

HIV/AIDS ORPHANS AND THEIR CAREGIVERS IN ARUSHA, TANZANIA

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Submitted to the Graduate Faculty of
Graduate School of Public Health in partial fulfillment
of the requirements for the degree of
Master of Public Health

University of Pittsburgh

2011

UNIVERSITY OF PITTSBURGH
GRADUATE SCHOOL OF PUBLIC HEALTH

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HIV/AIDS has been a looming public health threat for decades. With an estimated 15 million AIDS-related deaths in Africa since the emergence of the disease, over 14 million orphans have been left in its wake. Generations of parents lost to AIDS have created a vacuum of care for the orphans they leave behind. The burden of care is placed on ill-equipped aging relatives, older siblings, or caregivers in local orphanages. Evidence from the literature indicated that orphans are plagued with emotional trauma following parental loss and suffer worse health outcomes without emotional, social, and financial support. Data collected from questionnaires administered in Arusha, Tanzania indicated that orphans lack many resources paramount to their healthy growth, and that caregivers desire to learn skills to help them become better orphanage leaders. Without the means to generate income and skills in child psychology, HIV/AIDS education, and first aid, orphanage caregivers cannot provide the best support for the orphans in their care. This has public health significance because without proper socialization, these orphans may become trapped in the cycle of poverty, leading to health problems including HIV infection, and a lack of economic productivity in adulthood. Understanding the facets of caregivers' and orphans' lives in sub-Saharan Africa through the literature, questionnaire data, and interviews exposed the need for continued caregiver training, the implications for further research and intervention creation, and the limitations faced. In this applied research and theory intervention, a pilot program was designed for caregivers in Arusha to learn various requested skills through training sessions over

the course of one year. The program's goal is to increase knowledge and skills in child psychology, HIV/AIDS education, first aid, small business creation and management, and training so caregivers can better care for and teach their orphans. The proposed training program has four intended outcomes for the participants: first, to have a workable knowledge of the skills taught; second, to train their peers in the skills they have learned; third, to improve their care of orphans by implementing the skills they have learned; and fourth, to create a social network for the caregivers to provide an emotional and intellectual support system. From these outcomes, caregiver and orphan emotional and physical health statuses will improve and a sustainable social network will foster continued skill building and support.

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ACKNOWLEDGEMENTS

I would like to thank Mike Wilson and Maria Waga for the time and effort they put into this project. Thank you to my committee members for engaging in and improving this work, especially Dr. Terry for her patience and guidance throughout my degree. Thank you to Rehema Juma and the extraordinary children at the Karim Child Care Centre, my second family.

I would especially like to thank my family, who has encouraged me in every way.

1.0 INTRODUCTION

HIV/AIDS has ravaged the developing world, particularly sub-Saharan Africa, for decades. Generations of parents lost to AIDS have created a vacuum of care for the orphans they leave behind. The burden of care is placed on ill-equipped aging relatives, older siblings, or caregivers in local orphanages. The wake of the epidemic leaves millions of children orphaned with few networks of support, both financial and social. The implications of these generations of AIDS orphans are economic, cultural, and psychological. Because orphans are particularly vulnerable, it is important that caregivers have the skills necessary to care for them since they play a crucial role in their development. Without the thoughtful implementation of evidence- and theory-based interventions and community engagement, the cycle of disease and poverty will continue. This paper centers on the current situation of orphans and orphanage caregivers in sub-Saharan Africa, specifically in Tanzania. It also proposes a pilot program to train orphanage caregivers in child psychology, HIV/AIDS education, first aid, and small business management, thereby improving health outcomes.

Data collected from questionnaires administered in Arusha, Tanzania indicated that orphans lack many resources paramount to their healthy growth, and that caregivers desire to learn skills to help them become better orphanage leaders. Without the means to generate income and skills in child psychology, HIV/AIDS education, and first aid, orphanage caregivers cannot provide the best support for the orphans in their care. In this applied research and theory

intervention, a pilot program was designed for caregivers in Arusha to learn various requested skills through training sessions over the course of one year. The program's goal is to increase knowledge and skills in child psychology, HIV/AIDS education, first aid, small business creation and management, and training so caregivers can better care for and teach their orphans. The proposed training program has four intended outcomes for the participants: first, to have a workable knowledge of the skills taught; second, to train their peers in the skills they have learned; third, to improve their care of orphans by implementing the skills they have learned; and fourth, to create a social network for the caregivers to provide an emotional and intellectual support system. From these outcomes, caregiver and orphan emotional and physical health statuses will improve and a sustainable social network will foster continued skill building and support.

In the following pages, the author will further discuss HIV/AIDS and its effects in sub-Saharan Africa, including orphans' needs and care considerations. Chapter 2 describes the background of orphans, orphanages, and caregivers in sub-Saharan Africa and Tanzania. Chapter 3 will outline the methodology used to collect data from caregivers in Arusha, Tanzania. In Chapter 4, the results of the questionnaires administered to the caregivers will be provided. Chapter 5 will discuss the questionnaire results and propose a theory-based caregiver training intervention. Chapter 6 will provide recommendations for further research, limitations, and conclusions based on the background, review of the literature, results, and discussion.

2.0 BACKGROUND

AIDS has devastated the social and economic structure of African societies and made orphans of a whole generation of children. The rapid growth of the orphaned population has left communities with a paucity of service and support structures to help these children. The literature overviews myriad long-term social consequences of African children growing up without parental love and guidance, becoming dysfunctional adults who further destabilizing AIDS-weakened societies (Wessner 2009).

2.1 HIV/AIDS

Since the first cases of Acquired Immune Deficiency Syndrome (AIDS) were discovered in 1981 in the United States, over 25 million people have died from the disease. Approximately 33.3 million people globally are now living with AIDS (AVERT 2011). In 2009, an estimated 2.6 million people became infected with Human Immunodeficiency Virus (HIV) that causes AIDS and 1.8 million people died of AIDS and the opportunistic infections that coincide (Ibid.). While there is currently no cure for AIDS, the transmission of HIV can be prevented, and antiretroviral therapies (ARTs) can delay the onset of AIDS. HIV is transmitted through direct contact with body fluids, breast milk, blood, semen, vaginal fluid, and preseminal fluid, and gradually attacks CD4 and T helper cells in the immune system (Ibid.). AIDS is now a global pandemic and in

resource-poor settings, ARTs are not available or adhered to, HIV prevention mechanisms (condoms, clean syringes) are not widely available, and HIV testing and education are not frequent (Kallings 2008).

In Table 1, adult HIV prevalence rates, total cases, and AIDS deaths are compared by world region. Sub-Saharan Africa shoulders the majority of the HIV/AIDS burden, accounting for over 63% of the total HIV cases and over 70% of AIDS deaths (UNAIDS 2006). In Asia, Eastern Europe, Latin America, and the Caribbean, HIV/AIDS is on the rise, but their statistics (1.4 million people living with HIV in both Eastern Europe and Latin America in 2009 and 4.9 million in Asia) are not nearly as high as those in sub-Saharan Africa.

Table 1. Regional HIV Comparison, 2005 (UNAIDS 2006).

World region	Adult HIV prevalence (ages 15–49)	Total HIV cases	AIDS deaths in 2005
Sub-Saharan Africa	6.1%	24.5m	2.0m
Worldwide	1.0%	38.6m	2.8m
North America	0.55%	1.3m	27,000
Western Europe	0.3%	5.8m	12,000

2.2 HIV/AIDS IN SUB-SAHARAN AFRICA

HIV originated in Africa around 1930, when the disease transferred from chimpanzees in Cameroon infected with Simian Immunodeficiency Virus (SIV), and spread slowly until

epidemics proliferated in the 1970s in the Democratic Republic of Congo and in the 1980s in East Africa (Uganda, Rwanda, Burundi, Tanzania, and Kenya) (Gao et al. 1999). Transmission in East Africa was much more rapid than in West Africa due to labor migration (truck drivers, soldiers, miners, and traders), urban populations with high ratios of men, low status of women, lack of circumcision, and prevalence of other sexually transmitted diseases (STDs), particularly among sex workers (AVERT 2011). Throughout the 1980s, HIV infections slowly moved west, where HIV rates remained lower than East Africa, and south, where HIV prevalence quickly rivaled the epidemic in eastern Africa. HIV/AIDS created fear and confusion, which was soon followed by stigma and despondency. The initial government and global responses to the growing crisis were insufficient, aside from prevention programs in Senegal and Museveni's Uganda, until the late 1990s (Ibid.).

Sub-Saharan Africa has been the focal point of the AIDS epidemic since its beginning. An estimated nine of 14 million total HIV infections have occurred in sub-Saharan Africa (Ibid.). Approximately 70% of HIV incidence in 1998 was among people in sub-Saharan Africa, with South Africa accounting for one in seven new infections (Ibid.). By the 2000s, ARTs became more accessible and affordable in sub-Saharan Africa, while prevention efforts successfully focused on behavioral change, such as increased condom use, delayed sexual debut, and decreased number of sexual partners. HIV prevalence has shown decline in the region, but this may be influenced by high mortality rates. The Joint United Nations Programme on HIV/AIDS, or UNAIDS, (2010) reported that HIV infections have been reduced by more than 25% in 22 African countries from 2001 to 2009, including among women and youth. HIV/AIDS still looms large in sub-Saharan Africa, where 1.3 million of 1.8 million people infected with HIV died of

AIDS in 2009 (AVERT 2011). By 2007, an estimated 15 million Africans had died from AIDS since the beginning of the epidemic, leaving millions of orphans throughout the region (Ibid.).

Figure 1 illustrates HIV prevalence in sub-Saharan adults from 1990-2007. Percentage of HIV prevalence in adults rose in East Africa, followed by western and southern regions. During that time period, HIV prevalence in only Uganda, Zimbabwe, the Ivory Coast, and the Republic of the Congo abated. From 1990 to 2001, many prevalence percentages increased throughout sub-Saharan Africa, until leveling off between 2001 and 2007 (UNAIDS/WHO 2011).

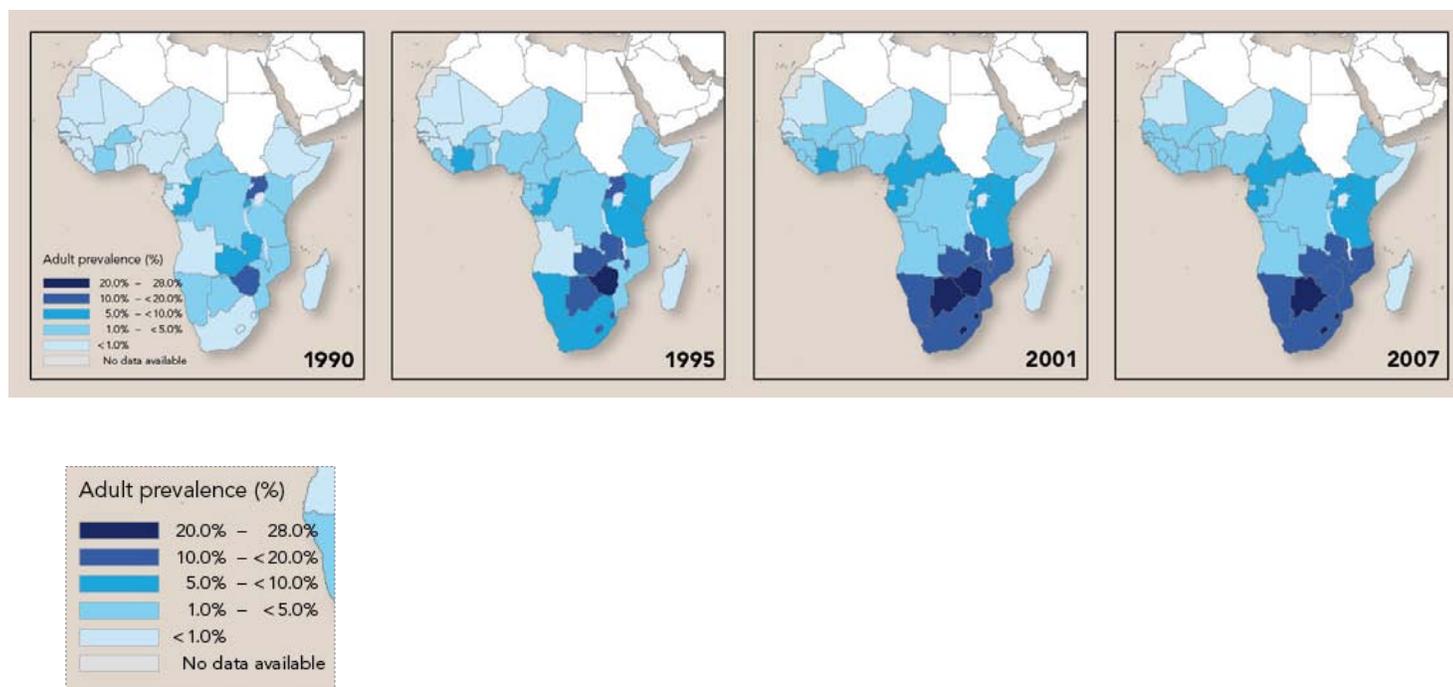


Figure 1. HIV prevalence in adults in sub-Saharan Africa, 1990-2007 (UNAIDS/WHO 2011)

Table 2 provides population and prevalence figures for sub-Saharan Africa and HIV/AIDS prevalence, showing 22 million people living with HIV/AIDS in 2007 in a population of 836 million people in 2008 (HIVInSite 2011). Of those 22 million, 12 million were women aged 15 and older, and 1.8 million were children. Adult prevalence was 5.0% and 1.5 million people died of AIDS in 2007, falling to 1.3 million in 2009 (Ibid.).

Table 2. HIV/AIDS in sub-Saharan Africa, 2007 (HIVInSite 2011).

Population (2008)	836,000,000
People living with HIV/AIDS	22,000,000
Women (aged 15+) with HIV/AIDS	12,000,000
Children with HIV/AIDS	1,800,000
Adult HIV prevalence	5.0%
AIDS deaths	1,500,00

Table 3 delineates HIV prevalence in East and Central Africa by country in 2003 (Ethiopia's statistics come from 2005). Tanzania had the highest adult prevalence at 8.8%, highest total HIV cases at 1.5 million, and highest AIDS deaths in 2003 of any country in the region (UNAIDS 2006). In 2009, the total HIV cases in Tanzania have been reduced to 1.2 million people, a little more than 5% of the adult population (AVERT 2011). Approximately 100,000 people in Tanzania were newly infected with HIV in 2009, with almost 275 people infected daily (Ibid.).

Table 3. HIV in East-Central Africa (UNAIDS 2006).

Country	Adult prevalence	Total HIV	Deaths 2003
Tanzania	8.8%	1,500,000	160,000
Kenya	6.7%	1,100,000	150,000
Congo	4.9%	80,000	9,700
Congo DR	4.2%	1,000,000	100,000
Uganda	4.1%	450,000	78,000
Eritrea	2.7%	55,000	6,300
Ethiopia	0.2%*	140,000	2,000

2.3 ORPHANS IN SUB-SAHARAN AFRICA

According to the United Nations' Millennium Development Goals Fact Sheet, "there are 17.5 million children who have lost one or both parents to AIDS [and] more than 80 per cent of them, 14.1 million, are in sub-Saharan Africa" (UN Department of Public Information 2010). From 1994 to 2004, the proportion of children orphaned by AIDS rose from 3.5% to 32% (Gouede, Barrie, & Kanhema 2004). There is a growing concern over the psychological needs of orphans. Orphans in sub-Saharan Africa suffer recurrent psychological trauma, starting with the illness and deaths of their parents, followed by cycles of poverty, malnutrition, stigma, exploitation, and often, sexual abuse (Hagen, Mahmoud, & Trofimenko 2010). Experiencing these traumas without family love and support, and without the education needed to understand and rise above their circumstances, orphans are at risk of developing antisocial behavior patterns that can endanger community and national development (Sengando & Nambi 1997; UNAIDS 2001).

Throughout the literature, an orphan is defined as a child who has lost one or both parents through death, but this definition has been extended to desertion or inability to provide care

(Skinner, Tsheko, Mtero-Munyati et al. 2006). The loss of one parent was also found to be “sufficient to classify the child as an orphan, especially if the primary caregiver was lost. A distinction was made here between a wage earner, usually the father, and a [caregiver] at home, usually the mother. *Both were considered vital to the survival of the household and for the healthy development of the child*” (Skinner et al. 2006, p. 622, emphasis added). Orphaned and non-orphaned children can be considered vulnerable, defined as those who have little or no access to basic needs or rights (Ibid.). Factors leading to vulnerability, aside from parental death, included “severe chronic illness of a parent or caregiver, poverty, hunger, lack of access to services, inadequate clothing or shelter, overcrowding, deficient caretakers, and factors specific to the child, including disability, direct experience of physical or sexual violence, or severe chronic illness” (Ibid. p. 619), which lead to further vulnerability.

AIDS orphans throughout sub-Saharan Africa, “live in more impoverished households, have worse health outcomes, are less likely to go to school... suffer higher rates of depression and anxiety and are more likely to be exposed to HIV, exploitation, neglect and abuse... [and] are victims of stigma and discrimination” (Morantz & Heymann 2010, p. 10). In one study, the main problems faced by orphaned children were found to be lack of money for school fees, of food, and of access to medical care (Nyambedha, Wandibba, & Aagaard-Hansen 2003). For many orphans in sub-Saharan Africa, orphanhood is characterized by an abrupt end of childhood because of the onset of parental illness, as children are pressured with responsibilities that take them out of school. Upon the death of their parent(s), orphans are then subject to loss of educational opportunities, loss of familial properties and land through kin conflict, and loss of social capital through stigma. (Subbarao & Coury 2004).

Furthermore, community members perceive that children orphaned by AIDS are infected themselves and often ostracize orphans within their village. Some children are also exploited in their new homes in accordance with the “Cinderella myth,” in which they are forced to leave school and tend to all household chores with little in return (Harms, Jack, Ssebunnya, & Kizza 2010). It is important that these orphaned children have a safe and stable place to live so they can attend school and receive psychological support.

Emotional support is crucial for orphans for several reasons, chief among them the fact that “the psychological impacts of HIV/AIDS on orphans increase their vulnerability to HIV infection” (Traube, Dukay, Kaaya, Reyes, & Mellins 2010, p. 7). Orphans are more likely to sexually debut earlier and to become infected with HIV, especially female orphans because they are more likely to have sex to meet basic survival needs (Mmari, Michaelis, & Kiro 2009). Caregivers believe that orphans’ risky sexual behavior is due to loss of parental monitoring and advising children (Mmari, Michaelis, & Kiro 2009). Another study by Mmari (2010) identified three crucial roles for caregivers affecting adolescent health, including providing basic needs and advising behavior, which when compromised, influences the sexual behaviors of female orphans. Orphans face myriad issues including material (access to basic needs), emotional (need to grieve and to be supported), and social problems (need for peer groups and role models instead of stigma), all of which interact and impact their vulnerable psyches (Skinner et al. 2006).

In Tanzania, the number of orphans due to AIDS in 2007 was 970,000, which rose to 1.3 million in 2009 (UNAIDS 2008, UNICEF/UNAIDS 2010). Tanzania ranks fourth in the number of people living with AIDS among countries in sub-Saharan Africa and 10th in HIV/AIDS prevalence rates (Tanzania Commission for HIV/AIDS, 2003). The World Bank projected that by 2020, the Tanzanian government will need to replace 27,000 teachers lost to AIDS, spending

\$40 million that could have been invested into the economy or to control other diseases like malaria (McCarthy 1994). The HIV/AIDS epidemic in Tanzania needs to be curtailed through interventions at every level of society.

Table 4 compares the number of AIDS orphans between countries in eastern and southern Africa. Tanzania has the third highest number, with 1.3 million AIDS orphans in 2009, as well as 160,000 children living with HIV at that time (AVERT 2011).

Table 4. AIDS Orphans in 2009 (AVERT 2011).

Number of orphans due to AIDS, alive in 2009	
Nigeria	2,500,000
South Africa	1,900,000
Tanzania	1,300,000
Uganda	1,200,000
Kenya	1,200,000
Zimbabwe	1,000,000
Zambia	690,000
Mozambique	670,000
Malawi	650,000

In Appendix A, sub-Saharan African countries are compared by people living with HIV/AIDS, adult HIV rate (%), women with HIV/AIDS, children with HIV/AIDS, AIDS deaths, and orphans due to AIDS based on the data in the 2010 UNAIDS report on the global AIDS epidemic. As indicated in the data, Tanzania is tied with Mozambique for fourth highest number of people living with HIV/AIDS with 1.4 million, has the fifth highest number of women with HIV/AIDS, the fourth highest number of children with HIV/AIDS, and the sixth highest number of children orphaned by AIDS. South Africa, Nigeria, and Kenya have the highest numbers across all categories, respectively (UNAIDS 2010). This chart emphasizes the staggering breadth of the AIDS epidemic.

2.4 ORPHAN CARE IN SUB-SAHARAN AFRICA

There are several existing models of orphan care in which various caretakers can provide for orphans' well-being including kinship, institutional, and community-based care structures.

2.4.1 Extended Family Care

Most AIDS orphans in sub-Saharan Africa are absorbed into their extended family networks (UNICEF, UNAIDS, & PEPFAR 2006). This kinship system traditionally has been strong but has now been overburdened due to the deaths of caregivers and the large number of orphans that has been abandoned in this crisis (Morantz & Heymann 2010). Orphans can place a burden even on working, income-generating caregivers who lack sufficient resources to care for the growing clan (Miller, Gruskin, Subramanian, Rajaraman, & Heymann 2006). Orphans in kinship care had the least healthy psychosocial well-being outcomes when compared to community-based group homes and orphanages (Hong, Li, Fang et al. 2010). Many studies have found that “in resource-poor regions or areas stricken hardest by the AIDS epidemic, kinship care may not sufficiently serve the needs of AIDS orphans” (Hong et al. 2010, p. 115). It is also more difficult for orphans to be taken in by their extended family because of the large number of young adults dying from HIV/AIDS; the burden of care falls on older siblings or retired grandparents (Drew, Makufa, & Foster 1998). A 2003 study in rural western Kenya has shown that the increasing number of orphans has overwhelmed traditional kinship structures (Nyambedha, Wandibba, & Aagaard-Hansen 2003). Although, some extended families do not necessarily feel the ‘orphan burden’ seen elsewhere; orphans care for their familial foster families reciprocally, helping aging grandparents and earning income, but this creates school absenteeism (Abebe & Skovdal 2010).

2.4.2 Orphanages (Institutional Care)

Researchers have argued back and forth about the merits and limitations of the orphanage models. Some view orphanages as expensive to operate and as having limited capacity to care for children's emotional needs (Drew et al. 1998). On the other hand, orphanages can be seen as a viable option because kinship care cannot handle the influx of orphans. The orphanage experience has recently been documented in Botswana as such: orphans said it took about one month to adjust to orphanage life, which then began to feel like home because the caregivers treated them as their own children and the orphans were happy to have access to resources, such as stable access to food, education, clothes, beds (Morantz & Heymann 2010). Unfortunately, the orphans did not have access to father-figures, which they might not have had elsewhere either, missed their other family members and community contact, and were discriminated against at school, which has been seen occurring to orphans in every living situation (Ibid.). Studies have found that SOS Villages are positive models for orphaned children facilities. They provide orphans with a house-mother and siblings in ten-child homes, which has shown a positive influence on the children's mental and social development and can be replicated in other orphanages (Lassi, Mahmud, Syed & Janjua 2010). The closer an orphanage is to a traditional family setting, the better the health outcomes of the orphans (Ahmad, Qahar, & Siddiq 2005). Orphans in institutions with many children will suffer poorer social and emotional health outcomes, such as higher frequency of post-traumatic stress disorder (PTSD) and lower girls' school competence (Ahmad & Mohamad 1996).

2.4.3 Community-Based Care

In much of the literature, community-based initiatives have been identified as the best and most cost-effective way of caring for AIDS orphans (Kidman, Petrow, & Heymann 2007; Drew et al. 1998). This model is typified by orphans remaining in their communities to receive support provided by the community and local government. Volunteers serve as supervisors of and caregivers for the orphans. In this structure, orphans can remain embedded within their community. This model uses existing infrastructure to deliver services, which is cost-effective and quick, but at the cost of quality control. The community model has been encouraged because orphans receive better care in a more cost-effective situation than orphanages, but it is not without its pitfalls (Hong et al. 2010).

Not every community is willing to volunteer to care for orphans in the area. Many community members do not have the resources to spare. Communities may stigmatize orphans or consider them to be delinquents. Some orphans feel rejected by their communities, further adding to their pariah status. In youth-headed households in Rwanda, “many youth perceived a lack of community support, with 86% feeling rejected by the community and 57% feeling the community would rather hurt them than help them” (Thurman, Snider, Boris et al. 2006, p. 220). Community initiatives can work in the right setting, but they are not the panacea for the orphan epidemic. For a community-based initiative “to make a difference, it needs to be culturally sensitive and adapted to the local setting...of kinship support structures, HIV/AIDS prevalence, poverty levels, social position and family income of caretakers, and availability of religious or community-based groups and other social support networks” (Nyambedha, Wandibba, & Aagaard-Hansen 2003, p. 310).

2.4.4 Orphan Care in Tanzania

The majority of orphanages in Tanzania are run by non-governmental organizations. Some non-governmental organizations (NGOs) are locally run, but most are primarily supported by foreign sponsorship. Less than ten percent of orphans receive some type of support from the government, which is usually school related assistance, while less than five percent receive governmental medical or social support (TACAIDS 2008).

2.5 CAREGIVERS

2.5.1 Importance

Caregivers at orphanages play an important role in diminishing the orphan crisis in East Africa. Ideally, caregivers contribute to orphaned and vulnerable children's (OVC) basic, safety, economic, psychological, and educational needs.

A caretaker is the person who plays the key caring role for the OVC. The person should be able to provide all aspects of care and be responsible for the child under their care. The roles for caretakers are seen as being to protect the rights of the children in their care as far as they are able; provision of basic requirements of life and development such as shelter, food, education, clothing and health care; provision of environment for psychosocial development and to support, moral, cultural and religious instruction, as well as basic hygiene; being responsible if anything happens to a child and being there to attend to the child; and ensuring that the conditions exist for adequate emotional development. (Skinner et al. 2006, p. 624).

In Cluver and Gardner's (2007) study of orphans' protective and risk factors for psychological well-being,

all participant groups stressed the importance (risk and protective) of the primary caregiver... caregivers perceived care as a crucial protective factor, including support, honesty, praise and closeness, help with homework, reading and stories, advice on education and attending school meetings [and] professionals identified caregivers' mental health, social support, and access to anti-retrovirals as affecting children's well-being (p. 321).

On the other hand, children, caregivers, and health professionals all highlighted the risks of harmful caregiving including changing homes and/or caregivers multiple times and caregiver illness due to seropositivity or old-age (Ibid.). Primary caregivers serve as the first line of defense to identify emotional problems, but do not have training in child psychology or counseling, which is a knowledge gap that most caregivers want to fill (Morantz & Heymann 2010).

Since orphans are particularly vulnerable, it is important that caregivers have the skills necessary to care for them. Many caregivers are unprepared for their newfound responsibilities and do not have the resources, financial and otherwise, to care for their new charges. One study found that "having a frequent natural mentor relationship (nonparent adult support figure) was related to better overall mental health, with the greatest benefit for AIDS orphans compared with other orphans or nonorphans" (Benjet 2010, p. 360). After a difficult adjustment period for orphans entering an orphanage, they "develop strong, quasi-familial ties with their caregivers and the other children" (Morantz & Heymann 2010, p. 14), which can be jeopardized by caregiver staff turnover.

2.5.2 The Need for HIV/AIDS Education

An important factor in improving the quality of life for caregivers and orphans is HIV/AIDS education. According to the UN's HIV/AIDS MDG Fact Sheet, "knowledge about HIV is the first step to avoiding its transmission[; y]et less than one third of young men and only a fifth of young women in developing countries know basic facts about the virus" (UN Dept of Public Information 2010). In Harms' et al. (2010) study, orphans were not typically aware of the nature of the illness their parents suffered from and expressed a need to understand the cause of their deaths, which could be explained in counseling and comprehensive HIV/AIDS training programs. An education program implemented with primary school children in Tanzania found that it was both effective and feasible to educate primary school students in Tanzania about AIDS education (Klepp et al. 1994), a program that caregivers can implement, as well. Klepp et al. (1994) utilized the Integrated Behavioral Model, measuring intentions of behavior (participants' intention to perform a specific behavior), knowledge, and skills to estimate likely sexual behavior and behavior toward those with AIDS (Glanz, Rimer, & Viswanath 2008). Prevention education has been a successful tool for infectious disease transmission reduction as seen in various studies (Paulander et al. 2009; Klepp et al. 1994).

In a recent study in South Africa, training educators in HIV/AIDS care and support was shown to reduce their levels of stigma, and significantly increase their knowledge and their self-efficacy about teaching HIV/AIDS (Chao, Gow, Akintola, & Pauly 2010). Self-efficacy and perceived norms of AIDS stigma were addressed in the training program, which is important because "caregiver attitudes about HIV, and HIV-related stigma, are two attributes that may affect caregiving" (Messer, Pence, Whetten et al. 2010, p. 1). Caregivers should be educated in

HIV/AIDS to reduce their stigma and pass their newfound knowledge and acceptance on to the orphans.

One study conducted in Tanzania and elsewhere found that 84% of orphanage caregivers were more willing to care for a family member infected with HIV than community-based caregivers, which was associated with less stigma and greater formal education (Ibid.). The caregiver-child relationship is crucial to children's development and well-being; it is important that this relationship is not sullied with an undue double burden of stigma, adding to what orphans are already receiving from the community. Another study found a correlation between caregivers' HIV/AIDS knowledge and positive attitudes about HIV/AIDS, orphans, and AIDS orphans (Ohnishi, Nakamura, Kizuki et al. 2008). Stigma due to HIV/AIDS infection is "still a very serious problem in Tanzania...*lack of HIV/AIDS related knowledge* and the life-threatening character of the disease were seen as the most important determinants of the AIDS-related stigma" (Maswanya, Brown, & Merriman 2009, p. 244, emphasis added). This research highlights the importance of training caregivers in HIV/AIDS knowledge and support.

Not only should stigma be abated, but support capacity should be increased through a training intervention, as well. Economic capacity building is an important facet of building up orphans and their communities, but it should not be the sole focus of AIDS orphan care program because emotional and social capacity are equally important (Hong et al. 2010).

2.6 ECONOMIC IMPACT

Aside from the emotional toll of orphanhood on sub-Saharan Africa's children and families, considerable economic and social impacts further devastate the region in the wake of the AIDS

epidemic. Social structures and economic growth are affected as the primary labor force is depleted by high mortality rates from AIDS (Gouede, Barrie, & Kanhema 2004). In rural and urban settings in sub-Saharan Africa, the loss of labor and upheaval of family structure impact the foundation of countries' economies as well as their future governance and administration (Ibid.). Women, who normally run rural households, are disproportionately affected by HIV/AIDS and, more often than their male counterparts, lack access to education, treatment, and paid employment, exacerbating the cycle of poverty (Ibid.). Caring for AIDS orphans contributed to deepening poverty as the burden is placed on many overstretched households with meager resources, which are expected to earn 31% less than households not supporting orphans (Ibid.). In communities with large numbers of AIDS orphans, poverty is a principal stressor that needs to be addressed not only by attending to temporary basic needs but also by strengthening communities to cope with the effects of AIDS (Hong et al. 2010). Without focusing in part on the entrenched poverty often characteristic of sub-Saharan Africa, the cycle of poverty and disease will self-perpetuate, draining health, productivity, and resources (Gouede, Barrie, & Kanhema 2004).

2.7 ARUSHA CAREGIVER ASSESSMENT BACKGROUND

2.7.1 Arusha

Arusha, located in northern Tanzania, is the third largest city in the country, with a population of over 1.2 million based on the 2002 census (National Bureau of Statistics Tanzania 2002). It is the starting point of many safaris into the Serengeti, Kilimanjaro and several other national parks,

and hosts the offices of the East African Community (the regional intergovernmental organization of East African countries) as well as the International Criminal Court Tribunal for Rwanda. Aside from its tourism industry, Arusha has expansive coffee and flower farms, although most farming is subsistence in nature. The world's only harvesting mines for Tanzanite, a precious gem, are located near Arusha, as well. Because of these endeavors, the city has more wealth than most non-capital cities in sub-Saharan Africa, but poverty, disease, and lack of education remain problems in the area. Arusha now has the second lowest HIV infection rate in Tanzania, dropping from 5.3 percent in 2004 to 1.6 percent in late 2008 (The Arusha Times 2010). Rural unemployment is high because many migrant farm workers lost their jobs as local agriculture has faced a coffee crisis (Pandya 2009).

2.7.2 Peercorps Trust Fund

The author went to Arusha, Tanzania, to research orphanages and their caregivers through the Peercorps Trust Fund's Centre for Education and Youth Development (CEYD). Peercorps is a grassroots organization dedicated to connecting Tanzanian communities to innovative strategies for improved health and sustainable development (Peercorps 2011). Peercorps supports programs in injury prevention, rural development, and education. CEYD seeks to increase the capacity of local Tanzanian community organizations that support the care and education of orphaned children, so they may sustain and expand their operations independently. CEYD coordinates the transfer of financial and educational resources that are needed to improve the performance of and build the operational capacity of organizations helping orphans who are limited by poverty.

2.7.3 Karim Child Care Center

While in Arusha, the author lived in the Karim Child Care Centre (KCCC), an orphanage housing 12 children that is supported by Karing for Karim. Karing for Karim is a grassroots organization supported by Peercorps Trust Fund dedicated to helping KCCC achieve sustainability and create opportunities for change. According to Karing for Karim,

the opportunity to change is scarce for orphans in Tanzania [because they] lack the building blocks necessary to escape poverty and direct their lives as they choose. Their needs go beyond the fundamentals; food, clothing and shelter. They require the stability of a sustainable lifestyle, one that can provide them with an education, healthcare and an all-around reliable quality of life (Peercorps 2011, Karing for Karim, para. 2).

Without these basics, the children risk perpetuating the poverty and disease cycle that produced them.

3.0 METHODS

A primarily qualitative methodology was utilized to collect data on the demographics, quality of life, and desired skills of head orphanage caregivers working in and around Arusha, Tanzania, as well as the demographic situations of their orphanages and orphans. The purpose of the questionnaire was to gather data from caregivers in order to understand their needs and capacities to address in future work. Head caregivers, both male and female, were sought out at their orphanages to complete structured, open-ended questionnaires administered by the author and her local associates, Rehema Juma and Maria Waga, between June and August 2010. This project was designated exempt by the University of Pittsburgh Institutional Review Board as study #PRO10100275.

3.1 PARTICIPANTS

In order to identify potential questionnaire participants, the author contacted the head caregiver at the KCCC orphanage to begin searching for orphanages in the surrounding area. Orphanages were found within Arusha, in its outskirts, and in the neighboring town of Usa River. The author sought out participants at their orphanages based on identification by caregivers, community members, and through a partial list provided by the Orphans Foundation Fund, a locally run Tanzanian NGO. Four of the sites surveyed did not house orphans but provided care specifically

for orphans during the day, including schooling, meals, and emotional support. Some sites, such as schools, pregnant women shelters, and nurseries, were excluded because they did not serve as orphanages or orphan care centers, thus were not appropriate for the data collection. Inability to speak English was not an exclusion criterion because the author carried Kiswahili questionnaires and often had Kiswahili speakers with her during interviews.

3.2 INSTRUMENT

The questionnaire utilized was created in collaboration with Michael Wilson, the Peercorps International Project and Volunteer Coordinator, in order to collect data Peercorps could use to create a future intervention. It is a two-page, 25 question questionnaire that was administered to orphanage caregivers by the author, Juma, and Waga (see Appendix B). A colleague of Wilson's at Peercorps translated the questionnaire into Kiswahili, which was used when caregivers did not feel confident answering in English. Questionnaires were either administered as interviews in English or in Kiswahili or were given to participants to fill in on their own if that was preferred. The data were collected to understand the underlying demographic landscape of orphanages in and around Arusha, to uncover the preexisting capacities and needs of the caregivers, and to find out what skills the participants were interested in learning to help them be better caregivers. This is the first such questionnaire administered in this area with this target population.

The data collected included variables to create a demographic profile of caregivers, such as "What is your highest level of education?" "Are you currently employed by someone to manage this orphanage?" "How long have you been employed in this kind of work?" "Are there other ways that you make income?" "What is the extent of your computer skills?" To gauge the

demography of the orphanages, the author collected data on orphanage income, the presence or absence of electricity and running water, and “How many children live in the orphanage?” To learn more about the orphans, the questionnaire included questions to collect data on orphans’ age ranges, illnesses, injuries and “What change would most improve the quality of life for orphaned children in this area?” The author collected data on the perceived quality of life in the area and “Are you confident in your current knowledge of childcare?” “Would you be interested in learning more?” “What are some types of skills that you might be interested in learning, that would help you to be a better orphanage leader or caretaker?”

3.3 SAMPLING

The author did not randomly sample because she was relying mostly on caregiver identification to find orphanages. Initially, the author began the questionnaires at the orphanage in which she lived, Karim Child Care Centre, and the head caregiver, Rehema Juma, helped her find several orphanages. From there, caregivers surveyed were usually able to direct the author to more orphanages in the area. The author also asked community members for help locating specific orphanages and in doing so met a local pastor, who took her to a number of orphanages. One caregiver in particular, Maria Waga, took an interest in the project and helped find dozens of orphanages and the location of the Orphans Foundation Fund, which provided a list of several orphanages with whom it worked. Juma and Waga helped conduct interviews in Kiswahili and translated the questionnaires that had been filled out in Kiswahili. The author carried English and Kiswahili versions of the caregiver questionnaire to each site. There was often a language barrier when meeting with caregivers, some of whom spoke only Kiswahili. This gap was often bridged

with the help of Juma and Waga. When administering questionnaires alone, the author was able to proceed with Kiswahili she had been learning prior to departure for Tanzania and throughout the stay.

3.4 ANALYSIS

Since many of the variables were open-ended, questionnaire content was analyzed through an inductive pattern coding process delineated by Miles and Huberman (1984), and Thomas (2003). The author read the questionnaires several times, identified themes, and coded data based on those themes. Education level was grouped into None, Primary School, Secondary School, and College based on the Tanzanian education system; Form 4 correlates to Secondary School and Class 7 to Primary School. Specific Post-Secondary Courses were grouped into Community Assistance, Teaching/Counseling, Law/Legal Advocacy, Accounting/Management, Nursing/Palliative Care, Secretarial College, Childcare, and Other, which included one respondent each for cookery, military training, and English. Nature of Employment had a range of responses because it was not asked with a uniform meaning (see Limitations). The codes of Nature of Employment included NGO, Founder, Head Caregiver, Good, and Very Difficult. The quality of life (QOL) of the region responses were coded into Poor/Low, Normal/Average, Good, Expensive, and Mixed, while qualifiers were recorded anecdotally. Orphans' Quality of Life Improvement suggestions were coded into Sponsorship, Basic Needs (including food and clean water), Skilled Staff, Land/Buildings, Education, Healthcare, Love/Support (including counseling and social interaction), and Money for Business. Desired Skills were coded into Counseling/Child Psychology (also including conflict management), Health (including nutrition,

first aid, and HIV/AIDS education), Education/Teaching (sometimes construed as unspecified desire for more education/further studies), Childcare, Social Work, Management/Administration (including sustainable projects/grant writing), Computers, and English. These groupings were created based on recurring patterns found throughout the questionnaires.

The data collected on each questionnaire were entered into the PASW Statistics 18.0 program based on codes, after which the author ran frequencies and descriptive statistics on the data. Representational anecdotes that were recorded during the questionnaire process have been added into the thesis text in the Discussion chapter.

4.0 RESULTS

The author administered 42 questionnaires with 39 head caregivers, two secondary caregivers, and one overseer/watchman at diverse orphanages and orphan care centers in and around Arusha, Tanzania. Participants' ages ranged from 19 to 65 ($\mu=40.8$), and their length of employment in their current position ranged from six months to 12 years ($\mu=4.8$ years). The participants cared for between four and 207 children ($\mu=43$), whose ages ranged from six months to 24 years old.

4.1 DEMOGRAPHICS

4.1.1 Caregiver Statistics

Of the 42 caregivers surveyed, one had no formal education, nine had completed some level of primary school, 15 had completed some level of secondary school, and 17 had attended university (see Table 5). Only six participants had not taken any courses after secondary school, including courses such as teaching, management, nursing, and childcare. Twenty-three participants responded that they were employed to manage the orphanages, while others were founders or were not currently being paid. Out of 38 respondents, 36 participants were working full-time, some mentioned working extra hours, as well. Half of 38 respondents had been

employed in this line of work for four years or less, while the other half had worked from five to 12 years. Thirteen out of 40 respondents had some other way to generate income (nine of which were involved in small businesses). Respondents had been in the area of their orphanages from six months to 33 years ($\mu=9.3$ years). Twenty-eight of the 42 caregivers had previously used a computer, rating their abilities as excellent (n=6), good (n=9), fair (n=12), or not good (n=1).

4.1.2 Orphan Characteristics

The caregivers surveyed were responsible for caring for a total of 1,556 orphaned and vulnerable children at their centers, whose ages ranged from six months to 24 years old (see Table 5). Eight caregivers had biological children living with them at the orphanage. Half of the orphanages (n=21) housed children with illnesses, which caregivers listed without prompting as faints, malaria, typhoid, diarrhea, worms, tuberculosis, epilepsy, deafness, terminal illnesses, and positive HIV status (n=9). Some caregivers mentioned that their orphanages tested children for HIV before taking them in, some turning away HIV positive orphans. Nineteen caregivers reported that the children in their orphanages had sustained injuries in the past month such as burns, falls, cuts, and bites.

Table 5. Caregiver and Orphan Characteristics

Table 5. Caregiver and Orphan Characteristics (n=42)*		N (%)
Caregiver		
Age (yr)		
Mean, SD		40.8, 12.4
Range		19-65
Education		
None		1 (2.4)
Primary School		9 (21.4)
Secondary School		15 (35.7)
College		17 (40.5)
Employed to Manage Orphanage (yes) [n=38]		23
Full-time (yes)		36
Length of Employment (Mean (yr), SD)		4.8, 3.4
Post-Secondary Courses (yes)		36 (85.7)
Specific Post-Secondary Courses [n=36]		
Teaching/Counseling		7 (16.7)
Accounting/Managing		7 (16.7)
Childcare		6 (14.3)
Community Assistance		3 (7.1)
Nursing/Palliative Care		3 (7.1)
Secretarial College		3 (7.1)
Other		3 (7.1)
Law/Legal Advocacy		2 (4.8)
Missing		2 (4.8%)
Other Income (yes)		
Small Business		9 (21.4)
Other (e.g. spouse, other employment)		4 (9.5%)
Missing		2 (4.8)
Orphan		
Age (yr)		
Mean (based on Range)		8.8
Range		.5-24
Experienced Injury (yes)		21 (50)
Suffered Illness (yes)		19 (45.2)

* Data reported as n,% unless noted otherwise; ** n=36.

4.1.3 Orphanage Characteristics

Of the 42 orphanages, 31 had electricity, including five specifying solar power and one a petrol generator, and 30 had running water, including five specifying well water and one a rainwater harvest system (see Table 6). The 31 orphanages with electricity were not necessarily the 30 with running water, although some did have both (n=26). Of the 12 caregivers who responded ‘yes’ to receiving an annual income, three received between \$5,000 and \$10,000, two above \$10,000 to \$20,000, two above \$20,000 to \$30,000, two above \$30,000 to \$40,000, one above \$40,000 to \$50,000, one between \$70,000 and \$80,000, and one American founded orphanage that received grants and donations of \$300,000. Without prompting, 27 out of 42 participants mentioned relying on donations or sponsorships for school fees, food, or to run the entire orphanage. Some of the sponsors had a more permanent role, while some orphanages relied on donations from visiting volunteers.

4.2 QUALITY OF LIFE

4.2.1 Area Quality of Life

When asked about the quality of life (QOL) in the area, 17 participants rated the QOL as poor, low, or very low; five rated it as mixed, good for some and poor for others; nine said the QOL was normal or average; eight said the QOL was good; and two responded that the area was expensive (see Table 6). The question also allowed for open-ended elaboration, examples of which are included in the following chapter.

4.2.2 Suggestions to Improve Orphans' Quality of Life

Caregivers provided many suggestions when asked, “what change would most improve the quality of life for orphaned children in this area?” Fifteen responses mentioned the need for education, 13 for land and/or buildings, 12 for sponsorships, 11 for basic needs, seven for money for business, six for healthcare, five for love and support, three for skilled staff, and two for transportation.

Table 6. Orphanage Characteristics

Table 6. Orphanage Characteristics (n=42)	
	N (%)
Number of children (total)	1,556
Mean, SD	43.2, 47.6
Range	4-207
Electricity (yes)	31 (73.8)
Running Water (yes)	30 (71.4)
Both Electricity and Running Water	26 (61.9)
Income (yes)*	12
\$5,000 – 10,000	3
> \$10,000 - \$20,000	2
> \$20,000 - \$30,000	2
> 30,000 - \$40,000	2
> \$40,000 - \$50,000	1
> \$50,000 - \$300,000	2
Quality of Life in the Area (QOL)**	
Poor/Low	17 (40.5)
Mixed: Good and Poor	5 (11.9)
Normal/Average	9 (21.4)
Good	8 (19.0)
Expensive	2 (4.8)
Suggestions to Improve QOL for Orphans**	
Education	15
Land/Buildings	13
Sponsorship	12
Basic Needs	11
Money for Business	7
Healthcare	6
Love/Support	5
Skilled Staff	3

*30 participants either did not answer or did not provide a numerical value.

**Missing data (No response) = 1.

4.3 CAREGIVER SKILLS

4.3.1 Confidence in Childcare Skills

Of 41 responses, 28 caregivers said they were confident in their current knowledge of childcare, while 13 said they were not confident (see Table 7). When asked if they would be interested in learning more, 39 (95.1%) said they would and two said they would not.

4.3.2 Desired Skills

Respondents provided suggestions for several skills they would be interested in learning to help them be better orphanage leaders and caretakers (see Table 7). Skills participants desired to learn included counseling and/or child psychology (n=12), computer skills (n=12), management and administration (particularly to start small businesses to achieve economic sustainability) (n=12), childcare (n=8), English (n=7), social work (n=6), education and/or teaching (n=6), and health (n=5).

Table 7. Caregiver Skills and Interests

Table 3. Caregiver Skills and Interests (n=42)*	
	N (%)
Computer Use (yes)	28 (66.7)
Self-Rated Ability to Use Computer [n=28]	
Excellent	6 (21.4)
Good	9 (32.1)
Fair	12 (42.9)
Not Good	1 (3.6)
Confidence in Childcare Skills (yes)	28 (66.7)
Desire to Learn More Skills (yes)*	39 (92.9)
Skills Desired	
Counseling/Child Psychology	12
Computer	12
Management/Administration	12
Childcare	8
English	7
Social Work	6
Education/Teaching	6
Missing	5

*Missing data (No response) = 1

5.0 DISCUSSION

Based on the responses to the questionnaire, over half of the caregivers had completed some level of secondary schooling, with the majority having attended additional courses after ending their formal education through the linear system. Only 32.5% of the caregivers had some other means of income, many rely on foreign volunteers and donations, which are not steady sources of income. As one caregiver responded, “life is so difficult because we don’t have money. We have to go ask for donations, we don’t have sponsors to help us, [we are] dependent on volunteers’ donations.” Orphans seemed to be prone to illnesses and injuries. Some caregivers who responded ‘no’ to the question of orphan illness were referring only to HIV seropositive status, and many who responded ‘no’ to the question of injury took the question to mean serious injury and did not account for minor scrapes.

In their current state, many of the orphanages are not self-sustaining organizations. Electricity and running water were relatively common, but some caregivers indicated that they were not always reliable or safe. Observationally, many of the orphanages were hybrids of institutionalized and community-based care models. Although they were all called ‘orphanages’ or ‘centers,’ the majority house few children and operated like group homes. Few orphanages supported more than 20 children, and caregivers were stable members of the family they had created and of their surrounding communities. Several could be considered ‘family-style

orphanages' where the caregivers act as the "momma" and less than ten orphans live together as a family, promoting healthy relationships and social development.

QOL in the area was an open-ended question the answers to which addressed many concerns. A sentiment that appeared in several questionnaires was that "people are very poor because of lack of education," "mostly they don't have employment," and "people are not happy on a daily basis due to lack of basic needs." One caregiver said the QOL was "not really poor, but many people are suffering- many women have kids but no husband so they work hard to take care of their children- digging, washing, and grandparents have to take care of kids if parents die of HIV- they are very old [and] can't handle it." Another commented that the area's quality of life is "not good because most people [are] living below 1USD/day so I think it's not [a] good life- mostly they don't have employment. [They] live for hope, don't exactly know they'll get daily bread. Give kids education- a hope, but not sure they'll get this." Overall, caregivers emphasized the lack of education that exacerbates the cycle of poverty, along with the lack of "activities to make money," keeping the quality of life in the area low.

Suggestions to improve orphans' QOL showed caregivers' concerns over the need for education, land and buildings (many caregivers lease their orphanage and cannot control space or electricity and have to pay monthly rent), sponsorships (including money for school fees, clothes, and food), basic needs, business opportunities, healthcare, familial love and support, more skilled staff, and easier modes of transportation (to schools, markets, and hospitals). These responses aligned with needs reflected in the literature discussed in the second chapter.

Approximately 68% of the caregivers were confident in their current childcare knowledge, while 95.1% indicated they were interested in learning more skills to improve their caregiving. Of the two who said they did not want to learn more skills, one then did list skills she

would be interested in learning (“further studies, English, computer”), and the other said, “maybe to exchange ideas with other people who take care of orphans, like seminars I like,” which will be an integral part of the training intervention’s social network. Child psychology and counseling, computer skills, and management and business skills were of the highest importance for the caregivers, but could have reflected priming (see Limitations). The responding caregivers also valued learning childcare, English, social work, teaching, and health skills. There were several requests for counseling and social work skills: one caregiver asked for “social work skills so that I can manage to counsel the children in their trauma,” while another wanted skills for “counseling them... to know the symptoms (behavioral) [and] how to handle psychological issues.” One caregiver calling for economic skills wanted to learn “how to program, essentials- what kind of things we need in [a] program,” referring to a sustainable project. Another caregiver wanted to learn “to teach, to produce other teachers,” which would bring about a sustainable training cycle. Another respondent wrote, “we need more education about taking care of orphans.”

After completing the questionnaire data collection, the author conducted an expert interview with Michael Wilson of Peercorps Trust Fund to discuss the current orphan situation in Tanzania (see Appendix C). Wilson discussed the need to work with AIDS orphans to they understand the disease and receive counseling for their trauma, the need for caregivers to provide an educational environment, and the need for sustainable capacity building, both economically and educationally. Based on the data collected in the caregiver questionnaires, literature review, and expert interview, the author has concluded that there is an unmet expressed desire among orphanage caregivers for training courses in various skills.

5.0.1 Caregiver Training

Having searched the literature and found a dearth of information on caregiver training, the author identified and contacted several key stakeholders in Arusha, orphanage caregivers and founders, and asked them via email: “How do people find caretaker jobs? Are they posted in the newspaper or online or just word of mouth? Are there job descriptions provided when orphanages are trying to find a caretaker listing skills needed? Is there a contract caretakers sign once they have the job? If so, what are the qualifications? How do most people become caretakers as a profession?”

Based on the email responses, caregiver job opportunities are sometimes advertised via newspapers, posters, radio, and at community services such as churches and mosques, but these media avenues can be expensive so word of mouth and referral from friends who know the organization are often utilized. Caregivers can also visit various centers, bring their resumes and request letters to the orphanage owner. Job descriptions are provided in interviews and emphasize the need for skills and experience as job qualifications, which can affect compensation. Some caregivers do sign contracts when working for orphanages run by NGOs or local founders.

Many professional caregivers take courses in childcare, social courses, teaching, or nursing; professional caregivers attend workshops and seminars to increase their skills and experience. Often, it seems that caregivers need to have training in childcare to successfully apply for an orphanage caretaking position. Some caregivers the author spoke with have taken on their roles by running orphanages out of their houses to fulfill an unmet need for orphan care.

Based on the results of the literature review and questionnaires, a logic model was utilized to develop a pilot training program customized for implementation with caregivers in

Arusha and its surrounding towns (see Appendix D). The proposed program addresses the unmet knowledge gaps that caregivers desire to fill by learning more skills.

5.1 PROPOSED TRAINING INTERVENTION

5.1.1 Training Program Intervention Theory

The proposed caregiver training intervention is based on the following theories: the Integrated Belief Model (IBM), the Theory of Planned Behavior (TPB), and Social Network Theory (SNT). Integrated Belief Model posits that a salient, meaningful behavior is likely to occur in the presence of strong intention combined with knowledge and skills, without environmental constraints, and with experience in the behavior. Theory of Planned Behavior predicts health behavior by looking at behavioral intention, which indicates readiness to perform a desired behavior and is facilitated by attitude, subjective norms, and perceived control associated with that behavior. Social Network Theory has shown that network connections can foster positive health behaviors through a variety of mechanisms including the diffusion of innovations.

The proposed intervention assumes that caregivers already have the intention to improve their health and that of their orphans based on the desire expressed in the caregiver questionnaires; with knowledge, skills, and experience, the positive health behaviors taught in the training sessions will likely be adopted based on IBM. It also assumes from TPB that caregivers have positive attitudes toward health improvement (as seen in the questionnaire responses), encouraged by their subjective norms (that health is important) and intention; increasing their perceived power and behavioral control (i.e. self-efficacy) through training will

improve health behaviors. Assumptions based on Social Network Theory include the fact that social networks can effectively spread positive health behaviors and can provide social and emotional support (Cohen & Janicki-Deverts 2009). A diffusion of innovations occurs when new ideas and practices are spread and adopted through social networks. These theories have been applied to interventions in similar circumstances with a comparable target population in the past, such as the HIV/AIDS educator training in South Africa, delineated above, highlighting the importance of training caregivers in HIV/AIDS knowledge, skills, and support. The caregiver training intervention proposed below will provide services to “help individuals cope with psychological distress, establish healthy caregiver–child relationships and promote positive social environments,” (Hong et al. 2010, p. 122) along with HIV/AIDS education.

5.1.2 Training Program Intervention

During the proposed intervention, caregivers will actively participate in education and skill building training sessions, including child psychology, HIV/AIDS education, first aid, and economic sustainability. They will also be trained as trainers themselves to continue the intervention by training the next group of caregivers. Simultaneously, the intervention will be creating a social network among the caregivers by fostering positive interaction and innovation diffusion, and creating email and telephone support lists.

The child psychology curricula for the training sessions will include identification of signs of post-traumatic stress disorder and counseling basics of how to help orphans heal. HIV/AIDS training will provide an explanation of HIV/AIDS as a disease, transmission, prevention, and treatment knowledge. First aid skills will include how to help when a child is bleeding, choking, has a minor burn, or is not breathing. Small business seminars will address

management, bookkeeping, and sustainability as well as brainstorming ventures and acquiring start-up capital. Trainer training will emphasize teaching skills and fundamental knowledge of the prior curricula.

Participants will be recruited to the intervention based on previous participation in the questionnaires and desire to be in the pilot group (n=15). The author will return to several orphanage sites to enroll participants in the study. Once the first round of caregivers are trained in the new skills and trained to be trainers themselves, further recruitment can begin through local newspapers and websites, at the Orphan Foundation Fund, and by returning to other orphanages previously visited.

Logistically, the author will recruit five initial trainers from the community through local media and meetings; the trainers will lead the intervention and will be facilitated by the in-country staff, including the author and assistants to be named in the future. The activities will be performed over the course of one year, with two training sessions per month (n=24). The intervention will take place at a local, central facility in Arusha, preferably at the local University of Arusha, and participants' transportation fees will be provided by funds procured by Peercorps Trust Fund.

5.1.3 Training Program Evaluation

The proposed intervention will be evaluated by comparing pre-, mid-, and post-test assessments completed by the participants to chart the level of progress of the training sessions (n=45). These assessments will evaluate whether or not the following have increased: knowledge and skills of material covered in the curricula; intention to engage in healthy behaviors, such as counseling, using proper first aid techniques, and training peers; positive attitudes toward these behaviors

and perceived control over enacting these behaviors; and felt levels of social connectivity. These evaluations can assess the effectiveness of the intervention and predict the likelihood of health behavior performance. The participants' new training skills will also be assessed by the initial trainers so the participants may continue as trainers for the next group of caregivers in the intervention.

Long-term measurable outcomes will also be associated with each skill branch of the training program. Through child psychology counseling classes and their implementation in the orphanages, the assessments will measure whether orphans' PTSD symptoms are abating by asking caregivers to report frequency of symptoms at each assessment point. Since PTSD goes largely undiagnosed in orphans in this region, an impact assessment comparing rates before and after the intervention is not feasible. HIV/AIDS education's effectiveness will be assessed in the tests in terms of comprehension as well as stigma against HIV, is expected to decrease. The impact of first aid skill building will be assessed by caregivers' reported frequency of hospitalizations of orphans due to injury, which is expected to decrease over the course of the intervention. To assess small business management, the author will conduct follow-up interviews with participants inquiring as to whether a business has been created and additional income has been generated, and if so, how the orphans' overall health has been impacted.

According to the literature, "urgent national strategies are needed to strengthen governmental, community, and family capacities" (Gouede, Barrie, & Kanhema 2004, p. 1) and "caregivers should be supported in both parenting and counselling [sic] skills" (Morantz & Heymann 2007, p. 14). Although this is a small pilot intervention, it has the potential to be replicated in comparable settings in sub-Saharan Africa. The social network and train-the-trainer approaches to the intervention will allow for community mobilization, which interventions

should focus on rather than short-term services. Economically, “such a strategy may initially increase the programme cost per beneficiary but will result in long-term savings because an engaged community is likely to sustain support to orphans and other vulnerable youths” (Hong et al. 2010, p. 122).

6.0 CONCLUSION

HIV/AIDS has loomed large as a public health threat nearly half a century. An estimated 15 million AIDS-related deaths in Africa since the emergence of the disease has left over 14 million orphans in its wake. Generations of parents lost to AIDS have created a vacuum of care for the orphans they leave behind. Evidence from the literature indicated that orphans are plagued with emotional trauma following parental loss and suffer worse health outcomes without emotional, social, and financial support. Caregivers play a critical role in the health, safety, and development of the orphans under their guardianship.

In the context of this public health crisis, the author sought to understand the situation of caregivers and their orphans by collecting data through questionnaires. After administering 42 questionnaires to caregivers throughout Arusha, Tanzania, the author found that orphans lack many resources paramount to their healthy growth, and that caregivers desire to learn skills to help them become better orphanage leaders. With this information, the author has proposed a pilot program in which caregivers are trained in child psychology, HIV/AIDS education, first aid, small business management, and peer training, while simultaneously creating a social caregiver network. The program's goal is to increase knowledge and skills in these subjects so caregivers can better care for, counsel, and teach their orphans. Understanding the facets of caregivers' and orphans' lives in Arusha through the literature, through questionnaire data, and

through interviews exposes the need for continued caregiver training, the implications for further research and intervention creation, and the limitations faced.

6.1 RECOMMENDATIONS

6.1.1 Implications for Future Interventions

The author recommends that the proposed training program should be implemented in Arusha in the fall of 2011 as a pilot program to be evaluated and replicated throughout the region. The proposed training program will incorporate HIV/AIDS education including knowledge about the disease (prevention, transmission, symptoms, treatment), psychological care and support skills (counseling exercises), and economic guidance to help both caretakers and orphans in myriad ways. The backbone of caring for AIDS orphans and other vulnerable children is economic and organizational capacity building in the local community, which can start at the caregiver level (Thurman, Snider, Boris, Kalisa, Nyirazinyoye, & Brown 2008). Orphanhood is still occurring everyday, with more vulnerable children at risk for a plethora of physical and psychological repercussions, which could be mediated by caretakers. Orphans themselves need education as well, but this intervention utilizes a ‘trickle down’ effect in which the caretakers will be trained and will then impart their knowledge and skills to the orphans, who can then disseminate the information and attitudes more broadly. After reviewing the literature, it is more imperative than ever to continue to combat the cycle of HIV/AIDS and poverty that has engulfed East Africa through various interventions.

Future programs should also be directed toward educating orphans themselves at the individual level. Orphans' education is the key to their success in transcending poverty. At the community level, programs should be created that build community capacity and that mobilize communities to action. Encouraging community participation by including community members in every stage of an intervention and bringing them in as stakeholders in their own future is crucial to the successful implementation of an intervention and its self-sustainability.

6.2 LIMITATIONS

There are several limitations associated with this study. Because of the small sample size of 42 participants, there is no statistical power or ability to generalize the results to larger populations. The author was not able to randomly sample for participants, which could create inherent biases. The poorest, smallest, unregistered orphanages were likely left out of the collection process because the author did not know about or find them. This bias could skew the data toward the more educated caregivers or wealthier orphanages. There are also inconsistencies in the data because not all of the questions were uniformly asked. At first, Waga misunderstood the question, "What is the nature of your employment?" and asked it as a question of difficult or good, rather than as job title or circumstance, which suggests limited training of the interviewer. Another limitation is the possible effect of priming the participants. Because the questionnaire included questions about computer competence directly before desired skills, respondents may have been primed to answer that they would like to learn computer skills more often than they would have without those questions seen beforehand. When explaining the questionnaire before administration, the author gave examples of skills, including child psychology, which may have

had a priming effect as well. The literature was also a limitation because there was not specific information about orphanage caregiver training. The author relied on information from key stakeholders to understand the caregiving profession in Arusha.

6.3 CONCLUSION

With successful implementation and evaluation, the caregiver training program could be expanded throughout sub-Saharan Africa to fill the training gap. Caregivers' roles in supporting orphans and vulnerable children are of the utmost importance in shaping their young lives. Education is paramount to breaking the cycle of entrenched poverty in the region, especially for orphans and their caregivers. Interventions that focus on the home and the community can change caregivers' and orphans' health behavior to mitigate the profound effects of the HIV/AIDS epidemic. Widespread psychological counseling and HIV/AIDS education for orphans will greatly improve their emotional health and will provide protective barriers from HIV infection in orphans and their caregivers. Economic brainstorming will help orphanages become self-sustaining entities that will not need to rely on unstable donations and foreign aid. This intervention and expansions upon it will decrease orphan HIV transmission and stigma, and will increase emotional and economic support in orphanages throughout the region.

APPENDIX A

'SUB-SAHARAN AFRICA HIV & AIDS STATISTICS' AVERT (2011)

Country	People living with HIV/AIDS	Adult (15-49) rate %	Women with HIV/AIDS	Children with HIV/AIDS	AIDS deaths	Orphans due to AIDS
Angola	200,000	2.0	110,000	22,000	11,000	140,000
Benin	60,000	1.2	32,000	5,400	2,700	30,000
Botswana	320,000	24.8	170,000	16,000	5,800	93,000
Burkina Faso	110,000	1.2	56,000	17,000	7,100	140,000
Burundi	180,000	3.3	90,000	28,000	15,000	200,000
Cameroon	610,000	5.3	320,000	54,000	37,000	330,000
Central African Republic	130,000	4.7	67,000	17,000	11,000	140,000
Chad	210,000	3.4	110,000	23,000	11,000	120,000
Comoros	<500	0.1	<100	...	<100	<100
Congo	77,000	3.4	40,000	7,900	5,100	51,000
Côte d'Ivoire	450,000	3.4	220,000	63,000	36,000	440,000
Dem. Republic of Congo	(430,000-560,000)	(1.2-1.6)	(220,000-300,000)	(33,000-86,000)	(26,000-40,000)	(350,000-510,000)
Equatorial Guinea	20,000	5.0	11,000	1,600	<1,000	4,100
Eritrea	25,000	0.8	13,000	3,100	1,700	19,000
Gabon	46,000	5.2	25,000	3,200	2,400	18,000
Gambia	18,000	2.0	9,700	...	<1,000	2,800
Ghana	260,000	1.8	140,000	27,000	18,000	160,000
Guinea	79,000	1.3	41,000	9,000	4,700	59,000
Guinea-Bissau	22,000	2.5	12,000	2,100	1,200	9,700
Kenya	1,500,000	6.3	760,000	180,000	80,000	1,200,000
Lesotho	290,000	23.6	160,000	28,000	14,000	130,000

Country	People living with HIV/AIDS	Adult (15-49) rate %	Women with HIV/AIDS	Children with HIV/AIDS	AIDS deaths	Orphans due to AIDS
Liberia	37,000	1.5	19,000	6,100	3,600	52,000
Madagascar	24,000	0.2	7,300	...	1,700	11,000
Malawi	920,000	11.0	470,000	120,000	51,000	650,000
Mali	76,000	1.0	40,000	...	4,400	59,000
Mauritania	14,000	0.7	4,000	...	<1,000	3,600
Mauritius	8,800	1.0	2,500	...	<500	<1,000
Mozambique	1,400,000	11.5	760,000	130,000	74,000	670,000
Namibia	180,000	13.1	95,000	16,000	6,700	70,000
Niger	61,000	0.8	28,000	...	4,300	57,000
Nigeria	3,300,000	3.6	1,700,000	360,000	220,000	2,500,000
Rwanda	170,000	2.9	88,000	22,000	4,100	130,000
Senegal	59,000	0.9	32,000	...	2,600	19,000
Sierra Leone	49,000	1.6	28,000	2,900	2,800	15,000
South Africa	5,600,000	17.8	3,300,000	330,000	310,000	1,900,000
Swaziland	180,000	25.9	100,000	14,000	7,000	69,000
Togo	120,000	3.2	67,000	11,000	7,700	66,000
Uganda	1,200,000	6.5	610,000	150,000	64,000	1,200,000
United Rep. Of Tanzania	1,400,000	5.6	730,000	160,000	86,000	1,100,000
Zambia	980,000	13.5	490,000	120,000	45,000	690,000
Zimbabwe	1,200,000	14.3	620,000	150,000	83,000	1,000,000
Total sub-Saharan Africa	22,500,000	5.0	12,100,000	2,300,000	1,300,000	14,800,000

APPENDIX B

CAREGIVER ASSESSMENT TOOL

This questionnaire was administered to participants in oral or written form in Arusha, Tanzania.



Orphanage Operations Guide

My name is Hilary Lenz and I am an intern with the Peercorps Trust Fund in Dar es Salaam. Peercorps is a non-governmental organization that works toward sustainable community development.

We are currently conducting a few simple interviews with orphanage leaders and caretakers to better understand how orphanages operate in Arusha. This is so that we might develop programs to assist orphanages in becoming self-sustaining entities. My purpose here is to ask a few basic questions concerning the orphanage.

Please know that you are free not to participate in this interview. If you do choose to participate your answers will be kept confidential and at any time you are free to withdraw your answers. Your name, location or other identifying characteristics will not be recorded – only the responses to the questions below.

Do you understand the above?

Would you like to participate? YES / NO

If NO - thank you for your time.

Part One – Caregiver/Orphanage Leader Demographics

1. What is your current age? Are those that head orphanages around you typically younger or older?
2. What is your highest level of education?
3. Have you attended any post-high school courses on any subject? Please explain any additional education you have received.
4. Are you currently employed by someone to manage this orphanage?
 - 4a. What is the nature of your employment?
 - 4b. Is this full- or part-time?
 - 4c. How long have you been employed in this kind of work?
 - 4d. Are there other ways that you make income? What?
5. How long have you lived in this area?
6. How would you rate the overall quality of life here? What contributes to that?

Part Two – Orphanage Situation

7. Does the orphanage receive income to help provide for the children? What is the approximate annual income of the orphanage?
8. Does the orphanage have electricity?
9. Does the orphanage have running water?

Part Three – Orphaned Children

10. How many children live in the orphanage?
- 10a. Are any of the children biologically related to you?
11. Do any of the children have any illnesses?
12. Have any of the children had any sort of injuries within the past month? (burns, falls, cuts, animal/insect bites).
13. How old are the children (age range: youngest and oldest).
14. What change would most improve the quality of life for orphaned children in this area?

Part Four - Skills

15. Have you used a computer before?
- 16.a What is the extent of your computer skills (turn on turn off, write a letter, find information using a search engine,
17. How would you rate your overall ability to use a computer (check/send email, type)?
(excellent, good, fair, not good)

Part Five – Interests

18. Are you confident in your current knowledge of childcare?
- 19a. Would you be interested in learning more?
- 19b. What are some types of skills that you might be interested in learning, that would help you to be a better orphanage leader or caretaker?



For more information about this project:

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APPENDIX C

EXPERT INTERVIEW

Description: Interview with Michael Wilson, MPH: International Project and Volunteer Coordinator, Peercorps Trust Fund, and Global Campaign Secretary, J.H. Lowery Foundation. Conducted on November 9, 2010, 5:30pm EST via Skype phone call.

Most of the current work Mr. Wilson has done with the orphan and caretaker population in Arusha, Tanzania has been spearheaded out of Centre for Education and Youth Development (CEYD), which grew out of a purpose to train peer HIV/AIDS educators, starting with ten young people that they trained in HIV/AIDS education, who would then train ten more of their peers and so on. This work began in late 2006, because of the “pressing need to begin working with orphanages where children were living whose parents died of HIV/AIDS,” due to the vulnerability of this population. There are many types of orphanages throughout Arusha, but the orphanages that have grown exponentially are those that serve kids whose parents died of AIDS. These vulnerable orphans “need care and counseling [and a] venue to understand scope of disease and how it affected their lives.” They also need “a knowledge base on how disease affected their parents and their lives to reduce the cycle of the spread of disease and provide basic counseling in an area where mental health is largely neglected,” a sentiment which was often seen in the literature.

CEYD has also done work to provide orphanages with financial additions of caring for children and to cope with influx of kids. The project was small-scale at the beginning until a professor from the University of South Florida with a long history of orphan support and fundraising throughout Tanzania got involved. His primary efforts are geared towards education-donating books and hiring staff at orphanages who have taught mathematics and English to give the children “exposure to an educational environment.” In late 2008, Peercorps started working with Karim Child Care Centre in Arusha. Peercorps has been raising funds to support the center and has held strategy meetings to find viable sources of sustainable income, rather than relying on donation money. One of Peercorps’ goals is to jump-start a “sustainable capacity building program within orphanages,” creating a network in which they can “transfer knowledge to caretakers so they can advocate for themselves, write grants,” and start-up other income-generating activities so they are financially sustainable. Following sustainability, “the next stage is to offer education in the environment directly to the children” since a good portion of the caregivers lack formal schooling themselves.

The author’s research at Arusha orphanages was the first methodological approach Peercorps has facilitated in the area and has given Peercorps its most comprehensive insight into the caregiver population in Arusha. Aside from this data, Peercorps has sent out educators with an interest in teaching English but never for a length of more than two-month periods. Peercorps has not been able to leave anything sustainable behind in this area yet. In the majority of caretakers Mr. Wilson has interacted with, “the children are their primary reason to live. [It has been] a lot of women mainly who are selflessly dedicated to these children. Some haven’t left the orphanage compound in months. Their world is the world of caring for these children.”

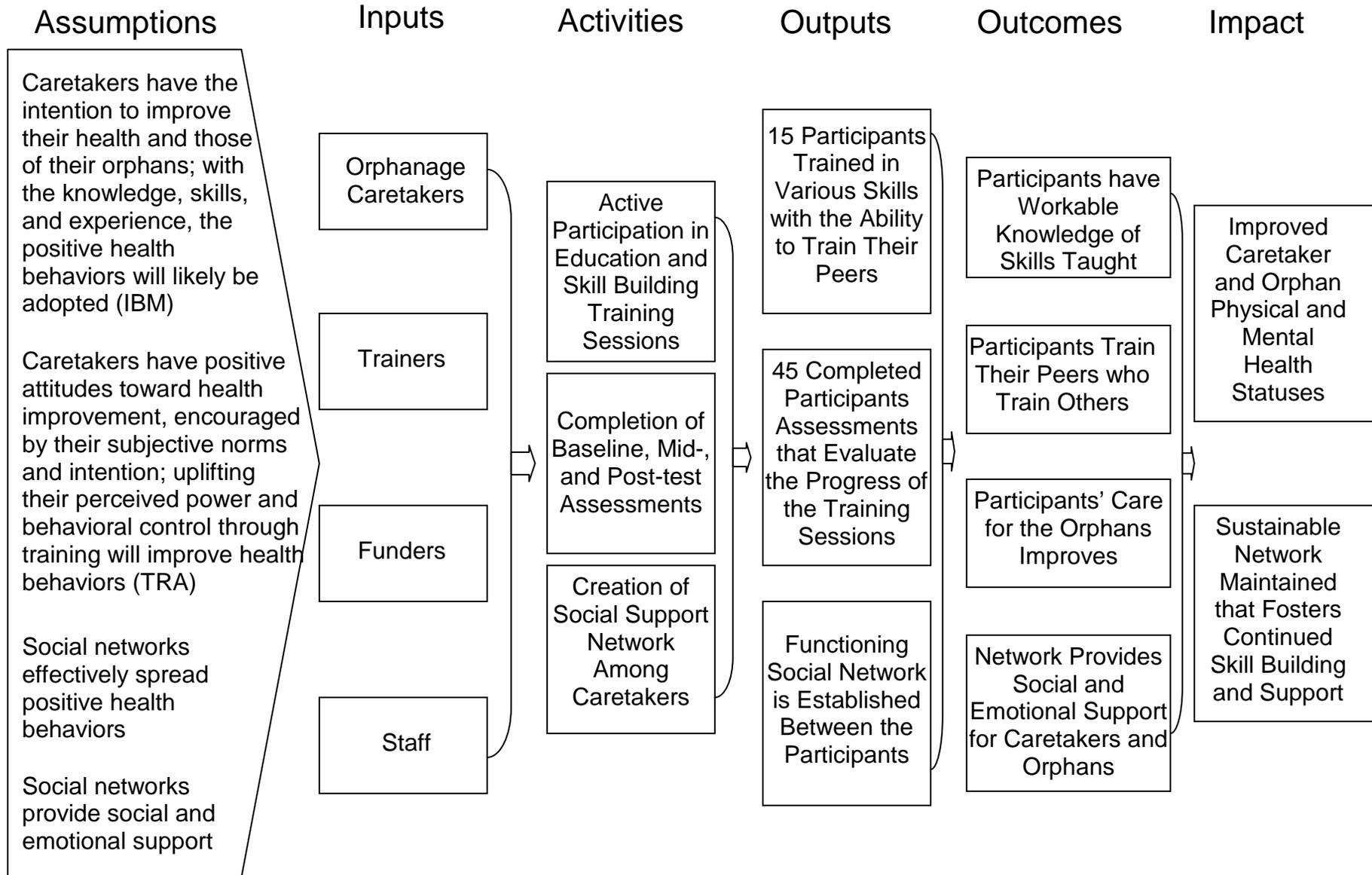
A challenge Mr. Wilson foresees for an intervention is that “the current modes of delivery of education have to be adapted to an environment; caretakers have caretaking knowledge” so an intervention is not there to tell them what to do but to meet them some way. A successful intervention will need to “feed off the knowledge they already have to build off into areas they don’t have expertise (sic).” Many caregivers have extensive knowledge of traditional medicines but do not know the best course of action for things like injuries and burns, and their tradition remedies can produce long-term debilitating scarring (one of Mr. Wilson’s projects involves injury prevention surveys in Dar-es-Salaam). Caregivers need to be prepared to deliver other types of first aid care; this example shows the need for a training program to “adapt to what they already have and merge it with skills which are perhaps not native to the setting, “ creating a balance between the two.

To design an appropriate intervention, Mr. Wilson highlighted the need to achieve that balance and to create a module in which participants are simultaneously trained as trainers, “due to resource limitations and for greater capacity building among caregivers; they have to be the agents of the reproduction of this knowledge.” There is no need to train 100 people at a time; it is better to train 20 people who will then train 20 more, which “instills a sense of ownership of these new skills; there is no better educator in the community than the people in that community,” which Mr. Wilson has seen ring true in other projects, specifically with young people and when concerning HIV/AIDS. Mr. Wilson also stressed the need for evidence-based programs, the “value in documenting steps of the process so other groups can come behind and potentially replicate and learn from the successes and mistakes,” and the need for everything that is being implemented to be evaluated. In the long term, these ideals allow for replication and make projects more cost-effective. The “comprehensive collection of information from a wide

variety of sources” is key because questionnaires and surveys should find out what the community wants, so Peercorps does not rely on preconceived notions of what they think caregivers’ needs are.

This interview highlighted the need for an evidence-base for a caregiver training intervention (one of the purposes of the author’s data collection), the need to account for traditional cultural mechanisms already instilled, the need to use caregivers as agents of their own sustainable intervention, the need to provide orphans with psychological counseling, and the need for financially sustainable projects in orphanages. There are many interventions that could be implemented at each stage of these needs, but the proposed intervention will focus on training caregivers in skills such as HIV/AIDS education, child counseling, small business creation, and first aid, and will be tailored to balance with their existing knowledge and capacities.

**APPENDIX D
THEORY-BASED TRAINING PROGRAM LOGIC MODEL**



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Data Source: UNAIDS (2010) 'UNAIDS report on the global AIDS epidemic'
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