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Orphans in Zambia: program monitoring and evaluation practices and the association of external support with education status and psychosocial wellbeing

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Dissertation

ORPHANS IN ZAMBIA:
PROGRAM MONITORING AND EVALUATION PRACTICES AND THE
ASSOCIATION OF EXTERNAL SUPPORT WITH EDUCATION STATUS
AND PSYCHOSOCIAL WELLBEING

by

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Dedication

To my three beautiful nephews, Owen, Levi and Simon:

May you be compelled to serve the underserved and
be inspired by the pursuit of knowledge
Acknowledgments

I would like to sincerely acknowledge all those who made this work possible. I would like to recognize the Zambian families and OVC who welcomed us into their homes and shared their stories with us. I thank all of my Zambian colleagues and collaborators and my colleagues and friends at BUSPH. Many thanks to my Committee for believing in me and coaching me to a place where I believed in myself. My 2008 DrPH cohort – I thank you individually and collectively for the support, friendship and encouragement. I'm so grateful to have learned from you and with you. I want to also acknowledge my friends for being such an amazing support network and inspiration through this whole process. I truly could not have done it without you. Lastly, I want to thank my family, my biggest fans. Mom, Dad, Jennie, Alison, Brandon and Eric – words cannot capture how grateful and blessed I am for your unwavering strength, love, support, and confidence in me. Everything I am is because of you. Thank you.
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ABSTRACT

Problem: The Government of the Republic of Zambia (GRZ) adopted a community-based strategy to support a growing number of orphans and other vulnerable children (OVC). However, the impact of community-based support programs remains unclear. This dissertation examines one OVC program to answer three questions: 1) are orphans disadvantaged compared to non-orphans in educational outcomes and psychosocial wellbeing, 2) are differences associated with receipt of external support, and 3) what can current programs learn from one project's monitoring and evaluation (M&E) experience?

Methods: This study used mixed-methods. We administered quantitative household surveys to 204 households at the close of a community-based project and again one year later. Additionally, we conducted 4 focus group discussions (FGDs) with caregivers and 4 FGDs with adolescents. Finally, we conducted in-depth interviews (IDIs) with 26 project staff and reviewed project documents.
Bivariate and multivariate regressions were used to analyze the quantitative data. Grounded theory analysis was conducted on the FGD transcripts and content analysis was conducted on the IDIs.

**Results:** Orphanhood was not a significant predictor of worse educational outcomes or psychosocial wellbeing. However, loss of external psychosocial support was associated with worse psychosocial outcomes as measured by the Strengths and Difficulties Questionnaire. Project staff had varied perceptions, priorities and capacity regarding 1) Quality of M&E Systems, 2) Project Evaluation, and 3) Data Analysis and Use, resulting in an M&E system that could not adequately capture complexities and measure success.

**Conclusions:** In future programs, implementers should: 1) develop strong M&E systems that are responsive to donor mandates and inclusive of community-defined measures of success, 2) prioritize baseline capacity assessment of all partners and community needs assessment to inform program design, 3) consider alternative targeting strategies with less emphasis on orphan status, and 4) be cognizant of potential negative impacts on a child, particularly psychosocial wellbeing, from the removal of external support.

Funders and policymakers should: 1) increase implementer accountability to project plans, 2) invest in integrating measures of quality into reporting frameworks, 3) generate an evidence-base by encouraging the development of
strong program M&E systems 4) consider allowing implementers to select realistic targets that are responsive to community needs.
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<tr>
<td>ARI</td>
<td>Acute Respiratory Infection</td>
<td></td>
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<tr>
<td>BU</td>
<td>Boston University</td>
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</tr>
<tr>
<td>CBO</td>
<td>Community-based Organization</td>
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<tr>
<td>CGHD</td>
<td>Center for Global Health and Development</td>
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<tr>
<td>CRC</td>
<td>Convention on the Rights of the Child</td>
<td></td>
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<tr>
<td>ZCAHRD</td>
<td>Zambia Center for Applied Health Research and Development</td>
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<tr>
<td>ECR</td>
<td>Expanded Church Response</td>
<td></td>
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<tr>
<td>EoPE</td>
<td>End of Project Evaluation</td>
<td></td>
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<tr>
<td>FABRIC</td>
<td>Faith-based Regional Initiative for Vulnerable Children</td>
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<tr>
<td>FBO</td>
<td>Faith-based Organization</td>
<td></td>
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<tr>
<td>GRZ</td>
<td>Government of the Republic of Zambia</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immuno-Deficiency Virus/Acquired Immuno-deficiency Syndrome</td>
<td></td>
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<tr>
<td>IA</td>
<td>Implementing agency</td>
<td></td>
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<tr>
<td>INGO</td>
<td>International non-governmental organization</td>
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<tr>
<td>IRB</td>
<td>Institutional Review Board</td>
<td></td>
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<tr>
<td>LMIC</td>
<td>Low and middle income countries</td>
<td></td>
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<tr>
<td>MDGs</td>
<td>Millennium Development Goals</td>
<td></td>
</tr>
<tr>
<td>MOH</td>
<td>Ministry of Health</td>
<td></td>
</tr>
<tr>
<td>NGO</td>
<td>Non-governmental organization</td>
<td></td>
</tr>
<tr>
<td>OGAC</td>
<td>Office of the Global AIDS Coordinator</td>
<td></td>
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<tr>
<td>OHA</td>
<td>Office of HIV/AIDS</td>
<td></td>
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<tr>
<td>OVC</td>
<td>Orphans and Vulnerable Children</td>
<td></td>
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<tr>
<td>PEPFAR</td>
<td>President's Emergency Plan for AIDS Relief</td>
<td></td>
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<tr>
<td>SDQ</td>
<td>Strengths and Difficulties Questionnaire</td>
<td></td>
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<tr>
<td>SR</td>
<td>Sub-recipient</td>
<td></td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
<td></td>
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<tr>
<td>USG</td>
<td>United States Government</td>
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<td>----------------</td>
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<tr>
<td><strong>Volunteer</strong></td>
<td>Unpaid community member that provides formal support and care to orphans and vulnerable children in the community.</td>
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<td><strong>External Support</strong></td>
<td>Help provided to a family coming from any source that is not family, friends, or neighbors (unless they are working for a community-based group or organization) and is of no direct financial cost to the family.</td>
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<td><strong>Caregiver</strong></td>
<td>A person with primary responsibility for caring for a child</td>
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<tr>
<td><strong>Orphan</strong></td>
<td></td>
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<tr>
<td>Maternal Orphan</td>
<td>A child whose mother is known or presumed to be deceased</td>
<td></td>
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<tr>
<td>Paternal Orphan</td>
<td>A child whose father is known or presumed to be deceased</td>
<td></td>
</tr>
<tr>
<td>Double Orphan</td>
<td>A child whose mother and father are both known or presumed to be deceased</td>
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<td><strong>OVC (orphans and vulnerable children)</strong></td>
<td>An HIV orphan, defined as a child whose mother, father, or both parents have died from HIV/AIDS, or a child deemed vulnerable because s/he 1) is HIV infected, 2) lives without adequate adult support, 3) lives outside of family care, or 4) is marginalized, stigmatized or experiences discrimination</td>
<td></td>
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<tr>
<td><strong>Psychosocial</strong></td>
<td>Term to denote the interconnection between psychological and social processes and the continuous interaction and influence of one on the other</td>
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<td><strong>Psychosocial Wellbeing</strong></td>
<td>A term to encompasses a child's ability to cope, grieve, and manage change as well as age-appropriate social, emotional, and cognitive skills to realize his or her right to develop and become a productive member of society</td>
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<tr>
<td><strong>Psychosocial Support</strong></td>
<td>Term used to describe any type of local or outside support that aims to protect or promote psychosocial well-being (UNICEF.org)</td>
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CHAPTER 1: INTRODUCTION

Background

While the number of new HIV infections globally is declining, the number of orphans due to HIV continues to climb. Globally, an estimated 16.6 million children have parents whose deaths are associated with HIV-related illnesses; 90% of those children live in sub-Saharan Africa (UNAIDS, 2010). In low and middle income countries (LMIC) with high HIV prevalence, the infected and affected parents are sometimes unable to provide care and protection for their children and families are struggling to care for the increasing number of orphans in the face of extreme poverty (Nyambedha, Wandibba, & Aagaard-Hansen, 2003; Yanagisawa, Poudel, & Jimba, 2010). Inadequate care and protection may contribute to children developing longer-term risky sexual behavior and increases their risk of acquiring HIV, which could undermine current HIV-prevention efforts (Atwine, Cantor-Graae, & Bajunirwe, 2005). The breakdown of traditional family units and mechanisms for child protection exacerbates the vulnerability of children, increases the risk of discrimination and abuse, and limits their access to essential services and care (Yanagisawa et al., 2010). Limited access to essential services and basic rights can prevent a child from reaching his or her full potential, and ultimately may threaten development efforts in low and middle income countries.

Member States of the United Nations General Assembly (States) ratifying the Convention on the Rights of the Child (CRC) committed to an ethical and
legal framework to improve the situation of children globally and ensure all children have access to essential services and care (Naylor, 2000; United Nations General Assembly, 1990). Signatories to the Convention are obligated to progressively realize every child's right to protection, survival, and development. Additionally, all 191 United Nations (UN) States committed to advancing development by fighting poverty, gender discrimination, illiteracy, disease, death, and hunger by signing the Millennium Development Goals (MDGs) (United Nations Department of Economic and Social Affairs, 2012). While the eight MDGs are interconnected, MDG 2 specifically aims to achieve universal primary education by 2015. MDG 3 promotes gender equality and aims to eliminate gender disparity in all levels of education by 2015. MDG 6 has a specific indicator to improve the ratio of orphans to non-orphans in attending school. Meeting a minimum standard of rights for children would indicate progress toward reaching the MDGs. To do so, efforts must extend to the most marginalized and vulnerable populations, including Orphans and Vulnerable Children (OVC), particularly within the context of HIV.

**Conceptual Framework**

To assist governments in meeting the MDGs and realizing the rights of OVC, UNICEF and other partners developed *The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS* (*The Framework*), inclusive of five domains and their recommended

Table 1.1: Domains and Recommended Strategies from *The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS*

<table>
<thead>
<tr>
<th>Strategic Framework Domain</th>
<th>Recommended Strategies</th>
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| 1. Strengthen the capacity of families to protect and care for orphans and vulnerable children by prolonging the lives of parents and providing economic, psychosocial and other support. | 1. Improve household economic capacity  
2. Provide psychosocial support to affected children and their caregivers  
3. Strengthen and support childcare capacities  
4. Support succession planning  
5. Strengthen life skills of adolescents |
| 2. Mobilize and support community-based responses | 1. Engage local leaders in responding to the needs of vulnerable community members.  
2. Organize and support activities that enable community members to talk more openly about HIV and AIDS.  
3. Organize cooperative support activities.  
4. Promote and support community care for children without family support. |
| 3. Ensure access for orphans and vulnerable children to essential services, including education, health care, birth registration, and other services | 1. Increase school enrolment and attendance  
2. Ensure birth registration for all children  
3. Provide basic health and nutrition services  
4. Improve access to safe water and sanitation  
5. Ensure that judicial systems protect vulnerable children  
6. Ensure placement services for children without family care  
7. Strengthen local planning and action  
1. Adopt national policies, strategies and action plans.  
2. Enhance government capacity  
3. Ensure that resources reach communities  
4. Develop and enforce a supportive legislative framework  
5. Establish mechanisms to ensure information exchange and collaboration of efforts |
| 4. Ensure that governments protect the most vulnerable children through improved policy and legislation and by channeling resources to communities | 1. Conduct a collaborative situation analysis  
2. Mobilize influential leaders to reduce stigma, silence, and discrimination  
3. Strengthen and support social mobilization activities at the community level |
| 5. Raise awareness at all levels through advocacy and social mobilization to create a supportive environment for children and families affected by HIV/AIDS | |

A SELECTION OF THE RIGHTS DELINEATED IN THE CONVENTION ON THE RIGHTS OF THE CHILD

- Physical, mental, emotional and social health; identity
- Basic needs including food, clothing, safe shelter, care, protection from abuse; live with a family; to learn about rights; to express themselves
- Education, to choose friends and social outlets, protection from abuse and discrimination
- Protection from exploitation, legal assistance, protection from abuse and discrimination
- Protection and freedom from war, supportive legal system, protection from abuse, protection from exploitation

Figure 1.1: Socio-ecologic model as it relates to child rights (source: Adapted from (“Learning outcomes - CREDPRO: The Child: Development Needs & Rights - LabSpace - The Open University,” n.d.)

The Framework is grounded in both a traditional socio-ecologic and a child rights model seen in Figure 1.1, where factors interact at multiple levels to impact a child’s rights and ultimately a child’s wellbeing. While efforts to meet the rights of children are primarily the responsibility of families, communities, and at higher levels, individual States, this is compromised for orphans without a living parent, in poor communities, and where national governments are struggling to appropriately allocate resources among many competing priorities. Most LMICs, therefore, work collaboratively with local non-governmental organizations
(NGOs), international NGOs (INGOs), faith-based organizations (FBOs), and the private sector to implement programs to support OVC (Currie & Heymann, 2011).

Within this context and as part of the global response to HIV/AIDS, the President's Emergency Plan for AIDS Relief (PEPFAR) initiative has obligated nearly USD 1.7 billion to OVC support programs in low-income nations since 2006 (Bryant et al., 2012). PEPFAR's operational definition of OVC includes either an HIV orphan, defined as having lost one or both parents to HIV/AIDS, or a child deemed vulnerable because s/he 1) is HIV infected, 2) lives without adequate adult support, 3) lives outside of family care, or 4) is marginalized, stigmatized or experiences discrimination (Guidance for Orphan and Vulnerable Children Programming, 2012). In its 2008 reauthorization, PEPFAR mandated that at least 10% of its funding support OVC programs. In FY 2009 the USG, inclusive of the PEPFAR initiative, provided USD 2.6 billion to support vulnerable children and families in 107 countries (A Whole-of-Government Approach to Child Welfare and Protection: Fourth Annual Report to Congress on Public Law 109-95, The Assistance for Orphans and Other Vulnerable Children in Developing Countries Act of 2005, 2010).

Problem Statement

Zambia, a landlocked country in sub-Saharan Africa, has a population of 13.5 million people (The World Bank, 2013a). The 2011 gross national income per capita was USD 1,490 (The World Bank, 2013b) with a US$ 73 per capita annual expenditure on health and 60.5% of the population living below the
international poverty line in 2010 (The World Bank, 2013a). Life expectancy at birth in 2011 was 49.4 years for females and 48.5 years for males (The World Bank, 2013a). Despite recent economic growth, Zambia still faces major health and development challenges, many of which are compounded by an estimated adult HIV prevalence of 12.5% (UNAIDS, 2013).

Approximately 1.1 million orphans live in Zambia; of those 690,000 are reportedly HIV orphans, having had one or both parents die from HIV-associated illness (The World Bank, 2013a). According to World Vision reports, between 2005 and 2010, the situation of OVC in Zambia reportedly worsened despite heavy investments; the proportion of OVC households receiving appropriate psychosocial support decreased by 2.5%, school attendance of OVC compared to non-OVC worsened by almost 35%, and proportion of OVC households receiving basic external support dropped by 20% (UNAIDS, 2010). While the reported gap between OVC and non-OVC enrolled in primary school widened, the net primary school enrollment rates increased by 23 percentage points between 1999 and 2009, suggesting that OVC still face significant barriers in accessing primary school (AUC, UNECA, AfDB, & UNDP, 2012). In 2009, among school aged children 81% of orphans and 88% of non-orphans were reportedly attending school (UNAIDS, 2013).

endorsed a strategy that employs a community-based response to strengthen the capacity of families to support and care for orphans and to ensure orphans have access to essential services. Activities prioritized in the response were providing psychosocial support to affected children and caregivers and increasing school enrollment. These are recommended strategies 1.2 and 3.1 in *The Framework*, respectively. Psychosocial wellbeing and educational outcomes are particularly germane for understanding child wellbeing as the former encapsulates a comprehensive measure of individual wellbeing and the latter is key to breaking poverty cycles and advancing social development. This community-based strategy aims to progressively realize the rights of OVC, fulfill GRZ's obligations to the CRC, and to make strides in meeting the MDGs. The international community, including the PEPFAR initiative, responded accordingly and implemented community-based OVC support programs throughout Zambia.

The emergency nature of the first round of PEPFAR's response in all focus countries led to programs expanding rapidly without adequately investing in impact evaluation planning (Nyberg et al., 2012; Padian et al., 2011). Additionally, there was no requirement or guidance by donors to evaluate program impact resulting in a paucity of rigorous programmatic evaluations and little understanding if these programs ultimately improved the wellbeing of OVC. Two systematic reviews of community interventions for OVC found the available evidence varied in quality and rigor; therefore evidence-based conclusions of programmatic impact, either positive or detrimental, could not be drawn (K. D.
Schenk, 2009; Katie Schenk & Michaelis, 2010). While most evaluations of community-based OVC programs reported on spending and measured processes, little information exists on the impact or effectiveness of 7-years of PEPFAR-funded, community-based programs supporting OVC globally (Bryant et al., 2012; Wallis, Dukay, & Mellins, 2010).

However, in December 2010, the seven US Government agencies working in child welfare and protection prioritized systematic evaluation of programs, stating they will “encourage the design of projects, from the very outset, to include a more complete evaluation component, with the potential to furnish evidence of impact – or evidence of no impact.” (A Whole-of-Government Approach to Child Welfare and Protection: Fourth Annual Report to Congress on Public Law 109-95, The Assistance for Orphans and Other Vulnerable Children in Developing Countries Act of 2005, 2010). Subsequently, in January 2011, the United States Agency for International Development (USAID) released a revised Evaluation Policy reflecting a commitment to understanding impact and improving investments through more rigorous program evaluation (USAID Evaluation Policy, 2011). In July 2012, PEPFAR released updated guidelines for OVC program implementers. These guidelines include specific monitoring and evaluation guidance informed by 2011 USAID Evaluation Policy and fall into three principal domains: 1) Improving the quality of M&E systems, 2) Improving program evaluations, and 3) Improving data analysis and use. It is within this framework that OVC programs should ground their M&E practices.
Despite clearly delineated MDGs, the financial and political commitments to OVC support programming, and the importance of measuring the impacts, few of these programs have been rigorously evaluated. In the absence of a solid evidence-base, many community-based OVC support programs implemented interventions that were not undergirded by a solid evidence base; some targeted only orphans because it is an easily identifiable criterion, and some implemented unproven psychosocial and educational interventions. This is concerning for two reasons. First, it remains unclear if orphanhood is associated with worse educational outcomes or psychosocial wellbeing in Zambia and therefore if orphan status is the most appropriate criterion upon which programs should target beneficiaries. Second, if it is assumed orphans are disadvantaged in educational and psychosocial outcome measures, it remains unclear which intervention or combination of interventions, can most effectively address this deficiency. Before decisions are made to continue funding community-based OVC programs, it is critical to understand if the investments are associated with improving the lives of these children and helping Zambia and other countries progress toward the MDGs.

Dissertation Purpose and Significance to Public Health

States are obligated to move toward the MDGs and progressively realize child rights and, at the very least, meet a minimum standard for every child. Yet it is difficult to meet this goal without a solid understanding of who the most vulnerable children are and how to best meet their needs. Prior to continuing
funding for broadly focused, community-based OVC programs, it is critical to understand 1) if orphans are some of the most disadvantaged children relative to non-orphans, 2) if available external support offered by programs and government is appropriate and sufficient to improve the educational status and psychosocial wellbeing of these children and 3) how program monitoring and evaluation practices can be modified to improve learning and program quality. This dissertation aims to improve evidence-based OVC policy and programming decisions by addressing these issues within the Zambian context.

The paucity of OVC programmatic outcome evaluation in Zambia in the peer-reviewed literature compounds the challenge of evidence-based decision-making for policy makers and programmers and inhibits progress toward the MDGs. This study begins to fill that gap by examining the association of external support (NGO programs, GRZ initiatives, or informal community support) with the psychosocial wellbeing and educational status of orphans in Zambia.

Findings from this study will inform several key stakeholders, namely: (i) the GRZ as it strategizes to implement its relevant policies and meet its commitments set forth in the CRC and the MDGs, (ii) OVC program personnel in Zambia and other countries implementing similar programmatic models, and (iii) foreign aid policymakers, particularly the US government. Additionally, the context and the community-based program model from which data were collected are characteristic of other parts of sub-Saharan Africa; findings will
therefore be timely and relevant to both policy makers and implementers in similar settings.
CHAPTER 2: REVIEW OF THE LITERATURE

Introduction

This chapter describes the challenges around improving the wellbeing of orphans in Zambia by exploring the following four separate but interconnected domains:

1. A synthesis of the literature documenting orphan disparities in psychosocial wellbeing and educational status in Eastern and Southern Africa.


3. A summary of the Zambian policy environment to facilitate meeting the obligations set forth in the Convention of Rights of the Child (CRC) and the Millennium Development Goals (MDGs).

4. A review of PEPFAR-funded community-based, OVC Support programs that aimed to a) improve OVC psychosocial wellbeing and educational status and b) help the Government of Zambia (GRZ) to implement its relevant policies and meet its CRC and MDG obligations.

By exploring these domains individually and collectively, this section highlights the complexities of providing OVC care and support in the Zambian context.
1. Orphan Disparities in Educational Status and Psychosocial Wellbeing

Programs offering support to OVC often implement education and psychosocial interventions. Education is essential for development and also protects against risky behaviors for orphans (Hallfors et al., 2011). Psychosocial wellbeing encompasses a child's ability to cope, grieve, and manage change (King, De Silva, Stein, & Patel, 2009) as well as age-appropriate social, emotional, and cognitive skills to realize his or her right to develop and become a productive member of society (King et al., 2009; Makame, Ani, & Grantham-McGregor, 2002). Typically, selecting orphans into programs is often the most straightforward way that programs operationalize OVC. Yet it remains unclear if orphanhood itself is a determinant of vulnerability and inequality in regards to educational status and psychosocial wellbeing (Akwara et al., 2010).

It is often assumed that orphans are systematically disadvantaged in terms of education as measured by grade-for-age, attendance, or enrollment, and psychosocial wellbeing as measured by depression, low self-esteem, or mental health diagnoses, or disadvantaged. A review of the growing body of literature examining orphan-based disparities in sub-Saharan Africa yielded conflicting evidence. The evidence is principally derived from three ongoing, major longitudinal studies, a few smaller longitudinal studies, as well as several cross-sectional studies.

First, the Positive Outcomes for Orphans (POFO) study operating through Duke University's Center for Health Policy and Inequalities Research, is an
NICHID-funded, longitudinal cohort following children in Cambodia, India, Ethiopia, Tanzania and Kenya from 2005 -2015. POFO seeks to examine the influence of life events on children's behavioral and emotional adjustment, learning ability and health, with children enrolling between ages 6 and 12.

Second, the Young Lives study, operating through the University of Oxford from 2002 -2017, is funded by the United Kingdom Department for International Development. Following this longitudinal cohort, researchers seek to understand the impact of poverty on child development in India, Peru, Ethiopia, and Vietnam (Barnett et al., 2012).

Lastly, a four-year longitudinal study following AIDS orphans, other orphans, and non-orphans was conducted jointly by researchers from the Universities of Oxford, Cape Town, and Witwatersrand in South Africa between 2005 and 2009.

Findings from the Young Lives sample in Ethiopia suggest no significant difference between orphans and non-orphans on education, or psychosocial wellbeing indicators (Camfield, 2010). Similar to the Young Lives, findings from other studies found that orphans are not worse off than non-orphans in education status (Ainsworth and Filmer 2002, Beegle, Koda 2005). Yet findings from others suggest orphans are disadvantaged in education measures compared to non-orphans (Desilva et al., 2012; Kürzinger et al., 2008; Makame et al., 2002). Other studies, mostly cross-sectional, found orphans had worse psychosocial wellbeing
than non-orphans (Bird et al., 2010; Doku, 2010; Kaggwa & Hindin, 2010; Puffer et al., 2012).

The literature is inconsistent in part because the mechanisms impacting education status and psychosocial wellbeing of orphans are complex and likely to be dependent on a number of socio-demographic factors. Potential factors that impact educational status or psychosocial wellbeing of orphans include: type of orphan (AIDS-orphan, single, double, maternal, paternal), age and gender of orphan, household poverty and food insecurity, timing of orphaning, and caregiver health. These factors are discussed below.

Type of Orphan: Orphanhood was found to be associated with delayed school enrollment in Tanzania (Ainsworth, Beegle, & Koda, 2005). A separate cross-sectional study of nearly 5,000 children aged 6-18 in Tanzania found no difference in school enrollment or grade-for-age between orphans and non-orphans after controlling for confounders (Kürzinger et al., 2008). However, a high child-dependency ratio in the household was positively associated with not attending school, suggesting that poverty or a lack of resources might be more significant than orphan status (Kürzinger et al., 2008).

In Kenya, a 5-year longitudinal study on a sample of over 20,000 primary school aged children found a significant decrease in school enrollment following a parental death, with maternal deaths showing the strongest effect (Evans & Miguel, 2007). This is consistent with the POFO longitudinal cohort in Tanzania which found maternal orphanhood is associated with longer-term deficits in
educational attainment (Beegle, De Weerdt, & Dercon, 2010; Beegle, Weerdt, & Dercon, 2006).

The South African longitudinal study described above found that AIDS orphans have increased depression and post-traumatic stress syndrome over four years (2005-2009) compared to other-orphans and non-orphans (L Cluver & Gardner, 2007; L. D. Cluver, Orkin, Gardner, & Boyes, 2012; Lucie Cluver & Gardner, 2006). Poverty and stigma interacted and exacerbated depressive symptoms in AIDS-orphans (Lucie Cluver & Orkin, 2009). In rural Uganda, AIDS-orphan status was the only significant predictor of worse psychosocial wellbeing in the multivariate regression (Atwine et al., 2005).

Additionally, a cross-sectional study in Uganda and South Africa corroborate findings that AIDS-orphans had higher anxiety and lower self-esteem than other-orphans or non-orphans; although no difference was observed between double orphans, regardless of AIDS-orphanhood, suggesting both parents being dead is a significant factor in psychosocial wellbeing (Onuoha & Munakata, 2010a, 2010b). Lastly, among a cross-sectional sample of school-going children in Namibia, double orphans were significantly more likely to exhibit depressive symptoms than non-orphans but the difference between single orphans and non-orphans was not significant (Ruiz-Casares, Thombs, & Rousseau, 2009).

**Gender:** Several studies have also found that the gender of the orphan might impact psychosocial wellbeing and education. Female orphans in
Uganda, particularly older girls (15-18 years of age) were more likely than male orphans to have poor educational outcomes (Yamano, Shimamura, & Sserunkuuma, 2006). Other studies found that female orphans were no worse off than male orphans in educational outcomes (Case, Paxson, Albeidinger 2004, Ainsworth and Filmer 2002). In Uganda, a study among 1500 school-based children found that orphaned males had worse psychological wellbeing than non-orphaned males, but no significant difference was seen between orphaned and non-orphaned females. In general however, independent of orphan status, it is well established that females are significantly more likely than males to have depression and males are significantly more likely than females to suffer from behavior disorders (Patel, Flisher, Hetrick, & McGorry, 2007).

Age at orphaning or time from orphaning: Age at orphaning or time from orphaning may negatively affect education status. (Beegle, De Weerdt, & Dercon, 2009; Beegle et al., 2010; Case, Paxson, & Ableidinger, 2004; Desilva et al., 2012; Operario, Cluver, Rees, MacPhail, & Pettifor, 2008). The Young Lives study found that Ethiopian children who experienced maternal orphanhood between 7–8 to 11–12 years of age had a short-term negative impact on school enrollment, but this did not persist into adolescence (12–15 years of age). Children that experienced maternal orphanhood in adolescence had no negative psychosocial or educational outcomes, but those that experienced paternal orphanhood in adolescence had lower school enrollment rates (Himaz, 2013). Similarly in Uganda, no difference in school enrollment was observed between
orphans and non-orphans aged 7–14 years, yet orphaned females, aged 15–18, not living with a remaining parent were significantly less likely to be enrolled in secondary school (Yamano et al., 2006).

**Caregiver Health:** A secondary analysis of survey data from 36 countries observed no differences in school attendance between orphans and non-orphans living with a chronically ill or HIV-positive caregiver. However, higher household wealth and higher education level of the household head were positively associated with school attendance (Akwara et al., 2010).


Similarly, evidence from Ghana and Benin found that orphans and other children with HIV-infected caregivers had worse psychosocial wellbeing (Doku, 2010; Østergaard & Meyrowitsch, 2008). The POFO researchers found that chronically ill caregivers was associated with poor health of orphans in five countries, but they have not yet examined the association of caregiver health with psychosocial wellbeing or educational outcomes (Thielman, Ostermann, Whetten, Whetten, & O'Donnell, 2012).

In summary, the evidence regarding orphan disparities is complicated with
disparate results. The study designs, samples, methods, measurement tools and analytics of the evidence base vary widely. As such, results yield an inconsistent and complex body of literature. It is evident that disparities associated with orphanhood are context specific and likely dependent on interactions of factors or covariates at multiple levels – child level, family level, community level, and government level. Most studies are not powered sufficiently to detect or control for all possible combinations. This suggests that studies should be contextualized and the data examined carefully before it is assumed that orphanhood is the best or most appropriate marker of vulnerability.

2. Evidence-based Interventions to improve Educational Outcomes and Psychosocial Wellbeing of Orphans in the African Context

Despite the ambiguity surrounding the association of orphanhood with child vulnerability, donors continue to fund programs to improve the wellbeing of orphans and other vulnerable children (OVC). Most programs then operationalize OVC by only or primarily targeting and recruiting orphans. However, there are few evidence-based interventions to guide the implementers. This section of the literature review focuses on evidence-based interventions within sub-Saharan Africa that aimed to improve the educational outcomes and psychosocial wellbeing of orphans.

An online search of the peer-reviewed literature between 2007 and 2013 of interventions to improve the psychosocial wellbeing and educational outcomes of orphans and other vulnerable children was conducted. Databases searched
included PubMed, Psych Info, and OVCsupport.net and the search was limited to the English language. Search terms included: 'OVC, orphan, vulnerable, child' and "intervention, program, strategy" and either "education, school, grade" or "psychosocial, mental health, depression, anxiety, emotional, wellbeing." Appropriate MESH terms were generated by each database.

**Evidence-based Interventions to Improve Educational Outcomes**

A fairly robust body of evidence exists on interventions to improve educational outcomes for orphans. In Zambia, a community-based program implemented by a Zambian NGO in peri-urban Lusaka offered educational support to OVC by either directly enrolling children in their own community school or providing supplies, school fees and food rations so children could attend government schools. An evaluation of this intervention found only marginal improvements on school enrollment in separate cross-sectional samples of nearly 3,000 OVC, but a 16% increase in appropriate grade-for-age in the difference-in-differences model (Chatterji et al., 2010).

Beyond Zambia, two randomized controlled trials showed that comprehensive school-based interventions including daily feedings, provision of uniforms or supplies, and pairing with a school-mentor reduced dropout rates and early marriage, and improved confidence of orphans in Kenya and Zimbabwe (Cho et al., 2011; Hallfors et al., 2011). Other studies found that programs that provide heavy financial investment in school fees for orphans and vulnerable children (up to $400 per child per year) had significantly better education
outcomes than those who did not receive support (Bryant et al., 2012).

A longitudinal study in Uganda cluster-randomized schools to receive an intervention that foster asset-ownership by creating individual savings accounts for children or not to receive the intervention. Children attending the intervention schools had significantly higher exam scores, more confidence in achieving goals, and higher aspirations than the control group when controlling for covariates (Curley, Ssewamala, & Han, 2010; Ssewamala, Alicea, Bannon, & Ismayilova, 2008; Ssewamala & Ismayilova, 2009). Although this study included orphans who are already in school, it is one of the only rigorous studies demonstrating an impact of an intervention on educational outcomes of orphans and underscores the complex relationship between education wellbeing and psychosocial outcomes including confidence and aspirations.

Another cluster-randomized trial in Malawi found that integrating an open and flexible learning curriculum into the traditional curriculum may better serve the needs of children at risk of dropping out of school, particularly in the context of HIV. Schools implementing this flexible learning model, consisting of study guides, collaborative groups, and peer support groups had significantly lower drop-out rates than the control schools (Jere, 2011, 2012).

Lastly, educational block grants, or grants given to institutions of systems to improve education, as well as direct scholarships to students have been shown to improve OVC education attendance and performance in Uganda and Tanzania (Shann et al., 2013) and a capital cash transfer initiative in Kenya has
shown promising results for mobilizing communities to care for and educate their orphans (Skovdal, Mwasiaji, Webale, & Tomkins, 2011).

**Evidence-based Interventions to Improve Psychosocial Wellbeing**

The evidence on interventions to improve the psychosocial wellbeing of OVC is sparse. None exists within Zambia and very little exist in the sub-Saharan region. In fact, a 2009 Cochrane Collaboration systematic review found no studies on interventions to improve the psychosocial wellbeing of children and claimed most support programs were guided by anecdotal evidence, situational analyses and descriptive studies, or “lessons learned”, rather than grounded in a solid evidence base (King et al., 2009).

Since that Cochrane Review, a single cluster randomized controlled trial in Uganda examined the impact of a peer-group support intervention on the psychosocial wellbeing of AIDS orphans. The intervention decreased anxiety, depression, and anger of AIDS orphans compared to the controls, but did not improve self confidence of orphans (Kumakech, Cantor-Graae, Maling, & Bajuniirwe, 2009). No other rigorous evidence of interventions to improve the psychosocial wellbeing of orphans in the sub-Saharan African was identified in this review.

A post-test only evaluation with a comparison group of a Salvation Army-implemented OVC program in Kenya and Tanzania found that children who had home visits by volunteers had significantly higher self-esteem and HIV knowledge than those who had no visits, but that participation in Kids Clubs
organized and structured play groups) had no effect on self-esteem (Nyangara, Obiero, Kalungwa, & Thurman, 2009; Nyangara, Thurman, & Hutchinson, 2009). Additionally, no significant differences in pro-social behavior as measured by the Strengths and Difficulties Questionnaire (SDQ), a child's perception of adult support, or feelings of social isolation were observed between children who had received psychosocial support (Kids Clubs or home visits) and those who had not (Nyangara, Obiero, et al., 2009).

Another small (n=15) qualitative study conducted among HIV adolescent orphans in South Africa suggests peer support groups, including children in selecting coffins, and speaking at the funeral of a deceased parent provides closure and can minimize the negative psychosocial impacts of orphanhood (G Thupayagale-Tshweneage & Mokomane, 2012; Gloria Thupayagale-Tshweneage, 2011).

Overall, there is little empirical evidence to guide programs. In the absence of a solid evidence base, programs will continue to operate but may not be efficient or effective in improving psychosocial wellbeing (K. D. Schenk, Michaelis, Sapiano, Brown, & Weiss, 2010; K. D. Schenk, 2009).

**Summary of Evidence-based Interventions**

Current OVC program guidance recommends improving school enrollment and providing psychosocial support (Guidance for Orphan and Vulnerable Children Programming, 2012). Yet the evidence-base underpinning this guidance is sparse therefore effectively operationalizing it remains a challenge. The
paucity of evidence-based interventions to improve educational outcomes and psychosocial wellbeing for orphans is not surprising, given that the literature documenting the orphan-based disparities itself is inconclusive. The few interventions shown to improve educational outcomes are more intensive and require more resources than the more common approach of providing stationary supplies, uniforms, or paying school fees. Thus, OVC programs implement unproven interventions that may positively, negatively, or fail to impact the educational outcomes and psychosocial wellbeing of orphans. The efficiency and effectiveness of such endeavors should be more critically evaluated.

3. Review of the Zambian policy environment

This section summarizes the Zambian policy environment as it pertains to the obligations set forth in the Convention of Rights of the Child (CRC) and the Millennium Development Goals (MDGs). As per section 4.1 of The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS, governments are guided to adopt national policies, strategies and a legislative framework to meet the needs of OVC. An online search of the peer-reviewed and gray literature between 1 January 2005 and 31 December 2012 was conducted. Databases searched included: GRZ website, PEPFAR Country Programs, usaid.org, ovcsupport.net, worldbank.org, PubMed, and PsychInfo. The following search terms were used: Zambia, OVC, orphans, vulnerable children, social support programs, social welfare program, social safety net programs, education policy, mental health policy.
Every child has the right to achieve his or her full physical, emotional, and educational potential as delineated in the Convention on the Rights of the Child (United Nations General Assembly, 1990). Three salient policies are aligned with the multidisciplinary governmental approach GRZ is using to improve the plight of OVC: 1) the National Child Policy, 2) the Mental Health Policy, and 3) the Education Policy.

**National Child Policy (NCP):** The GRZ developed an overarching strategy that draws upon: 1) Multi-disciplinary governmental approach with varying Ministries providing technical expertise and policies, 2) International support with co-operating partners providing financial resources, materials, equipment, and technical support to programs, 3) A reliance upon traditional community structures including civil society such as faith-based organizations, community-based organizations and non-governmental organizations, as well as traditional, cultural and religious leaders, and 4) Parents, family, and community members (Zambia Ministry of Sport Youth Child Dev., 2006). In 2006, the Ministry of Sport, Youth, and Child Development, revised and implemented the National Child Policy (NCP) with the following objectives (Zambia Ministry of Sport Youth Child Dev., 2006):

1. Address the children's problems that range from extreme child poverty and hunger, lack of basic education, maternal and child mortality, disintegration of family as a nucleus of child development, malnutrition, gender disparity, HIV/AIDS, environmental problems among them poor sanitation resulting in water-borne disease and child rights violations
2. Prevent HIV/AIDS among children and to care for those affected by the disease; and
3. Stamp out all forms of child abuse

Section 4.2.14 of the NCP contains objectives specific to OVC:

1. Provide OVC with adequate care, protection, and developmental opportunities;
2. Establish an integrated and well coordinated national response for OVC; and
3. Increase OVC access to basic social services

The NCP lays out a multidisciplinary, coordinated response to establish appropriate legislation, empower community and families to care for OVC, and specifically increase psychosocial counseling and support for traumatized OVC (Zambia Ministry of Sport Youth Child Dev., 2006). There was no available evidence regarding progress of policy implementation or impact of the NCP.

Mental Health Policy: The World Health Organization Atlas on Child and Adolescent Mental Health Disorders found that among 66 countries, those with highest proportion of children aged 0-18 had the fewest resources dedicated to child and adolescent mental health (Saxena, Thornicroft, Knapp, & Whiteford, 2007). Zambia is among the few African countries with a specific mental health policy. The Mental Health Policy was finalized in 2005, but by 2010 only 0.4% of the GRZ health expenditure budget was allocated to mental health and no implementation plan had been developed (Bird et al., 2010; Omar et al., 2010). Mental health remains a low priority in many low-income countries. While it is promising that Zambia has a Mental Health Policy, given the competing priorities it will likely remain underfunded and unimplemented in the near future.

National Education Policy: The National Education Policy in Zambia was most recently revised by the Ministry of Education in 1996; the strategies outlined
in that revision have been progressively implemented to improve access to education and meet its universal primary education goal by 2015 (Siaciwena & Lubinda, 2008). A timeline of significant strides in education policy and the alignment with CRC can be seen in Table 2.1:

Table 2.1: Timeline of significant education policy that advanced progressed toward CRC obligations (Source NCP 2006)

<table>
<thead>
<tr>
<th>Year(s)</th>
<th>Policy</th>
<th>Summary of Policy</th>
<th>CRC alignment and continued gaps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>Re-admission Policy</td>
<td>Allowed girls back into school after pregnancy</td>
<td>Aligned with CRC to not discriminate on basis of gender</td>
</tr>
<tr>
<td>1998-2002</td>
<td>Basic Education Sub-sector Investment Programme (BESSIP)</td>
<td>Aimed to increase enrollment and learning achievement with a provision to absorb 350,000 orphans into school system</td>
<td>Benefited orphans, but program was not sufficiently funded to continue; increased enrollment but did not address quality in the classroom.</td>
</tr>
<tr>
<td>2002</td>
<td>Free Basic Education Policy (FBE)</td>
<td>Declared government schools free from grades 1-7, made uniforms not compulsory, and schools to provide free books and pencils</td>
<td>Though not compulsory, FBE aligned with CRC to make primary school free but exam fees remained and policy not well enforced or sufficiently funded</td>
</tr>
<tr>
<td>2003-2007</td>
<td>BESSIP Follow-on</td>
<td>Program to address quality and increase funding for the education sector</td>
<td>Aligned with recommendations in CRC but not well implemented.</td>
</tr>
</tbody>
</table>

The GRZ National Development Plan for 2011-2015 outlines five specific measures to improve education and psychosocial wellbeing for OVC. First, it plans to scale up OVC support programs and increase income generation opportunities for people living with HIV and their families. Second, it details plans to provide 45,000 bursaries to OVC by 2015 to enable primary and secondary
school attendance. Third, it plans to increase school feeding programs. Fourth, by 2015 it plans to construct 40 youth resource centers, 120 child and youth rights awareness campaigns, none of which are foreign financed. Fifth, GRZ plans to develop a Social Protection Policy that considers crosscutting issues including child development, gender, education, and health, specifically HIV (Republic of Zambia: Sixth national development plan 2011 – 2015, 2011). To date, it is unclear if or how well these plans have been implemented.

While policy and development plans have been aligned with obligations set forth in the CRC to progressively realize child rights, it is consistently underresourced, not well implemented, and poorly monitored. Supporting and realizing the rights of orphans is complex and requires a coordinated, multidisciplinary and integrated approach. As indicated in the GRZ strategy and The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS, GRZ relies heavily upon fostering partnerships with international organizations to provide technical, financial, and logistical support to assist in translating policy into action is critical.

4. Review of PEPFAR-funded OVC support programs

Many international co-operating partners including the World Bank, UNICEF, and numerous governments with direct bilateral agreements are working with the Government of Zambia and local NGOs to implement policy. This dissertation focuses on the support provided by the United States Government (USG) through the PEPFAR initiative from 2004-2010 that
complemented Zambian efforts to meet the needs of its most vulnerable children and make progress toward the MDGs.

This section reviews three of the large-scale PEPFAR-funded OVC programs that provided technical and financial assistance to existing community structures (NGOs, CBOs or FBOs) between 2004-2010: (1) Community Based Care for Orphans and Vulnerable Children Program (CBCO); (2) Breaking Barriers (BB); and (3) Faith-based Regional Initiative to Support Orphans and Vulnerable Children (FABRIC). These projects were selected for review as they were each a multi-country project, had similar aims, were funded under the first round of PEPFAR, and had a similar Zambia-based operating budget. This review explores the lessons learned from the main programmatic elements including 1) Program Design, 2) Program Implementation, and 3) Program Monitoring and Evaluation. It also serves to frame the setting, as the FABRIC project explored here is the primary data source for this dissertation.

Program Overview

The community-based, social support projects for OVC included in this review each aimed to help the GRZ meet the basic needs of vulnerable children, provide psychosocial support to vulnerable children, and to strengthen the household and community level capacity to support OVC. A summary of key program attributes can be seen in Table 2.2.
### Table 2.2: Key Attributes of Three Selected PEPFAR-funded OVC Support Programs in Zambia

<table>
<thead>
<tr>
<th>Goal</th>
<th>Years</th>
<th>Primary Intervention</th>
<th>Zambian Partners</th>
<th>Program Evaluation</th>
</tr>
</thead>
</table>
| 1, Breaking Barriers (BB), implemented by Plan International         | 2006-2010 | • School feeding program  
• Provision of school uniforms  
• Provision of clothing/blankets  
• Nutritional support to children  
• Provision of health support  
• Livelihood support  
• Provision of child counseling  
• Child to child participation in HIV prevention activities through clubs and theater  
• Basic agricultural training | Network of formal and informal schools and community religious organizations | Qualitative midterm and end line evaluation. External end-line evaluation contracted to Upward Bound Company LTD, Nairobi completed in all countries. No baseline and no comparison group. |
| **To expand access to education, psychosocial support and home-based care for the population of most vulnerable children and their families.** |           |                                                                                       |                                                                                 |                                                                                                   |
| 2. Community Based Care for Orphans and Vulnerable Children Program (CBCO), implemented by Christian Aid | 2005-2010 | • Promote Savings & Loan associations  
• Capacity building for long-term food security  
• Life skills promotion for older OVC  
• Kids Club facilitation for younger OVC  
• Child protection mentoring and monitoring system  
• Psychosocial training for OVC caregivers  
• Educational support and vocational skills | Archdiocese of Lusaka  
• Catholic Diocese of Ndola  
• Copperbelt Health Education Project  
• Family Health Trust | Yes: End-line mixed-methods evaluation conducted and relatively well done. No baseline and no comparison group so used dose response analysis and multivariate regression and propensity score matching to compare exposed to unexposed. Difficult to attribute to program, but among the most rigorous and analytical assessments. |
| **To improve the quality of life of over 25,000 orphans and vulnerable children in Kenya, Uganda, Zambia and Nigeria** |           |                                                                                       |                                                                                 |                                                                                                   |

**Key findings:** Mostly process measures captured including # children reached at the monthly counselor meetings. 67% of OVC reported receiving counseling or guidance, but not Zambia specific. Qualitative data suggests OVC had increased access to educational and psychosocial support; no impact data available.

**Key findings:** Observed reduced stress and increased self-esteem among OVC. Life skills training – improved decision making, self-esteem. Kids Clubs had no observable impact. No specific education interventions or outcomes in Zambia.
3. Faith-based Regional Initiative to Support Orphans and Vulnerable Children (FABRIC), implemented by FHI 360

| To improve the quality of life for OVC by developing the capacity of implementing partners to effectively allocate resources and ensure essential services reached OVC | 2005-2009 | School support (books, uniforms, fees, homework help) | Material support (shoes, clothes, blankets, water tablets) | Psychosocial support (home visits, counseling, kids clubs) | House building or repair | Nutritional counseling | Assistance with birth registration | Health care referral | Organizational support and training to the FBO | Expanded Church Response to HIV/AIDS Trust and 15 affiliated FBOs | Yes: Post-test only design using mixed methods; randomly selected FABRIC children compared to an age- and gender-matched community sample |

Key findings: Improved basic capacity of FBOs; provided services to over 20,000 OVC; Disparities between FABRIC children and comparison group were not significant at the end of the project.

**BB** project was implemented by PLAN International from 2005 – 2010 in Kenya, Uganda, and Zambia and aimed “to expand sustainable, effective, quality OVC programs in education, psychosocial support and community-based care for children and families affected by HIV and AIDS.” (Upward Bound Company Limited, 2010). The Zambian operating budget was approximately $400,000 annually (PEPFAR, 2007) and BB reported delivering services to 27,464 Zambian OVC (Upward Bound Company Limited, 2010).

The **CBCO** project implemented by Christian Aid from 2005-2010 in Kenya, Nigeria, Uganda, and Zambia aimed to improve the quality of life for over 15,000 OVC in Zambia. CBCO had the following specific goals: 1) Increase income levels of OVC households, 2) Improve food security among OVC households, 3) Improve psychosocial well-being of OVC including reduced...
abuse, stigma, and discrimination experience. 4) Reduce unsafe sex practice among older OVC, and 5) Improve school attendance and performance among school-aged OVC (Christian Aid, 2010). The Zambian annual operating budget was approximately $467,000 (PEPFAR, 2007).

The Fabric project was implemented by FHI 360 (formerly Family Health International) from 2005 – 2009 in Namibia, South Africa, and Zambia. Fabric aimed to improve the quality of life for 10,000 OVC person-years by ensuring resources were effectively allocated and that OVC received quality community level services (Scott et al., 2010). The Zambian operating budget was approximately $410,000 annually (PEPFAR, 2007).

Each of the three projects aimed to improve the general wellbeing including the educational outcomes and psychosocial wellbeing of vulnerable children through a community-based approach. Each project faced similar successes and challenges in design, implementation, and monitoring and evaluation that are explored in more detail in the following sections.

Program Design

The BB, CBCO, and Fabric project approaches were each grounded in community-based support theory and each employed a similar model for implementation whereby an umbrella organization coordinated a network of community-based organizations (CBOs, NGOs, FBOs). These CBOs, NGOs, and FBOs then utilized volunteers to build the capacity of communities and households to care for vulnerable children and to deliver services directly to
vulnerable children in their catchment areas.

The BB project was designed to implement services through a network of schools and FBOs; it is unclear how schools were identified or coordinated, but the participating FBOs were all members of the Zambia Interfaith Network Group (ZINGO). Community volunteers were recruited and worked with the schools and FBOs to strengthen capacity and deliver services. The BB implementation strategy was four-fold. Through its network of schools and religious institutions, BB 1) delivered essential services directly to beneficiaries, 2) trained family members and community members to better care for OVC, 3) advocated for child protection, and 4) fostered income generation activities in communities. The underlying theory guiding BB was that strengthening existing institutions would lead to improved access for children. Additional barriers could be addressed through the provision of uniforms and school supplies.

The CBCO project partnered with the Archdiocese of Lusaka, Catholic Diocese of Ndola, Copperbelt Health Education Project, and Family Health Trust to implement its program. Through these organizations, CBCO coordinated community volunteers and delivered services at the individual, household, and community levels to improve the lives of OVC.

The FABRIC project supported an umbrella implementing agency (IA), Expanded Church Response to HIV/AIDS Trust (ECR), which has worked with local FBOs to provide support the church in poverty alleviation projects and advocate for people living with HIV/AIDS (PLHA) since 2003. Through FABRIC,
ECR supported 15 FBOs to coordinate 373 volunteer caregivers who delivered interventions directly to enrolled beneficiaries at the community level.

The projects experienced three common challenges that were linked to the design of the project. First, the project design across the three programs appears strong and is grounded in a community-based model; each program was designed to be community owned and operated and each knew its needs and population best. However, the funder determined the projects' designs, aims, targets and measurements of progress. Therefore, the fundamental design precludes community input regarding how to best determine success or failure. Second, there was general consensus that the scope of work far outweighed the resources availed to implement, and that they were held to unrealistic expectations. Third, the heavy reliance on volunteers is a flaw inherent in project design and manifests in challenges seen during project implementation.

**Implementation**

Each project experienced specific implementation successes and challenges in the areas of 1) targeting and recruiting beneficiaries, 2) crafting the interventions and services, and 3) delivering the interventions and services.

**Targeting and Recruitment of Beneficiaries**

Although all three projects relied on the PEPFAR definition of OVC, none documented a clear or systematic approach for identifying and enrolling beneficiaries. Difficulty ensuring the appropriate children are recruited and enrolled into the program is not unique to Zambia and compounds challenges
throughout implementation and in program monitoring and evaluation.

The BB endline evaluation report suggests the project used a clear, participatory process involving community leaders and community volunteers, both male and female, to recruit beneficiaries (Upward Bound Company Limited, 2010). However, the exact process is not clearly documented. The CBCO targeting and recruitment strategy was not found in any available document. The FABRIC project targeting and recruitment strategy is also unclear. FABRIC project staff at FHI 360 explained that community volunteer preferentially recruited and enrolled OVC deemed most needy because the child 1) had either one or both parents die (orphans), or 2) had suffered some form of abuse, dropped out from school, or were living in households headed by grandmothers, children, or chronically ill adults. Community volunteers then prioritized vulnerable households by economic status; households with no income were given support before those with some form of household income (Scott et al., 2010).

The absence of a systematic strategy across and within projects to identify and enroll beneficiaries is not unexpected in community-led initiatives given that an individual community is supposed to use a process that works best for its situation. However, the lack of a systematic strategy in addition to the strategy being undocumented is problematic for several reasons. First, at the level of the individual child, not understanding a child's wellbeing at enrollment makes individual case management and monitoring difficult. This is both an important
quality of care issue but also makes evaluation of program impact extremely difficult. Second, at the program implementation level, having no transparent recruitment and enrollment process leaves the project vulnerable to criticism including nepotism and favoritism, both potentially damaging to project reputation. This would be exacerbated in most communities where the demand will clearly exceed the available supply of support services and interventions. Lastly, the lack of a transparent strategy severely impeded monitoring and evaluation of a program. Higher-level stakeholders, including funders and policy makers, will not be able to clearly understand program effectiveness if is unclear who the project enrolled and how it did so.

Crafting Interventions and Services

As shown in section 2 of this review, there is a paucity of evidence-based interventions to improve OVC wellbeing; even less empirical evidence existed when these projects were being implemented. Therefore, interventions to support OVC were diffuse and often not well defined, a situation not unique to Zambia and clearly seen in the three programs examined here. Support, as conceptualized and implemented by these programs, can be broadly categorized as 1) emotional, 2) informational and 3) instrumental (Hogan, Linden, & Najarian, 2002). Emotional support is less tangible and focuses on improving self-esteem or confidence; informational support is the provision of knowledge, education or information to guide or advise; and instrumental support captures the provision of material goods (Hogan et al., 2002). Each of these programs offered a
combination of emotional, informational, and instrumental support as described below.

The BB project interventions at the child level included providing children school materials and uniforms to beneficiary OVC, and coordination of facilitated playtime. At the household level, BB attempted to improve household income by training for group banking for households to buy and sell goats. At the community level, the BB project renovated schools and libraries in rural areas to attract and retain teachers, as well as train school officials in psychosocial counseling and support.

CBCO had the most well defined interventions of the three programs. Specifically, CBCO 1) promoted savings and loan associations, 2) provided agricultural capacity building, 3) promoted life skills training/education for older OVC and Kids Clubs for younger OVC, 4) established child protection mentoring and monitoring systems, 5) trained OVC caregivers on how to provide psychosocial and emotional support to OVC, and 6) provided educational support and vocational skills training to older OVC. The interventions provided by CBCO were well articulated in theories of behavior change models.

In the FABRIC project, the menu of potential interventions was lengthy and the mix of interventions provided was determined by the FBO staff on an individual basis, dependent on available resources. No standardized or minimal package of support existed, but the FABRIC project primarily provided psychosocial and educational support to enrolled OVC (Scott et al., 2010). In the
emotional domain, psychosocial support included home visits by volunteers, counseling, and participation in organized sports. Educational support was primarily instrumental and included payment of school fees, provision of uniforms and shoes, as well as books and school supplies. Other interventions included referral to health or legal services as needed, *ad hoc* repair of homes, assistance with birth registration, provision of information of healthy eating and cooking, and distribution of material goods including mosquito nets, water purification tablets, blankets, or household supplies. Because the mix of interventions provided from FABRIC and due to limited resources, the support received by an individual child and across all beneficiaries was often diffuse and inconsistent.

Overall, all three projects delivered a combination of emotional, informational and instrumental support to project beneficiaries. Because of a paucity of evidence, high expectations and targets set by the donor, limited resources, and inconsistent funding flows, informational interventions including referrals and inexpensive instrumental interventions including distributing pencils for education were common. Such minimal, diffuse support is likely not sufficient to impact the psychosocial or educational trajectory of vulnerable children.

** Delivering Interventions and Services

All three project models relied heavily on the community organizations and on volunteer labor to deliver services. The BB project, through its implementing partners, trained community volunteers to deliver services directly to children and households. Additionally, project staff conducted trainings, micro-finance
courses, and worked on the advocacy efforts. The heavy reliance on unpaid volunteers drawn from the same poor communities that they are expected to serve, is not a sustainable model. It yields high attrition rates and opens the project to criticism of favoritism (Scott et al., 2010; Upward Bound Company Limited, 2010).

Many OVC projects market themselves as providing comprehensive services to meet the basic needs of OVC. However, the complexities associated with realizing the rights of OVC from all angles make this a nearly impossible task, given the available funding. The BB and FABRIC project implementers expressed in qualitative interviews that the expected workload far exceeded the amount of resources available. Additionally, delays in funding impacted timely service delivery; the FABRIC implementers consistently noted that children had to leave school because FABRIC was unable to pay school fees on time (Scott et al., 2010).

**Monitoring and Evaluation**

Monitoring and Evaluation (M&E) is a critical component of any public health or social program. While the concept of M&E is deeply entrenched in collective conscience of public health implementers, M&E systems often lack rigor for a number of reasons including limited technical and financial capacity, directives set forth by the funder, and the mindset that evaluation will divert resources from the children needing support. The programs examined here experienced many M&E challenges common to donor-funded programs.
First, the technical and logistical capacity of implementing agencies was lower than anticipated; this not only affected implementation, but also monitoring and evaluation of projects. The BB and FABRIC projects both assumed the capacity of was higher than it truly was. Neither project conducted a baseline capacity assessment, but later identified the lack of capacity as a major constraint, particularly with respect to M&E systems. Both programs felt the M&E activities could have been more robust if the capacity of the organizations expected to do the work had been stronger and recommended baseline assessments of local capacity in the future.

Second, none of the programs had a system to enable the tracking of beneficiaries and their receipt of services over time. None of the three projects had a centralized tracking system, and thus, were unable to understand changes in beneficiaries, let alone if those changes were associated with interventions received. Even basic record keeping was inconsistent in the FABRIC registers, such that determining the age, wellbeing, and supports received was not possible. Though none could track beneficiaries over time, CBCO was the strongest of the three programs in program monitoring, as well as developmental evaluation (Christian Aid, 2010) or process evaluation that allows for continuous program improvement and development in uncertain conditions. CBCO had clearly defined theories of change for each of its core interventions. The expected outcomes of each change model were routinely monitored internally, as was the status of beneficiary households. Students from the London School of
Hygiene and Tropical Medicine (LSHTM) conducted an external process evaluation at project midpoint. Both feedback mechanisms contributed to process improvement and continual revision of the intervention strategies.

Third, impact evaluation was challenging as none of the three programs had either an adequate baseline data or a central database of beneficiaries with a robust enough monitoring system to understand program impact. Given these limitations, each project used different methods to estimate programmatic impact at the end of the PEPFAR funding cycle.

The BB project used a quasi-experimental post-test only, cross-sectional study using primarily qualitative, but some quantitative methods. Many process outcomes were reported, however, they were not disaggregated by country so it is difficult to understand the program delivery in Zambia. Very few outcomes were reported, only school attendance rates (95% of project beneficiaries were enrolled in school), but there was no baseline data and no comparison group. Qualitative data are presented as individual success stories, making it difficult to understand the broader programmatic impacts. In terms of psychosocial support, the endline report suggests BB interventions improved the hope of OVC, but no qualitative or quantitative data are available. In general, the information available in the report describes a broad array of interventions and the anticipated outcomes, but does not support these claims with any methodological rigor.

The CBCO project collected primary end-line evaluation data in 2010 and relied heavily on monitoring data previously collected to estimate associations
using a dose-response analysis of outcomes with interventions received. However, they sampled beneficiary households only and had no comparison group. To the extent possible, CBCO established a *post-hoc* baseline by asking guardians to recall their situation five years prior. In general, CBCO found that beneficiary household wealth had improved since 2005 and had better food security, but found no association between the child wellbeing and interventions received.

Emotional or psychosocial support activities are often complex and difficult to measure. CBCO trained caregivers to provide more and better emotional and social support to OVC and documented the number of caregivers trained. The expected outcomes were "improved psychosocial well-being of OVC, including reduced abuse, stigma, and discrimination experience" among OVC in the targeted households. Monitoring data from 2005 – 2009 captured the psychosocial wellbeing of OVC using an 18-question instrument promoted by UNICEF. While monitoring data suggest an improvement in psychosocial health of OVC in Zambia from 2005-2008, it declined slightly in 2009 while caregiver capacity improved steadily. The data suggested that a caregiver providing high levels of social and emotional support was directly correlated with the improved psychosocial wellbeing score of the OVC. However, the caregiver doing so was not associated with the CBCO caregiver training intervention. Additionally, there was no evidence that home visitations were associated in either direction with stigma, abuse, or discrimination. CBCO also found that its Kids Club intervention
for OVC 8-11 years of age was not associated with improved self-esteem or psychosocial health. Lastly, among older OVC, participating in life skills training was associated with better decision-making skills and improved self-esteem, although the strength of the association varied when stratified by implementing partner.

The FABRIC project was evaluated using a post-test only, quasi-experimental design with a comparison group. A quantitative cross-sectional household survey of randomly selected FABRIC beneficiaries and age-range and gender matched (1:2) community comparison sample children was conducted and qualitative data were collected on a sub-sample of beneficiaries and their guardians. No significant difference was seen between beneficiaries and the comparison group in psychosocial or educational measures at the end of the project.

The three programs examined here used varying approaches to estimate programmatic impact. However, given the limitations, attributing changes to programs with a high degree of confidence is nearly impossible. First, no program conducted a rigorous baseline. Second, there was minimal capacity to rigorously track beneficiaries over time. While CBCO was more confident than FABRIC or BB in its ability to track beneficiaries and was able to document positive changes over time, few of these changes were associated with receipt of the intervention. However, it remains unclear how strong the tracking system was, who the sample for the end-line evaluation was, or if the reported changes
were on a longitudinal sample or multiple cross-sectional samples. Lastly, CBCO had no comparison group. Therefore, attributing any changes to the program is not possible.

BB interpreted programmatic success as the number of children that received psychosocial counseling or participated in facilitated playtime activities. No outcome information was provided. The BB report suggested that the program improved OVC access to basic education, but only qualitative data were presented to support the claim.

**Summary of Lessons Learned from OVC Support Programs in Zambia**

The large financial and technical resources and political commitment from the USG and GRZ create conditions that in theory should allow for major progress in supporting and protecting the most vulnerable Zambian children. Consistent with the findings in the literature, most of the efforts to date in Zambia have demonstrated successful process outcomes through high program enrollment numbers, extensive reach of supportive services delivered, and some immediate outcomes such as knowledge retention or school enrollment rates. However, none have rigorously evaluated the outcomes of these efforts. This lack of appropriate evaluation leaves funders and program planners without evidence to underpin OVC guidance and practice.

**Chapter 2 summary**

In summary, the four sections of this chapter highlight the complexities associated with orphan wellbeing, particularly in the context of HIV.
1. The literature documenting orphan disparities in educational outcomes and psychosocial wellbeing in Eastern and Southern Africa yielded inconsistent findings in sub-Saharan Africa and very little in the Zambian context.

2. There is a paucity of evidence-based interventions aimed at improving psychosocial wellbeing and educational status of orphans in Eastern and Southern Africa.

3. Zambian policies are aligned with the Convention of Rights of the Child (CRC) and the Millennium Development Goals (MDGs), but most are poorly implemented and often underfunded.

4. A review of PEPFAR-funded community-based, OVC support programs in Zambia suggests programs are over-stretched and under-resourced, and do not have appropriate technical capacity to establish and maintain strong M&E systems.

Given this set of conditions in Zambia, it remains unclear if orphanhood is associated with worse psychosocial wellbeing or educational outcomes in Zambia and therefore, if orphan status is the most appropriate criterion upon which programs should target beneficiaries. Additionally, if orphans should be targeted, we do not know what intervention or combination of interventions, can most effectively address deficiencies. Before decisions are made to continue funding community-based OVC programs, it is critical to understand if the
investments are associated with improving the lives of these children and helping Zambia and other countries progress toward the MDGs.
CHAPTER 3: STUDY AIMS, DATA SOURCES AND METHODS

Aim

This dissertation aims to improve evidence-based OVC policy and programming decisions by examining data from a community-based program in Zambia. The paucity of OVC programmatic outcome evaluation in Zambia compounds the challenge of evidence-based decision-making for policy makers and implementers and inhibits progress toward the MDGs. In the absence of a solid evidence-base underpinning OVC guidance, many community-based OVC support programs implement unproven interventions. Many target only orphans because it is an easily identifiable criterion, and many implement unproven psychosocial and educational interventions. While well intentioned, this is concerning for two reasons. First, it remains unclear if orphanhood is associated with worse educational outcomes or psychosocial wellbeing in Zambia and therefore, if orphan status is the most appropriate criterion upon which programs should target beneficiaries. Second, if orphans are disadvantaged in educational or psychosocial measures, it remains unclear which intervention or combination of interventions, can most effectively address this deficiency.

Before decisions are made to continue funding broadly focused, community-based OVC programs, it is critical to understand 1) if orphans are systematically disadvantaged compared to non-orphans, 2) if available external support offered by programs and government are appropriate and sufficient to improve the educational status and psychosocial wellbeing of these children and
3) how, in similar contexts, can program monitoring and evaluation practices can be improved to increase the evidence base, improve program quality and be aligned with current OVC program guidance (Guidance for Orphan and Vulnerable Children Programming, 2012).

The context and the community-based program model of FABRIC is characteristic of most OVC projects in Zambia and throughout the region. Many projects also focus primarily on psychosocial and educational support as per current guidance. Lessons from the FABRIC experience, therefore, will be broadly applicable to other projects and ongoing efforts. Findings from this study will inform several key stakeholders: (i) the GRZ as it strategizes to meet its commitments set forth in the CRC and the MDGs, (ii) OVC program personnel in Zambia and other countries using similar programmatic models, as they move forward with implementation, and (iii) foreign aid policymakers, particularly the US government.

Research Questions

Using data collected from the FABRIC project catchment sites, this study seeks to answer the following research questions and sub-questions:

Research Question 1: Do differences exist in educational status (as measured by school enrollment) between orphans and non-orphans over time and are differences associated with receipt of external support from the FABRIC project, or other governmental or non-governmental sources?
a. Are differences associated with child level factors including age, gender, or HIV-status?

b. Are differences associated with household level factors including household composition, household food security, type of caregiver, or the health status of caregiver?

**Research Question 2:** Do differences exist in psychosocial wellbeing (as measured by the Strengths and Difficulties Questionnaire (SDQ)) between orphans and non-orphans over time and are any differences associated with receipt of external support from the FABRIC project, or other governmental or non-governmental sources?

  a. Are any differences associated with child level factors including age, or gender?

  b. Are any differences associated with household level factors including household composition, household food security, type of caregiver, or the health status of caregiver?

**Research Question 3:** What lessons can be learned from the FABRIC project monitoring and evaluation experience to inform current OVC program efforts operating in similar contexts, to ensure alignment with the USAID evaluation policy and current OVC program guidance?
Data Sources and Methods

This data for this study were collected prospectively from two separate, but related studies in Zambia in FABRIC project operational catchment areas. Figure 3.1 depicts the timeline of the FABRIC program and the two studies from which the analytic dataset was generated. The FABRIC program commenced in late 2005. In February 2010, the endline evaluation (T0) was conducted by Boston University (BU). Between March and May, project activities wound down and the project was closed by the end of May 2010; an additional round of data collection occurred in January 2011 (T1).

Figure 3.1: Timeline of events throughout the FABRIC project in Zambia

1. Baseline: End of Project Evaluation (EoPE)

Because no wellbeing data were collected at project inception, there were limited design options for the evaluation. A post-test only, quasi-experimental design with a comparison group was used to evaluate the wellbeing of children enrolled in the FABRIC at the end of the project in March 2010 (T0). A cross-sectional household survey of randomly selected FABRIC beneficiaries and age-range and gender matched (1:2) community comparison children was conducted.
Key informant interviews were conducted among FABRIC project staff at all tiers of the project.

II. Endline: Longitudinal OVC Study (LOS)

FHI 360 subcontracted BU to continue following the children and their guardians identified in the EoPE and to expand the sample. Building upon the data collected in the EoPE, a prospective, observational cohort was established. LOS followed the same children from the EoPE, but also increased the sample size and conducted focus group discussions among adolescents and caregivers. T1 data were collected 11 months after the EoPE.

For each of the original studies, ethical approval was granted from the Institutional Review Boards at FHI 360, Boston University, and from the University of Zambia Research Ethics Committee. As I was a co-investigator and technical lead on each of these studies, no additional ethical clearance was required for this dissertation. Additionally, this analysis is in accordance with a publication and data ownership agreement between BU CGHD and FHI 360. The Ministry of Health in Zambia also endorsed both studies, attended in-country dissemination events and will review any resulting publications.

Setting and Sample

This dissertation examines outcomes of children in a community serviced by the FABRIC project described above. Though the FABRIC project was the largest source of support operating in the study area, other sources of external
support were available including governmental grants, small NGOs, and other FBOs. Children were recruited specifically for the FABRIC project and thus were not randomized into a study arm at project inception. Therefore a randomly selected sample of children not enrolled in the project but in the same communities served as the comparison.

FABRIC enrolled participants, were selected using a multi-stage random sampling technique. First, the four FABRIC FBO operational sites, all partially rural and partially peri-urban, (seen in figure 3.2) were randomly selected:

1. Bethel Baptist – Samaritan Project: Lusaka Province, Kafue District
2. Mpatamatu Home-based Care Project: Copperbelt Province, Luanshya District
3. Evangel Oasis of Love Orphans Project: Copperbelt Province, Chingola District
4. Mutende: Copperbelt Province, Luanshya District

Figure 3.2: Map of sites and households selected for FABRIC EoPE and LOS in Zambia
Second, children enrolled in the FABRIC project were randomly selected from the project rosters. Lastly, a comparison group was randomly selected, matched on locality, age-range (0-4 years, 5-11 years and 12-17 years), and gender.

The analytic dataset generated for this dissertation consists of 204 children between 5 and 18 years of age (at the first round) and their households who participated in the baseline (T0) and endline (T1) rounds of data collection, yielding 408 observation points. Using estimates of borderline/abnormal SDQ scores and school enrollment rates from the two studies, post hoc power calculations suggest that with this sample, we could detect an increase from 23% borderline/abnormal SDQ to 38% abnormal psychosocial scores (a 15 percentage point change) (alpha 0.05, 80% power) and a decrease in school enrollment rates from 97% to 88% (a 15 percentage point change) (alpha 0.05, 83% power). Calculations suggest the sample is sufficient at 80% power to detect statistically significant and programmatically meaningful differences in school enrollment at endline and differences in mean psychosocial measures between orphans and non-orphans (Dupont & Plummer, 1990, 1998).

**Summary of Primary Data Collection Procedures**

The Boston University and FHI360 teams jointly developed the protocol and instruments. Indicators reflected service receipt and standardized wellbeing measurements when possible. The 0–4 and 5–11 years of age instruments were answered by the index child’s primary caregiver, and the 12–17 years of age
instrument had sections completed by both the primary caregiver and self-reported by the adolescent. The same survey was administered to the FABRIC and comparison samples. Household information was standardized across instruments. Differences between the instruments reflected age-specific modifications of psychosocial, education, and dietary indicators. Eight focus group discussions (FGDs) were conducted at $T_1$ only, four among primary caregivers and four among adolescents.

In-depth interviews (IDI) were conducted with FABRIC project staff at the FHI 360 tier, the Implementing Agency tier, the sub-recipient tier, and the volunteer tier. These interviews were conducted at $T_0$ as part of an organizational assessment. Qualitative IDI guides were developed as part of the overall organizational assessment and had a series of questions focused on monitoring and evaluation.

All surveys were translated into local languages (Bemba and Nyanja), back-translated, piloted, and refined prior to implementation. All quantitative data enumerators had previous experience administering household surveys and all qualitative data enumerators had prior experience in qualitative methods. All enumerators were fluent in English and the local languages, and attended a five-day training in Lusaka, which included sessions on research ethics, data confidentiality, child protection, and methods training. Pairs of enumerators visited households to request participation. Written or thumb-printed informed
consent from the primary caregiver and assent from the child were obtained prior to any survey administration.

Dissertation Study Design and Outcome Measures

While the dataset for this study was generated from studies using quasi-experimental designs, this dissertation will examine a longitudinal, observational cohort. The section below details the outcome measures, the independent variables, and the analysis for research questions 1 and 2, and the qualitative analysis plan for objective 3.

Research Question 1: The primary education outcome is the likelihood of not being enrolled in school at endline as reported by the caregiver in the household survey. This variable was selected as a proxy for educational achievement because school enrollment is most likely to have been impacted by external support initiatives. Secondary education outcomes among those enrolled in school include the likelihood of school absenteeism (the proportion of children missing more than three days of school in the preceding two weeks) and appropriate grade-for-age, according to Zambian standards.

Research Question 2: The primary outcome measure of psychosocial wellbeing was the change from baseline to endline in the mean psychosocial score as measured by the Strengths and Difficulties Questionnaire (SDQ) (Goodman & Goodman, 2009; “SDQ: Generating scores in SAS,” 2002). The SDQ is composed of 25 questions rated on a 3 point scale addressing 5 domains of emotional and behavioral health: 1) emotional symptoms, 2) conduct
problems, 3) hyperactivity/inattention, 4) peer relationship problems and 5) prosocial behavior. A standardized scoring system generates a total-difficulties score and 4 different sub-scale scores, one for each domain, excluding the prosocial and accounts for caregiver respondents (children aged 5-11) or self-response (children aged 12-17). The SDQ has been validated in many low and middle-income countries, including several countries in sub-Saharan Africa (Goodman & Goodman, 2009, 2011), but not in Zambia specifically.

Using standardized cutoffs, the summary score and individual domain scores were dichotomized into Normal and Borderline or Abnormal, and are presented in the bivariate analysis. The SDQ score was assessed as a continuous mean difference in the multivariate models with higher scores indicating worse psychosocial health ("SDQ: Generating scores in SAS," 2002).

Independent Variables

Independent variables examined include orphan status, receipt of external support, and socio-demographic covariates. These independent variables are described below.

Orphan Status:

To assess orphan status, respondents reported whether each child's biological mother was alive. If no, the month and year of death was collected if known. If the mother was alive, the survey assessed if she was currently living in the household. The same series of questions was asked of the father. If the respondent did not know the vital status of the mother or father, the mother or
father will be presumed deceased.

Children were categorized as “single orphans” if either the mother or father is deceased or is presumed deceased. Children were categorized as “double orphans” if both the mother and the father were deceased or presumed deceased. Non-orphans, the reference group, are those where the mother and father were both known to be alive.

**External Support Received:**

External supports are defined as help coming from any formal source such as the government or a community-based group or organization for which the household did not have to pay. External support received was assessed by asking the caregiver if they or the child had received any number of potential supports in the preceding 12 months. Though the FABRIC project was the largest source of external support operating in the study area, other sources of external support were available from the government, multilateral or other bilateral donors, or other small community-based organizations. To understand the source of support, the caregiver reported whether the support was received from an FBO, NGO, Government, private organization, religious or charitable group, or other source. External support was examined overall, by educational and psychosocial supports only.

**Covariates:**

In the analysis for both objectives 1 and 2, socio-demographic variables identified as potential confounders in the literature including, but not limited to,
age, household composition, and gender of the child were included in the analysis. Other potential confounders were assessed including: no birth registration, known positive HIV status, presence of a chronic illness, or caregiver chronic illness.

Analysis Plan: Quantitative

This section summarizes the quantitative analysis plan to answer research questions 1 and 2. First, descriptive statistics of the sample were calculated and presented. Household level and child level demographics were calculated. Household level characteristics include poverty level and dependency ratio. Child level characteristics include orphan status, age, and gender. Second, socio-demographic characteristics were compared between the orphans and non-orphans that may be related to the outcome. Categorical variables were compared between groups using the Chi-squared test or Fisher’s exact test if cell sizes were small; continuous variables were compared using t-tests if normally distributed or non-parametric Wilcoxon rank sum tests, if distribution was non-normal.

The primary outcomes are the dichotomous variable of currently enrolled or not enrolled in school (research question 1) and the continuous variable of SDQ total difficulties score (research question 2). Crude and adjusted multivariate logistic and linear regression models were used to assess the relationship of predictor variables on each outcome of interest, with orphan status as the primary exposure. Independent variables assessed included age, gender,
primary caregiver, and chronic illness of caregiver were among potential predictors. All analysis was done in SAS version 9.3 (SAS Institute, Cary, NC).

**Analysis Plan: Qualitative**

To give deeper understanding to the quantitative results for research questions 1 and 2, a grounded theory analysis was conducted on the focus group discussion transcripts. First, transcripts were read through and coding themes were identified *a priori*, before coding commenced. Second, transcripts were coded and adapted as needed. Responses and themes were compared between caregivers and adolescents. Qualitative analysis was conducted in Nvivo10© (Doncaster, Australia).

To answer research question 3, qualitative methods were used to identify the critical gaps in the FABRIC program monitoring and evaluation process, measured against the 2012 PEPFAR Guidance for Orphans and Vulnerable Children Programming (*Guidance for Orphan and Vulnerable Children Programming*, 2012). First, a document review of available project documents was conducted to understand the context monitoring and evaluation strategy in relation to current guidance.

Second, a content analysis was conducted of 26 in-depth interview transcripts from among a purposively selected sample of staff at all levels within the FABRIC Project. Coding themes were identified *a priori* according to the 2012 PEPFAR Guidance for Orphans and Vulnerable Children Programming (*Guidance for Orphan and Vulnerable Children Programming*, 2012) framework.
seen in Table 3.1.

Table 3.1: The Framework of Current Monitoring and Evaluation Practices for OVC Support Programs

| 1. Improve the Quality of M&E Systems | • Allocate sufficient funds  
|                                      | • Link with National M&E Systems  
|                                      | • Use M&E Field Experts  
|                                      | • Develop M&E Capacity  
|                                      | • Promote Quality Assessment and Improvement  
| 2. Improve Program Evaluations | • Base evaluation design on theory  
|                                   | • Develop M&E plans in tandem with program plans  
|                                   | • Employ mixed-methods  
|                                   | • Standardize indicators  
|                                   | • Improve the quality of the M&E when possible  
|                                   | • Expand on next-generations indicators for outcome evaluation  
|                                   | • Focus on child and household level outcomes  
|                                   | • Rigorous design  
|                                   | • Comparison and control groups when possible  
|                                   | • Baseline assessment  
| 3. Improve? Data Analysis and Usage | • Thoroughly analyze data  
|                                       | • Gender and age analysis  
|                                       | • Use specialized data sources when necessary  
|                                       | • Use the data for decision making  

Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)

Third, documents and interview transcripts were triangulated by level within the organization and then examined for crosscutting issues, and consistencies or inconsistencies in findings. All qualitative data for Research Question 3 were coded and analyzed using Nvivo10© (Doncaster, Australia).

Limitations and Threats to Validity

Most of the threats to validity are those associated with the original study design. This section details the potential threats to statistical, internal and
external validity as well as the measures taken to control for these threats in the original studies and in this analysis.

Statistical Conclusions Validity

There are four primary threats to the statistical conclusions validity in this analysis. First, in the original studies, children were targeted and recruited specifically for FABRIC and thus were not randomized into a study arm at the beginning of the FABRIC project. Therefore, there is potential that children are not representative of all orphans or target groups, nor is it possible to determine if child characteristics were equivalent before the project commenced. To control for this as much as possible, a multi-stage random sampling technique was employed and mixed-methods were used.

Second, each study was originally powered to show a 20% difference between groups in school enrollment, estimated from available evidence and expert opinion. Additionally, FABRIC was not the only source of external support in the areas, so any observable differences could not be attributable to the project.

To control for this, the analytical approach examined an association between any external support received and the outcome of interest. Mixed quantitative and qualitative methods were also employed to triangulate findings when possible. Additionally, a post hoc power calculation suggests the remaining sample of 204 children at two time points is sufficient to detect programmatically meaningful differences between orphans and non-orphans.
Third, the analytic dataset was restricted to the 204 children who participated in both rounds. However, 64 (24%) of children were lost to follow-up between rounds T₀ and T₁, which might introduce systematic biases into the results. To control for this, the demographic characteristics of those children lost to follow-up between rounds were examined to determine if they were systematically different from the rest of the sample. Potential biases of any differences observed are detailed in the limitations of each specific chapter.

Lastly, there are limitations to the qualitative analysis. The review of program documents was subject only to those available. Because the project is closed, there is no way of obtaining additional information. Second, only one analyst coded the qualitative data. To control for the potential bias introduced, researchers previously involved in the original studies reviewed results. Third, the sample selected for the focus group discussion cannot be distinguished as orphan or non-orphan. Findings, however, still highlight important perspectives on educational status and psychosocial wellbeing of children in the community.

*Internal Validity*

Threats to internal validity in this study include 1) the history of other known and unknown programs operating in the areas, 2) maturation or aging of participants over one year, and 3) testing bias, as each participant would have responded to the same survey twice. Several steps were taken to control for these threats.

First, the surveys were designed to capture all the external support
received, regardless of the source and the analysis will examine all supports. Second, questions were time-bound to the last year to minimize recall bias, under the assumption that once the FABRIC children started receiving services, they remained in the program until they aged out. Lastly, this has two observations over time so each individual served as his/her own control, as well as the established comparison reference group (non-orphans).

Additionally, there is potential for instrumentation threat to internal validity, as the SDQ instrument has not been validated in the Zambian context. The SDQ has been validated in other similar contexts (Doku, 2010; Goodman & Goodman, 2009, 2011).

**External Validity**

The context and the community-based program model serving the sample examined here is characteristic of most OVC projects in Zambia and throughout the region. Many projects also focus primarily on psychosocial and educational support, as per the 2012 OVC Programming Guidelines (*Guidance for Orphan and Vulnerable Children Programming*, 2012). Lessons, therefore, will be broadly applicable to other projects and ongoing efforts. Additionally, given the ongoing PEPFAR-funded programs and the potential reauthorization of PEPFAR in 2013, findings will be timely and informative for both program personnel and policy makers.
CHAPTER 4: UNDERSTANDING THE IMPACT OF EXTERNAL SUPPORT INITIATIVES ON THE EDUCATIONAL AND PSYCHOSOCIAL OUTCOMES OF ORPHANS IN ZAMBIA

Introduction

While the number of new HIV infections globally is declining, the number of orphans due to HIV continues to climb. Globally, an estimated 16.6 million children had a parent whose death was associated with HIV-related illnesses; 90% of those children live in sub-Saharan Africa (UNAIDS, 2010). In low and middle income countries with high HIV prevalence, the surviving infected and affected parents are sometimes unable to provide care and protection for their children and families are struggling to care for the increasing number of orphans in the face of extreme poverty (Nyambedha et al., 2003; Yanagisawa et al., 2010). However, the global commitment to respond to the growing number of orphans in these countries has been remarkable. As part of the global response to HIV/AIDS, the President’s Emergency Plan for AIDS Relief (PEPFAR) initiative has obligated nearly USD 1.7 billion to Orphans and Vulnerable Children (OVC) support programs in low-income nations since 2006 (Bryant et al., 2012). PEPFAR’s operational definition of OVC includes either an HIV orphan, defined as having lost one or both parents to HIV/AIDS, or a child deemed vulnerable because s/he 1) is HIV infected, 2) lives without adequate adult support, 3) lives outside of family care, or 4) is marginalized, stigmatized, or experiences
discrimination (Guidance for Orphan and Vulnerable Children Programming, 2012).

The Government of the Republic of Zambia (GRZ) has endorsed a strategy that employs a multidisciplinary, coordinated response, establishes relevant policy, empowers community and families to deal with OVC, and specifically calls for an increase in psychosocial counseling and support for OVC (Zambia Ministry of Sport Youth Child Dev., 2006). By 2015, GRZ aims to scale up OVC support programs and school feeding programs, provide 45,000 bursaries to OVC to enable primary and secondary attendance, construct 40 youth resource centers, support 120 child and youth rights awareness campaigns and develop a Social Protection Policy inclusive of crosscutting issues such as child development, gender, education, and health, specifically HIV (Republic of Zambia: Sixth National Development Plan 2011 – 2015, 2011).

Given limited resources and competing priorities, the Zambian government collaborates with local non-governmental organizations (NGOs), international NGOs (INGOs), faith-based organizations (FBOs), and the private sector to implement this strategy. However, few of these programs, in Zambia or elsewhere, have been rigorously evaluated. Two systematic reviews of community interventions for OVC found the available literature varied in quality and rigor and therefore evidence-based conclusions of programmatic impact, either positive or negative, could not be drawn (K. D. Schenk, 2009; Katie Schenk & Michaelis, 2010). Most evaluations of community-based OVC
programs reported on spending and measured processes and enrollment numbers, but little information existed on the impact or effectiveness of 7-years of PEPFAR-funded, community-based programs supporting OVC globally (Bryant et al., 2012; Wallis et al., 2010).

The paucity of OVC programmatic outcome evaluation in Zambia is a challenge for policy makers and implementers interested in evidence-based decision-making. While community-based OVC support programs follow guidance from UNICEF, donors and from international NGOs through which they are partnering, the evidence undergirding those guidance documents is sparse. Some programs target only orphans because it is an easily identifiable characteristic but data from a 36 country study suggested orphans were no less likely to be enrolled in school than non-orphans and therefore might not be an appropriate indicator of vulnerability in all contexts (Akwara et al., 2010). The 2007 Zambian Demographic Health Survey however, found that double orphans are less likely than single orphans or non-orphans to be enrolled in school (Zambia Central Statistics Office, 2007).

This paper examined child and household level data from a population served by the Faith Based Regional Initiative for OVC (FABRIC), a major community-based OVC support program that operated in Zambia between 2005-2010. This paper aimed to determine if receipt of external educational or psychosocial support (from local organizations or government) improved the education status or psychosocial wellbeing of orphans compared to non-orphans.
Methods

Overview:

This was a sub-analysis of data collected from two separate but related mixed-methods studies in peri-urban and rural areas of Zambia. Quantitative household survey data were collected from a prospective cohort of children and their household in March 2010 when the 5-year community-based support project was ending (baseline) and at a second time-point, nearly one year later in January – February 2011 (endline). For various reasons, the project did not have impact evaluation data collected until the end of the project. To give deeper understanding to the quantitative findings and to explore education and psychosocial issues from the perspectives of caregivers and adolescents, four focus group discussions were conducted among caregivers and four among adolescents at the second time-point only.

Participants:

Participants were selected using a multi-stage random sampling technique, first randomly selecting four operational catchment areas then randomly selecting children enrolled in the project from the rosters. A comparison group of children, matched on age range (5–11 years, 12–17 years) and gender in the same communities were then randomly selected. The analytic dataset for this secondary analysis consists of 204 children 5–18 years of age and their households who participated in both rounds (baseline and endline) of
data collection, yielding 408 observation points. Twenty four percent (n=64) of the original sample was lost to follow after baseline. Characteristics of this group are discussed in the findings. Focus groups discussions (FGDs) were conducted among 29 caregivers and 28 adolescents randomly selected from among those who participated in the household survey.

**Measures:**

The following definitions and measures were used for this paper.

**Orphan status:**

The caregiver reported orphan status. If a child's biological mother or father or both the mother and father were known or presumed to be deceased, the child was categorized as an orphan. Otherwise, the child was categorized as a non-orphan.

**External support received:**

External support is defined as help coming from any formal source such as the government or a community-based group or organization for which the household did not have to pay. External support received was assessed by asking the caregiver if they or the child had received any number of potential supports in the preceding 12 months. Table 4.1 shows the extensive menu of potential supports offered in the area. Though the FABRIC project was the largest source of external support operating in the study area, other sources of
external support were available from the government, multilateral or other bilateral donors, or other small community-based organizations.

**Table 4.1.** Description of the known potential external supports available in catchment communities

<table>
<thead>
<tr>
<th>Domain</th>
<th>Potential supports</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shelter and Housing</strong></td>
<td>Roof repair, doors, windows, walls or floor</td>
</tr>
<tr>
<td></td>
<td>Repair of toilet or plumbing</td>
</tr>
<tr>
<td></td>
<td>Provision of blankets</td>
</tr>
<tr>
<td></td>
<td>Provision of insecticide treated bednets</td>
</tr>
<tr>
<td></td>
<td>Provision of clothing</td>
</tr>
<tr>
<td></td>
<td>Provision of pots or utensils for cooking</td>
</tr>
<tr>
<td><strong>Financial or income</strong></td>
<td>Social cash transfer</td>
</tr>
<tr>
<td>generating</td>
<td>Social welfare grant</td>
</tr>
<tr>
<td></td>
<td>Business loans</td>
</tr>
<tr>
<td></td>
<td>Group savings</td>
</tr>
<tr>
<td></td>
<td>Entrepreneurship training</td>
</tr>
<tr>
<td></td>
<td>Agricultural support</td>
</tr>
<tr>
<td></td>
<td>Provision of land</td>
</tr>
<tr>
<td></td>
<td>Support for income generating activities</td>
</tr>
<tr>
<td><strong>Health care</strong></td>
<td>Referral for health care</td>
</tr>
<tr>
<td></td>
<td>Transport assistance to clinic</td>
</tr>
<tr>
<td></td>
<td>Medical fees paid</td>
</tr>
<tr>
<td></td>
<td>Accompaniment to facility</td>
</tr>
<tr>
<td></td>
<td>Provision of food package</td>
</tr>
<tr>
<td></td>
<td>Water purification tablets</td>
</tr>
<tr>
<td><strong>Legal Support and Child</strong></td>
<td>Assistance to obtain a birth certificate or ID card</td>
</tr>
<tr>
<td>Protection</td>
<td>Provision of information on child rights</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>Provision of shoes</td>
</tr>
<tr>
<td></td>
<td>Provision of school uniform</td>
</tr>
<tr>
<td></td>
<td>Provision of exercise books or pencils</td>
</tr>
<tr>
<td></td>
<td>Transport assistance to school</td>
</tr>
<tr>
<td></td>
<td>Assistance with homework</td>
</tr>
<tr>
<td></td>
<td>Payment of school fees</td>
</tr>
<tr>
<td></td>
<td>Field trips with school or organization</td>
</tr>
</tbody>
</table>

69
### Psychosocial Afterschool program
Organized sports teams or sports club
Support group
Homework help or study group
Career counseling or career camp
Counseling or home visits

#### Outcome measures: Education

The primary education outcome is the likelihood of not being enrolled in school at endline as reported by the caregiver in the household survey. This variable was selected as a proxy for educational achievement because school enrollment is most likely to have been impacted by external support initiatives. Secondary education outcomes among those enrolled in school include the likelihood of school absenteeism (the proportion of children missing more than three days of school in the preceding two weeks) and appropriate grade-for-age, according to Zambian standards.

#### Outcome measures: Psychosocial

The primary outcome measure of psychosocial wellbeing was the change from baseline to endline in the mean psychosocial score as measured by the Strengths and Difficulties Questionnaire (SDQ) (Goodman & Goodman, 2009; “SDQ: Generating scores in SAS,” 2002) The SDQ is composed of 25 questions rated on a 3 point scale addressing 5 domains of emotional and behavioral health: 1) emotional symptoms, 2) conduct problems, 3) hyperactivity/inattention, 4) peer relationship problems and 5) prosocial behavior. A standardized scoring system generates a total-difficulties score and 4 different sub-scale scores, one
for each domain, excluding the prosocial and accounts for caregiver respondents (children aged 5–11) or self-response (children aged 12–17).

Using standardized cutoffs the summary score and individual domain scores were dichotomized into Normal and Borderline or Abnormal, and are presented in the bivariate analysis. The SDQ score was assessed as a continuous mean difference in the multivariate models with higher scores indicating worse psychosocial health ("SDQ: Generating scores in SAS," 2002).

Power calculation:

Using estimates of borderline/abnormal SDQ scores and school enrollment rates from the two studies, post hoc power calculations suggest that with this sample, we could detect an increase from 23% borderline/abnormal SDQ to 38% abnormal psychosocial scores (a 15 percentage point change) (alpha 0.05, 80% power) and a decrease in school enrollment rates from 97% to 88% (a 15 percentage point change) (alpha 0.05, 83% power). Calculations suggest the sample is sufficient at 80% power to detect statistically significant and programmatically meaningful differences in school enrollment at endline and differences in mean psychosocial measures between orphans and non-orphans (Dupont & Plummer, 1990, 1998).

Procedures:

All data enumerators were Zambian nationals, had previous experience in household surveys or qualitative methods, were fluent in English and the local
languages, and attended a five-day training in Lusaka, which included sessions on research ethics, data confidentiality and integrity, child protection, and methods. Pairs of enumerators visited households to request participation and administer surveys. Teams of two, one facilitator and one note-taker, conducted the focus group discussions. Qualitative data were translated and transcribed into English immediately after each focus group.

Ethical approval was granted from the Institutional Review Boards at FHI 360, Boston University, and from the University of Zambia Research Ethics Committee. Written or thumb-printed informed consent from the caregiver and informed assent from the child were obtained prior to participation in any data collection.

**Analysis Strategy:**

First, baseline socio-demographic characteristics for the full study sample were calculated. We compared these data to the sub-sample (n=64) that was lost to follow-up after the first round and therefore not included in the full analysis to assess potential systematic biases in the final analytic data set.

Second, external supports received, educational outcomes and psychosocial measures were assessed in bivariate tables comparing orphans to non-orphans (reference group) at baseline and endline for all children. These analyses were then stratified by gender.

Lastly, multivariate logistic and linear regression models were used to
assess the relationship of predictor variables on each outcome of interest, with orphan status as the primary exposure. Covariates that might impact outcomes were assessed in the bivariate analyses. These included gender, child age, caregiver age, caregiver chronic illness status, caregiver education status, and household size. Those that were significant in the bivariate analysis at \( p < 0.20 \) were retained in the adjusted multivariate models. Household size, a chronically ill caregiver, caregiver education level, household asset score were dropped to yield the most parsimonious models because they did not appear significant in the bivariate analysis. Lower caregiver education status retained significance in the multivariate model (\( p = 0.05 \)) predicting behind grade for age, but was ultimately dropped because the sample was too small. Gender and age range, were retained in each model because the OVC literature and policy documents. The baseline psychosocial score was also controlled for to capture the fact that psychosocial status is a dynamic process (L. D. Cluver, Orkin, Gardner, et al., 2012). All quantitative analysis was conducted in SAS version 9.3 (SAS Institute, Cary, NC).

A grounded theory analysis was conducted on the focus group discussion transcripts. First, transcripts were read through and coding themes were identified \textit{a priori}, before coding commenced. Second, transcripts were coded and coding themes were adapted as needed. Responses and themes were compared between caregivers and adolescents. Qualitative analysis was conducted in Nvivo10© (Doncaster, Australia).
Results

Preliminary check of Loss to Follow-up (LTF)

Twenty-four percent of the original sample (n=64) was lost to follow-up after the first round. Socio-demographic characteristics of this group are shown in Table 4.2. Compared to those retained after baseline, the mean age of children lost to follow-up (12.2 sd 3.5) was higher than those retained in the sample (11.0 sd 3.5, p=0.02). No other statistically significant differences were observed between those retained after baseline and those lost to follow-up in child-level or household-level indicators (data not shown).

Table 4.2: Demographic characteristics of those lost to follow-up between baseline and endline

<table>
<thead>
<tr>
<th></th>
<th>All (N= 64)</th>
<th>Orphans (N=25)</th>
<th>Non-orphans (N=39)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (%)</td>
<td>48.4</td>
<td>48.0</td>
<td>48.7</td>
<td></td>
</tr>
<tr>
<td>Female (%)</td>
<td>51.7</td>
<td>52.0</td>
<td>51.3</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean age (SD)</td>
<td>12.2 (3.5)</td>
<td>13.6 (2.8)</td>
<td>11.3 (3.6)</td>
<td></td>
</tr>
<tr>
<td>Sample aged 5-11 (%)</td>
<td>39.1</td>
<td>20.0</td>
<td>51.3 *</td>
<td></td>
</tr>
<tr>
<td>Sample aged 12-17 (%)</td>
<td>60.1</td>
<td>80.0</td>
<td>48.7 *</td>
<td></td>
</tr>
<tr>
<td><strong>Primary Caregiver</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother (%)</td>
<td>55.3</td>
<td>48.0</td>
<td>61.5</td>
<td></td>
</tr>
<tr>
<td>Father (%)</td>
<td>9.4</td>
<td>8.0</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td>Grandparent (%)</td>
<td>9.4</td>
<td>8.0</td>
<td>10.3</td>
<td></td>
</tr>
<tr>
<td>Other relative (%)</td>
<td>23.4</td>
<td>32.0</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>Other non-relative (%)</td>
<td>1.2</td>
<td>4.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td><strong>Household Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Household size (SD)</td>
<td>6.8 (2.2)</td>
<td>6.1 (2.0)</td>
<td>7.3 (2.3)</td>
<td></td>
</tr>
<tr>
<td>Child Dependency Ratio</td>
<td>1.4 (1.0)</td>
<td>1.7 (1.3)</td>
<td>1.3 (0.7)</td>
<td></td>
</tr>
<tr>
<td>Mean age of primary caregiver (SD)</td>
<td>39.5(11.4)</td>
<td>39.4 (12.7)</td>
<td>37.9 (10.0)</td>
<td></td>
</tr>
<tr>
<td>Primary Caregiver over 60 years old (%)</td>
<td>4.7</td>
<td>8.0</td>
<td>2.6</td>
<td></td>
</tr>
</tbody>
</table>
• Differences in proportions were calculated using Pearson’s chi-squared test or Fisher’s exact test. Differences in means were calculated using an independent two-sided t-test.
• Key: *p < .05; P-value for chi-square trend for variable across orphan type

Socio-demographic characteristics for the 76% of the sample retained between baseline and endline (n=204) are seen in Table 4.3. At baseline, the mean age of all children was 11 years (sd 3.5). Orphans were significantly older than non-orphans (p = <.01). No differences were observed between orphans and non-orphans in household size or child dependency ratios at baseline. Three children were orphaned between baseline and endline; 48% (n=98) and 50% (n=103) of the sample were orphaned at baseline and endline, respectively.

Table 4.3. Socio-demographic characteristics of the sample by orphan status at baseline

<table>
<thead>
<tr>
<th></th>
<th>All Children (N=204)</th>
<th>Orphans (N=98)</th>
<th>Non-Orphans (N=106)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (%)</td>
<td>58.3</td>
<td>57.1</td>
<td>59.4</td>
<td></td>
</tr>
<tr>
<td>Female (%)</td>
<td>41.7</td>
<td>42.9</td>
<td>40.6</td>
<td></td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean age of child (SD)</td>
<td>11.0 (3.5)</td>
<td>11.7 (3.3)</td>
<td>10.3 (3.6) *</td>
<td></td>
</tr>
<tr>
<td>Sample aged 5-11 (%)</td>
<td>51.5</td>
<td>43.9</td>
<td>58.5 *</td>
<td></td>
</tr>
<tr>
<td>Sample aged 12-17 (%)</td>
<td>48.5</td>
<td>56.1</td>
<td>41.5</td>
<td></td>
</tr>
<tr>
<td><strong>Primary Caregiver</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother (%)</td>
<td>63.2</td>
<td>45.9</td>
<td>79.3 *</td>
<td></td>
</tr>
<tr>
<td>Father (%)</td>
<td>6.9</td>
<td>1.0</td>
<td>12.3</td>
<td></td>
</tr>
<tr>
<td>Grandparent (%)</td>
<td>14.7</td>
<td>26.5</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Other relative (%)</td>
<td>15.2</td>
<td>26.5</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td>Other non-relative (%)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>Household Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Household size (SD)</td>
<td>7.2 (2.5)</td>
<td>6.9 (2.6)</td>
<td>7.6 (2.3) *</td>
<td></td>
</tr>
<tr>
<td>Child Dependency Ratio</td>
<td>1.5 (1.0)</td>
<td>1.4 (1.1)</td>
<td>1.5 (1.0)</td>
<td></td>
</tr>
<tr>
<td>Mean age of primary caregiver (SD)</td>
<td>41.0 (9.4)</td>
<td>42.0 (10.8)</td>
<td>40.1 (8.0)</td>
<td></td>
</tr>
<tr>
<td>Primary Caregiver over 60 years old (%)</td>
<td>2.5</td>
<td>4.1</td>
<td>0.9</td>
<td></td>
</tr>
</tbody>
</table>
Differences in proportions were calculated using Pearson's chi-squared test or Fisher's exact test. Differences in means were calculated using an independent two-sided t-test.  

Key: *p < .05; P-value for chi-square trend for variable across orphan type

**Supports Received:**

As seen in table 4.4, 53% and 51% of all children at baseline and endline, respectively, received any type of external support in the preceding 12 months. While the proportion of children receiving any support did not change between baseline and endline, the proportion of all children receiving educational support decreased from 25% to 9% and the proportion receiving psychosocial support decreased from 20% to 9%. Orphans consistently received significantly more support than non-orphans. This relationship held when stratified by gender. Nearly 53% of all children reported receiving support from the faith-based organizations supported by the FABRIC project at baseline and 27% of all children received support from FABRIC at end line. Government support increased from nine percent to 27% between baseline and end line. Support from other organizations remained stable between baseline and end line.
### Table 4.4: Reported external supports received, types of supports, and sources of supports in the 12 month prior to data collection at baseline for all children and stratified by gender

<table>
<thead>
<tr>
<th>Extern al Supports received in the previous year (%)</th>
<th>Baseline</th>
<th>End line</th>
</tr>
</thead>
<tbody>
<tr>
<td>All N=204 Orphan N=98 Non-Orphan N=106 P</td>
<td>All N=204 Orphan N=101 Non-Orphan N=103 P</td>
<td></td>
</tr>
<tr>
<td>Any type of support</td>
<td>52.5</td>
<td>63.3</td>
</tr>
<tr>
<td>Education support</td>
<td>25.0</td>
<td>41.8</td>
</tr>
<tr>
<td>Psychosocial support</td>
<td>20.1</td>
<td>24.5</td>
</tr>
<tr>
<td>Mean # Types of Supports (SD)</td>
<td>1.1(1.4)</td>
<td>1.3(1.3)</td>
</tr>
<tr>
<td>% received support from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FABRIC FBO</td>
<td>52.5</td>
<td>63.3</td>
</tr>
<tr>
<td>Government</td>
<td>8.8</td>
<td>8.1</td>
</tr>
<tr>
<td>Other group</td>
<td>9.3</td>
<td>10.2</td>
</tr>
<tr>
<td>Girls n=85 Orphan n=42 Non-Orphan n=43 P</td>
<td>Girls n=85 Orphan n=43 Non-Orphan n=42 P</td>
<td></td>
</tr>
<tr>
<td>Any type of support</td>
<td>51.8</td>
<td>61.9</td>
</tr>
<tr>
<td>Education support</td>
<td>23.5</td>
<td>35.7</td>
</tr>
<tr>
<td>Psychosocial support</td>
<td>24.7</td>
<td>31.0</td>
</tr>
<tr>
<td>Mean # Supports (SD)</td>
<td>1.0(1.2)</td>
<td>1.3(1.3)</td>
</tr>
<tr>
<td>% received support from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FABRIC FBO</td>
<td>51.8</td>
<td>61.9</td>
</tr>
<tr>
<td>Government</td>
<td>8.2</td>
<td>9.5</td>
</tr>
<tr>
<td>Other group</td>
<td>8.2</td>
<td>11.9</td>
</tr>
<tr>
<td>Boys n=119 Orphan n=55 Non-Orphan n=63 P</td>
<td>Boys n=119 Orphan n=58 Non-Orphan n=61 P</td>
<td></td>
</tr>
<tr>
<td>Any type of support</td>
<td>52.9</td>
<td>64.3</td>
</tr>
<tr>
<td>Education support</td>
<td>26.1</td>
<td>46.4</td>
</tr>
<tr>
<td>Psychosocial support</td>
<td>16.8</td>
<td>19.6</td>
</tr>
<tr>
<td>Mean # Supports (SD)</td>
<td>1.2(1.5)</td>
<td>1.4(1.4)</td>
</tr>
<tr>
<td>% received support from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FABRIC FBO</td>
<td>52.9</td>
<td>64.3</td>
</tr>
<tr>
<td>Government</td>
<td>9.2</td>
<td>3.6</td>
</tr>
<tr>
<td>Other group</td>
<td>10.1</td>
<td>8.9</td>
</tr>
</tbody>
</table>

- Differences in proportions were calculated using Pearson’s chi-squared test or Fisher’s exact test. Differences in means were calculated using an independent two-sided t-test.
- Key:*p<.05; P-value for chi-square trend for variable across orphan type.

Among those receiving educational support, the most common type of support was stationary (pencils and exercise books) at baseline (62%) and at endline (48%). About a quarter of those receiving educational support received...
uniform or school shoes at both baseline and endline (Figure 4.1). Caregivers and adolescents reported that orphans primarily received books, pencils and uniforms to defray costs of attending school, but suggested this was not sufficient. Timing of delivery of these and other goods was important, and caregivers suggested delivering tangible supports occasionally was not sufficient. They recommended a more consistent approach, as one caregiver explained:

"For more help to come, it would be after six months. What about the time in between? So what we want is that, if you want to do business with buying tomatoes and reselling them at the market so that daily you get something and you eat, because your neighbor will not always be there to give you... Now, what we want is something to do, so that you get something that will bring you a little something, little by little, you are able to buy a child's book. You are able to buy [vegetables] for the children. When you knock off the damages, you take home for the children to eat. We have nowhere to touch [meaning to access] for us to start a business."

- Caregiver Respondent

Figure 4.1. Of those reporting receiving external education support, the type of educational support reported

![Pie Chart](image)

Among those receiving psychosocial support, the most common type of support was organized sports or after school programs (Figure 4.2). The qualitative data corroborate these findings, as children reported playing soccer or other organized sports after school to cope with stress. Other common coping
mechanisms identified by children included attending church, playing with friends and attending school. Less frequently reported coping themes included creating a secret savings account to buy books, substance use, or being alone to think.

Figure 4.2. Of those reporting receiving external psychosocial support, the type of psychosocial support reported

<table>
<thead>
<tr>
<th>Baseline (n=41)</th>
<th>Endline (n=19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized sports 42%</td>
<td>Organized sports 37%</td>
</tr>
<tr>
<td>Support group 3%</td>
<td>Support group 5%</td>
</tr>
<tr>
<td>Kids Club After school program 36%</td>
<td>Homework help 5%</td>
</tr>
<tr>
<td>Education outcomes:</td>
<td></td>
</tr>
</tbody>
</table>

Table 4.5 reflects the educational outcomes for all children of school age at baseline (6-17), excluding eight children who were 5 years old at baseline and therefore not expected to be enrolled. Non-orphans were slightly less likely to be enrolled at school at baseline, but at endline nearly all children were enrolled in school (96%). When stratified by gender, significantly more orphaned girls missed more than three days of school in the preceding two weeks at endline than non-orphaned girls. No differences were observed between orphaned and non-orphaned boys. Overall, approximately a quarter of all children were behind
the appropriate grade for age; higher proportions of girls than boys were behind in grade for age at both baseline and endline.

Table 4.5. Educational outcomes for all children at baseline and endline

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th></th>
<th></th>
<th></th>
<th>End line</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All N=204</td>
<td>Orphan N=98</td>
<td>Non-orphan N=106</td>
<td>P</td>
<td>All N=204</td>
<td>Orphan N=101</td>
<td>Non-orphan N=103</td>
<td>P</td>
</tr>
<tr>
<td><strong>Primary and Secondary School-aged (5-17)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enrolled</td>
<td>93.6</td>
<td>96.9</td>
<td>90.6</td>
<td>*</td>
<td>95.6</td>
<td>96.0</td>
<td>95.2</td>
<td></td>
</tr>
<tr>
<td>Missed 3+ days of school in past 2 weeks</td>
<td>23.1</td>
<td>22.1</td>
<td>24.1</td>
<td></td>
<td>20.3</td>
<td>24.5</td>
<td>16.3</td>
<td></td>
</tr>
<tr>
<td>Behind grade for age</td>
<td>24.2</td>
<td>24.7</td>
<td>23.6</td>
<td></td>
<td>24.1</td>
<td>26.0</td>
<td>22.3</td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>n=85</td>
<td>n=42</td>
<td>n=43</td>
<td></td>
<td>n=85</td>
<td>n=43</td>
<td>n=42</td>
<td></td>
</tr>
<tr>
<td>Enrolled</td>
<td>95.0</td>
<td>95.2</td>
<td>94.7</td>
<td></td>
<td>96.5</td>
<td>97.7</td>
<td>95.2</td>
<td></td>
</tr>
<tr>
<td>Missed 3+ days of school in past 2 weeks</td>
<td>22.4</td>
<td>20.0</td>
<td>25.0</td>
<td></td>
<td>14.8</td>
<td>22.0</td>
<td>7.5</td>
<td>**</td>
</tr>
<tr>
<td>Behind grade for age</td>
<td>27.3</td>
<td>26.8</td>
<td>27.8</td>
<td></td>
<td>31.8</td>
<td>34.9</td>
<td>23.6</td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>n=119</td>
<td>n=56</td>
<td>n=63</td>
<td></td>
<td>n=119</td>
<td>n=58</td>
<td>n=61</td>
<td></td>
</tr>
<tr>
<td>Enrolled</td>
<td>95.5</td>
<td>98.2</td>
<td>92.7</td>
<td></td>
<td>95.0</td>
<td>94.8</td>
<td>95.1</td>
<td></td>
</tr>
<tr>
<td>Missed 3+ days of school in past 2 weeks</td>
<td>23.6</td>
<td>23.6</td>
<td>23.5</td>
<td></td>
<td>24.3</td>
<td>26.4</td>
<td>22.4</td>
<td></td>
</tr>
<tr>
<td>Behind grade for age</td>
<td>21.9</td>
<td>23.1</td>
<td>20.8</td>
<td></td>
<td>18.6</td>
<td>19.3</td>
<td>18.0</td>
<td></td>
</tr>
</tbody>
</table>

* Differences in proportions were calculated using Pearson’s chi-squared test. Differences in means were calculated using an independent two-sided t-test.

** Key: "p < 0.05, "p < 0.10;**

+ School enrollment at baseline did not count children who were 5 years of age (n=8)

Psychosocial outcomes:

The "total difficulties" domain on the SDQ is a composite of "emotional symptoms," "conduct problems", "hyperactivity", and "peer problems" sub-domains. Borderline or abnormal indicates poor psychosocial wellbeing. As seen in table 4.6, no significant differences were observed between the proportion of orphans and non-orphans scoring borderline or abnormal on "total difficulties" at baseline or endline. When stratified by sub-domain however, there was a trend
toward a higher proportion of non-orphans having borderline or abnormal “peer problems” at baseline and exhibiting more “conduct problems” than orphans at both baseline and endline. A higher proportion of orphaned girls had borderline or abnormal “total difficulties” than non-orphaned girls. This was driven primarily by the “emotional symptoms” domain at baseline and by the “peer relationships” domain at endline, though only trended toward significance.

Table 4.6. Psychosocial outcomes for all children at baseline and endline

<table>
<thead>
<tr>
<th>Proportion of children scoring Borderline or Abnormal on SDQ</th>
<th>Baseline</th>
<th>End line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All N=204</td>
<td>Orphan N=98</td>
</tr>
<tr>
<td>All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total difficulties</td>
<td>14.9</td>
<td>13.5</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>32.7</td>
<td>35.4</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>17.3</td>
<td>12.5</td>
</tr>
<tr>
<td>Hyperactivity/Inattention</td>
<td>5.5</td>
<td>5.2</td>
</tr>
<tr>
<td>Peer relationships</td>
<td>26.2</td>
<td>18.8</td>
</tr>
<tr>
<td>Prosocial behaviors</td>
<td>8.9</td>
<td>8.3</td>
</tr>
<tr>
<td>Girls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total difficulties</td>
<td>n=85</td>
<td>n=42</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>11.9</td>
<td>17.1</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>36.9</td>
<td>46.3</td>
</tr>
<tr>
<td>Hyperactivity/Inattention</td>
<td>11.9</td>
<td>9.8</td>
</tr>
<tr>
<td>Peer relationships</td>
<td>6.0</td>
<td>7.3</td>
</tr>
<tr>
<td>Prosocial behaviors</td>
<td>7.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Boys</td>
<td>n=119</td>
<td>n=56</td>
</tr>
<tr>
<td>Total difficulties</td>
<td>17.0</td>
<td>10.9</td>
</tr>
<tr>
<td>Emotional symptoms</td>
<td>29.7</td>
<td>27.3</td>
</tr>
<tr>
<td>Conduct problems</td>
<td>21.2</td>
<td>14.6</td>
</tr>
<tr>
<td>Hyperactivity/Inattention</td>
<td>5.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Peer relationships</td>
<td>25.4</td>
<td>18.2</td>
</tr>
<tr>
<td>Prosocial behaviors</td>
<td>10.2</td>
<td>12.7</td>
</tr>
</tbody>
</table>

- Differences in proportions were calculated using Pearson’s chi-squared test. Differences in means were calculated using an independent two-sided t-test.
- Key: * p < 0.05, ** p < 0.10;
Qualitative findings:

Though the qualitative data does not differentiate between orphans and non-orphans it still offered insight into psychosocial problems among children in these communities. First, as illustrated by the quotations below, conduct problems and peer relationship problems were common themes in focus group discussions among children:

“I used to beat up my friends.” – Child, 12 years

“I used to feel good when I beat someone. I used to brag that I am strong.” – Child, 13 years

“It felt good to beat someone’s child. They stopped me from stoning people from the roadside because I stoned someone in the head.” – Child, 12 years

Additional themes related to psychosocial wellbeing that emerged included bad peer relationships, fights with friends, being hungry, and having to work to earn money directly after school without resting.

Caregivers also discussed the psychosocial problems of children in their communities, many of which were not captured by and cannot be triangulated with the quantitative data. Caregivers discussed orphans as both a source of problems in the communities and as victims in the communities. Caregivers described that many children, particularly orphans, drink alcohol, engage in Satanism, have sex and become pregnant, and resort to sex work or stealing. Examples of typical quotes include:
“Because someone becomes an orphan there is no one to take care. He will end up joining bad groups. They start stealing. The end result, crime increases in the community. Because of us people we are the ones who contribute [meaning we are at fault]. We can’t take care of those children who have remained.” – Caregiver

“So orphans are so difficult, they start thinking that ‘if it was her child she would have given her the money.’ She would have paid for her, but me, since my mother is dead and my father is dead. My grandmother does not pay for this and that. So it affects the child so much. It is so bad, such that when you are walking you think that the world is so bad, you are just alone, all alone.” – Caregiver

“Our children are being initiated into Satanism by their friends at school, because at home, if you cannot manage everything, like us who are single parents, you find that your child goes to school and is given Jiggies by their friends and then you find they are also a Satanist. [There is a belief that sweets and treats are often laced with Black Magic or drugs that drive children into a Zombie-like state, and they can then be taken to a site of initiation.] That is also not good. So many children in our community have been initiated. You find that child has a house under the ocean that you don’t know about, or that the child is planning on attacking the parents and killing them. So that it is why we want to defeat the Devil, so that we remove Satanism from among our children.” – Caregiver

“The issue is of children’s parents dying. They leave the children to you; they leave you the problems. You, the one that has remained. Such that when you look around for someone to help you, you find that there is no one. So that is the biggest problem. Since you are now, you won’t have freedom and you won’t have peace. You just sit and think. Since our friends have gone, they left you the children.” – Caregiver

Additionally, caregivers discussed concerns regarding serious child safety and protection issues such as sexual abuse and child labor, particularly in reference to orphans. Examples of illustrative quotes include:

“On abuse, there is child abuse in our communities. There are certain men who abduct because they know that those people are vulnerable. They are young and they are orphans.” – Caregiver
“There is sexual abuse. Whereby people are trying to take advantage just because their parents are dead and their uncles or cousins are taking care of her. Because of that they know that there is no one to take care of that child. The ones close to that child, they might end up sleeping with that child, abusing that child sexually. And then the other abuse, whereby they abuse the child in terms of work. Work overload. The child is young and the work they are giving her can’t compare to her age. The work she is doing is not for her age.” – Caregiver

Qualitative data suggest overall, that orphans face psychosocial issues and are concurrently perceived as contributing to social problems, a burden on caregivers and vulnerable victims.

Modeling predictors of education and psychosocial outcomes over time:

Multivariate analyses suggest that orphans in this sample are no different than non-orphans in education or psychosocial outcomes over one year (Tables 4.7 and 4.8) when controlling for age range, gender, and psychosocial score at baseline. As seen in table 4.7, logistic regression models suggest orphan status did not predict the likelihood of a child not being enrolled in school, absenteeism if enrolled in school, or the likelihood of a child being behind in appropriate grade for age. Younger children (aged 5–11) were no less likely to be enrolled in school (after accounting for those too young to enroll) and no more likely to miss school compared to older children. However, younger children were significantly less likely to be behind in grade-for-age (OR = 0.3, 95% CI 0.2–0.7).

Lastly, compared to females, males were trending toward being more likely to have missed school (OR = 1.7, 95% CI 0.8 – 3.8) and less likely to be behind the appropriate grade for age (OR = 0.6, 95% CI 0.3–1.1). Receipt of
external educational support in the 12 months preceding data collection at baseline and endline, and losing support between baseline and endline were each assessed independently as potential covariates, but none were retained in any of the models (data not shown).
Table 4.7. Crude and adjusted predictors of school enrollment and absenteeism among children aged 5-17 years 12 months after the cessation of a social support program for Orphans and Other Vulnerable children in rural Zambia

<table>
<thead>
<tr>
<th>Variable</th>
<th>Not enrolled in school at 12 months among all school eligible children (n=204)</th>
<th>Missed more than 3 days of school in previous 2 weeks at 12 months among enrolled (n=195)</th>
<th>Behind grade for age at 12 months among enrolled (n=195)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. Events (%)</td>
<td>Crude OR (95% CI)</td>
<td>Adjusted OR (95% CI)</td>
</tr>
<tr>
<td>Orphan</td>
<td>No</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
<td>3 (3.1)</td>
<td>0.5 (0.1-2.2)</td>
</tr>
<tr>
<td>Age in years</td>
<td>5-11</td>
<td>6 (5.7)</td>
<td>1.9 (0.5-8.0)</td>
</tr>
<tr>
<td></td>
<td>12-17</td>
<td>3 (3.0)</td>
<td>Reference</td>
</tr>
<tr>
<td>Gender</td>
<td>Female</td>
<td>5 (5.0)</td>
<td>Reference</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>3 (3.5)</td>
<td>1.5 (0.3-5.0)</td>
</tr>
</tbody>
</table>

* Predictors adjusted for in the model are displayed in the table; all models also adjusted for psychosocial score on the SDQ at baseline and baseline outcomes for each variable; Loss of education support between rounds was assessed but made no difference on adjusted or unadjusted odds ratios;
* Key: *p < 0.05, p < 0.10
In the crude and adjusted linear regression models, neither orphan status nor age category predicted the mean change in SDQ score (Table 4.8). However, there was a trend toward males having a greater increase in SDQ scores (indicative of worse psychosocial wellbeing) compared to females (OR =1.8, 95% CI -0.1 – 3.6).

Table 4.8. Crude and adjusted predictors of the mean change in SDQ scores among children at cessation and 12 months after the cessation of a social support program for Orphans and Other Vulnerable children in rural Zambia (n=204)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean change in SDQ Score from Baseline to 12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crude (95% CI)</td>
</tr>
<tr>
<td>Orphan</td>
<td>Reference</td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>0.2 (-1.6 -2.1)</td>
</tr>
<tr>
<td>Age (years)</td>
<td>Reference</td>
</tr>
<tr>
<td>5-11</td>
<td></td>
</tr>
<tr>
<td>12-17</td>
<td>0.9 (-0.9 – 2.8)</td>
</tr>
<tr>
<td>Gender</td>
<td>Reference</td>
</tr>
<tr>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.6 (-0.3-3.4)</td>
</tr>
<tr>
<td>Lost psychosocial support</td>
<td>Reference</td>
</tr>
<tr>
<td>between baseline and endline</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>3.2 (0.8 – 5.6)</td>
</tr>
</tbody>
</table>

• Predictors adjusted for in the model are displayed in the table; all models also adjusted for psychosocial score on the SDQ at baseline and baseline outcomes for each variable;

• Key: **\( p < 0.05 \), *\( p < 0.10 \)

Lastly, receipt of any external psychosocial support in the 12 months preceding data collection at baseline and endline, and losing support between baseline and endline were each assessed independently as potential covariates. Receiving external psychosocial support in the 12 months preceding baseline data collection and then not receiving external psychosocial support in the months between baseline and endline was significantly associated with an average increase in SDQ score of 3.1 (95% CI 0.7 – 5.5; \( p =0.01 \)) compared to
those that did not lose psychosocial support. Increased SDQ score is interpreted as more difficulties.

Discussion

Summary of findings

Orphanhood was not a significant predictor of worse educational status or psychosocial wellbeing in this sample. However, other factors were associated with worse education and psychosocial outcome measures including age and gender. Younger children were significantly less likely to be behind in grade-for-age compared to older children. Additionally, there was a trend toward males having more absenteeism and a greater mean increase in SDQ score than females, indicative of worse psychosocial wellbeing. Lastly, orphans tended to receive more external support than non-orphans. However, when this support was lost, independent of orphanhood, gender, and age, psychosocial status worsened over time.

External supports:

The impact of external support on orphan wellbeing has not been thoroughly explored in the literature, particularly in the Zambian context. While it is often assumed that orphans in sub-Saharan Africa are systematically disadvantaged in educational and psychosocial outcomes, the evidence-base supporting this assumption is inconsistent and complex. In our study, orphanhood was not a significant predictor of worse educational or psychosocial outcomes, yet orphans received more external support than non-orphans. This is
consistent with programmatic recruitment strategies and government policy to support orphans, at the time. Fifty-one percent of children at endline still reported receiving some type of support in the year after the FABRIC project had closed.

While our data do not allow us to explain why, we posit four potential mechanisms. First, consistent with FABRIC program closure, psychosocial and educational supports decreased between rounds. Second, at the end of the project, FABRIC invested significant resources to increase birth registration, although other program support had ceased. As part of the initiative to increase birth registration, the project negotiated a late-fee waiver with GRZ for births that had not yet been registered. If our survey respondents were unclear about the source of support, this could explain the increased government support between rounds. To the best of our knowledge, no other major government initiative was rolled out between rounds that would account for this shift from FABRIC sub-recipient to government as the most frequently reported source of external support.

Third, the sub-recipient organizations were providing community-based support before the FABRIC project and would therefore be expected to continue after the FABRIC project had stopped. The lower levels but continued support could therefore indicate that 1) the FABRIC-project capacity strengthening efforts improved the effectiveness of organization to continue delivering external support or, 2) that the sub-recipient activities decreased to the level and types of support they had offered before the FABRIC program.
Lastly, if programs strengthen and deepen over time and communities accumulate increased experience managing OVC then we can expect that the extent of community-based programming and support would grow. However, because we have no baseline data, we cannot know for certain which, if any, of the four mechanisms proposed account for the shift in level and type of external support provided to families between baseline and endline.

_Education outcomes:_

In 2010, UNAIDS, using World Vision data, reported that 88% of non-orphans and 81% of orphans were enrolled in school (UNAIDS, 2010). The 2007 Zambian Demographic and Health Survey reported that 86% of double orphans were attending school compared to 92% of children living with at least one parent (Zambia Central Statistics Office, 2007). We did not anticipate the high proportion (96%) of our sample to be enrolled in school at both baseline and endline. Although we do not have sufficient power to stratify by maternal or paternal orphan status or time or age at orphaning, our findings appear to be more consistent with data from the Young Lives study in Ethiopian children who experience maternal orphanhood between 7–8 to 11–12 years of age have short-term negative impact on school enrollment, but this does not persist into adolescence (12–15 years of age). Yet, those experiencing paternal orphanhood in adolescence had lower school enrollment rates (Himaz, 2013). A similar pattern was seen in Uganda, where no difference in school enrollment of children 7–14 was observed between orphans and non-orphans (Yamano et al., 2006).
Finally, our data are consistent with those from a 36 country study which found that orphans were no less likely to be enrolled in school than non-orphans and therefore might not be an appropriate indicator of vulnerability in all contexts (Akwara et al., 2010).

Receipt of external support was not associated with education outcomes. This is not unexpected for two reasons. First, as results show, the type of school support provided was primarily in the form of stationary such as exercise books or pencils. While some children received school fees, the provision of stationary cannot be reasonably expected to impact education outcomes. Second, the time between rounds may not have been sufficient enough to detect meaningful differences in the outcomes.

The community-based strategy adopted by GRZ aims to progressively realize the rights of OVC, and to make strides toward meeting the Millennium Development Goals (MDGs). One indicator under MDG 6 is the ratio of school attendance of orphans to non-orphans aged 10-14 years. Though the data were not presented, we saw a ratio of nearly 1:1 with no significant difference between orphans and non-orphans when we looked at this sub-sample (n=85).

Larger scale policy initiatives set forth in the Convention on the Rights of the Child (CRC), MDGs, and the GRZ’s re-entry policy for girls, free primary education policy and endorsement of community schools have resulted in a trend toward higher school attendance rates. If larger initiatives are increasing access for all including orphans, perhaps programs should shift their focus toward
interventions to strengthen educational achievement and measure outcomes that might be more meaningful for child growth and development. For example, in Uganda, children attending schools that fostered asset-ownership by creating individual savings accounts for children had significantly higher exam scores, more confidence in achieving goals, and higher aspirations than the control group when controlling for covariates (Curley et al., 2010; Ssewamala et al., 2008; Ssewamala & Ismayilova, 2009). A comprehensive school-based intervention including daily feedings, provision of uniforms or supplies, and pairing with a school-mentor reduced dropout rates and early marriage, and improved confidence of orphans in Kenya and Zimbabwe (Cho et al., 2011; Hallfors et al., 2011). In Malawi, integrating an open and flexible learning curriculum into the traditional curriculum resulted in significantly lower drop-out rates than the control schools (Jere, 2011, 2012).

These studies demonstrated an impact of interventions on educational outcomes of orphans who were already attending school, much like the sample we examined. They underscored the complex relationship between education wellbeing and psychosocial wellbeing.

Psychosocial outcomes:

Some evidence suggests that orphans are systematically disadvantaged in psychosocial wellbeing as measured by depression, low self-esteem, or mental health diagnoses (Bird et al., 2011; Doku, 2010; Kaggwa & Hindin, 2010; Puffer et al., 2012). In South Africa, AIDS orphans were found to have increased
depression and post-traumatic stress syndrome over four years (2005-2009) compared to other-orphans and non-orphans (L Cluver & Gardner, 2007; L. D. Cluver, Orkin, Gardner, et al., 2012; Lucie Cluver & Gardner, 2006). In our sample however, orphan status and age category did not predict worse mean change in SDQ score, consistent with other studies that found no differences between orphans and non-orphans in psychosocial metrics (Ainsworth et al., 2005; Ainsworth & Filmer, 2006; Camfield, 2010).

While community-based programs aim to improve psychosocial wellbeing of OVC in Zambia, there continues to be a paucity of evidence on the effectiveness of psychosocial interventions. No rigorous evidence exists within Zambia and very little exists in the sub-Saharan region. In fact, a 2009 Cochrane Collaboration systematic review found no studies on interventions to improve the psychosocial wellbeing of children and claims most support programs are guided by anecdotal evidence, situational analyses, descriptive studies, or "lessons learned", rather than grounded in a sound evidence base (King et al., 2009).

In our sample, the main project implementer operational in the area reported that psychosocial support consisted of one-on-one home visits by volunteers. However, few respondents reported receiving home visits in the quantitative data nor was it a theme that emerged in the qualitative data. Instead, the most frequently reported psychosocial services received included organized sports and after-school activities. Unlike losing educational support, losing psychosocial support was significantly associated with an average
increase of 3.1 in SDQ score after one year, indicating worse psychosocial wellbeing.

Though not specific to orphans, a growing body of literature in the US suggests that organized sports and after school activities can improve the psychosocial wellbeing and educational outcomes of children (Bohnert & Garber, 2007; Coatsworth & Conroy, n.d.; Fredricks & Simpkins, 2013; Poulin & Denault, 2013). Given that nearly all children in our sample were enrolled in school and those few that were not still reported participating in organized sports or other group activities, this might be another important area for OVC programs to focus.

Limitations of this study

Limitations of this study include: 1) the sample strategy, 2) a small sample size, 3) lost to follow-up of the original sample, 4) dynamics of external support. First, in the original studies the sample was drawn from project rosters with matched comparison children. Children were recruited specifically for FABRIC and thus were not randomized into a study arm at the beginning of the FABRIC project. Therefore, there is potential that children are not representative of all orphans or target groups, nor is it possible to determine if child characteristics were equivalent before the project commenced. To control for this as much as possible, a multi-stage random sampling technique and mixed-methods were used.

Second, each study was originally powered to show a 20% difference between groups in school enrollment, estimated from available evidence and
expert opinion. A post hoc power calculation suggests this analytic dataset, a sample of 204 school-aged children at two time points, was sufficient to detect programmatically meaningful differences between orphans and non-orphans at the 20% difference. Given the small changes observed, a backwards power calculation shows that a sample of over 8,000 would be required to see statistically significant differences in educational outcomes. However, we observed some significance and several important trends that are arguably still programmatically important and relevant.

Third, 24% (n=64) of the original sample was lost to follow-up between rounds, which might have introduced systematic biases into the results. The demographic characteristics of those children lost to follow-up between rounds were examined and those lost to follow were slightly older than the rest of the sample. The only outcome showing age as a significant predictor was grade-for-age where older children were more likely to be behind the correct grade for age.

Lastly, FABRIC was not the only source of external support in these communities, nor was it the only source operating through individual sub-recipients. Therefore it was not possible to attribute any observed differences only to the FABRIC project. To partially control for this, surveys captured all the external support received and the source of the support. The analysis examined an association between any external support received and the outcome of interest. Mixed methods were also employed to triangulate findings.

Given these threats, findings should be interpreted with caution. However,
important information still emerged that can provide informative lessons for OVC program implementers and policy makers, particularly in the Zambian context.

Conclusion

The paucity of rigorous OVC programmatic outcome evaluation in Zambia in the peer-reviewed literature compounds the challenge of evidence-based decision-making for policy makers and programmers. This study begins to fill that gap by examining the association of external support initiatives (NGO programs, GRZ initiatives, or informal community support) with the psychosocial wellbeing and educational status of orphans in Zambia. In this sample, orphanhood was not a predictor of worse educational status or psychosocial outcomes compared to non-orphans over one year suggesting orphanhood might not be an appropriate indicator of vulnerability in this context. The GRZ and program implementers should consider alternative targeting strategies with less emphasis on orphan status.

Although education support and loss of education support was not associated with the education outcomes examined here, losing psychosocial support had a negative impact on psychosocial wellbeing. OVC program implementers in Zambia and other countries using similar programmatic models should be cognizant of the potential negative impact that removing external support can have on children, particularly in regards to psychosocial wellbeing.

Lastly, GRZ and program implementers should consider piloting and critically evaluating the benefits associated with organized sports or structured
after school activities as it might be an important intervention opportunity that is less resource intensive than home visits and more substantive than providing stationary supplies. Although more research is warranted in the Zambian context, if orphans’ needs for accessing school are being met through other initiatives, OVC programs may be more effectively address needs by shifting their focus toward approaches that could address the important intersection of school performance and psychosocial wellbeing.
CHAPTER 5: MONITORING AND EVALUATION LESSONS LEARNED AND
RECOMMENDATIONS FOR OVC PROGRAM IMPLEMENTERS AND
POLICYMAKERS

Introduction

Roughly 1.1 million orphans live in Zambia; of those 690,000 are reportedly HIV orphans, having had one or both parents die from HIV-associated illness (The World Bank, 2013a). Between 2005 and 2010, the situation of OVC in Zambia reportedly worsened despite heavy investments; the proportion of OVC households receiving appropriate psychosocial support decreased by 2.5%, school attendance of OVC compared to non-OVC worsened by almost 35%, and proportion of OVC households receiving basic external support dropped by 20% (UNAIDS, 2010).

Following the guidance set forth in *The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS (The Framework)*, the Government of the Republic of Zambia (GRZ) endorsed a strategy that employs a community-based response to strengthen the capacity of families to support and care for orphans and to ensure orphans have access to essential services. The international community, including the United States’ President’s Emergency Plan for AIDS Relief (PEPFAR), responded accordingly and implemented community-based OVC support programs throughout Zambia.

However, the emergency nature of the first round of PEPFAR’s response
directed programs to expand rapidly and therefore, many inadequately planned for impact evaluation (Nyberg et al., 2012; Padian et al., 2011). Additionally, PEPFAR did not mandate or provide guidance for impact evaluation, resulting in a paucity of evidence to inform programs and little understanding if these programs ultimately improved the wellbeing of OVC. Many community-based OVC support programs continue to implement interventions in the absence of an evidence-base.

The FABRIC project, funded by USAID during the first round of the PEPFAR initiative, was implemented by FHI 360 (formerly Family Health International) from 2005 – 2009 in Namibia, South Africa, and Zambia. FABRIC aimed to improve the quality of life for OVC in Zambia by ensuring resources were effectively allocated and that OVC received quality services within their communities (PEPFAR, 2007). The FABRIC project supported an umbrella-implementing agency (IA), Expanded Church Response to HIV/AIDS Trust (ECR), which has worked with local Faith Based Organizations (FBO) to provide support to churches in their poverty alleviation projects and advocacy for people living with HIV/AIDS (PLHA) since 2003. ECR supported 15 FBOs to coordinate 373 volunteer caregivers who delivered interventions directly to enrolled beneficiaries at the community level.

Although the FABRIC project has closed, current OVC program efforts operating in a similar context can learn important, relevant lessons from the its experience. This paper systematically explored data from 1) available FABRIC
project documents, 2) previous and current OVC policy documents, and 3) in-depth interviews conducted among FABRIC project staff and presents recommendations to inform current implementation efforts.

Background

Evaluation Policy Development:

In January 2011, the United States Agency for International Development (USAID), a major funder of OVC support programs, released a revised Evaluation Policy reflecting a commitment to understanding impact and improving investments through more rigorous program evaluation (USAID Evaluation Policy, 2011). A summary of the evaluation practices and requirements can be seen in Table 5.1.

<table>
<thead>
<tr>
<th>Table 5.1: USAID evaluation requirements 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation Practices</td>
</tr>
<tr>
<td>1. Integrated into the design of projects</td>
</tr>
<tr>
<td>2. Unbiased in measurement and reporting</td>
</tr>
<tr>
<td>3. Relevant</td>
</tr>
<tr>
<td>4. Based on the best methods</td>
</tr>
<tr>
<td>5. Oriented toward reinforcing local capacity</td>
</tr>
<tr>
<td>6. Transparent</td>
</tr>
<tr>
<td>Evaluation Requirements</td>
</tr>
<tr>
<td>1. Procedures are unbiased, transparent, and generates quality evidence using appropriate social science methods</td>
</tr>
<tr>
<td>2. Evaluation transparency during design and at dissemination</td>
</tr>
<tr>
<td>3. Findings are utilized to contribute to broader learning</td>
</tr>
<tr>
<td>4. Adequate resources availed</td>
</tr>
<tr>
<td>• USAID Evaluation Specialists</td>
</tr>
<tr>
<td>• Procurement mechanisms for evaluation services</td>
</tr>
<tr>
<td>• 3% of total program dollars on evaluations; distinct from resources dedicated to monitoring (10% on M&amp;E overall)</td>
</tr>
</tbody>
</table>

Source: (USAID Evaluation Policy, 2011)
In July 2012, PEPFAR released updated guidelines for OVC program implementers. These guidelines include specific monitoring and evaluation guidance informed by 2011 USAID Evaluation Policy.

Table 5.2: The framework of current monitoring and evaluation practices for OVC support programs

| 1. Improve the Quality of M&E Systems | • Allocate sufficient funds  
| | • Link with National M&E Systems  
| | • Use M&E Field Experts  
| | • Develop M&E Capacity  
| | • Promote Quality Assessment and Improvement  
| 2. Improve Program Evaluations | • Base evaluation design on theory  
| | • Develop M&E plans in tandem with program plans  
| | • Employ mixed-methods  
| | • Standardize indicators  
| | • Improve the quality of the M&E when possible  
| | • Expand on next-generations indicators for outcome evaluation  
| | • Focus on child and household level outcomes  
| | • Rigorous design  
| | • Comparison and control groups when possible  
| | • Baseline assessment  
| 3. Improve Data Analysis and Usage | • Thoroughly analyze data  
| | • Gender and age analysis  
| | • Use specialized data sources when necessary  
| | • Use the data for decision making  

Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)

As summarized in Table 5.2, these guidelines fall into three principal domains: 1) Improving the quality of M&E systems, 2) Improving program evaluations, and 3) Improving data analysis and use. It is within this framework the FABRIC project experience was analyzed and programmatic and policy recommendations were generated.
**Methods**

A systematic document review followed by qualitative approaches were used to identify the critical gaps in the FABRIC program monitoring and evaluation process, measured against the 2012 PEPFAR Guidance for Orphans and Vulnerable Children Programming. First, a document review of available project documents was conducted to understand the context monitoring and evaluation strategy in relation to current guidance. Documents examined include the following:

1. FABRIC Project Proposal to USAID, 2005 – GPO-A-00-05-00028-00
2. FABRIC Project Fiscal Year 2007 Annual Report to USAID
3. FABRIC Project Fiscal Year 2009 Annual Report to USAID
4. FABRIC Project Sustainability Plan for Zambia, 2009
5. Implementing Agency 2007 Program Review Report to FHI 360

Second, a content analysis was conducted of 26 in-depth interview transcripts from among a purposively selected sample of staff at all levels within the FABRIC Project. Figure 5.1 shows the structure of the FABRIC project and the number of interviews conducted at each tier of the organization. Coding themes were identified *a priori* according to the 2012 PEPFAR Guidance for Orphans and Vulnerable Children Programming (*Guidance for Orphan and Vulnerable Children Programming, 2012*) framework.
Third, documents and interview transcripts were triangulated first by level within the organization and then examined for crosscutting issues, and consistencies or inconsistencies in findings.

**Figure 5.1: FABRIC Project Organizational Tiers and the Number of In-Depth Interviews Conducted per Tier**

<table>
<thead>
<tr>
<th>NUMBER OF IN-DEPTH INTERVIEWS PER TIER (N=26)</th>
<th>THE FABRIC PROJECT ORGANIZATIONAL STRUCTURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FHI 360</td>
<td>FHI 360: FABRIC Project</td>
</tr>
<tr>
<td>n=2</td>
<td>IMPLEMENTING AGENCY:</td>
</tr>
<tr>
<td></td>
<td>Expanded Church Response</td>
</tr>
<tr>
<td>Implementing Agency</td>
<td>FBO</td>
</tr>
<tr>
<td>n=3</td>
<td></td>
</tr>
<tr>
<td>Sub-recipient</td>
<td></td>
</tr>
<tr>
<td>n=6</td>
<td></td>
</tr>
<tr>
<td>Volunteers</td>
<td></td>
</tr>
<tr>
<td>n=15</td>
<td></td>
</tr>
</tbody>
</table>

All qualitative data were coded and analyzed using Nvivo10 (QSR International, Doncaster, Australia).

Based on these findings, program and policy recommendations for OVC program evaluation practices were derived.

**Results**

Overall, findings suggest varying perceptions between tiers of the project regarding the framework domains 1) Quality of M&E Systems, 2) Project Evaluation, and 3) Data Analysis and Use. As illustrated in Figure 5.2,
respondents at the FHI 360 level most frequently discussed themes in the Data Analysis and Use Domain, while respondents at the Sub-recipient tier almost always discussed issues within the Quality of M&E Systems domain.

**Figure 5.2**: Proportion of coding references to framework domains by tier of the FABRIC project

*The volunteer tier is not included in this figure because volunteers primarily discussed targeting and recruitment strategies for the project which is explored in a separate section.*

Respondents in the Implementing Agency tier discussed issues in all three domains, but more frequently discussed issues in the Program Evaluation domain more frequently than the other tiers (40%). The sections below discuss these findings in more detail, organized by the framework domain.
1. Improve the Quality of M&E Systems

The elements of the first domain in the framework, Improve the Quality of M&E Systems, are described in Table 5.3.

Table 5.3: Component 1 of the Framework of Current Monitoring and Evaluation Practices for OVC Support Programs

<table>
<thead>
<tr>
<th>1. Improve the Quality of M&amp;E Systems</th>
<th>• Allocate sufficient funds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Link with National M&amp;E Systems</td>
</tr>
<tr>
<td></td>
<td>• Use M&amp;E Field Experts</td>
</tr>
<tr>
<td></td>
<td>• Develop M&amp;E Capacity</td>
</tr>
<tr>
<td></td>
<td>• Promote Quality Assessment and Improvement</td>
</tr>
</tbody>
</table>

Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)

Findings from this domain discussed most frequently at the sub-recipient tier and to a lesser degree at the Implementing Agency and FHI 360 tiers, are discussed in detail below.

Allocate sufficient funding to M&E:

The 2012 OVC Guidelines call for 10% of program funding to be allocated to monitoring and evaluation efforts. From the available data, it is unclear what proportion of the FABRIC project budget was allocated to M&E efforts. However, several findings indicate that it was likely not sufficient.

First, success was measured by the donor as the number of children enrolled or receiving services, so there was little effort placed on quality of services delivered or on improving the quality of the M&E system. Annual reports show that the FABRIC project was consistently exceeding the enrollment targets set by the funder.

Second, in-depth interviews suggested that nearly all respondents perceived that the scope of work outweighed the resources availed to implement
the program and improving the quality of the M&E systems was not prioritized. Sub-recipient and volunteer respondents voiced that they were not able to consistently provide services, nor were services perceived to be sufficient. As illustrated in the quotes below, project staff faced financial challenges that impact service quality, insufficient resources to reach all beneficiaries, and pressures from community members:

"Challenges mainly, if funding is not sufficient, it means we are not able to fulfill requirements of school. Young children, especially high school children, there are instances when they are sent back from school because they we have delayed to make payments." – Sub-recipient tier

"We have about 292 but we ran up to 400 but the help we get we are only able to support 292 but on our list we have 400." – Sub-recipient tier

"You find that they come to my home and say ‘Your child has not had his school fees paid, your child has been sent home from school.’ So those are the problems we face with parents of these children. Or when the child is sick they come and say ‘your child is sick you need to take him/her to the clinic because I have nothing to do. The white people can give them money, so that they are taken to the clinic or to the hospital.’ So those are the kind of problems that we face in the community." – Volunteer tier

It remains unclear what proportion of the budget was allocated to M&E efforts. However, data suggest the demand outweighed the resources availed to implement the program and improving the quality of the M&E systems was under-prioritized.

Linkage with national M&E systems:

The FY 2009 annual FABRIC report suggests, but does not detail, that systematic databases were developed to track and manage OVC at the ECR level and at the sub-recipient levels. However, in 2010 at the End-of-Project
Evaluation, it was found that while an electronic spreadsheet had been
developed, it had never been populated with data from the paper records.

“No database at all at ECR until middle of last year [2009]. It is a huge task and
hoping to finish it by the end of next month. There are also gaps in competency
of ME officer’s skills to use software like excel, etc. – FHI 360 tier

Additionally no national OVC M&E system existed; the national system is
currently being developed.

Use M&E Field Experts

The 2012 OVC Guidelines recommend programs draw upon the expertise
of Monitoring and Evaluation professionals (Guidance for Orphan and Vulnerable
Children Programming, 2012). While M&E experts were written into the FABRIC
proposal, implementation did not proceed as planned. First, the FHI level
employed a qualified M&E Officer at project inception. That person resigned after
18 months and the position was not filled again until year 5 of the project.
Second, when the position was filled, that person was responsible for regional
FABRIC M&E activities in Namibia, South Africa and Zambia, as well as for
Zambia-specific activities. At the Implementing Agency and Sub-recipient levels,
M&E positions were filled, but the capacity of the employees was limited (see
Develop M&E Capacity section below).

However, despite not conducting a baseline or mid-term evaluation, the
FABRIC project did draw upon University-based external evaluators for the End-
of-Project Evaluation (Scott et al., 2010), as recommended in the current
guidelines.
Develop M&E Capacity

Each tier of the organization perceived M&E capacity development, under the domain of Quality of M&E Systems, differently. Three themes emerged regarding M&E capacity development: 1) insufficient staff and staff turnover, 2) no measurement of capacity development, and 3) different perceptions of capacity between tiers of the project.

First, the FABRIC project operated with insufficient staff and faced high staff turnover. At the FHI 360 tier, several key positions proposed were never filled including the OVC Technical Officer. Additionally, the M&E Officer position was vacant for years 3-4 of the Project. Moreover, the FHI 360 team in Zambia was also responsible for the regional efforts in Namibia and South Africa, as well as the Zambia-specific program activities. The Zambia-based staff at the FHI 360 tier was over-stretched, responsible for both national and regional M&E activities.

Additionally, the FABRIC project had high staff turnover and difficulty filling positions at the FHI 360 and Implementing Agency tier. At the FHI 360 tier, longest-term employee at the time of the EoPE was the administrative coordinator. As one FHI-tier respondent noted the challenges associated with staff turnover: “Staff turnover is not easy to manage, but needs to be thought through because it has got huge implications on 1) institutional memory and 2) mission and vision when people move on.” The Director and the M&E officer had only begun working in year 5 of the project. The M&E Officer at the Implementing Agency tier had only been hired three months before the endline
evaluation was conducted. He was the fourth person to hold the position in four years; three others had declined the position before he accepted. His M&E skills were minimal and his understanding of the project was rudimentary. He believed that the goal of the FABRIC project was to “increase the number of OVC enrolled” focusing efforts only on the donor requirements.

The true attrition rates cannot be fully ascertained, as they are undocumented. Some data sources suggest high attrition rates (Scott et al., 2010; Upward Bound Company Limited, 2010) and others suggest low turnover at the volunteer tier, but high turnover of paid staff at the Implementing Agency and FHI 360 tiers.

The second theme identified was that the FABRIC project had no measurement of capacity development beyond the number of people trained. Table 5.4 summarizes the FABRIC project capacity building exercises conducted in Zambia in FY 2009 alone. The column “Quality Assessment” captures how trainings were reported on or evaluated for success.

Table 5.4: FABRIC project capacity building exercises conducted in Zambia in FY 2009

<table>
<thead>
<tr>
<th>Trainer</th>
<th>Trainee level</th>
<th># Trained</th>
<th>Days trained</th>
<th>Curriculum description</th>
<th>Quality assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECR</td>
<td>Community Volunteers</td>
<td>191</td>
<td>5</td>
<td>Psychosocial: grief counseling, service delivery, coping, and HIV disclosure</td>
<td>Trainees expressed happiness to better support children</td>
</tr>
<tr>
<td>ECR</td>
<td>Community Volunteers</td>
<td>191</td>
<td>2</td>
<td>Monitoring and Evaluation: Fundamentals of M&amp;E and the FABRIC M&amp;E tools</td>
<td>“Assisted them to skillfully collect data and complete reports.”</td>
</tr>
</tbody>
</table>
As illustrated in the quote below, understanding the effectiveness of the trainings was a major gap:

"FABRIC, to be able to effectively deliver organizational capacity building should have had an organizational development specialist to ensure that capacity building was a priority – even an advisor at [Implementing Agency] level. There are still huge gaps in organizational capacity at the [Implementing Agency] and Sub-recipient levels; [The Implementing Agency] had done a lot of OVC technical trainings to caregivers, but was poor in terms of monitoring the effectiveness of training. [The Implementing Agency] has curriculum for all its trainings which is good, but it didn’t invest in monitoring the effectiveness of training and implementation. – FHI tier

Lastly, each tier within the FABRIC project perceived capacity development differently. No assessment of capacity was conducted at baseline, therefore the project had nothing against which to measure improved M&E
capacity. At the end of the project, the FHI tier staff perceived the capacity of the Implementing Agency to be low and the staff to be overstretched, in part because of the organizational structure:

"The Executive Director, National Programs Coordinator is dealing with different funded programs and all people report to the NPC, which creates a bit of a bottleneck in M&E, programming, and finance. Things are not moving as expected. Also, [the Implementing Agency] is inadequately staffed with only 3 staff handling 15 sub-recipients. [The Implementing Agency] has not fully supported caregivers to do a proper needs assessment to inform budgeting and planning." –FHI 360 tier

"[Referencing M&E capacity of Implementing Agency] Not sure they've arrived at the point of analyzing data and making program decisions on it. Not sure I'd say that they've reached a level of ME capacity that is commensurate with 4 years of programming." –FHI 360 tier

Conversely, staff at the Implementing Agency tier perceived its own M&E capacity to be strong, as illustrated in Table 5.5, a capacity survey completed jointly by all staff at the Implementing Agency level in 2010 below:

**Table 5.5: Results of a capacity survey jointly completed by all Implementing Agency Tier staff in January 2010**

<table>
<thead>
<tr>
<th>Points</th>
<th>Current Status</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mostly</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Technical program planning is strongly tied to strategic and operational planning.</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Monitoring and evaluation are planned at or before the onset of a technical intervention.</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Monitoring and evaluation are included in the work plan. Provision is made to obtain input from the community, as well as the clients/beneficiaries and stakeholders, on a regular basis to ensure that the services delivered are available and accessible.</td>
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<td>4</td>
<td>Provision is made to obtain input from the community, as well as the clients/beneficiaries, on a regular basis to ensure that the services delivered are necessary. Provision is made to obtain input from the community, as well as the clients/ beneficiaries, on a regular basis to ensure that the services delivered follow standards of practice and maintain a certain level of quality.</td>
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Information obtained through M&E is given back to clients/beneficiaries and other stakeholders to assure them that they have an active role in shaping service delivery. The use of services is monitored and impact data is collected and used. Monitoring and evaluation data feeds into the strategic and operational planning processes and provides the basis for making adjustments in plans.

Additionally, respondents at the Implementing Agency tier perceived that they provided adequate capacity development to the sub-recipient tier, but felt that they did not receive adequate capacity development from the FHI tier:

"Training and mentoring is strong but only as a service to the sub-recipients. All of the above are absent at [Implementing Agency] level. There is no training and mentorship within [the Implementing Agency] staff from [FHI]. However, from [Implementing Agency] to [Sub-Recipient] level, training and mentorship is quite impressive." –Implementing Agency tier

Similarly, respondents at the Sub-Recipient tier perceived their capacity has been built, but still feel they are under-supported:

"But they have come to help us, first and foremost with the finances and secondly trainings. We were still in our infancy when we come in contact with [Implementing Agency] and they have provided every training that we have. The other positive things are that our capacity has been built. They have also helped us even with our records. We now are on a different level before they actually came in we just operated anyhow. Now because of their coming in, they have helped us to put things in order, to create files and do things in the right way and in order." –Sub-recipient tier

"It has done well, but there are challenges. The impacts are positive but we need more. We need things like computers in order to support our works." –Sub-recipient

The community volunteer level respondents were grateful for the capacity that they had developed from participating in the program. Volunteer respondents focused on following the rules were given their role as agents of change in their
communities:

"Yes, we were following them because they are important rules and they used to go through all the details of all the children we have brought. It's not just you alone to enroll those children in the project. They have to know who you have enrolled they have to see them. So we also have to follow the rules according to how they are given to us. If they find that you haven't followed the rules, they were rejecting the children." – Community Volunteer

"Okay, something that I want to say is that you should continue working like this and empowering us. Because it's true, when someone has knowledge, they will know how to take care of themselves. If there is nothing you know about the courts, the police, the wills, the documents, you just sit like that, not knowing that you are slowly being eaten away. So at least, if your children know where to go, so we hope that FABRIC continues teaching us and adding on a lot more to empower us the volunteers." – Community Volunteer

Promote Quality Assessment and Improvement

The PEPFAR 2012 OVC Guidelines promote the adoption of national OVC standards for service delivery. University Research Co., though its USAID-funded Health Care Improvement Project, is currently developing these standards with the Zambian Ministry of Sport, Youth and Child Development. At the time of the FABRIC project, no clear standards existed compounding the challenge improving program quality and assessment and developing guidelines.

In the original proposal, FHI said:

"Service guidelines and quality standards will have to be developed. For example, while there are no standards specific to the provision of psychosocial support for OVC that we are aware of, there are standards of excellence for the provision of counseling in other areas that could be adapted to OVC programs. The standards aspired to in all project service delivery activities will be incorporated into service delivery guidelines to be followed by all Implementing Partners." – (FABRIC Proposal, 2005)
Interview respondents and other project documents suggest that these quality service guidelines were never fully developed. In part because no standardized or minimal package of OVC support existed menu of potential interventions was lengthy, and the mix of interventions provided to each child was determined by sub-Recipient tier staff on an individual basis, informed by the community volunteers and available resources. The support received by an individual child, therefore, was often diffuse and inconsistent.

The donor perceived quality and measured success by enrollment numbers and quantity of services delivered. In response to this, the FABRIC project over-enrolled, exceeded high targets, and delivered inexpensive interventions in high volume including referrals to clinics or pencils for education, as suggested in the quote from a sub-Recipient below:

“We have been pushed by the donor and at the moment our focus is to satisfy our donor. Some of the challenges that we face at the moment the OVC are always increasing in number and the need is always expanding and also the one side is that the finances are not enough in that we have been given a challenge to care for 500 orphans with a limited resources. That one has been a challenge to reach out to all children and those people if you go in are some of them don't understand that we have this challenge.” — Sub-recipient tier

Additionally, when asked to describe how quality service delivery was ensured, one Sub-recipient respondent explained:

“The way we do it is first and foremost is using your own caregivers who are probably the secondary monitors in the community. The primary ones are the OVC themselves, the feedback comes to us when we sometimes as a committee we take time to visit the areas, to be able to talk to the people and the feedback they give us tells us that what is happening on the ground and that's how I can explain that one.” — Sub-recipient tier
2. Improving Program Evaluations

The elements of the second domain in the framework, Improve Program Evaluations, are described in Table 5.6.

Table 5.6: Component 2 of the framework of current monitoring and evaluation practices for OVC support programs

| 2. Improve Program Evaluations | - Base evaluation design on theory  
|                              | - Develop M&E plans in tandem with program plans  
|                              | - Employ mixed-methods  
|                              | - Standardize indicators  
|                              | - Expand on next-generations indicators for outcome evaluation  
|                              | - Focus on child and household level outcomes  
|                              | - Rigorous design  
|                              | - Comparison and control groups when possible  
|                              | - Baseline assessment  

Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)

While the elements in this domain are inter-dependent, they can be categorized into three broader sections:

1) **Evaluation Design and Theory:** This section explores the evaluation design based on theory, have a clearly established baseline, and be designed in conjunction with program planning.

2) **Methodological Rigor:** This section explores the methodological rigor, the application of mixed-methods, and the control or comparison groups.

3) **Indicators and measurements:** This section explores the standardized indicators, next generation indicators, and the child and household level outcome measures.

Each of these is discussed in detail below.
Evaluation Design and Theory:

An evaluation design first should 1) be consistent with the programmatic theory, 2) establish a baseline from which to measure impact, and 3) be designed in conjunction with programming efforts to target and recruit beneficiaries. Findings suggest none of these happened in the FABRIC project.

First, there was no available program logic model or theory of change, in part because interventions were dependent on available resources or donations and were therefore unpredictable.

Second, while the FABRIC project proposal did include an evaluation plan inclusive of a baseline, midline, and endline, none were implemented according to plan. The intended baseline would have included household surveys and would have drawn upon findings from external data sources such as the demographic health survey (DHS) (FABRIC RFA). However, the household surveys were never conducted and the external sources did not return results specific to the FABRIC communities. Therefore, the FABRIC project had no baseline understanding from which to measure program impact. The proposed midterm (year 3) evaluation included an analysis of routine monitoring data and qualitative in-depth interviews with implementers, but it too was never implemented. Given that no baseline or midline evaluation was conducted, the endline evaluation was inevitably limited to a post-test only design, the least rigorous of evaluation designs (McDavid & Hawthorn, 2006; Scott et al., 2010). This severely limited the ability to interpret the impact of the project with any
confidence (Scott et al., 2010).

The essence of the challenges to FABRIC project evaluation theory and design are captured in the quote by an FHI 360 tier staff below:

“It’s a lesson to all of us that in future project designs we need to do some thinking through, not just leave it in design document, but actualize its implementation. Many things we’ve talked about need to be insisted upon as you start implementation of a project. For example, sustainability planning should be from the onset, not in the 4th year.” –FHI 360 tier

While the evaluation was developed in tandem with program plans in the proposal, the evaluation was never implemented accordingly.

Methodological Rigor

Despite the design limitations discussed above, the endline evaluation attempted to maintain as much methodological rigor as possible. First, mixed quantitative and qualitative methods were employed in an effort to triangulate findings and minimize threats to validity that were inherent in a post-test only evaluation design. Second, a randomly selected comparison sample of children from the same communities, not enrolled in the program, matched on age-range and gender, were also assessed at the endline evaluation. However, selecting an appropriate comparison group was challenging primarily because it was unclear who was enrolled in the program.

FABRIC project staff at the FHI or IA tiers recalled that OVC were deemed most needy and selected because the child 1) had either one or both parents die (orphans), or 2) had suffered some form of abuse, dropped out from school, or were living in households headed by grandmothers, children, or chronically ill
adults. Additionally, available project documents and interviews at the FHI 360 tier suggest that volunteers were supposed to identify eligible children using the Child Status Index (CSI) (fiscal year 2009 report).

However, as illustrated in Figure 5.3, respondents at the Volunteer tier most commonly reported recruiting children by “just knowing” that the child needed support, by knowing they were orphans, or by word of mouth. Several volunteers articulated these strategies in the quotes below:

“We differentiate. We see that this child is better looking than these others. Then you would see that this child is not living well. You would find that this child is wearing torn clothes. You would tell that there is a difference between the two children.” — Volunteer tier

“Mostly, when you get to a household, you know that there is a problem here. Just by looking how the house is looking, you can tell there is a problem.” — Volunteer tier
Figure 5.3: Proportion of coding references explaining the project targeting and recruitment practices from the Volunteer tier respondents

* Chart does not include 1 reference to grandfathering in children who were already enrolled in one of the sub-recipient affiliated projects.

Additionally, even among volunteers, there were inconsistent approaches. Some believed only orphans could be recruited, as long as they were also vulnerable, while other caregivers detailed that they targeted orphans or children that were vulnerable. Some did not enroll maternal orphans: “The ones we didn’t enroll are those who had a female parent because we know that the female parents are the ones who take care of a child, even when the father dies. When a woman eats, she is going to share it with the child.” While others explained: “For orphans, we usually looked at those whose fathers have died. Then the wife cannot manage to take care of the children.” Although there were inconsistencies in the approaches and the strategies are not documented, nearly
all volunteers said they sought confirmation of eligibility by visiting the household, obtaining a parental death certificate, or conferring with the child's neighbors.

Indicators and Measurements

The FABRIC project was required to report on the following indicators:

1) Total number of orphans and vulnerable children (OVC) receiving direct services by an OVC program per year
   a. Disaggregated by sex
   b. Disaggregated by number of services received
2) Number of providers/caretakers trained in caring for orphans and vulnerable children per year
3) Number of OVC receiving food and nutritional supplementation through an OVC program per year

FHI 360 tier respondents expressed concern that the indicators were only process indicators and the donor required no outcome indicators as evident by the quote below:

"PEPFAR indicators are mainly quantitative and process (# OVC reached, # OVC receiving support, etc.) We are exceeding OVC reached but when you disaggregate to # served with primary direct support (3+ services), 70% receiving 2 services or less; mostly education and psychosocial. This is a problem if the project is looking to have comprehensive services." –FHI tier

Because no additional impact or outcome data were systematically captured throughout the project, program impact on the children and communities was frequently captured only anecdotally. A selection of programmatic impact from the perspective of Volunteer tier respondents are illustrated below:

"One is on how to take care of an orphan, because an orphan is a very difficult person. Then also how to stay with people and children in the community. Because back then we used to think that a child has no use and can not tell you anything, but now we know that a child is also a human being and you are
supposed to listen to everything they say. Even at home you must listen to a child.” —Volunteer tier

“They have a lot knowledge and they have empowered and the psychosocial trainings that we do and all the psychosocial trainings we attended about children. And the games for children are the benefits especially. Those same benefits have helped us teach our children in our homes.” —Volunteer tier

“We have seen children who didn’t have hope and now have hope, if FABRIC didn’t come in I don’t know how we were going to handle this because this area was badly hit by the HIV pandemic which most parents died and left the orphans.” —Volunteer tier

3. Improving Data Analysis and Usage

The final domain of the 2012 OVC Guidance is to improve data analysis and usage, as seen in Table 5.7.

<table>
<thead>
<tr>
<th>3. Improving Data Analysis and Usage</th>
<th>• Thoroughly analyze data</th>
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<tr>
<td></td>
<td>• Gender and age analysis</td>
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<tr>
<td></td>
<td>• Use specialized data sources when necessary</td>
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<tr>
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<td>• Use the data for decision making</td>
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*Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)*

Of all tiers, respondents at the FHI 360 tier most frequently discussed data analysis and use. These respondents noted that data were not adequately captured, analyzed or used for program purposes. Additionally, feedback mechanisms were reportedly implemented between the FHI and the Implementing Agency tiers. However, evidence suggests communication from volunteers to sub-recipients, and from sub-recipients to the Implementing Agency only flowed upward. There is little available evidence to suggest a routine
feedback or process improvement cycle.

Lastly, as illustrated by the quote below, there were clearly different perspectives regarding data use between levels:

"Because now I think we have a good system where we will follow patterned arranged system and so that we are able to get the feedback from the community of what we are doing in the areas. Data collecting and data analysis- we now have the knowledge, having been trained of what information we need concerning our children and concerning other groups in the area. With that we actually able to use that information as we link-up with other, but also as we make more plans that information or data is able to help us on what to do and not to do in those areas. For example at one time we just operated in the areas but now we are able to sit down with other organizations in that area so that we link up with them and don't duplicate some things we do in that community." - Sub-recipient tier

The varying levels of project staff, consistent with other findings, appear to have differing definitions and interpretations of data use and analysis.

Discussion

Overall, findings suggest varying perceptions and priorities regarding 1) Quality of M&E Systems, 2) Project Evaluation, and 3) Data Analysis and Use between the varying levels of FABRIC project staff. In some areas, the project operated in ways that would be compliant with the 2012 OVC guidance. However, lessons can be drawn from critical gaps existed under each domain, summarized in Table 5.8. These gaps are explored in detail below.
Table 5.8: The Framework of Current Monitoring and Evaluation Practices for OVC Support Programs and Summary of Gaps in the FABRIC Project

<table>
<thead>
<tr>
<th>Domain</th>
<th>Thematic guidance</th>
<th>Summary of identified gaps in the FABRIC project</th>
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</table>
| 1. Improve the Quality of M&E Systems | • Allocate sufficient funds  
• Link with National M&E Systems  
• Use M&E Field Experts  
• Develop M&E Capacity  
• Promote Quality Assessment and Improvement | • Unclear % of budget directed to M&E  
• No National M&E System for OVC  
• Varying perceptions and definitions of capacity between levels  
• Generally overstretched and under-resourced, exceeding donor mandated targets  
• No systematic quality improvement strategy or measurement of service quality in place  
• No quality measurement of training or capacity strengthening activities |
| 2. Improve Program Evaluations  | • Base evaluation design on theory  
• Develop M&E plans in tandem with program plans  
• Employ mixed-methods  
• Standardize indicators  
• Improve the quality of the M&E when possible  
• Expand on next-generations indicators for outcome evaluation  
• Focus on child and household level outcomes  
• Rigorous design  
• Comparison and control groups when possible  
• Baseline assessment | • Theoretically rigorous evaluation planned in proposal but never implemented, resulting in post-test only endline evaluation  
• No standard logic model because of diffuse and unpredictable intervention approach  
• No baseline information from which to measure change  
• Unclear recruitment and targeting process further limited ability to conduct rigorous impact evaluation |
| 3. Improving Data Analysis and Usage | • Thoroughly analyze data  
• Gender and age analysis  
• Use specialized data sources when necessary  
• Use the data for decision making | • Limited capacity  
• Varying understanding of the value and use of M&E at different levels of the organization  
• Reported upward to FHI 360 and donor, but no feedback loops |
1) Improve quality of M&E systems

Three major issues emerged under the domain of “Improving quality of M&E Systems”: 1) Little incentive to strengthen the quality of the M&E system, 2) Low capacity to improve the quality of the M&E system, and 3) No emphasis on incorporating quality into the M&E system. These issues are described below.

Overall, there was little incentive for project staff to strengthen the quality of the M&E system. First, project success was measured on enrollment numbers and services delivered, not on the quality or impact of services. Second, staff at all tiers of the project felt over-stretched and under-resourced. Third, no national M&E system existed, so there was no mandatory reporting to the Zambian government. Lastly, staff reported that funding was insufficient or arrived inconsistently, complicating efforts to provide consistent, high quality services. Thus, interventions to support OVC were diffuse and often not well defined. This context is not unique to Zambia and is seen in ongoing programming efforts that rely on project models similar to FABRIC. Such minimal, diffuse support might look successful as measured against a simplistic enrollment criterion set by the donor, but the project M&E system was too unsophisticated to determine if this support was sufficient to meaningfully impact the psychosocial or educational trajectory of vulnerable children. This combination of these factors resulted in little incentive to invest in developing a quality M&E system.
Additionally, the capacity to improve the quality of the M&E system was minimal for several reasons. First, although the proposal articulated plans to draw upon M&E field experts, the plans were never implemented. The OVC Technical Officer and M&E Officer vacancies at the FHI 360 tier not only left a gap in skills for an OVC Program, but also overstretched the Regional Project Director and Regional M&E Officer, as they served as both the national and regional team.

Second, lower-level capacity development was found at the lower levels of the project; sub-recipients appreciated learning how to file, and volunteers appreciated the learning basic child rights principles. However, it appears the FHI 360 tier overestimated the M&E capacity of the implementing agency and sub-recipient tiers. M&E activities could have been more robust if the capacity of the organizations expected to do the work had been stronger or if greater efforts were made to develop and support basic M&E functions.

Third, despite the fact that the second objective of the FABRIC project was “To strengthen the capacity of partner implementing agencies to target, coordinate and sustain the programs of local member organizations effectively,” little emphasis was placed on monitoring the effectiveness of trainings. Numbers of those trained were reported as required, but the quality of the trainings was not routinely assessed. Given that capacity building is an integral element of most programs, trainings should be evaluated based on quality or outcomes, rather than only numbers of individuals trained.
The final issue that emerged regarding the quality of the M&E system is that quality itself was not a component of monitoring. As discussed above, monitoring quality was not a priority of the capacity development activities or trainings. Although the first project objective was “To increase the number of OVC reached with quality community level services,” little emphasis was placed on monitoring quality. Rather, as mandated by the funder, the project success was determined by the number of children enrolled and the number of services received by each child.

2) Improve program evaluations

The FABRIC efforts in Zambia demonstrated successful process outcomes through high enrollment rates, extensive reach of supportive services delivered, and some immediate outcomes such as knowledge retention or school enrollment rates. However, FABRIC could not rigorously evaluate the outcomes of its efforts for several reasons: 1) Proposed plans were never implemented, 2) There was limited capacity or incentive to develop more relevant measures of success, and 3) Program implementation strategies were unclear, particularly around recruitment.

First, though written into the proposal, the remaining FABRIC project documents show no indication that a rigorous and theoretically grounded evaluation was considered or planned for the project. Additionally, the baseline and midline evaluations were never conducted, so no information existed from which to measure change. A lack of baseline assessment is problematic for two
primary reasons. Not conducting a baseline suggests the project was developed without fully assessing the needs of the community or the capacity of the community it was serving. Additionally, having no baseline data resulted in an inability to measure change or understand the impact after five years of implementation.

Second, similar to the discussion around measuring quality, there was little capacity or incentive to develop more relevant measures of success. The FABRIC project design appears strong and is grounded in a community-based model that continues to be used in OVC programming. However, the funder determined the projects' designs, aims, targets, and measurements of progress. First generation PEPFAR indicators were primarily process indicators, and were only used for upward accountability. In part because project staff at all tiers were overstretched and had varying capacity, the monitoring system was never fully developed according to plan, nor the baseline or midline evaluation conducted, it is reasonable that the project did not develop additional indicators and only responded to those mandated by the funder.

Third, unclear recruitment and targeting process further limited ability to conduct rigorous impact evaluation. Although community volunteers were guided to preferentially recruit and enroll OVC deemed most needy because, according to the donor definition of OVC, the child 1) had either one or both parents die (orphans), or 2) had suffered some form of abuse, dropped out from school, or were living in households headed by grandmothers, children, or chronically ill
adults. At the time, the Child Status Index was expected to be a tool to both manage individual cases and report on project level outcomes and quality. However, the CSI has since been shown to have severely limited face and content validity (Sabin, Tsoka, Brooks, & Miller, 2011) and is discouraged from being used as a project monitoring tool (cite USAID/MEASURE). As the findings show, actual practice was different. Most volunteers recruited by only identifying orphans, just knowing, or word of mouth. Only four percent reported using a scorecard or CSI.

The absence of a systematic strategy between communities to identify and enroll beneficiaries is expected in community-led initiatives given that an individual community is supposed to use a process that works best for its situation. However, no systematic strategy between sites in conjunction with individual sites not documenting their approach problematic for two main reasons. First, at the level of the individual child, not understanding a child’s wellbeing at enrollment makes individual case management and monitoring difficult. Second, the lack of a transparent strategy severely impeded monitoring and evaluation of the FABRIC project. Higher-level stakeholders, including funders and policy makers, will not be able to clearly understand program effectiveness if is unclear who the project enrolled and how it did so.

3) Improve data analysis and usage

Of all respondents, those at the FHI 360 tier most frequently discussed data analysis and usage. However, staff was over-stretched and often only
prioritized mandatory requirements. More sophisticated and informative data analysis was not prioritized, nor was it an option given the data captured in the M&E system. The data captured flowed primarily upward, resulting in minimal feedback for process improvement or decision making at the varying tiers of the project.

The 2012 OVC Guidelines address some of the gaps in 1) Quality of M&E Systems, 2) Project Evaluation, and 3) Data Analysis and Use. First, the guidelines require that 10% of the field budget be allocated for M&E activities. Second, the guidelines explicitly state that the required PEPFAR indicators are to measure process only and are not sufficient to understand programmatic outcomes or impact (OVC guidance 2012). Additionally, standardized child and household level outcome indicators have been developed and are expected to be used in program implementation (2011 Minimum OVC Indicators). Lastly, if enforced, the incorporation of the domain “Improve Program Evaluations,” should theoretically improve programs and ultimately the lives of the OVC being served.

While these are significant and important strides, it is clear gaps still remain

**Recommendations**

Although the FABRIC project has closed, the intervention model and project design is typical of other OVC projects and can provide important lessons. Table 5.9 reflects recommendations for OVC program implementers and for policymakers and donors, drawn from the FABRIC experience.
Table 5.9: OVC program and policy recommendations derived from the FABRIC M&E experience

Recommendations for OVC Program Implementers

1. Develop M&E plans that are both responsive to donor mandates and inclusive of community-defined measures of quality and success

When programs have diffuse, unclear interventions, or a multifaceted approach, M&E systems must be designed to adequately capture those dynamics and complexities. Though necessary for stakeholders at the highest levels, merely counting the numbers enrolled, services delivered, or people trained cannot adequately assess the success of a program. Community-based participatory research (CBPR) is a collaborative approach to measuring success and allows community members to define their measurements of success and has proven successful in Zambia and the sub-Saharan region (Kamanda et al., 2013; K Schenk et al., 2008). While process indicators are critical for the donor and standardized outcome indicators are critical for broader comparisons, CBPR could complement these and offer an opportunity to let the stakeholders who are most impacted by the intervention participate and define its quality and success.

2. Prioritize baseline capacity assessment of all partners and adapt project expectations accordingly

Capacity and systems strengthening are core pillars of health and development programs. Given this a solid and accurate understanding of individual and organizational capacity at all levels is critical to ensure a point from which to measure improvement. Projects should seek to understand the baseline capacity, prioritize selecting appropriate capacity outcomes, and then plan program implementation and set expectations accordingly.

3. Improve the accountability framework at all levels of the project by ensuring data analysis and use

While upward accountability is critical and inevitably linked to continued funding, improving communication, transparency, feedback and accountability is also critical. Using data and feedback loops would improve quality and informed decision-making at all tiers.

4. Invest in understanding the quality of capacity building efforts

Given that capacity building is an integral element of most programs, trainings and other capacity building efforts should be systematically evaluated for quality outcomes, rather than only numbers of individuals trained. A Capacity Development Officer could be responsible for assessing baseline capacity and monitoring progress.
Recommendations for OVC Policymakers and Donors

1. Increase implementer accountability to project plans and best practices

It is clear that projects are responsive to donor requirements. Given the realities of implementation, proposed plans do not always materialize. Projects are typically held accountable for financial reporting and to process targets mandated by the donor. The same should be true for monitoring and evaluation plans, so that donors and implementers can understand the value and impact of their investments. Rather than only being perceived as guidelines, projects should be held accountable or even incentivized for adhering to the primary tenants set forth in the monitoring and evaluation guidelines.

2. Invest in integrating measures of quality into reporting frameworks

Donors should consider incorporating quality and impact measures in the reporting requirements. Although it is explicit in the 2012 OVC guidelines that the donor required process indicators are not sufficient for impact evaluation, data suggest that many factors might impede an implementer from expanding the breadth of evaluation, unless mandated by the donor.

3. Enforce the guidelines that 10% of program budget be allocated for M&E efforts

The 2012 OVC guidelines state that 10% of the program budget be allocated for M&E efforts. Donors should ensure that programs are held accountable to allocating and spending this 10% accordingly. Increasing program efforts and budget on M&E might be challenging, particularly for implementers accustomed to only reporting count numbers. Additionally, enforcing this may in fact relieve implementers from the perception that they are choosing to divert funds away from beneficiaries and toward monitoring and evaluation efforts.

4. Require that projects have and maintain a core staff and realistic project expectations

Policymakers and donors should take steps to ensure that program staff are not overstretched. Unrealistic expectations and under-staffed projects can compromise quality implementation and M&E efforts. Implementation and M&E efforts necessitate competent and consistent staff. Technical skills of proposed staff should match the project goals, and projects should be held accountable for operationalizing the proposal. Lastly, consider rewarding for retaining a consistent workforce with minimal turnover.
Conclusions

The issues that emerged from the FABRIC program M&E experience is not unique to Zambia and lessons can be applicable to other projects operating in a similar context with a similar implementation model. Monitoring and Evaluation (M&E) is a critical component of any public health or social program. While the concept of M&E is deeply entrenched in collective conscience of public health implementers, M&E systems often lack depth and rigor for a number of reasons identified in this paper. The 2012 OVC guidelines begin to address some of the issues identified, but should be expanded upon.
CHAPTER 6: SUMMARY, RECOMMENDATIONS AND THE IMPLICATIONS FOR PUBLIC HEALTH PRACTICE

Background:

While the number of new HIV infections globally is declining, the number of orphans due to HIV continues to climb. Globally, an estimated 16.6 million children had a parent whose death was associated with HIV-related illnesses; 90% of those children live in sub-Saharan Africa (UNAIDS, 2010).

Zambia, a landlocked country in sub-Saharan Africa, has a population of 13.5 million people (The World Bank, 2013a). The 2011 gross national income per capita was USD 1,490 (The World Bank, 2013b) with a US$ 73 per capita annual expenditure on health and 60.5% of the population living below the international poverty line in 2010 (The World Bank, 2013a). Despite recent economic growth, Zambia still faces major health and development challenges, many of which are compounded by an estimated adult HIV prevalence of 12.5% (UNAIDS, 2013).

Approximately 1.1 million orphans live in Zambia; of those 690,000 are reportedly HIV orphans, having had one or both parents die from HIV-associated illness (The World Bank, 2013a). Aligned with the UNICEF guidance set forth in The Framework for the Protection, Care and Support of Orphans and Vulnerable Children Living in a World with HIV and AIDS, GRZ endorsed a strategy that employs a multidisciplinary, coordinated response, establishes relevant policy, empowers community and families to deal with OVC, and specifically calls for an
increase in psychosocial counseling and support for OVC (Zambia Ministry of Sport Youth Child Dev., 2006).

By 2015, GRZ aims to scale up OVC support programs and school feeding programs, provide 45,000 bursaries to OVC to enable primary and secondary attendance, construct 40 youth resource centers, support 120 child and youth rights awareness campaigns and develop a Social Protection Policy inclusive of crosscutting issues such as child development, gender, education, and health, specifically HIV (Republic of Zambia: Sixth National Development Plan 2011 – 2015, 2011).

The GRZ strategy and relevant policy will progressively realize the rights of OVC and help fulfill GRZs obligations to the Convention on the Rights of the Child (CRC), and make strides in meeting the Millennium Development Goals (MDGs). Given limited resources and competing priorities, the Zambian government collaborates with local non-governmental organizations (NGOs), international NGOs (INGOs), faith-based organizations (FBOs), and the private sector to implement the community-based activities.

Problem: Despite clearly delineated MDGs, the financial and political commitments to OVC support programming, and the importance of measuring the impacts, few of these programs in Zambia, or elsewhere, have been rigorously evaluated. Community-based OVC support programs were implemented following guidance that was developed without a strong evidence-base undergirding it. Some only target orphans because it is an easily identifiable
criterion, and some implemented unproven psychosocial and educational interventions, despite not knowing if orphans are disadvantaged compared to non-orphans or if the educational and psychosocial interventions are effective.

The impact of community-based support programs remains unclear, particularly in Zambia. This study sought to answer three questions 1) are orphans systematically disadvantaged compared to non-orphans in educational status and psychosocial wellbeing, 2) was available external support offered by programs and government appropriate and sufficient to improve the educational status and psychosocial wellbeing of these children and 3) how, in similar contexts, can program monitoring and evaluation practices can be improved to increase the evidence base, improve program quality and be aligned with current OVC program guidance (Guidance for Orphan and Vulnerable Children Programming, 2012).

Program and policy recommendations generated from this study aim to inform several key stakeholders, namely: (i) the GRZ as it strategizes to meet its commitments set forth in the CRC and the MDGs, (ii) OVC program personnel in Zambia and other countries implementing similar programmatic models, and (iii) foreign aid policymakers, particularly the US government.

Methods: This study used mixed-methods. First, we conducted a review of the literature regarding orphan disparities, educational interventions, psychosocial interventions in Zambia and sub-Saharan Africa. Second, we scanned the policy environment and reviewed three major OVC programs.
operating in Zambia at the time of our data collection.

Third, we examined primary child and household level data from a population served by the Faith Based Regional Initiative for OVC (FABRIC), a major community-based OVC support program that operated in Zambia between 2005-2010. We administered quantitative household surveys to 204 households at the close of the project and one year later. Additionally, we conducted 4 focus group discussions (FGDs) with caregivers and 4 FGDs with adolescents.

Lastly, we conducted in-depth interviews with 26 project staff and reviewed project documents and analyzed them within the framework of the July 2012 PEPFAR guidelines for OVC program implementers, specifically in reference to monitoring and evaluation practices (Guidance for Orphan and Vulnerable Children Programming, 2012). Bivariate and multivariate regression were used to analyze quantitative data. Grounded theory analysis was conducted on FGD transcripts and content analysis was conducted on the in-depth interviews.

**Results:** The literature documenting orphan disparities in educational outcomes and psychosocial wellbeing in Eastern and Southern Africa yielded inconsistent findings in sub-Saharan Africa and very little in the Zambian context. Therefore, it was unclear if orphans were systematically disadvantaged compared to non-orphans in Zambia. Additionally, there was a paucity of evidence-based interventions aimed at improving the educational status and psychosocial wellbeing of orphans in Eastern and Southern Africa.
Available documents suggest the Zambian policy environment is aligned with the Convention of Rights of the Child (CRC) and the Millennium Development Goals (MDGs), though it was unclear how well funded or how well implemented policies were. The review of PEPFAR-funded community-based, OVC support programs in Zambia suggested programs were over-stretched, under-resourced and did not have appropriate technical capacity to establish and maintain strong M&E systems.

In our sample, orphanhood was not a significant predictor of worse educational status or psychosocial wellbeing. However, other factors were associated with worse education and psychosocial outcome measures including age and gender. Younger children were significantly less likely to be behind in grade-for-age compared to older children. Additionally, there was a trend toward males having more absenteeism and a greater mean increase in SDQ score than females, indicative of worse psychosocial wellbeing. Lastly, orphans tended to receive more external support than non-orphans. However, when this support was discontinued, independent of orphanhood, gender, and age, psychosocial status worsened over time.

The July 2012 PEPFAR guidelines for OVC program implementers include specific monitoring and evaluation guidance which served as the framework for our analysis of M&E practices as seen in Table 6.1.
Table 6.1: The framework of current monitoring and evaluation practices for OVC support programs

| 1. Improve the Quality of M&E Systems | - Allocate sufficient funds  
|                                        | - Link with National M&E Systems  
|                                        | - Use M&E Field Experts  
|                                        | - Develop M&E Capacity  
|                                        | - Promote Quality Assessment and Improvement |

| 2. Improve Program Evaluations | - Base evaluation design on theory  
|                               | - Develop M&E plans in tandem with program plans  
|                               | - Employ mixed-methods  
|                               | - Standardize indicators  
|                               | - Improve the quality of the M&E when possible  
|                               | - Expand on next-generation indicators for outcome evaluation  
|                               | - Focus on child and household level outcomes  
|                               | - Rigorous design  
|                               | - Comparison and control groups when possible  
|                               | - Baseline assessment |

| 3. Improving Data Analysis and Usage | - Thoroughly analyze data  
|                                     | - Gender and age analysis  
|                                     | - Use specialized data sources when necessary  
|                                     | - Use the data for decision making |

Source: (Guidance for Orphan and Vulnerable Children Programming, 2012)

When analyzed against this framework, FABRIC project staff had varied perceptions, priorities and capacity at each tier of the project. The project did not hire or retain the staff that it had originally proposed. Additionally, a number of factors were identified that impeded or prevented the project from conducting the originally proposed baseline and midline evaluations. This resulted in a M&E system that could not adequately capture complexities and measure impact.
Significance to Practice in Zambia and Beyond

Zambia is committed to bringing health as close to the family as possible and improving the wellbeing of its children. In addition, GRZ committed to move toward the MDGs and progressively realize child rights for all children and, at the very least, meet a minimum standard for every child. To do so, like Zambia, most countries have collaborated with local non-governmental organizations (NGOs), international NGOs (INGOs), faith-based organizations (FBOs), and the private sector to implement policy. Yet the paucity of OVC programmatic outcome evaluation in the peer-reviewed literature compounds the challenge of evidence-based decision-making for policy makers and implementers. While this study aimed to improve evidence-based OVC policy and programming decisions by addressing these issues within the Zambian context, findings and recommendations will inform audiences beyond Zambia.

The FABRIC project community-based model is characteristic of many OVC programs. Additionally, our analysis of three programs in Zambia revealed similar challenges and successes. Moreover, the framework used to analyze the M&E experience of the FABRIC project was released in July 2012, and is the guiding document for implementers currently funded by the US PEPFAR initiative (Guidance for Orphan and Vulnerable Children Programming, 2012). In FY 2011 alone, PEPFAR provided $311 million of funding to OVC programs in Africa ("The United States President’s Emergency Plan for AIDS Relief (PEPFAR) Fiscal Year 2011: PEPFAR Operational Plan," 2011), suggesting continued
support of OVC programs in the region. In accordance with the UNICEF framework and PEPFAR guidance, projects frequently prioritize educational and psychosocial support of children (<i>Guidance for Orphan and Vulnerable Children Programming</i>, 2012; United Nations Children's Fund, 2004, 2007). Lessons from the in-depth examination of the FABRIC project monitoring and evaluation system, therefore, will be broadly applicable to current programs operating in a similar context with a similar project approach.

**Recommendations**

Although the FABRIC project has closed, findings from the population it served and from its M&E experience provide important and salient lessons and recommendations for OVC program implementers seen in Table 6.2.

<table>
<thead>
<tr>
<th>Table 6.2: Recommendations for OVC Program Implementers</th>
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<tbody>
<tr>
<td><strong>Recommendations for OVC Program Implementers</strong></td>
</tr>
<tr>
<td>1. Develop M&amp;E plans that are both responsive to donor mandates and inclusive of community-defined measures of quality and success</td>
</tr>
</tbody>
</table>

When programs have diffuse, unclear interventions, or a multifaceted approach, M&E systems must be designed to adequately capture those dynamics and complexities. Though necessary for stakeholders at the highest levels, merely counting the numbers enrolled, services delivered, or people trained cannot adequately assess the success of a program. Community-based participatory research (CBPR) is a collaborative approach to measuring success and allows community members to define their measurements of success and has proven successful in Zambia and the sub-Saharan region (Kamanda et al., 2013; K Schenk et al., 2008). While process indicators are critical for the donor and standardized outcome indicators are critical for broader comparisons, CBPR could complement these and offer an opportunity to let the stakeholders who are most impacted by the intervention participate and define its quality and success.

2. Prioritize baseline capacity assessment of all partners and adapt project expectations accordingly
Capacity and systems strengthening are core pillars of health and development programs. Given this a solid and accurate understanding of individual and organizational capacity at all levels is critical to ensure a point from which to measure improvement. Projects should seek to understand the baseline capacity, prioritize selecting appropriate capacity outcomes, and then plan program implementation and set expectations accordingly.

3. Improve the accountability framework at all levels of the project by ensuring data analysis and use

While upward accountability is critical and inevitably linked to continued funding, improving communication, transparency, feedback and accountability is also critical. Using data and feedback loops would improve quality and informed decision-making at all tiers.

4. Invest in understanding the quality of capacity building efforts

Given that capacity building is an integral element of most programs, trainings and other capacity building efforts should be systematically evaluated for quality outcomes, rather than only numbers of individuals trained. A Capacity Development Officer could be responsible for assessing baseline capacity and monitoring progress of the capacity development efforts.

5. Consider shifting program focus away from providing school materials and toward school-based approaches that might address the intersection of academic performance and psychosocial wellbeing

Although more research is warranted in the Zambian context, if orphans’ needs for accessing school are being met through other initiatives, OVC programs may be more effectively address needs by shifting their focus toward approaches that could address the important intersection of school performance and psychosocial wellbeing.

6. Be cognizant of the potential negative impact that removing external support can have on children, particularly in regards to psychosocial wellbeing

Although education support and loss of education support was not associated with change in the education outcomes examined here, losing psychosocial support had a negative impact on psychosocial wellbeing.

7. Reconsider orphan status as a marker of vulnerability and document enrollment strategy

In this sample, orphanhood was not a predictor of worse educational status or psychosocial outcomes compared to non-orphans over one year suggesting orphanhood might not be an appropriate indicator of vulnerability in this context.
While it is often assumed that orphans in sub-Saharan Africa are systematically disadvantaged in educational and psychosocial outcomes, the evidence-base supporting this assumption is inconsistent and complex. Program implementers should consider alternative targeting strategies and ensure the strategy is well documented and implemented to improve program evaluation efforts.

We also offer a set of five recommendations for OVC policymakers and donors to improve OVC program quality and learning.

<table>
<thead>
<tr>
<th>Table 6.3: Recommendations to OVC Policymakers and Donors</th>
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<tbody>
<tr>
<td><strong>Recommendations for OVC Policymakers and Donors</strong></td>
</tr>
<tr>
<td><strong>1. Increase implementer accountability to project plans and best practices</strong></td>
</tr>
<tr>
<td>It is clear that projects are responsive to donor requirements. Given the realities of implementation, proposed plans do not always materialize. Projects are typically held accountable for financial reporting and to process targets mandated by the donor. The same should be true for monitoring and evaluation plans, so that donors and implementers can understand the value and impact of their investments. Projects should be held accountable or even incentivized for adhering to the primary tenets set forth in the monitoring and evaluation guidelines.</td>
</tr>
<tr>
<td><strong>2. Invest in integrating measures of quality into reporting frameworks</strong></td>
</tr>
<tr>
<td>Donors should consider incorporating quality and impact measures in the reporting requirements. Although it is explicit in the 2012 OVC guidelines that the donor required process indicators are not sufficient for impact evaluation, data suggest that many factors might impede an implementer from expanding the breadth of evaluation, unless mandated by the donor.</td>
</tr>
<tr>
<td><strong>3. Enforce the guidelines that 10% of program budget be allocated for M&amp;E efforts</strong></td>
</tr>
</tbody>
</table>
| The 2012 OVC guidelines state that 10% of the program budget be allocated for M&E efforts. Donors should ensure that programs are held accountable to allocating and spending this 10% accordingly. Increasing program efforts and budget on M&E might be challenging, particularly for implementers accustomed to only reporting count numbers. Additionally, enforcing this may in fact relieve implementers from the perception that they are choosing to divert funds away
from beneficiaries and toward monitoring and evaluation efforts.

4. Require that projects have a core staff and realistic project expectations

Policymakers and donors should take steps to ensure that program staff are not over-stretched. Unrealistic expectations and under-staffed projects can compromise quality implementation and M&E efforts. Implementation and M&E efforts necessitate competent and consistent staff. Technical skills of proposed staff should match the project goals, and projects should be held accountable for operationalizing plans and ideas set forth in the proposal. Lastly, consider rewarding for retaining a consistent workforce with minimal turnover.

5. Consider funding pilot studies of interventions that might better address the intersection of academic performance and psychosocial wellbeing

Although more research is warranted in the Zambian context, if orphans’ needs for accessing school are being met through larger scale policy initiatives, OVC programs may more effectively address needs by shifting their focus toward approaches that could address the important intersection of school performance and psychosocial wellbeing. A growing body of literature in the US suggests that organized sports and after school activities can improve the psychosocial wellbeing and educational outcomes of children (Bohnert and Garber; Poulin and Denault; Fredricks and Simpkins; Coatsworth and Conroy3). Given that nearly all children in our sample were enrolled in school and those few that were not still reported participating in organized sports or other group activities, this might be another important area for OVC programs to focus.

Conclusions

The impact of external support on orphan wellbeing has not been thoroughly explored in the Zambian context or in the sub-Saharan region. As a strategy to fulfill the rights of all children and to progress toward meeting the Millennium Development Goals, community-based OVC support programs continue to gain momentum, funding, and political support. They often implement following guidance from UNICEF, donors and from international NGOs, yet the evidence undergirding those guidance documents is sparse.
Monitoring and Evaluation (M&E) is a critical component of any public health or social program. While the concept of M&E is deeply entrenched in collective conscience of public health implementers, M&E systems often lack depth and rigor for a number of reasons identified in this dissertation. Continuing to strengthen these M&E systems will allow us to: 1) design programs that are targeting the most vulnerable children and are responsive to community needs, 2) measure the quality and impact of these programs, and 3) build an evidence base to inform policy. Prioritizing and investing in M&E systems that allow us to learn from our successes and failures will ultimately improve the lives of the children we are aiming to serve.
References:


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KEY QUALIFICATIONS

• Extensive experience in monitoring, evaluation and operations research in urban and rural sub-Saharan Africa

• Extensive experience designing, implementing, monitoring, evaluating, and disseminating findings from NIH, USAID, CDC, and foundation-funded programs and studies in sub-Saharan Africa; budgets ranging from USD 20,000 to USD 18 million.

• Five years in-country (Zambia) experience building the capacity of host-country governments, implementing partners, and local researchers to conduct methodologically rigorous operations research and evaluation in the context of HIV/AIDS

• Extensive experience as coordinator or co-investigator in quantitative, qualitative, and mixed research methodologies, including randomized controlled trials, quasi-experimental design strategies for causal inference, cross-sectional and longitudinal survey methods, policy analyses, costing models, and community-based participatory approaches.

• Ability to analyze, synthesize, and translate public health evidence into policy and programmatically relevant products.

• Excellent analytical, written, and oral communication skills; technical proficiency in SAS, NVIVO, Teleforms, CS Pro

EDUCATION

Boston University School of Public Health, Boston, MA
Sep 2008 – July 2013
• Doctor of Public Health, International Health Concentration

Boston University School of Public Health, Boston, MA
Jan 2002 – May 2003
• Master of Public Health, International Health Concentration
Boston University School of Public Health, Boston, MA
Sep 2002 – Dec 2002
  ▪ Certificate of Management and Finance for International Health

Association of Cultural and Linguistic Education, San Remo, Italy
Apr 2001 – May 2001
  ▪ ACLE Teacher of English as a Foreign Language Certificate

Santa Clara University, Santa Clara, CA
Sep 1996 – Jun 2000
  ▪ Bachelor of Science in Biology, emphasis in pre-medicine
  ▪ Minor studies in Medieval and Renaissance History; recipient of department’s annual studies award

Gonzaga University in Florence, Florence, Italy
Sep 1998 – May 1999
  ▪ Full-year Study Abroad Program

HONORS AND AWARDS
  ▪ Recipient of Boston University Women’s Guild Katherine Connor McLaughlin Scholarship, May 2011
  ▪ Presenter at United States Congressional Sub-committee on Global Health as student testimonial for Consortium of Universities for Global Health, September 2009
  ▪ Recipient of International Health Department, Boston University School of Public Health Academic Scholarship, 2008-2009
  ▪ Member Alpha Beta Chapter Delta Omega Society, Public Health Honorary Society, 2003

MEMBERSHIPS AND INTERESTS
  ▪ Member of: Global Health Council since 2002; American Public Health Association since 2005; American Evaluation Association since 2012.
  ▪ Reviewer: AIDS Care since 2007, Bulletin of WHO since 2009

RELEVANT EXPERIENCE
Boston University Center for Global Health and Development (CGHD), Boston, MA
Mar 2004 – Present
  Assistant Professor
Aug 2013-present
- Principal Investigator for Sustainable Access for Waiting Mothers, Southern Province Zambia.
- Co-Investigator for PMTCT Costing Study in Southern Province, Zambia
- Head of the Monitoring and Evaluation Emphasis Area for the International Health Concentration

Instructor
Aug 2009-Jul 2013
- Co-Investigator for PMTCT Costing Study in Southern Province, Zambia.
- Co-Investigator for Evaluation of the Yekokeb Berhan Program in Addis Ababa, Ethiopia
- Co-Investigator/Technical Lead for Longitudinal Orphans and Vulnerable Children study in Zambia
- Co-investigator/Technical Lead for 3-country, USAID-funded Orphans and Vulnerable Children End of Project Evaluation
- Co-investigator for impact evaluation of the Pfizer Global Health Fellows Program, Corporate Social Responsibility Department
- Technical lead for evaluation of community-based exclusive breastfeeding support program, Southern Province, Zambia

Doctoral Student/Program Associate
Sep 2008-Jul 2009
- Provided technical support including data analysis, monitoring, and evaluation of Zambia’s PMTCT and Early Infant Diagnosis (EID) program, and Child Sexual Abuse Clinic
- Co-investigator for evaluation of the Pfizer Global Health Fellows Program, Corporate Social Responsibility Department
- Co-investigator for evaluation of community-based exclusive breastfeeding support program, Southern Province, Zambia

Boston University Center for International Health and Development (CIHD), Lusaka, Zambia
Feb 2004 – Aug 2008
Country Director
Sep 2006-Aug 2008
- Established country field office for Boston University; participated in all key planning decisions and development of operational structures, to shape the program’s vision and strategy for Zambia
• Designed data collection and monitoring system for all Zambia-based research and service delivery projects including a Province-wide PMTCT and EID program

• With PEPFAR funding, assisted the Government of Zambia (GoZ) with integrating and scaling-up PMTCT services in Southern Province consistently exceeding donor expectations; expanded program from 4 UNICEF pilot sites in 2004 to 170 sites.

• Oversaw all operations including financial planning and management, monitoring and evaluation, supply procurement, and reporting of the country program research and service activities in the following areas: PMTCT, EID, Community Management of Childhood Illnesses, HIV Costing and Economics, and Mental Health and Child Sexual Abuse

• Served as technical advisor on GoZ PMTCT and Pediatric ART Technical Working Group and Palliative Care Working Group

• Directed and coordinated a team of 35 local technical and administrative staff, one expatriate hire and student interns in six field offices throughout the country

• Served as co-investigator on two HIV economics research studies: Factors Influencing Enrollment in Antiretroviral Treatment for HIV/AIDS in Zambia and Costs and Outcomes of Models for Delivering Antiretroviral Therapy for HIV/AIDS in Zambia.

HIV/PMTCT Projects Manager
Oct 2005-Aug 2006

• Provided effective oversight, planning, financial management, implementation and monitoring of the Zambia Exclusive Breastfeeding Study (ZEBS), the PMTCT Integration Project in Southern Province of Zambia and the HIV components of the Mental Health Portfolio

• Supervised 20 full time local technical and administrative staff, volunteers and student interns in main office and four satellite sites, reporting regularly to technical management team in Boston

Project Coordinator, Zambia Exclusive Breastfeeding Study (ZEBS)
Mar 2004-Sep 2005

• Oversaw daily operations of US$7 million randomized control trial aiming to determine if short-term, exclusive breastfeeding with abrupt weaning had a net benefit for HIV-exposed children compared to current practice

• Ensured administrative, financial, data, and laboratory accuracy and integrity
• Established and maintained transparent and accountable financial and reporting procedures; contributed to efficient financial management including monitoring financial reports, cash flow and budgeting

• Oversaw the design, implementation, and monitoring of small income generation program for study participants

Huntington’s Disease Society of America, Denver, USA
Development Director, Rocky Mountain Region
Jul 2001-Jan 2002
• Managed major fundraising and educational events for the HDSA Rocky Mountain Region; major gala event netted over $250,000, the highest in organizational regional history

• Designed and conducted community education programs with local hospices, Emergency Rescue Officers, Pilot International Association and Alzheimer’s Association

CONSULTANCIES AND INTERNSHIPS
Freelance Editor, Boston MA
Dec 2009 – Present
• Provide editing support for public health publications

Management Sciences for Health, Cambridge MA
Monitoring and Evaluation (M&E) Intern
• Drafted course to orient M&E field staff of the Leadership, Management, and Sustainability Program to best M&E practices

British American Tobacco (BAT) Company, Lusaka, Zambia
HIV/AIDS Consultant
Nov 2004 – Dec 2004
• Designed and implemented a successful anonymous un-linked HIV sero-prevalence survey among over 120 BAT employees in Zambia at two sites, using saliva based testing methods

• Authored study protocol, trained sample collectors, facilitated sensitization and informational meetings, coordinated logistics, provided oversight for sample testing, analyzed data and produced final report for the company; testing uptake exceeded 90%

Boston University Center for International Health and Development, Boston MA
Technical Writing Consultant
Oct 2003 – Feb 2004
Managed project to produce the final report for the five year, multi-country and multidimensional United States Agency for International Development (USAID)-funded Applied Research on Child Health (ARCH) Project

National Malaria Control Center, Lusaka, Zambia
Boston University Intern
Jun 2003 – Sep 2003
- Developed the Zambian National Insecticide Treated Net (ITN) Database to improve efficiency of ITN distribution, tracking and monitoring; database was adopted by the World Health Organization's Global Atlas of Infectious Disease and remains the tracking system for the Zambian National Malaria Control Center
- Trained rural health professionals on computer skills including Excel, Access, and HealthMapper to improve data quality and program evaluation

TEACHING EXPERIENCE
Boston University School of Public Health, Boston, MA

- Instructor. Department of International Health. IH 745: Monitoring and Evaluation of International Health Programs. Fall 2012, Fall 2013


Association of Cultural and Linguistic Education, San Remo, Italy
English Teacher
May 2001 – Jul 2001
• English Teacher. Created lesson plans and taught English to Italian children ages six to eighteen.

PUBLICATIONS AND ABSTRACTS

Publications


of Antiretroviral Therapy in Urban Zambian Women: A Qualitative Study. AIDS Care, 2009; 21(1):78-86.


**Abstracts**


