**Population Studies Center**

**University of Michigan**

**Health, Education, and Economic Interventions for Orphans and Vulnerable**

**Children**

**Principal Investigator: Dean Yang**

**Funding Organization: USAID/PEPFAR**

**Document: Impact Evaluation Protocol**

**Date: August 19, 2016**

**List of Abbreviations:**

|  |  |
| --- | --- |
| ART | Anti-retroviral therapy |
| CCPC | Community Child Protection Committees |
| CRC | Child Rights Clubs |
| IPA | Innovations for Poverty Action |
| IRB | Institutional Review Board |
| JPAL | Abdul Latif Jameel Poverty Action Lab |
| MMAS | Ministry of Woman and Social Action’s |
| NBER | National Bureau of Economic Research |
| OVC | Orphans and Vulnerable Children |
| PEPFAR | President’s Emergency Plan for AIDS Relief |
| PII | Personally-Identifiable Information |
| RCT | Randomized Controlled Trial |
| SDSMAS | Directorates for Health, Women and Social Action |
| **FCC** | **Strengthening Family and Community Support to Orphans and Vulnerable Children** |
| SHNS | School Health and Nutrition Assessments |
| USAID | United States Agency for International Development |
| VSL | Village Savings and Loan |
| WEI/B | World Education Inc./Bantwana |

**Contents:**

0. Summary/Abstract ................................................................................................ 4

1. Introduction .......................................................................................................... 5

1.1. Literature Review .............................................................................................. 5

1.2. Rationale ............................................................................................................ 6

2. Objectives of the Study ......................................................................................... 7

2.1. General Objective ................................................................................................. 7

2.2. Specific Objectives ............................................................................................... 7

3. Methodology ......................................................................................................... 8

3.1. Study Design ...................................................................................................... 8

3.2. Field of Study, Study Population, Sampling Method ........................................ 8

3.3. Sample Size ........................................................................................................ 9

3.4. Inclusion and Exclusion Criteria ........................................................................ 9

3.5. Procedures ......................................................................................................... 10

3.6. Data Analysis .................................................................................................... 12

3.7. Data Management ............................................................................................. 13

4. Control and Monitoring of Quality ...................................................................... 14

5. Documentation ..................................................................................................... 14

6. Ethical Aspects .................................................................................................... 14

6.1. Ethics Review ................................................................................................... 14

6.2. Obtaining Informed Consent ............................................................................ 15

6.3. Insurance and Compensation ............................................................................ 15

7. Study Limitations ................................................................................................. 15

8. Results Release .................................................................................................... 15

8.1. Dissemination Activities Targeted at Policy Makers ........................................ 15

8.2. Academic Publications ...................................................................................... 16

9. Schedule ............................................................................................................... 17

10. References ............................................................................................................ 19

**Summary/Abstract**

The HIV/AIDS crisis in Sub-Saharan Africa has left millions of children orphaned, and millions more suffer direct and indirect effects of the crisis. These children, who are potentially infected with HIV themselves, are highly vulnerable and face a number of serious risks to their health and overall well-being. The U.S. government via PEPFAR is funding a newly established program in Mozambique, “Strengthening Family and Community Support to Orphans and Vulnerable Children” (FCC), which aims to reduce the socio-economic impact of HIV/AIDS on OVC[[1]](#footnote-1) and their caregivers. The FCC program is carrying out a variety of health and economic interventions to help OVCs and the households in which they live. Health interventions involve a bundle of integrated programs aimed at identifying and referring children to public health centers for HIV testing and anti-retroviral therapy (ART). Economic interventions involve village savings and loan (VSL) programs to improve income, consumption, and risk-coping in OVC households.

The objective of this study is to rigorously measure the impact of the FCC program on health care utilization, health outcomes, education outcomes, and household economic conditions. These outcomes will be measured for representative samples of OVC households in baseline (pre-treatment) and follow-up (post-treatment) surveys. Random assignment will allow estimation of the causal impact of the interventions. The study will be conducted in **Manica, Sofala, and Zambezia provinces**.

The HIV/AIDS pandemic has been one of the largest global health crises of the last few decades. This study aims to shed light on the effectiveness and impact of one of the most prominent and well-funded efforts at ameliorating the impacts of the crisis. The results will therefore be of direct relevance for policy, by allowing cost-benefit analyses of this program so as to best prioritize scarce aid resources in the context of the HIV/AIDS crisis.

**Key Words:** HIV; Orphans; Vulnerable Children; Microfinance; Savings; Credit

**1.** **Introduction**

***1.1. Literature Review***

Out of an estimated 35.2 million people living with HIV worldwide in 2012, 25.0 million are in Sub-Saharan Africa. The region also accounts for a dominant share of new HIV infections: 1.6 million out of a global total of 2.3 million in that year. In Mozambique in 2012, 1.6 million people out of a population of 25.2 million were living with HIV, out of which 200,000 were children (aged 14 or below). The country has an estimated 120,000 new HIV infections annually, and one-sixth of these are children (UNAIDS Global Report 2013).

The U.S. Government’s most important programmatic response to the HIV/AIDS crisis is the President’s Emergency Plan for AIDS Relief (PEPFAR), initiated in 2003. Recognizing that children are among the most vulnerable populations to the HIV/AIDS pandemic,[[2]](#footnote-2) PEPFAR mandates part of its funding be devoted to programs benefiting children orphaned or made vulnerable by HIV/AIDS (“orphans and vulnerable children,” or OVC).[[3]](#footnote-3) PEPFAR’s programs for OVCs take an integrated approach, with interventions at child, family, and community levels; that target child needs at different developmental stages; and that are connected to other development programs related to education, nutrition, and household economic development (President’s Emergency Plan for AIDS Relief 2006).

PEPFAR funding is supporting a newly established program in Mozambique, “Strengthening Family and Community Support to Orphans and Vulnerable Children” (abbreviated FCC), which aims to reduce the socio-economic impact of HIV/AIDS on OVC and their caregivers. FCC is a five-year program (**beginning in 2016**) and is implemented in Mozambique by World Education Inc./Bantwana (WEI/B) (as lead organization) and a set of partner organizations. With an objective to improve families’ and communities’ ability to support, protect, and care for OVC and caregivers, the program has five components, as follows:

# Strengthened coordination and harmonization of care, protection and support services for OVC households at the district and community levels

# Increased access to education and improved learning outcomes for OVC

# Increased access to healthcare and nutritional support for OVC and caregivers

# Improved coping mechanisms for OVC and caregivers

# Improved socio-economic status of OVC households

In the context of economic development interventions, the FCC program can be thought of as having two broad components. First, the program aims to improve access to health and education (components 1-4 above). These components involve a bundled set of interrelated interventions that aim to improve access to health care and education for OVCs and caregivers. Component 1 involves establishing and strengthening referral networks within communities to identify and refer OVCs to public health clinics. Component 2 works with schools in beneficiary communities to integrate them in to the referral network, train school councils on ways to help OVCs, and provides schools with grants conditional on meeting OVC schooling objectives. Component 3 involves strengthening links between the community referral networks and the public health clinics conducting HIV testing and treatment. Component 4 creates school-based networks to provide psychosocial support for OVCs and their caregivers, and to bolster the community and school referral networks.

The second broad component of the FCC program involves improving the socio-economic status of OVC households (component 5 above). This component will involve implementing village savings and loan (VSL) programs in beneficiary communities. VSL programs involve facilitating and training individuals to organize themselves into simple savings and credit groups, with the aim of improving access to savings and credit in populations that are poorly served by formal institutions. Facilitators provide training and guidance to volunteer members who elect their own officers, set by-laws, meet regularly, and collect savings from participants. Members can take loans from the communal pool of savings, upon review and approval by the group. Loans are repaid with interest, at an interest rate decided upon by the group. Groups manage their own funds, which are all internally generated from savings and interest earnings from loans. All transactions occur in public with full transparency in front of group members. Benefits may derive from improvements in household income prospects as well as improvements in ability to cope with risk.

The study will examine the impact of this bundle of health, education, and economic interventions broadly on the outcomes of OVCs and their households. The study does not have the power to examine the impact of sub-components of the bundle separately. Our objective is to estimate the impact of a multifaceted “health, education, and economic” program for OVC households. Follow-up survey work can help identify which subcomponents appear to be active mechanisms through which impacts are channeled, and future work in subsequent studies can take these findings as inputs into design of programs that directly randomize and test the impacts of subcomponents of the bundle.

Implementation of the program will be carried out by WEI/B and partner organizations. Evaluation of the impact of FCC will be done by the Population Studies Center, Institute for Social Research, University of Michigan, under Principal Investigator Dean Yang. This proposal outlines the impact evaluation plan for FCC.

***1.2. Rationale***

This study aims to provide convincing estimates of causal effects of a PEPFAR program via randomized selection of beneficiary sites. FCC will be implemented in randomly-selected communities across districts in central Mozambique (Manica, Sofala and Zambezia provinces). Random assignment allows the causal effect of the interventions to be identified in a convincing fashion. Past studies of PEPFAR programs have not been able to exploit a prospectively randomized intervention design, and instead have relied on retrospective analysis with control or comparison groups that were not randomly selected. In addition, past studies have not tracked defined groups of individuals over time (from before to after program implementation), and so have difficulty shedding light on mortality (one of the most important outcomes to examine in this context), and in addition are subject to attrition biases (Bryant et al 2012).

A key aim of the study will be to shed light on the economic strengthening component (component 5) of the FCC program. Previous research has examined the impact of financial education and financial access on rural households, but has not done so in the context of a comprehensive health intervention such FCC. In particular, buffer stock savings[[4]](#footnote-4) may be especially important for households close to the edge of subsistence, or with serious chronic health conditions such as HIV. In a recent study conducted in Mozambique in Manica province (one of the FCC provinces) by PI Dean Yang, facilitation of formal savings for rural households was found to raise consumption levels and improve household ability to cope with agricultural shocks (Carter, Laajaj, and Yang 2016).

A recent randomized controlled trial on the impact of VSL programs in Mali found that the program led to improved food security, consumption smoothing, and buffer stock savings (Beaman, Karlan, and Thuysbaert 2014). In this context, this study has the opportunity to reveal whether the risk-coping benefits from informal group-savings programs can bring benefits to OVCs and their households. OVC households, due to the presence of individuals who may be HIV positive, have chronic health conditions that make access to financial mechanisms (such as buffer stocks of savings, and access to credit) potentially useful for coping with the particular health shocks associated with HIV/AIDS. This will be the first study (to our knowledge) of the impact of a widely-implemented financial access intervention on the outcomes of OVCs and their households (a vulnerable population with particularly pressing needs for risk-coping mechanisms).

**2. Objectives of the Study**

***2.1. General Objective***

The primary objective of this study is to evaluate the impact of health and economic interventions from the FCC program on outcomes of OVCs and the households in which they live.

***2.2. Specific Objectives***

* Measure the impact of the FCC program on health care utilization (health center visits, HIV testing, diagnosis, and treatment)
* Measure the impact of the FCC program on health outcomes (anthropometrics, morbidity, mortality)
* Measure the impact of the FCC program on education outcomes (attendance, performance, grade progression)
* Measure the impact of the FCC program on household economic conditions (investment in agricultural and non-agricultural activities, use of modern agricultural inputs, farm income, non-farm income, consumption per capita)
* Evaluate if the economic strengthening interventions in the FCC program affect household ability to cope with health and other (e.g., agricultural, weather) types of shocks. If so, determine what financial instruments households use to cope with shocks (credit, savings, asset accumulation and decumulation)

**3. Methodology**

***3.1. Study Design***

This study aims to provide convincing estimates of causal effects of the FCC program using a randomized controlled trial (RCT) methodology. This methodology is the gold-standard in impact evaluation, as random selection of beneficiaries helps ensure that treatment and control groups are similar to one another on average on baseline characteristics. Because it is randomly selected, the control group serves as the counterfactual for the treatment group, representing the time-path of outcomes of interest that the treatment group would have followed had it not been treated.Past studies of PEPFAR programs have not been able to exploit a prospectively randomized intervention design, and instead have relied on retrospective analysis with control or comparison groups that were not randomly selected. In addition, past studies have not tracked defined groups of individuals over time (from before to after program implementation), and so have difficulty shedding light on mortality (one of the most important outcomes to examine in this context), and in addition are subject to attrition biases (Bryant et al. 2012).

**In this study, communities (bairros) will be randomly selected for inclusion in the FCC program. Bairros randomly selected for inclusion in the FCC program will form the treatment group. Bairros not randomly selected for inclusion in the FCC program will form the control group. Outcomes of individuals and households in the treatment group bairros will be compared with corresponding outcomes in the control group bairros, to estimate the impact of the FCC program.**

***3.2. Field of Study, Study Population, Sampling Method***

The target population for this study is OVC and the households in which they live. OVC households will be identified via door-to-door enumeration of households with a predefined list of questions that are aimed at identifying orphans and vulnerable children. Due to the sensitive nature of such questions, the protocol for identifying OVCs and their households will be designed in close consultation with local partner organizations and field-tested to ensure cultural acceptance and recognition of cultural sensitivities. Recognizing that SFCS interventions are implemented at the community level, treatments will be randomly assigned to communities across districts in Manica, Sofala, and Zambezia provinces **(Manica: Manica, Chimoio, Gondola; Sofala: Dondo, Nhamatunda; Zambezia: Namacurra, Nicoadala).** Communities will be defined in collaboration with local government and stakeholders. Twice the number of treated communities will be pre-qualified as eligible communities. This will allow targeting towards the most desirable or deserving communities from the standpoint of the program, while allowing gold-standard impact evaluation in the context of an RCT. The subset of treated communities will then be selected via random lottery. Within treatment and control communities, we will randomly select a subset of OVC households to survey and follow through time.

***3.3. Sample Size***

The study has a cluster-randomized experimental design, **meaning that communities (rather than households) will be randomly selected for inclusion in the FCC program. Groups (clusters) of households will be randomly assigned to treatment or control groups based on the assignment of their communities.** The household survey will have a total sample size of approximately 4,000 OVC households across approximately 100 communities. With communities as clusters, we therefore have about 40 OVC households per cluster.

The study has sufficient power to detect effects of reasonable size on the key outcomes of interest. Power calculations are based on a baseline survey and single follow-up, and were done using the Optimal Design program.[[5]](#footnote-5) Effect sizes, standard deviations and intracluster correlations are calculated using 2013 survey data from Carter, Laajaj, and Yang (2016), an RCT examining the impacts of agricultural input subsidy and formal savings interventions in Manica province (one of the provinces included in the FCC project).

The following power calculation is for detecting an increase in log household consumption per capita. We make the following assumptions: statistical significance level 0.05; 100 clusters; intracluster correlation coefficient 0.057; 40 households per cluster; standard deviation 0.530; treatment effect on consumption 0.106 (0.2 standard deviations). Our study design has power of 0.937 to detect an effect of this size. At power of 0.80, the minimum detectable effect size on this outcome would be 0.161 standard deviations of log household consumption per capita.

Some outcomes are relevant for only subsets of households, because not all households will have children in age ranges relevant for certain outcomes. Health outcomes such as anthropometrics, for example, will be most relevant for younger children (aged 5 or below). We presume that children aged 5 or below will be present in one-half of sample households (20 households per cluster). We make the following additional assumptions: statistical significance level 0.05; 100 clusters; intracluster correlation coefficient 0.05; treatment effect of 0.2 standard deviation. Under these assumptions, our study design has power of 0.864 to detect an effect of this size.

We expect attrition of around 10% based on Carter, Laajaj, and Yang (2016). We will keep a list of households originally enumerated that were not randomly selected for the baseline survey and supplement follow up surveys with randomly selected households from this list to compensate for attrition.

***3.4. Inclusion and Exclusion Criteria***

*3.4.1. Inclusion Criteria*

The target population for this study is OVC and their caregivers. Therefore the study will include households with at least one OVC member as identified by the survey procedures. From the full set of OVC households identified in each community, a subset (40 households) will be randomly selected for inclusion in the survey sample in each community. Random selection of survey participants will help ensure that the sample is representative of OVC households.

*3.4.2. Exclusion Criteria*

Households that are not identified as OVC households will not be included in the survey sample. Therefore, the results of the study are not expected to be relevant for predicting impacts of the FCC program on non-OVC households. We view this as acceptable, because the aim of the FCC program is primarily to provide benefits for OVC households.

***3.5. Procedures***

*3.5.1. Data Collection*

**No survey of FCC study participants has been conducted yet, as of this application.** Survey data will be collected electronically in the following districts and three provinces in Mozambique:

Manica province: Manica, Chimoio, Gondola

**Sofala province: Dondo, Nhamatanda**

**Zambezia province: Namacurra, Nicoadala**

All surveys will be conducted in the main local languages spoken in the study districts.

In this study, a “community” will be a village or villages that are relatively close to a public health clinic and/or school, around which the health interventions will be conducted. These communities will be defined by the project in advance of all survey work, on a rolling basis, district by district, over the 12-month implementation phase of the project. A “community” will not necessarily correspond to official geographic units as defined by the Mozambican government. In each district, twice the number of treated communities will be pre-qualified as eligible communities. The subset of treated communities will then be selected via random lottery.

To identify study participants for inclusion in the baseline survey, a **household listing** of roughly **80-100 households per community** (for both treatment and control communities) will be performed first. This household listing will collect only basic information on each household and will be used to determine whether the household fits the criteria for the OVC interventions. Using a lottery system, a random selection of households from the listing that meet the criteria for being an “OVC household” will be selected for inclusion in the baseline survey, amounting to 40 households per community.

Prior to the implementation of interventions, **baseline survey** data will be collected on a sample of OVC households in each eligible community. The baseline survey will be implemented in a study population of 4,000 households across 100 communities in the study districts. The baseline survey will allow confirmation that communities are on average similar prior to implementation of treatments, and will also allow identification of households and individuals who are to be tracked over time in subsequent post-treatment survey waves. The household survey will include questions on health, education, social, and economic outcomes. **Both adult household members (> 18 years old) and children (ages 0 to 18 years old) will be interviewed for the study.** **Basic anthropometrics (height and weight) will also be collected for all household members.**

**The baseline survey will be pilot tested on a small sample of respondents prior to full survey implementation. If the baseline survey requires modification, we will submit an amendment to CNBS requesting review of the revised survey instrument prior to full implementation.**

Three **follow up surveys** will be conducted in communities 12, 36, and 48 months after the baseline survey. The follow-up surveys will aim to track OVCs even if they move to different households. Such cross-household mobility is an outcome of interest as a potential contributor to OVC well-being, and may be affected by the treatments.

Administrative data from World Education Inc./Bantwana and public health centers will allow measurement of participants’ engagement with SFCS interventions and health care utilization outcomes. This will include data on participants’ contact with CCPCs, participation in Child Rights Clubs, health center visits, HIV testing, diagnosis, and treatment.

*3.5.2. Interventions*

This study will examine the impact of the health, education, and economic interventions implemented by the FCC program. The FCC program will be administered by World Education Inc./Bantwana through local partner organizations under contract with USAID. It is important to note that this study is involved only with the evaluation and monitoring of the FCC program and not the implementation of the interventions.

The FCC program has five key components:

*1) Strengthened coordination and harmonization of care, protection and support services for OVC households at the district and community level.*

In tandem with the Ministry of Woman and Social Action’s (MMAS) efforts to roll out community-based case management, FCC aims to build the capacity of Community Child Protection Committees (CCPCs) in all three provinces to identify, refer, and monitor vulnerable children and families; create strong linkages between CCPCs and the Directorates for Health, Women and Social Action (SDSMAS) for improved networking and referrals; and improve district-level SDSMAS coordination of OVC services.

*2) Increased access to education and improved learning outcomes for OVC*

FCC will improve access to education and learning outcomes for OVC by working with 55 primary and lower secondary schools to deliver integrated services to OVC in the three provinces. This includes strengthening School Councils to support OVC retention; providing school health and nutrition assessments for students; training teachers in psychosocial services (PSS); training for teachers and students to implement school-based Child Rights Clubs (CRCs); and the development of Youth Entrepreneur Clubs.

*3) Increased access to healthcare and nutritional support for OVC and caregivers*

FCC will increase access to health care and nutritional support by strengthening referrals and linkages between communities and health facilities, as well as through a pediatric Antiretroviral Therapy (ART) program; School Health and Nutrition Assessments (SHNAs); youth-friendly ASRH services through sports interventions; emergency health funds for schools; school nutrition gardens; nutrition and health education sessions for parents/caregivers.

*4) Improved coping mechanisms for OVC and caregivers*

FCC will train teachers in psychosocial support and protection, establish Child Rights Clubs (CRCs) in schools, establish and facilitate Caregiver Support Groups, and support school-based PSS and protection interventions, including PSS boxes and CD listening groups.

*5) Improved socio-economic status of OVC households*

Over the course of the project, FCC will improve the socio-economic status of OVC households by building linkages to cash transfer programs; implementing an enhanced Village Savings and Loan Association (VSLA) model; supporting income promotion for families ready to grow; and equipping out-of-school adolescent OVC aged 15-18 with training in entrepreneurship and income generation through evidenced-based interventions, coupled with life skills through club-based activities.

***3.6. Data Analysis***

*3.6.1. Quantitative Analysis of the Data*

Data will be analyzed using the Stata/SE 12.1 software (Stata Corporation, College Station, TX, USA).

Random assignment of treatments across communities **(bairros)** allows identification of the causal impact of the program on various outcomes of interest. These regression analyses will be detailed in a pre-analysis plan to be submitted to the American Economic Association’s RCT Registry ([www.socialscienceregistry.org](http://www.socialscienceregistry.org)).

Primary regression analyses will be at the level of individuals and households in our survey sample (whose exposure to the treatments are also randomly assigned via randomization of their communities). Outcomes of interest will include health care utilization, testing, and treatment, all of which will come from administrative data. In addition, we will examine outcomes from survey data, such as mortality and morbidity, anthropometrics, and household income, consumption, and poverty metrics. The impacts of the bundle of community-support and economic strengthening treatments will be estimated via the following regression equation:

(1) *Yijs* = * + Cjs + s + εijs*,

where *Yijs* = the outcome for individual or household *i* in locality *j* in stratification cell *s*, *Cjs* is the indicator for locality *j* receiving the FCC treatment (1 if in the treatment group, and 0 if not),and *s* is a fixed effect for stratification cell *s*.[[6]](#footnote-6) *εijs* is a mean-zero error term. Treatment assignment is common for all households in the same community, so standard errors will be clustered at the level of the community to account for within-group correlation of dependent variables among those individuals (Moulton 1986). The coefficient ** on the treatment indicator is the intent to treat (ITT) effect of the bundle of community support and economic strengthening treatments.

We will test if missing data are correlated with treatment status. If not, we’ll allow observations to drop out if their data are missing to avoid biasing the treatment effect. If missing data or attrition are correlated with treatment status we will use methods from Dinardo, McCrary, and Sanbonmatsu (2006) to correct for selection bias.

***3.7. Data Management***

Data will be collected and stored electronically. All electronic data will be encrypted and backed up as soon as it is received. Aggregated, personally-identifiable information (PII) will not be stored anywhere in an unencrypted format. We will make two backup copies (encrypted for PII) of the original dataset to minimize the risk of corrupted file headers that cannot be decrypted as well as common data loss. The backed-up datasets will be stored on two secured servers/computers, one located at the University of Michigan and one will be located at the **field office in Beira**. These separate physical locations will ensure that at least one is protected in the event of fire, flood, or theft. Security software (firewall, anti-virus, anti-intrusion) will be installed and regularly updated on all servers/computers.

All data will be transmitted through mediums with SSL, IPSEC, or similar levels of encryption. Any non University of Michigan devices that are used to access project data will use secure VPN connections. Any data analysis that involves PPI will be performed on an internet-disabled computer. That computer should be Whole-Disk Encrypted as well as password-protected prior to analysis. Identifiable data can only be handled by project staff listed in the Protocol and can be used only in the ways outlined in the Protocol. Access rights will be terminated when authorized users leave the project. All individuals working with stored, identified data must have completed a human subjects training course prior to handling the data.

All data will be stored for three years after the conclusion of the study. The purpose of this storage is to allow time for the publication of results and to answer any questions about the veracity of these publications. Principal Investigators may extend storage duration beyond three years with reasonable cause and after having obtained permission from the Ethics Committee. During this storage period, the data will continue to be encrypted.

Following the storage period, all personally-identifiable information will be destroyed in a manner which protects the confidentiality of the research subjects. Any hard copies of the data will be shredded and any electronic data files should be deleted from all storage devices including any recycling bins. Data (cleaned of personally-identifiable information) will be released upon publication of the results of this study or 24 months from the completion of data collection (whichever comes first) in Stata/SE 12.1 (Stata Corporation, College Station, TX, USA) .dta file format. These data will be archived online through the development research organizations Innovations for Poverty Action (http://www.poverty-action.org/) and Abdul Latif Jameel Poverty Action Lab (https://www.povertyactionlab.org/). At no point will any of the data be sold or otherwise used for commercial purposes.

**4. Control and monitoring of quality**

The following steps will be taken to control and monitor the quality of the data. Prior to data collection, surveyors will receive a detailed survey manual and will be trained on the survey instrument and data collection procedures. They will be administered tests and quizzes throughout training to assess their knowledge.

To ensure surveys are being correctly administered, a minimum of 10% of households surveyed by each surveyor will be observed by a supervisor. Additionally, a minimum of 10% of unsupervised respondents will be back checked. Multiple back check instruments that cover the entire survey will be used. Each back check instrument will cover a minimum of 10% of the total survey instrument. Weekly random spot checks will be performed on a minimum of 15% of the data for each surveyor to check for suspicious patterns and anomalies.

**5. Documentation**

A backup copy of all important documents related to the study will be securely stored by Dean Yang in his office at University of Michigan either physically or on a secure password protected computer. Staff will be able to access these documents with his approval when necessary to carry out their duties. Data will be securely stored according to the procedures set out in section 3 of the Study Protocol. Upon the conclusion of the study, sensitive research-related documents will be retained no longer than 3 years and then destroyed. The research department will be informed before the destruction of these documents. Data (cleaned of personally-identifiable information) will be released upon publication of the results of this study or 24 months from the completion of data collection (whichever comes first) in Stata/SE 12.1 (Stata Corporation, College Sation, TX, USA) .dta file format. These data will be archived online through the development research organizations Innovations for Poverty Action (http://www.poverty-action.org/) and Abdul Latif Jameel Poverty Action Lab (https://www.povertyactionlab.org/).

**6. Ethical Aspects**

***6.1. Ethics Review***

This study includes the collection of delicate personal information, which requires strict compliance with the standards of ethical conduct in research involving human subjects. Where appropriate, survey team supervisors will meet with village leaders in coordination with local health authorities to explain the nature of the study and seek permission to conduct the research. We do not anticipate having any difficulties with this process since this study works towards improving outcomes for OVC and their families in Mozambique.

The privacy of study participants will be ensured: individually-identifiable information such as names will not be reported on. Instead, the analysis plan will look at aggregated information of large numbers of study participants.

Prior to implementation, this study will attain approval from both the Mozambique IRB as well as the University of Michigan IRB. Over the course of the study, any amendments to the study protocols or the survey instruments will be submitted for approval by both IRB boards.

***6.2. Obtaining Informed Consent***

Informed consent will be sought from all adult participants (or, in the case of children, their caregivers) prior to participation. The consent will contain an explanation of the study, an explanation of any perceived risks, a description of any possible adverse effects, and will inform the individual of his or her right to withdraw from the study at any time or abstain from answering any questions without penalty. For persons who cannot read the consent form, it will be read to them. Persons not speaking Portuguese will be consented with the assistance of a translator or local language-capable surveyor. Persons unable to write are allowed to give their oral consent; in such cases the surveyor will record the name and signature of a witness.

***6.3. Insurance and Compensation***

There are no anticipated or known physical, psychological, social, or legal risks associated with this study. Given that participant information will be de-identified and encrypted, any risks to confidentiality are deemed minimal. Participant data will be shared only with the Principal Investigators and members of the evaluation team that have completed human subjects training.

**7. Study Limitations**

The primary limitation of this study is external validity. The results and findings will be most relevant to areas with similar cultural, social, and economic characteristics to the areas covered by the study. Policymakers and donors should be careful not to extrapolate findings to areas with significantly different characteristics. By randomly assigning treatment and control status to communities and randomly selecting OVC households to track over time we ensure that the results are representative of the districts in which the study takes place.

**8. Results Release**

***8.1. Dissemination Activities Targeted at Policy Makers***

The main focus during the dissemination stage at the end of the project is to present our findings regarding the impact of the FCC interventions in Mozambique. The findings of the study will first be disseminated to the Ministry of Health in Mozambique and primary stakeholders in the FCC program (USAID, World Education Inc./Bantwana, and local partner organizations). Subsequently, press releases, radio interviews, and presentations at various events in Mozambique and beyond will ensure diffusion of results and lessons learned within the national as well as regional development and public health communities.

The project plans for dissemination workshops at the provincial and national levels. In organizing these events, we will seek out partnerships with provincial and national public health agencies of the Mozambican government, the USAID Mission in Mozambique, relevant USAID headquarters departments, and with development and public health nongovernmental organizations (NGOs) in Mozambique and beyond.

In addition, we will actively seek out opportunities to present our results at policy-oriented as well as academic conferences, such as those organized by USAID BASIS-AMA-CRSP, Innovations for Poverty Action (IPA), the Jameel Poverty Action Lab (JPAL), the National Bureau of Economic Research (NBER), and regional and multilateral development agencies such as the African Development Bank and the World Bank.

***8.2. Academic Publications***

We will seek to publish the results of this study in in either general interest or top development field journals. Depending on the results of the empirical analysis, the study will result in one or more academic papers. At least one Ph.D. dissertation will be produced under this project which will also contribute additional potential academic studies, and which will also be submitted for publication in appropriate outlets.

Dissemination of working papers, submission and presentation at conferences and academic seminars, and submission for publication in journals will inform the larger academic and policy community of the evidence we generate on the effectiveness of the FCC program on the outcomes of OVCs and the households in which they live. Dissemination of our findings will potentially deepen the understanding of the types of interventions that help vulnerable populations exposed to HIV/AIDS in developing countries, stimulating follow-on research that builds on our findings.

**9. Schedule**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *June 1, 2016- July 31, 2016* | *August 1, 2016-July 31, 2017* | *August 1, 2017- July 31, 2018* | *August 1, 2018- January 31, 2018* |
| *A1.* | IRB application and approval |  |  |  |
| *A2.* | Logistical preparations for baseline survey |  |  |  |
| *A3.* | Pilot test baseline survey |  |  |  |
| *A4.* |  | Rolling implementation of baseline survey in 9 districts (exact order to be decided) |  |  |
| *A5.* |  | Collect administrative data |  |  |
| *A6.* |  |  | Rolling implementation of 1st follow up survey |  |
| *A7.* |  |  | Collect administrative data |  |
| *A8.* |  |  |  | Create write up of interim results and disseminate findings |
| *A9.* |  |  |  |  |
| *A10.* |  |  |  |  |
| *A11.* |  |  |  |  |
| *A12.* |  |  |  |  |
| *A13.* |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | *August 1, 2019- July 31, 2020* | *August 1, 2020- July 31, 2021* | *August 1, 2021- January 31, 2021* |
| *A1.* |  |  |  |
| *A2.* |  |  |  |
| *A3.* |  |  |  |
| *A4.* |  |  |  |
| *A5.* |  |  |  |
| *A6.* |  |  |  |
| *A7.* |  |  |  |
| *A8.* |  |  |  |
| *A9.* | Rolling implementation of 2nd follow up survey |  |  |
| *A10.* | Collect administrative data |  |  |
| *A11.* |  | Rolling implementation of 3rd follow up survey |  |
| *A12.* |  | Collect administrative data |  |
| *A13.* |  |  | Create write up of final results and disseminate findings |

**10. References**

Beaman, Lori, Dean Karlan, and Bram Thuysbaert (2014). “Saving for a (Not So) Rainy Day: A Randomized Evaluation of Savings Groups in Mali,” *NBER Working Paper 20600,* October 2014.

Bryant, Malcolm, Jennifer Beard, Lora Sabin, Mohamad I. Brooks, Nancy Scott, Bruce A. Larson, Godfrey Biemba, Candace Miller and Jonathon Simon. (2012) “PEPFAR's Support For Orphans And Vulnerable Children: Some Beneficial Effects, But Too Little Data, And Programs Spread Thin,” *Health Affairs*, 31, no.7 (2012): pp. 1508-1518. http://content.healthaffairs.org/content/31/7/1508.full.html

Carter, Michael, Rachid Laajaj, and Dean Yang (2016). “Subsidies, Savings, and Sustainable Technology Adoption: Field Experimental Evidence from Mozambique,” *working paper*, 2016. http://sites.lsa.umich.edu/deanyang/wp-content/uploads/sites/205/2016/03/carter-laajaj-yang-2016-subsidies-savings-technology-adoption.pdf

Dinardo, McCrary, and Sanbonmatsu (2006). “Constructive Proposals for Dealing with Attrition: An Empirical Example,” *Working Paper*, 2006. http://www-personal.umich.edu/~jdinardo/index.html#unpublished

Moulton, Brent (1986). “Random Group Effects and the Precision of Regression Estimates," *Journal of Econometrics*, 1986, 32 (3), 385-397.

President’s Emergency Plan for AIDS Relief (2006). “Orphans and Other Vulnerable Children: programming guidance for United States Government in-country staff and implementing partners,” Washington (DC): PEPFAR; July 2006. http://www.pepfar.gov/documents/organization/83298.pdf

UNAIDS Global Report (2013). Geneva Switzerland: UNAIDS; November 2013. http://www.unaids.org/sites/default/files/media\_asset/UNAIDS\_Global\_Report\_2013\_en\_1.pdf

1. A child is considered an orphan when he/she has lost one or both parents because of the virus of HIV / AIDS. This child is also considered vulnerable when living in high-risk circumstances and when his/her prospects for growth and development are threatened by HIV / AIDS . Example of these risks are: the diagnosis of HIV, the lack of support from adults, living without family care and marginalization and discrimination (PEPFAR 2006). [↑](#footnote-ref-1)
2. Across Sub-Saharan- Africa, roughly 15 million children have been orphaned by AIDS, having lost one or both parents. (Data from the UNAIDS Report on the Global AIDS Epidemic 2010, in which the definition for children is below 18 years of age.) [↑](#footnote-ref-2)
3. In PEPFAR’s 2008 reauthorization, 10% of funds were mandated to be spent on assistance to OVCs. PEPFAR defines children as those below 18 years of age. These funds amounted to more than $1 billion in 2006-09, and $672 million in 2010-11. (PEPFAR Operational Plans for fiscal years 2006-2011, available at http://www.pepfar.gov.) [↑](#footnote-ref-3)
4. Buffer stock savings can take a variety of forms. They can be held as financial savings, in banks or held in cash outside of banks. They can also take the form of physical assets, such as stores of grain or other agricultural products, livestock, iron sheet roofs, or jewelry or other valuables. [↑](#footnote-ref-4)
5. Available at http://hlmsoft.net/od/ [↑](#footnote-ref-5)
6. Inclusion of the stratification cell fixed effects can reduce standard errors by absorbing residual variation. Stratification will be at the level of 9 administrative districts included in the project, so stratification cell fixed effects will be equivalent to district fixed effects. [↑](#footnote-ref-6)