situation in SSA. Systematic research on best practices in institutional care, particularly in resource poor contexts with high care burdens, would surely contribute to improving quality care and eliminating abusive practices. Institutional care must be better understood given that it is an important option in worst-case scenarios or for temporary care and there are new facilities opening up every month in high-HIV-prevalence countries.

Orphan health and survival

Throughout the lifecourse, OVC may have worse health for a variety of interconnected biological, economic, and caregiving reasons. Possible mechanisms causing health disparities include: (1) MTCT in children born to HIV infected mothers; (2) Heightened exposure to infectious agents among children living with people with HIV (Ainsworth & Semali, 2000; Mulder, Nunn, Kamali, & Kengeya-Kayondo, 1996) although one study found no biological evidence of this pathway (Taha, Graham, et al. 2000). (3) Destitute, overburdened, and sick caregivers may provide lower quality and less care, food, and shelter (Ainsworth & Filmer, 2002; Heymann, Earle, et al. 2006) while unrelated or far removed caregivers may place less value on the OVCs' wellbeing, leading to harsher treatment, less protection, and less food (Case et al., 2004, Committee on the Rights of the Child, 2003); or, caregivers may stigmatize or not invest in the health of children they believe have HIV; (4) Psychosocial problems due to the death and loss of loved ones or difficult circumstances may lead to poor health and high risk behavior in OVC; and (5) OVC may lose access to services as they lose their main advocate in the public system.

The literature on OVC health and survival mainly examines 0-5 year olds, despite estimates that 88% of all orphans are aged 6-17. Child survival research focuses on under-fives because this age group has the highest rates of mortality. Consequently, household surveys, which provide countries with their main source of population health data, only collect a very narrow scope of indicators for older children and youth.

Mortality

Child mortality rates have risen throughout SSA in the last two decades because of the AIDS epidemic (Newell, Brahmbhatt, & Ghys, 2004; Zaba, Whiteside, & Boerma, 2004). In Botswana, Namibia, Swaziland and Lesotho, AIDS has nearly or more than doubled child mortality rates (UNAIDS, 2006), although exact country estimates are limited by the absence of vital registration systems and accurate cause of death information (Zaba, Whiteside, & Boerma, 2004; Zaba, Whitworth, et al., 2005).

AIDS directly diminishes child survival among infected children. In SSA, the HIV mother-to-child-transmission rate is estimated at 25-45% (Dabis & Ekpini, 2002), and without treatment, 80% of HIV-positive children die by age 5, while mean survival is two years (Newell, Brahmbhatt, & Ghys, 2004). Still, only an estimated 7% of HIV-infected African children receive ARVs (UNAIDS, 2006).

Indeed, HIV in children is but one cause of rising child mortality (Adetunji, 2000; Nakiyingi et al., 2003). The survival of both HIV-infected and uninfected children is threatened by the illness and death of parents, particularly maternal orphans who are under age 5 and lose their mothers at young ages (Newell, Coovadia, Cortina-Borja, et al. 2004; Ng'weshemi, Urassa, Isinggo et al. 2002). In a pooled analysis of studies across Africa, Newell, Coovadia et al. (2004) found that uninfected, maternal orphans were nearly 5 times more likely to die than uninfected children whose mother survived. While lack of breastfeeding was not a significant predictor of mortality, deteriorating care practices were hypothesized to play an important role. Likewise, in Malawi, hazard mortality ratios were 3.3 to 5 times higher, depending on age, among children of HIV-infected mothers compared to children of uninfected mothers (Crampin et al., 2003). In Zimbabwe, the non-orphan-to-orphan mortality ratio was 6.1 among maternal orphans, compared to 1.7 among paternal orphans, but data on age, gender, and care practices was not presented (Watts et al., 2005). In Tanzania, risk factors for elevated child death hazard ratios include young age of the child, being a twin, male gender, living in rural areas, and children whose mothers had low levels of education, who were HIV positive, or were terminally ill or recently deceased (Ng'weshemi, Urassa et al. 2002).

In the 0-10 year age group, children of HIV-infected mothers had higher mortality compared to children of uninfected mothers in Northern Malawi in 2000. Mortality rates were 46% vs. 16% in under-fives, and 49% vs. 17% in children under 10. In contrast, in Southwest Uganda (1989-1992) (Kamali et al., 1996) and in Northwest Tanzania (1994-1996) (Ainsworth & Semali, 2000), no orphan-based mortality disparities were found among 5-14 year olds, but it is not clear whether these findings would hold in 2006 with an advanced epidemic changing the social and economic circumstances of households and communities. In both studies, high mobility, small sample sizes, and short follow-up periods might have attenuated findings and limited power to detect differences.

Overall, these studies documented disparities, rather than examining cause of death. Key predictors such as household economic status, care practices, relationship between children and caregivers, or length of time as an orphan would provide direction to policymakers and practitioners.

Healthcare access

The literature measuring orphan-based disparities in healthcare access is paltry even though healthcare delivery to OVC is essential to meeting the Millennium Development Goal of reducing child mortality. The two studies measuring differentials in healthcare access are from Uganda in the 1990s. Orphans were significantly less likely than non-orphans to receive vaccinations and vitamin-A (Deininger et al., 2003). In contrast, in Kampala Uganda, there were no reported orphan-based differences in treatment seeking in 1999 (Sarker et al., 2005)

although the sample population lived in relatively wealthy urban areas and were cared for by surviving mothers, grandmothers, and aunts.

Understanding and addressing possible disparities in health care access are critical because OVC may have more healthcare needs, yet be at a greater disadvantage due to distant relationships with caregivers. OVC, like all children, may have worse healthcare access in poorer regions, where clinics are far away, or fees are charged. Of course, if OVC live in the poorest households, they will disproportionately lack health care access. Moving forward, as a growing number of children gain access to ARV treatment, studies assessing patient outcomes and adherence rates should collect data on orphan status as well.

Anthropometry and morbidity

Orphan-based disparities in nutritional status among 0-4 year olds were found in studies from Eastern and Western Kenya (Bloss, Wainaina, & Bailey, 2004; Lindblade et al., 2003), Botswana (Miller, 2005), and Tanzania (Ainsworth & Semali, 2000), but not in lower HIV-prevalence areas of rural Uganda, (Sarker et al., 2005), Northern Malawi (Crampin, et al. 2003) and Guinea Bissau (Masmas et al., 2004). The cross-national assessment of 18 countries found no orphan-based disparities in growth failure (Monasch and Boerma, 2004). However, these findings should be viewed critically given that the study includes both high and low HIV-prevalence countries but does not disclose which countries were examined or present country-level results. Furthermore, youth were not stratified by orphan type or economic status to identify high-risk, underweight populations.

In Tanzania, orphans with growth failure came from the poorest households, had uneducated parents, and diminished access to health care (Ainsworth & Semali, 2000). In western Kenya, children living with non-biological caregivers had the highest risk of stunting (Bloss et al., 2004). Likewise in Botswana, orphans who were unrelated to household members, living in the poorest homes, and with the least educated caregivers had the highest risk of growth failure (Miller, 2005).

In Malawi, there were no orphan-based differences in measures of morbidity, however caregivers were more likely to report that children of HIV infected mothers were “not well” (Crampin et al., 2003). In this study, the highly elevated mortality rates of children might have attenuated morbidity measures because sick children died. A cross-sectional study from Kenya showed that children orphaned for more than one year were more likely to have diarrhea in the past 2 weeks and lower height-for-weight scores than children orphaned within the year, suggesting that the delayed negative impact of adult death may be related to caregiving or other factors (Lindblade et al., 2003).

Moving forward, a range of health indicators should be included in national household surveys and longitudinal studies and collected for children of all ages in order to measure nutritional intake, healthcare utilization, and morbidity and disentangle the affects of HIV infection, care practices, SES, and OVC status on health (Newell, Brahmabhatt, et al., 2004).

Psychological health

The literature assessing psychological health confirms that orphans are in distress (Atwine, Cantor-Graaea, & Bajunirweb, 2005; Foster, Makufa, Drew, & Kralovec, 1997; Makame, Ani, & Grantham-McGregor, 2002; Sengendo, 1997). In Uganda, 193 orphans aged 6-20 years had higher depression scores than non-orphans and the average score was in the depression range (Sengendo, 1997). Maternal orphans and those in child-headed households were significantly more depressed than paternal orphans and children living with grandparents were less depressed than those living with other relatives. Depressed children had more physical complaints, were more likely to be overactive, involved in fights, refuse to go to school, and had lower self-esteem. Depressed children also appeared miserable, unhappy, tearful, or distressed. Orphans reported feeling angry, especially when they faced problems. In a study from rural Uganda, 11 to 15 year old orphans had 5-6 times the levels of anxiety, depression, and anger as non-orphans (Atwine et al., 2005). Orphans scored significantly higher on the Beck Youth Depression Inventory than non-orphans on items regarded as "sensitive" to depressive disorder, such as vegetative symptoms, hopelessness, and suicidal ideation. In the poor suburbs of Dar es Salaam, Tanzania, 10 to 14 year old orphans were more likely to internalize problems and 34% of orphans versus 12% of non-orphans reported contemplating suicide in the past year (Makame et al., 2002). In a qualitative study from Zimbabwe, orphans reported suffering from anxiety, fear, grief, trauma, problems with caretakers, and isolation.

In South Africa, a study of 30 orphaned and 30 non-orphaned children ages 6-19 living in poor urban areas found that orphans were more likely to have difficulty concentrating, to report somatic systems, and to have constant nightmares. Orphans scored 73% above the cut-off for Post-Traumatic-Stress-Disorder (Cluver and Gardner 2005). There were no differences based on the child's age, gender, or time since parental death, although the sample was small.

These are small, qualitative, purposefully sampled studies, yet they illustrate the grave emotional state of some orphaned children. Still, it is unclear if these children are representative of orphans throughout Uganda, Zimbabwe and elsewhere. The literature on the psychosocial situation of OVC still has gaps, including incidence and prevalence rates of depression and other psychological disturbances; and information on the emotional problems associated with critical periods, such as when one or both parents become symptomatic, when parents require intensive care, when a parent dies, during placement in a new care situation or subsequent placements, or after the loss of multiple caregivers. For example, in Uganda, 6-20 year olds reported losing hope and becoming less optimistic about the future or even living a long time when they recognized their parents had AIDS (Sengendo, 1997). And in Tanzania, depressed orphans' had lost parents many years prior to the study, possibly indicating that elevated depression levels were chronic, and related to current circumstances rather than an acute grief reaction to parental death. Of course, acute incidents may trigger depression that deepens when left untreated. Another important research gap are details on the mediating and moderating factors that compound or act as a buffer against distress, and the range of psychosocial disorders. Finally, emotional trauma is linked with high-risk

behavior such as unprotected sex, alcohol and drug use, dropping out of school, and suicide, and yet there is little insight into OVC emotional health and high-risk behaviors.

Sexual health and high-risk activities

In the capital cities of Swaziland and Botswana, 39% and 33% of 15-24 year old women, respectively, were HIV positive in 2003 (UNAIDS, 2005). International goals on HIV prevention prioritize improving efforts targeted at 15-24 year olds given that 50% of new infections occur in this age group (UNGASS, 2001). OVC are at a heightened risk for early initiation of sexual activity and contracting HIV for several reasons. The trauma of losing a parent, growing up in a distressed home, or with lower quality care, may lead OVC to engage in sexual activity to fulfill emotional needs. While orphans are more likely to live in poorer homes, low socio-economic status heightens risk of HIV infection through direct and indirect pathways (CDC, 2005). Poverty may directly increase the risk of infection if poor orphans sell sexual favors to earn money, and indirectly increase risk if it diminishes access to healthcare services where condoms are distributed and sexually transmitted infections treated. In addition, while educational attainment is positively correlated with lower risk of HIV transmission, orphans are at higher risk of dropping out of school (Bicego et al. 2003; Case et al., 2004; Monasch & Boerma, 2004). Out-of-school-youth have diminished access to prevention education, are more likely to be sexually active younger (CDC, 2005), and may fail to use HIV protection methods (UNESCO, 2005).

In the sole study of sexual behaviors among children affected by AIDS, the HIV prevalence rate in female OVCs aged 15-18 was 3.2% versus 0% among non-OVCs (Gregson et al., 2005). In this study from Manicaland, Zimbabwe, orphans *and* vulnerable children were 75% more likely than their counterparts to have STI symptoms. Teenage pregnancy was more prevalent among OVCs than non-OVCs (8.3% versus 1.9%). OVCs were also more likely to have initiated sexual relations and married, but there were no differences in the number of lifetime sexual partners. OVCs were also less likely to be enrolled in secondary school than their counterparts. Finally, among all youth in the study, maternal orphans and girls had the worst reproductive health and access to secondary school. These are critical findings suggesting that OVC status may further fuel the AIDS epidemic. Additional research examining the sexual health of OVC is a vital piece of prevention efforts.

Given that OVC may be at greater risk of sexual abuse because they lack parental protection, research investigating sexual or physical abuse based on orphan status also needed. The same mechanisms that increase the likelihood that children affected by AIDS will engage in high-risk sexual activity may also increase the risk that OVCs will engage in other risk-taking behaviors such as substance abuse, which increases the risk of HIV infection.

Education

OVC may lose access to school because of household poverty, increased household needs for income generation or domestic labor, intra-household stigmatization, and other reasons related to the parental sickness or loss. Ample evidence of orphan enrolment disparities has emerged in many nations, although the size and determinants of inequalities appear to be

country-specific. Enrolment inequalities among maternal, paternal, double or all types of orphans have been documented in South Africa (Case & Ardington, 2005), Ghana, Kenya, Madagascar, Malawi, Mozambique, Niger, Tanzania, Zimbabwe, Botswana and Uganda (Case et al., 2004; Miller, 2005; Nyamukapa & Gregson, 2005). One estimate suggests that throughout SSA, orphans are 13% less likely to attend school than non-orphans (Monasch & Boerma, 2004). However, findings are based on an orphan-to-non-orphan attendance ratio that does not account for age, even though age is correlated with orphan status and schooling (Case and Paxson, 2004). Since orphans are more likely to be older and older youth are more likely to be in school, results underestimate the negative effects of orphanhood.

Disparities in grade progression were found in each nation where this indicator was examined, including Botswana (Miller, 2005), Niger, Ghana, Kenya, Tanzania, and Zimbabwe (Bicego et al., 2003). Appropriate grade progression is critical because losing ground in the educational system places youth at higher risk for failure and dropping out and low achievement may influence decisions about educational investments. In Botswana, maternal and double orphans were most disadvantaged in grade progression (Miller, 2005). The household factors that negatively effect orphan schooling include poverty, low education among household-heads, male household-heads, and high-dependency ratios (Miller, 2006). In some countries, orphan-based disparities were small compared to differences due to household poverty. In this case, the negative effects of orphanhood are exacerbated by poverty because orphans are more likely to live in poorer households (Sengendo, 1997). However, the primary study that generates this conclusion (Ainsworth & Filmer, 2002) is based on an orphan-to-non-orphan attendance ratio.

Child-level factors negatively impacting schooling include weak family ties with caregivers and orphan type. Although paternal orphans experience inequalities, double and maternal orphans seem to be at the greatest disadvantage. Age may take a U-shaped curve whereby young and older orphans (5-8 and 15-17 year olds) are most likely to experience inequalities while 10-14 year olds are most likely to be in school. Evidence of gender disparities among orphans is limited, however many researchers have not stratified data by gender and existing data sources do not provide insights into the mechanisms that lead to disparities. One cross-national comparison of 10, mostly east African nations, controlled for the child's age and gender, and household resources (Case et al., 2004). In every country, maternal, paternal and double orphans were less likely to be enrolled than non-orphans, even compared to children in the same household. Boys and girls were equally disadvantaged. Differences in enrolment may be attributed to orphan-specific issues, such as discrimination, emotional trauma, and the weak relationship between orphans and unrelated caregivers, who make lower investments in the orphaned child's education, although the relative contribution of various mechanisms causing to disparities remain unclear (Case et al., 2004).

The hypothesis that women are the educational-gatekeepers championing their children into the classroom is supported in studies from rural Zimbabwe and Uganda. In Zimbabwe, maternal, but not paternal or double 10-16 year-old orphans, had lower primary completion rates than non-orphans (Nyamukapa & Gregson, 2005). Primary completion among paternal and double orphans was attributed to youth living in female-headed households, while the maternal orphan disparity was attributed to a lack of support from fathers and stepmothers. In

Uganda, where schooling disparities emerged between orphans and non-orphans in the same household, orphan enrolments were consistently higher in female versus male-headed households (Aspaas, 1999).

While these studies show that orphan based disparities do exist and that maternal and double orphans face the greatest inequity, there are still important limitations. For example, in many nations available data is too old to accurately determine the extent of disparities. Also, several studies are methodologically flawed because they do not account for the structure of the dataset whereby children are nested in households. Multilevel methods should be used to unpack child and household level determinants and establish the true effect sizes based on orphan status (Goldstein, 2003; Rasbash, Steele, Browne, & Prosser, 2004). Moreover, some studies which do not control for covariates. Finally, while national household surveys provide enrolment and grade progression data, they do not provide insight into the mechanisms that undermine education, nor do they permit pinpointing critical periods when performance deteriorates. Moving forward, given that education is a path towards poverty reduction, schools are a focal point for prevention education, and improving educational access is a major strategy in reducing the spread of HIV; a better understanding of the mechanisms that lead to OVC failure and dropout is essential (UNESCO, 2005).

Child labor

SSA harbors the largest share of child workers aged 5-14 in the world—one in three or 48 million youth—and these economically active children may engage in unpaid, casual, and illegal work (ILO, 2002). Gathering data on child work patterns is exceptionally challenging, and not surprisingly, the research into child labor among orphans is limited. Still, OVC are at risk of forced labor given their low economic status and placement in poor households, their possible low status in the fostered household, and the lack of parental protection.

Nevertheless, Monasch and Boerma (2004) conclude that there is little difference in labor between orphans and non-orphans in SSA. However, this finding may be premature given the challenges associated with measuring child labor in household surveys. For example, adults are expected to report child work patterns although the topic is often hidden or taboo and they may not be fully aware of children's work. Also, domestic workers and farm laborers may not be counted as household members so their work goes undocumented. In addition, street children or children in child-headed households who are uncounted may work at higher rates than children in more traditional households. Again, it is not clear which countries are included in this analysis, but child labor was more prevalent in countries with lower school attendance (Monasch & Boerma, 2004). In fact, in Kenya, orphans reported dropping out of school to be used for cheap labor (Nyambedha, Wandibba et al., 2003). With government and community support for orphans lacking, caregivers relied on children's income for existence (Nyambedha et al., 2001). Orphans also reported being used for cheap labor in Zimbabwe (Foster, Makufa, Drew, Mashumba et al., 1997). However these studies do not provide incidence and prevalence data or details on the work that children perform. In any case, by 2005, 6.3% of the total labor force in SSA was lost to AIDS deaths, creating a greater demand for workers in the formal and informal sectors. While there are reports of girls leaving school to meet caregiving needs (Foster & Williamson, 2000), in Botswana, boys

were twice as likely to be out of school than girls at the primary school level, and a portion of these youth were likely needed for farming and animal husbandry (Miller, 2005). Improved data sources and methods to estimate the number of child workers and the circumstances surrounding child labor is critical for all youth, yet OVC require special attention given the extreme circumstances their families face, combined with their diminished parental protection.

Mobility and migration

OVC are becoming a highly mobile population. Several small qualitative studies have found that orphans migrate more often than non-orphans (Ansell & Young, 2004; Foster, Makufa, Drew, & Kralovec, 1997; Foster & Williamson, 2000; Makame et al., 2002; Masmias et al., 2004; Urassa, 1997). In a mixed-method study in Malawi and Lesotho, children who were sent to live with extended family commonly moved over long distances and between urban and rural areas (Ansell & Young, 2004). Youth were not consulted or informed about these moves and most children found migration traumatic (Makame et al., 2002). While many children faced a range of problems integrating into new families and communities, they usually settled into new environments over time. In Zimbabwe, paternal orphans were 40% and double orphans were 100% more likely than non-orphans to move during a three-year follow-up. Maternal orphans moved at the same rate as non-orphans. Moves tended to be from towns to rural settings, between households of similar socio-economic status, and occur before parental death. Additional research is needed to investigate the child and household level factors that increase mobility, the impact of mobility, and interventions to reduce frequent, disruptive moves.

OVC response

Community capacity for orphan support

Community-based care options are frequently referred to in peer reviewed papers, editorials, and policy documents (Bhargava et al., 2003; Foster, 2002; Monasch & Boerma, 2004; UNICEF, 2003; UNICEF & UNAIDS, 1999) as the most practical and perhaps the only feasible way to help OVC given the financial and human resource limitations of the public sector, weak governance, and corruption. Community-based care has also been called the most cost-effective way of meeting orphans needs (Drew, Makufa, & Foster, 1998; Foster, 2002; Foster et al., 1996; Foster, Makufa, Drew, & Kralovec, 1997; Foster, Makufa, Drew, Mashumba et al., 1997; Foster & Williamson, 2000); however these conclusions are not supported by studies, which are mainly process evaluations that do not compare alternative strategies.

Although many community based organizations (CBOs) and volunteers provide essential support to orphans and their families, there are also millions of children and households that do not receive any community support. In Malawi and Lesotho, despite the attention given to the role of communities, few children or guardians reported receiving any assistance from community members (Ansell & Young, 2004). In Zimbabwe, 59% of caregivers in a convenient sample reported that no one provided assistance and less than 2% reported

receiving assistance from the community. In Kenya, caregivers reported that community support was minimal although claims of community action were high (Nyambedha et al., 2001). In Uganda, there are more CBOs providing orphan services than any other types of groups and yet the CBOs only assisted 0.4% of orphans (Deininger et al., 2003). Likewise in Botswana, less than 1% of a clinic-based sample of orphan households received assistance from community members, while extended family members were the largest source of assistance (Miller, Gruskin, et al., 2005).

Nevertheless, the literature on community based care options do provide evidence that community members who are empowered with resources and training may be an essential component of decentralized programs, linking formal projects with households. Studies assessing the viability and capacity of community members to support caregiving households would help better inform policy debates on how much assistance should be directed to families and towards communities.

The public sector

Given that the highest rates of poverty, HIV, and orphanhood in the world are found in SSA (UNDP, 2003a), there is wide consensus that governments must fulfill their obligation to provide social welfare assistance to children and their caregivers (Universal Declaration of Human Rights, 1945; Convention on the Rights of the Child, 1989; Wilton Park, 2006). Social assistance may be in the form of cash grants, school and/or health vouchers, income-generation schemes for families, and the provision of community or residential facilities (Deininger et al., 2003; Subbarao et al., 2001). Many SSA countries, including Kenya, Uganda, and Zambia, have social insurance for sickness and death, survivor benefits, and old-age pensions, all of which could improve the financial standing of orphan households (International Social Security Association, 2005). Moreover, in the 2006 Livingstone agreement, government representatives from 13 African countries, all heavily impacted by AIDS, called for social transfer programs to be a more utilized policy option for vulnerable children and households (African Union, 2006). African governments agreed to develop costed national social transfer plans within two to three years. Still, while the research on social welfare assistance to support OVCs is limited, several findings have emerged.

In Botswana, the National Orphan Care Programme entitles households with registered orphans to receive support. Households that received assistance were much less likely to have financial difficulties because of orphan caregiving (Miller, Gruskin, et al., 2005). However, the Social Welfare Division in Botswana lacks the capacity to register and deliver support to all children eligible for services. Even prior to the AIDS epidemic, social welfare systems throughout SSA had severely limited resources and inadequately developed infrastructures and yet were responsible for managing and financing these care options (Dixon, 1987). Now these systems must fulfill existing duties and respond to new demands with inadequate budgets and insufficient staff. In South Africa, social welfare employees admitted transferring responsibilities to other organizations (Desmond et al., 2002). Inefficient state services meant that children and families waited months before receiving subsidies. In Western Kenya, researchers concluded that there was no significant public-sector support for orphans (Nyambedha et al., 2001).

National policies currently promote family fostering even though, in the absence of social welfare assistance, it may impoverish households, force orphans into situations without adequate resources, and cause harmful spillover effects on biological children (Heymann, Earle, Rajaraman, Miller, Bogan, 2006). Even though family care for OVCs is considered the best option, the problem is that social welfare systems currently lack the capacity to fulfill their duties and children orphaned today will need special support and protection for one to two decades. Therefore, new research documenting the ability of social welfare systems to respond to OVC and their families is critical. Immediately improving infrastructure and service delivery is essential and it begins with measuring capacity, documenting weaknesses, and setting benchmarks and targets for delivering scaled social welfare assistance.

Conclusion

The orphan literature is rife with tremendous knowledge gaps even though there is a staggering number of OVC and a disaster unfolding among the poorest families in the hardest hit nations. This review highlights the increasing vulnerability of orphan households, the emergence of OVC-based disparities, the massive emotional distress felt by orphans, and the lack of capacity among social services. Also, there is an emerging pattern by which maternal orphans are most likely to suffer the worst human development consequences of all, including higher mortality, HIV-infection rates, and psychosocial trauma, as well as poorer educational access and achievement. Sadly, we are still at the beginning of the orphan crisis and the rate of maternal orphanhood will rise given that women in SSA account for 57% of HIV infections overall and 76% of infections in young people aged 15-24. The implications of high levels of maternal mortality are profound, threatening to undermine progress towards the Millennium Development Goals, UNGASS goals around HIV prevention, and Education for All. The survival and development of millions of increasingly vulnerable children is threatened in a region where public services lack infrastructure and half the population live on less than \$1 or \$2 per day (UNDP, 2003b). More and better research is needed to help guide policy makers and practitioners as they respond to children and families.

First, underdeveloped vital registration systems and limitations with models and surveys inhibit even counting OVC. Priorities include developing working vital registration systems and improving model projections. Household surveys should collect indicators of OVC status for all children under 18 years and improve techniques to collect data on overlooked OVC populations. For example, all children who head households and child domestic workers should be included. Better methods are needed to count street and institutionalized children.

Next, more qualitative studies are needed, particularly in countries lacking research, to explain how caregiving decisions are made; differences in how children are cared for based on OVC status; the mechanisms by which parental illness and death and new caregiving arrangements impact OVC; how outside support is used in households; and high risk behaviors among OVCs.

Program evaluations are needed to assess the impact of OVC activities. In 2006, the US government alone plans to commit US\$481 million to OVC and other care programs, while

thousands of other OVC programs exist throughout SSA (PEPFAR, 2006). Still, rigorous programme evaluations, if conducted, go unpublished and yet disseminating findings is critical to improving programme effectiveness and efficiency, and guiding difficult budgetary decisions.

National data sources should and can be more useful. Priorities include more frequent survey administration in high-HIV prevalence countries; collecting indicators of OVC status for all children; adding recently developed indicators to measure external support for caregiving households and the wellbeing of children at different ages and stages; and collecting income and expenditure data.

To date, the literature has not advanced to the point of determining the mechanisms by which AIDS and orphanhood impacts children and families. Longitudinal studies, where cohorts of children, households, and communities can be followed over time are therefore critical to determining the impact of parental HIV status on children throughout the life-course, the impact of caregiving on households, and the impact of the orphan epidemic on communities and social systems.

UNAIDS estimated that US\$2 billion will be needed for orphan care by 2006, with resource requirements increasing annually (UNAIDS, 2004). Despite these projections, the funding shortfall for OVC exceeded US\$1.5 billion in 2005. Looking forward, financing OVC policies and activities will continue to be a challenge over the coming decades as OVC plans compete with other priorities. Even so, heavily impacted nations must divert more resources to OVCs and their caregivers. The success of OVC responses will also be determined by whether developed nations fulfill funding commitments (Gleneagles Summit Documents, 2005; United Nations World Summit, 2005; United Nations General Assembly, 2006). Strong and sustained commitments from the private sector and philanthropic organizations are also essential.

While African culture and traditions have shielded orphans in the past, the established disparities that many OVC experience provide strong evidence that many households are overwhelmed and require external support, particularly in high-HIV prevalence countries. Now, increased and immediate action is critical to eliminating disparities, supporting children and families, and reversing the human development losses incurred by the AIDS and orphan epidemics.

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