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To cite this article: Gretchen H. Thompson & Whitney Moret (2019) Building a theory of change for community development and HIV programming: The impact of social capital, stigma reduction and community-level changes on HIV-related health outcomes for orphans and vulnerable households in Mozambique, *Community Development*, 50:3, 332-351, DOI: [10.1080/15575330.2019.1606839](https://doi.org/10.1080/15575330.2019.1606839)

To link to this article: <https://doi.org/10.1080/15575330.2019.1606839>



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Published online: 08 May 2019.



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Building a theory of change for community development and HIV programming: The impact of social capital, stigma reduction and community-level changes on HIV-related health outcomes for orphans and vulnerable households in Mozambique

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ABSTRACT

USAID-funded programs for orphans and vulnerable children (OVC) provide comprehensive sets of services to improve child and household wellbeing for households affected by HIV. Research suggests that OVC programs enhance household- and child-level resilience to economic, environmental, social, or political shocks, but there is little evidence elucidating the pathways by which intervention components, including economic strengthening and social protection programs, affect these outcomes. This case study uses exploratory qualitative research to generate a causal model for the Community Care Program (CCP) in Mozambique. We used the Most Significant Change methodology to compile mini-case studies and identify primary causal pathways between program components and outcomes. We also used the Community Capitals Framework to explore how CCP affected community-level resilience. Our findings suggest that CCP's multi-component approach generated mutually reinforcing drivers that enhanced child-, household-, and community-level resilience. CCP's effects on stigma reduction, increased social support, and economic status were also vital.

ARTICLE HISTORY

Received 12 June 2018
Accepted 9 April 2019

KEYWORDS

Community capital; HIV; integrated development; resilience; social stigma

Introduction

Mozambique is one of the poorest countries in the world, with nearly half the population living at or below the poverty line (Ministry of Economics and Finance, 2016). One out of ten people ages 15–29 is infected with HIV, and as of 2014, there were approximately 1.8 million orphans, of whom 610,000 have been orphaned by HIV/AIDS (UNICEF, 2016). While the government of Mozambique has social support programs to help vulnerable households, including those living with HIV, resources fall far short of the overwhelming demand. To fill this gap, USAID collaborates with international and local NGOs to offer a comprehensive set of services, including economic strengthening (ES)¹

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and referrals to existing government social protection programs, to households with orphans and vulnerable children (OVC) as a means of improving the resilience of vulnerable households and communities.²

While existing research suggests that these programs have a positive impact on household and community resilience, there is little research to date that elucidates the causal pathways by which complex, multi-component OVC programs work with local social protection systems to achieve these outcomes. We also have little information on the specific causal pathways associated with ES in contributing to HIV-related outcomes, such as improved perceived health status or retention in HIV prevention or care, across individual and community levels (Swann, 2018). Our research aims to address this gap in the evidence through a qualitative case study to build a causal model mapping the impacts of a USAID program known as Community Care Program (CCP) on OVC households in the community of Mumemo in the Marracuene district of Mozambique. We also examine broader impacts of the program across multiple community capitals – natural, built, social, cultural, environmental, and financial (Flora & Flora, 2008).

Background

The Government of Mozambique was one of the first countries in Africa to offer cash transfers as a safety net for the poor, but the system remains underfunded, offering limited coverage and low transfer amounts (United Nations in Mozambique, 2015). A three-year cohort study of the effectiveness of OVC programs in Mozambique found that only 10% of OVC households were receiving some form of income support (Center for Global Health and Development, 2012), suggesting that social protection coverage is simply not reaching the most vulnerable Mozambicans. This is reinforced by the United Nations in Mozambique's estimate that social protection reaches about 15% of the most vulnerable households (2015).

To help fill this gap, the Community Care Program (CCP), funded by USAID/Mozambique, was designed to strengthen the community-based response to HIV/AIDS in seven provinces and improve the health and quality of life of people living with HIV (PLHIV), OVC, and pre- or post-partum women. CCP ran from 2010 to 2015. Its OVC component mobilized community health workers, known as *activistas*, to provide case management support to OVC households, including monitoring child status and providing referrals and counseling (Cannon, Nascimento, Chariyeva, & Foreit, 2014). OVC households were linked to services related to food and nutrition, education, legal support, health, psychosocial support, ES (including savings groups and financial education), and shelter and received referrals to government social protection offerings. CCP was managed by the international NGO FHI 360 and implemented by local NGO partners. In Mumemo, CCP was implemented by the local arm of the Congregation of the Franciscan Hospitaller Sisters of the Immaculate Conception (CONFHIC), a Catholic organization that offers a broad range of services to the community and has worked with many international NGOs (CONFHIC, 2009).

Social protection to improve OVC outcomes

In addition to providing direct services, CCP provided referrals to government-offered social protection programs. Evidence shows that social protection, particularly in the

form of cash transfers, is an effective means of reducing vulnerability. A recent review of 56 cash transfer programs found wide-ranging effects on poverty, health, nutrition, and education outcomes (Bastagli et. al., 2016). Social protection is especially needed in high HIV-prevalence contexts, particularly among OVC households (Adato & Bassett, 2009). Results from OVC programs offering cash transfers are promising. An OVC-targeted cash transfer program in Kenya increased household expenditures on food, health, and clothing (The Kenya CT-OVC Evaluation Team, 2012), reduced early sexual debut (Handa, Halpern, Pettifor, & Thirumurthy, 2014), and increased the wellbeing of adolescents and their parents (Handa, Martorano, Halpern, Pettifor, & Thirumurthy, 2014).

Community resilience, social capital, and health

CCP also sought to build community capacity to care for OVC in a context of persistent shocks. Mozambique is dependent on agriculture but vulnerable to environmental shocks (Marques, 2012), and, at the time of our study, was experiencing widespread drought and food insecurity (Center for Strategic and International Studies (CSIS), 2016). In 2000, entire communities were displaced by massive flooding including the residents of Mumemo, a community about 30 km north of Maputo that was established as a resettlement by the government. In contexts like these, OVC households are particularly susceptible to environmental and social shocks. Previous research shows that social capital, defined as networks built on trust and norms of reciprocity (Putnam, 2000), plays a central role in building community resilience needed to mitigate the impacts of disasters (Aldrich & Meyer, 2014; Jicha, Thompson, Fulkerson, & May, 2011).

Social capital, and social support more broadly, has also been shown to positively impact HIV-related health at the individual and community levels (Gibbs, Campbell, Akintola, & Colvin, 2014; Wang & Eccles, 2012). Researchers have found that social capital, social network engagement, and forms of social support can support patient retention in HIV treatments (Roy et al., 2016), lead to greater quality of life for PLHIV (Jong, Carrico, Cooper, Thompson, & Portillo, 2017), and improve mental health outcomes for children living with HIV (Sharer, Cluver, Shields, & Ahearn, 2016). Alternatively, Cau, Falcao, and Arnaldo (2016) show that social isolation worsens health perceptions among urban adults in Mozambique. Gibbs et al. (2014) found that community volunteers are central to building social capital that benefits PLHIV.

Our formative research builds a causal model for the pathways through which integrated OVC programming may improve wellbeing and HIV-related health. We also explore and document the effects on local community capacity built as a result of the CCP program, including social capital and community health.

Methods

Study setting

We conducted our study in Mumemo, a resettled community in Maputo Province, where, as of 2015, HIV prevalence was at about 23% (Instituto Nacional de Saúde & Instituto Nacional de Estatística (INE), 2015). Data were collected from 12–27 January 2017. Trained data collectors conducted interviews and focus group discussions in Portuguese and the local

language, Changana. Local translators were employed for the study, and the study team completed back-translations for all study guides and informed consents during data collection training. The IDI and FGD transcripts were back-checked by the local site principal investigator for the project, a native Changana and Portuguese speaker.

Qualitative data collection frameworks

This case study was designed using the Most Significant Change (MSC) methodology and Community Capitals Framework (CCF) to analyze CCP program impacts. These methods were selected to collect individual stories to be used as “mini-case studies” to formulate a causal model illustrating the programmatic impacts on OVC households (Davies & Dart, 2005; Pawson & Tilley, 1997).

Most significant change

The MSC approach is a participatory monitoring and evaluation technique that involves collecting and synthesizing personal stories from participants who describe how a program has affected their lives. Rather than using pre-defined impact indicators, this process allows investigators to explore program impacts in an iterative way as informed by participants’ perceptions on programmatic results (Davies & Dart, 2005).

To collect stories on CCP impacts, we conducted in-depth interviews (IDIs) with 30 OVC caregivers who were randomly selected from CCP rosters. IDIs included questions about services received under CCP and the effect of these services on child and household wellbeing outcomes such as nutrition, education, HIV health status, and economic status. Data from IDIs were then used to generate a draft causal model. Following this, two focus group discussions (FGDs) were held to provide input on the draft causal model and to identify most significant changes to build an empirically based causal model. The FGDs consisted of six CCP participants each. Each FGD included three participants who had also participated in an IDI, and three additional participants randomly selected from the CCP roster.

Community capitals framework

The Community Capitals Framework (CCF) offers a useful theory for articulating the relationship between external shocks, social and other community capitals, and broader HIV health related impacts. In practice, CCF classifies assets at the community level that contribute to (or impede) healthy environments (Emery & Flora, 2012; Flora & Flora, 2008). These factors can be categorized across the following types of capitals found at the community level: built, financial, political, social, cultural, human, and natural. To examine the effects of CCP on community capacity to meet the needs of OVC, we held two additional FGDs to discuss how CCP affected community capitals: one with three representatives of CONFHIC and one with four community leaders. Participants from CONFHIC were selected based on availability and familiarity with CCP, and community leaders were selected from a list developed from key informant interviews with CONFHIC staff.

Analytic approach

Data were analyzed using NVivo 11 and checked for inter-coder reliability. IDI data were analyzed to develop a draft causal model, which was then presented to caregiver FGD participants for input. We first used a structural coding approach based on our interview guides. In addition to structural coding, we used exploratory coding to identify emergent themes in our data, such as the importance of stigma. Interview data were coded by one trained research associate, and a random sub-set of interviews were back-checked by the principal investigator. Causal pathways were identified and coded across the following primary domains: health, economic, food security, and emotional and relational pathways.

Based on the IDI data, we developed a draft causal model illustrating how program components worked together to affect wellbeing outcomes for CCP participants. We embraced a complex systems perspective when building the initial causal model, identifying and subsequently validating multiple causal pathways, feedback loops, and reciprocal effects (Stroh, 2015; Williams & Hummelbrunner, 2011).³ This model was presented in two focus groups with CCP participants, who were asked to share stories either supporting or refuting components of the model and to identify most significant changes. We then revised the model based upon input from the caregivers themselves. FGD data were analyzed using the CCF. We coded the FGD data using the CCF, identifying patterns that emerged within each capital domain.

Findings and analysis

Summary of services received

Here we provide an overview of the services provided through CCP that study participants identified as benefitting their households. The 30 IDI respondents reported receiving the following services through CCP: counseling, food and nutrition support, education support, health, ES, children's clubs, linkages to obtain birth certificates and poverty certificates, and referrals to governmental social protection programs through the agency known as National Institute for Social Action (INAS). Of these services, counseling was most frequently cited as the most important service received ($n = 14$). Counseling included visits from an *activista* who provided advice on HIV testing, treatment, and care, parenting, food and nutrition, and general emotional support. Throughout the interviews, participants emphasized the value of the emotional support provided by the *activistas*. Participants described how visits from *activistas* helped relieve a sense of isolation and depression associated with coping with HIV. One participant even described the *activistas* and sisters from CONFHIC as "family" that "take care of [me] very well."

Additional services included the provision of general health support, mentioned by 11 participants, including the provision of a first aid kit, medication, hospital referrals, water treatment tablets, hygiene products, and jerrycans for water. Economic strengthening services, including savings groups and financial education, were mentioned four times. Food and nutrition services were reported by most participants, including advice on healthier eating, cooking for ill family members, cultivating home gardens for household consumption, and the provision of food baskets. About half of participants ($n = 13$) reported receiving education services,

including direct provision of school materials for children and encouragement to take education seriously. Most participants reported participating in ES interventions, including savings groups and financial education workshops. Many fewer participants reported benefitting from linkages to government transfers through CCP, such as INAS.

Respondents stated that counseling provided by *activistas*, as well as ES training and linkages to in-kind transfers through CCP, enhanced participant household well-being by improving nutrition, facilitating savings and income-generating activities, encouraging HIV testing, treatment, and care, promoting home gardens, and reducing participant stigma and depression. These outputs had synergistic effects on child- and household-level outcomes, including improved child education, improved ability to meet household needs, improved health, improved family wellbeing, and reduced stigma.

As referenced earlier, these effects can be traced along several causal pathways, which we have coded as health, economic, food security, and emotional and relational pathways. Identified pathways led to outcomes that influenced changes at the community level, primarily by building social capital through regular visitation and interaction with the *activistas*. Additional impacts were reported across nearly all community capitals. See [figure 1](#) for a depiction of our full causal model of the CCP program.

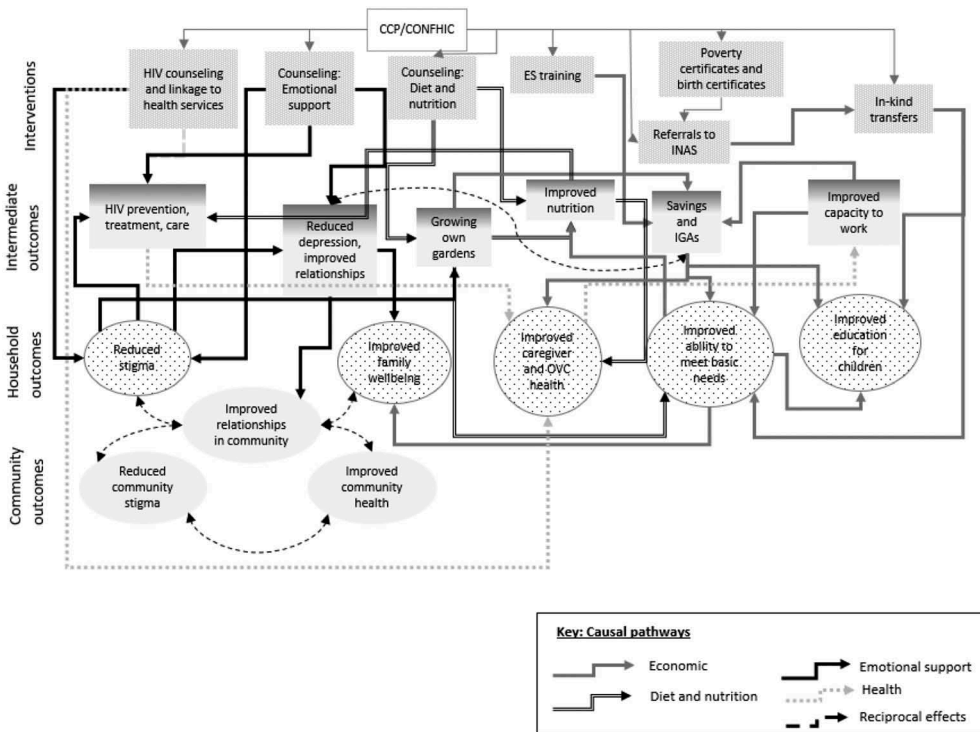


Figure 1. Causal model for CCP program case study.

Health pathways

One year after the close of CCP, participants reported receiving several continued health benefits from the program. Three participants mentioned that since learning their HIV status, they have been able to manage the illness and sustain their health. Every participant reported receiving information about HIV, with many reporting a reduced sense of stigma. Figure 2 shows the health pathways in our causal model.

Several participants linked their improved health to a greater ability to work:

“Since I became a beneficiary of the CCP program, my life has changed a lot. I was severely sick and very weak when I was recruited to join this program. Presently, I am very healthy and work hard and without difficulties.” (P116)⁴

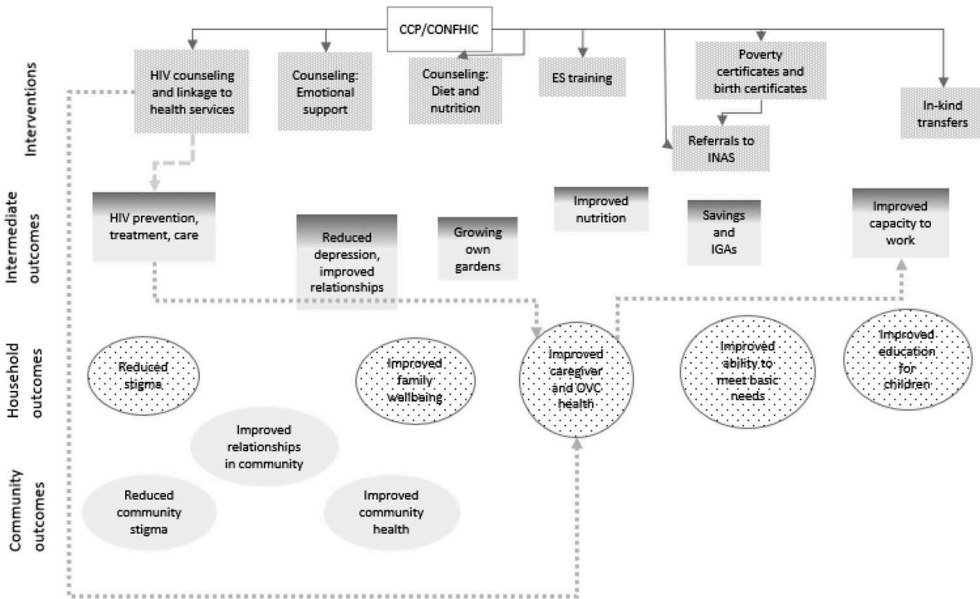


Figure 2. Health pathways.

Economic pathways

Sustained improvements in economic status were mentioned by several participants. Several respondents mentioned sustained improvements associated with savings and business ownership, better health linked to increased capacity to work, and improved cooking skills and utilization of home gardens. In focus groups, improved diet was also attributed to improvements in economic status.

One participant described how improvements in his family’s health and engagement in savings helped raise his economic status, which, in turn, improved his relationships with his children:

“We are currently very united here in our family and my children respect me as their father. I now work and am able to sustain my family with the little money I earn in terms of food and school materials for my children. With my savings, I am currently improving our house with an

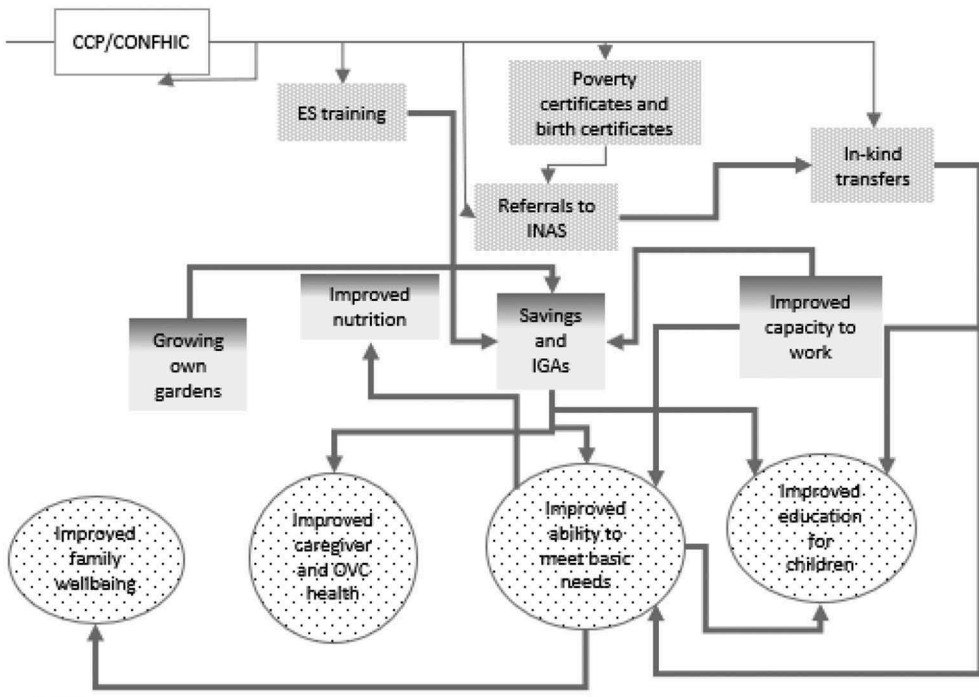


Figure 3. Economic pathways.

aim of improving our standard of living. Nowadays if I request my children to undertake certain chores, they do so immediately without any arguments.” (P115)

However, when asked about their current abilities to cope with sudden expenses, only a third of respondents reported feeling equipped to do so, mostly thanks to participation in savings groups. However, many participants considered their savings inadequate to meet their financial needs. [Figure 3](#) shows the economic pathways in our causal model. One participant explained:

“I did participate in the savings group training promoted through the CCP program. I buy and sell bread to help sustain my family. This activity however is not sufficient to sustain my family. My husband is unemployed.” (P108)

Food security pathways

Respondents uniformly reported receiving cooking and nutritional advice from *activistas*, and most described improved cooking habits. However, responses about increased access to food were mixed. Several participants mentioned using more vegetables from their own gardens since participating in CCP, but others reported simply not having the financial resources necessary to purchase more food, with some citing the current drought as an additional barrier to access. [Figure 4](#) shows the food security pathways in our causal model.

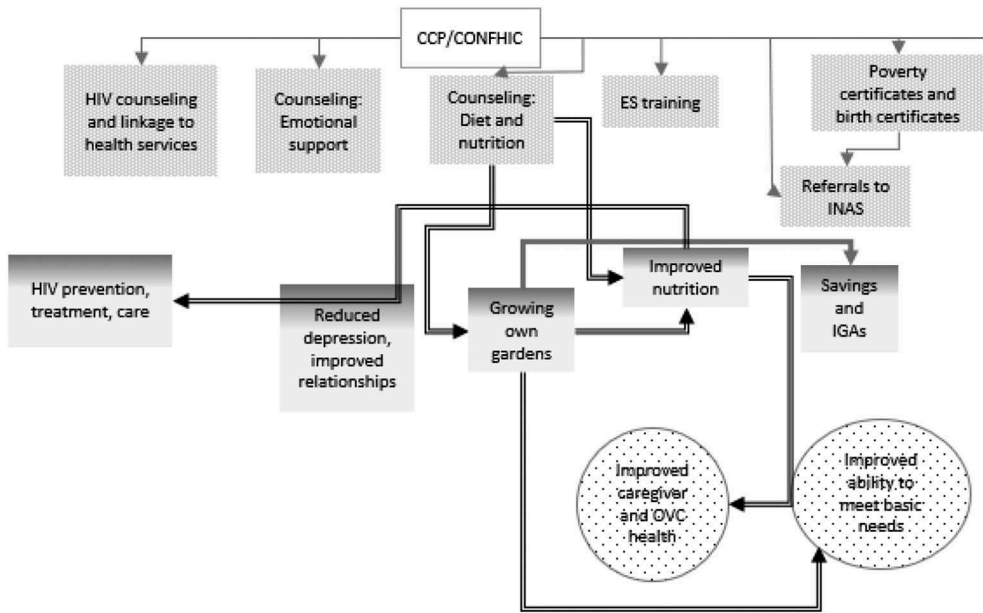


Figure 4. Food security pathways.

Participants regularly mentioned home gardens as a source of subsistence and an improved diet, rich in vegetables. It was also discussed as a source of income. The gardens also emerged as facilitating adherence among PLHIV:

"I benefited from the HIV [treatment] but in the beginning when I started taking the medication, I used to have serious side effects and felt faintly. The *activistas* advised me on the kind of diet and helped me set a home garden, which I grow different vegetables and now I eat healthy food and have also improved the education of my children." (P2)

Emotional and relational pathways

When asked about sustained outcomes from CCP, participants most frequently mentioned improved emotional stability and relationships with their children and others in the community, which was mentioned by seven participants. Emotional support from *activistas* also encouraged participants to engage in economic activity, for example:

"I used to be a very nervous and angry person, particularly with my children, however, with the help of the advice I received from the *activista*, I have now calmed down." (P125)

"... *activistas* underscored that having a sick person at home did not mean that a person should not plan and therefore any resources should be planned accordingly to cover other basic necessities in the home... From this advice I have improved my house and my self-confidence has been restored." (P13)

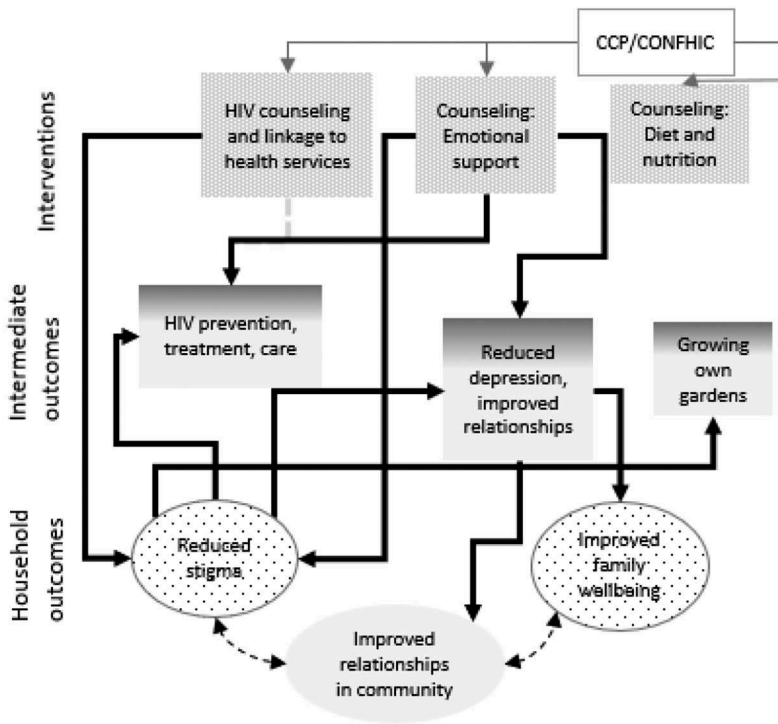


Figure 5. Emotional and relational pathways.

Stigma reduction was highlighted in reports of improved community relationships. Several participants reported that they were better able to handle discrimination against them in their community:

“My overall being has changed because I used to be very angry and bad relationship with the neighbors. My children do not have that stereotype or feel discriminated because of our status.” (P157)

“They used to encourage her that human beings are all equal those who are sick and those who are not. That the fact of being HIV positive was not a motive for isolation and she has the right and obligation to undertake many different activities so long as she takes her medication.” (P147)

Other participants, who were not HIV-positive, reported learning to avoid stigmatizing those with HIV:

“She reported on the conversation she had with the *activistas* particularly on taking care of the sick in the families, not to discriminate anyone, they taught her on how to live in harmony with people even if one has a person living with HIV in their household.” (P112)

Some participants reported filling a newfound role in the community as an advisor on issues related to HIV:

"Before, I had an inferiority complex and was very afraid of being stigmatized but nowadays, I play an important role of advising family, friends, and neighbors to go for HIV tests when they are sick." (P108)

In focus group discussions, participants mentioned that advice from *activistas* helped dispel stigma around home garden cultivation, which was associated with poverty. They also reported that cultivating home gardens improved both their nutritional and economic status. Finally, over one-third of participants reported a lasting change in their perception or overall outlook on life as one of the lasting effects of the program. Figure 5 shows the emotional and relational pathways in our causal model.

"The CCP program helped to change my perception with regard to my wellbeing and that of the members of my family. Today, I am able to plan the life of my household in accordance to the limited resources we obtain. The program also helped us to know about HIV and how the disease can be prevented. In my household, it is not a taboo to talk about HIV and nobody is stigmatized because of their HIV status." (P115)

Most significant changes resulting from CCP

As described earlier, we drew from the IDI data to develop a draft causal model illustrating how program components worked together to affect wellbeing outcomes for CCP participants. This model was presented in two focus groups with CCP participants, who were asked to share stories either supporting or refuting components of the model and to identify most significant changes. None of the participants expressed disagreement with the proposed model, but their stories emphasized the importance of program outcomes, including CCP's lasting impacts on overall community health, stigma, perceptions of HIV, improved diet and use of local resources, and economic empowerment.

Throughout the stories shared, improvements in overall community health were attributed to mutually reinforcing drivers: (1) community-level changes in perception of HIV, (2) individual-level emotional support and health counseling from *activistas*, and (3) improvements in diet attributed to the uptake of home gardens. And, there was consensus among participants that emotional support from *activistas* helped them overcome barriers to treatment:

"...There was a certain time that I stopped with the treatment because I was tired of taking the medication and I was healthy so did not see the importance of doing so. The *activistas* encouraged me to restart treatment, which I did." (P16)

Participant stories emphasized how *activista* interactions at the household and community level helped overcome stigma, related to seeking HIV testing and treatment as well as cultivating home gardens.

"The *activistas* ...urged all of us to go for HIV testing and we did which turned out negative. They also advised my mother to start a home garden, which she did. In the community most people avoid home gardens because they are associated with poverty, but I advised my mother to disregard people's talk. We currently have a source of all vegetables and thank to the advice of the *activistas* and my mother's persistence despite people's determination to undermine her." (P24)

Stigma was not just reduced for participants, but seen as reduced at the community-level, further diminishing barriers to testing and treatment.

"The significance of this story to me is the reduction of discrimination in the community through the interventions and advice provided by the *activistas*. There is no fear and stigma of the disease anymore and some people are now accepting their status and living positively comparing their status to other common diseases." (P14)

Another community-level change mentioned throughout the discussions was the improvement of relationships:

"The most significant thing for me in this story is the peace and harmony that have prevailed within the families and neighborhood as a result of the counsel of the *activistas*. . . ." (P23)

Improved health was directly linked to economic empowerment, which was reinforced by ES interventions. Among stories of change, economic changes were mentioned as frequently as improved overall community health.

"There are less sick people and deaths in the community. Most people are now active and involved in businesses because the intervention of the CCP program made people liberated from fear and instead became self-confident. Savings have helped us a lot in my community." (P20)

Overall shifts in community norms were reported around HIV testing and treatment, household gardens, savings and financial management, and interpersonal relationships between family members and neighbors.

Synergistic effects and variables

The diagram of the causal model demonstrates how pathways of programmatic impacts overlap, creating synergistic effects. A few intermediate and household level outcomes act as variables that bridge intervention effects across pathways related to economic outcomes, food security, or emotional and relational support.

One such variable is the intermediate program outcome of increasing beneficiary home gardens. Advice from *activistas*, and a reduction in perceived stigma, encouraged households to cultivate their own gardens, which led to improved nutrition and improved ability to meet basic needs. *Activista* advice on dietary decision-making also led directly to improved nutrition. Improvements in nutrition feed into a causal pathway related to health outcomes. At the same time, utilization of gardens for income-generation links gardening to the economic pathway.

Improved health for OVC and caregivers is also synergistic. Health improvements were attributed to access to testing and treatment, linkages to general health services from *activistas*, and improved nutrition. This led to improved capacity to work, which connects to economic outcomes. Capacity to work is a direct link from the health outcomes and leads to increased engagement in savings and income-generation as well as improved ability to meet basic needs. Ability to meet basic needs is reinforced by home gardening, involvement with ES and social protection activities, and receipt of in-kind transfers. It leads to enhanced nutrition, improvements in family wellbeing, and improved education for children.

Engagement in HIV prevention, treatment, and care activities is a key variable connecting pathways to health, emotional support, and diet and nutrition outcomes. Improved nutrition, emotional support and HIV counseling from *activistas*, and reduced stigma all contribute to engagement in these activities, also impacting health pathways.

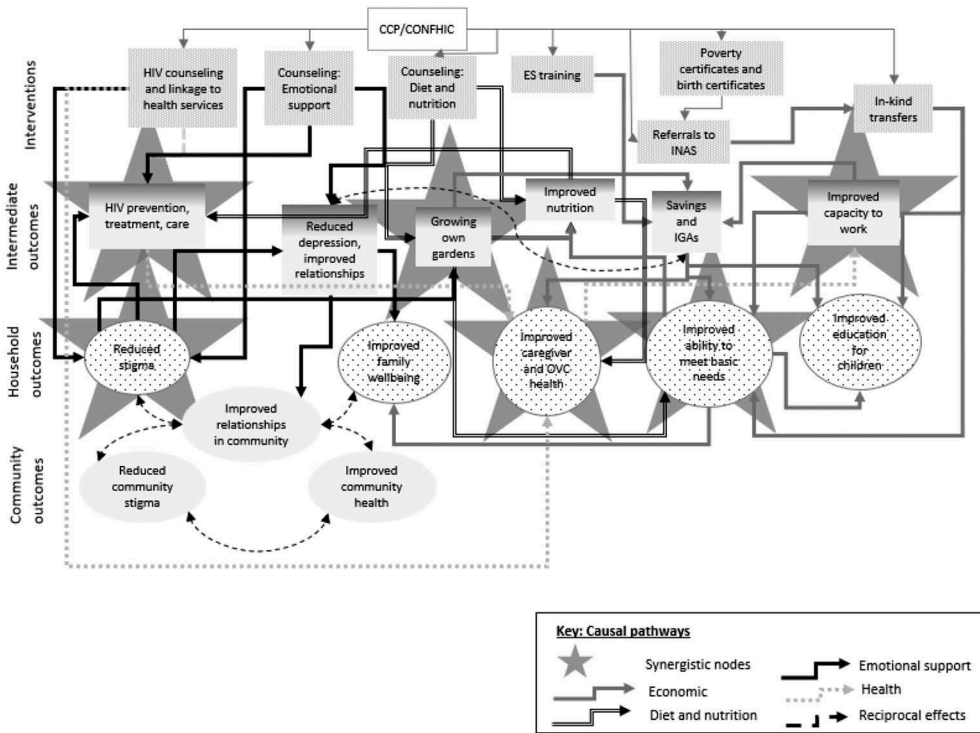


Figure 6. Synergistic effects and variables.

Finally, several sets of feedback loops emerged from the data. Focus group data emphasized that reduced stigma at the household and community levels was mutually reinforcing. Improvements in relationships within households were also related to the community level. In focus groups, savings and business ownership was linked to increased self-confidence among PLHIV, indicated as a reciprocal arrow between reduced depression and improved relationships and savings and IGAs. Also, home gardens had a feedback loop between the health and economic pathways. Figure 6 shows the synergistic effects in our causal model.

Impacts at the community level

Data from community leaders and CCP program leaders who participated in FGDs revealed impacts from the CCP program that spiraled up to all community capitals. They also identified how community capitals reinforce each other. For instance, savings groups mutually reinforce social and human capital as they form the basis for group membership as well as educate members on finances. Also, *activista* visits and counseling reinforces cultural and human capital as these visits help to improve community norms around learning HIV status, seeking health care, and PLHIV.

“...[The *activistas*] used to visit child headed households in order to supervise their life and ensure that it was close to normality. They used to ensure their younger brothers and sisters were attending school and checked whether they had basic necessities for survival.” (P11)

Table 1. Summary of CCP impacts across community capitals.

Social	<ul style="list-style-type: none"> - Increased interactions between OVCs and their families as a result of peoples' observations of the <i>activistas</i> visits to OVC households - Sensitized OVCs, PLHIVs, extended families, and entire community on issues, leading to reduced stigma and discrimination of vulnerable persons
Natural	<ul style="list-style-type: none"> - Educated people on how to treat the water they drink - Taught people about the importance of conserving fruit trees and how to start vegetable gardens
Finance	<ul style="list-style-type: none"> - Empowered OVC households to manage their own money through financial education programming - Encouraged savings groups in the community that are self-sustaining and help families in the community who were previously dependent on others
Built	<ul style="list-style-type: none"> - Supported housing improvements indirectly through participation in savings groups - Expanded broader community infrastructure by encouraging community members to build small buildings for their businesses, such as street vendors
Cultural	<ul style="list-style-type: none"> - Reinforced cultural values by encouraging people to visit their extended families - Encouraged people to go to the hospital when sick and have HIV testing
Human	<ul style="list-style-type: none"> - Increased overall level of health knowledge in the community - Reinforced the community's ability to control their savings and investments through financial education
Political	<ul style="list-style-type: none"> - Facilitated the process of documentation for poverty certificates to help referrals to INAS

Community leaders characterized the routine visits by the *activistas* as having “woke up the sleeping conscious of the community” providing a catalyst impact. These routine interactions served multiple purposes, including (1) enhancing the OVC household’s social capital, or networks within the community, (2) educating OVC caregivers on how to save money and grow their own foods increasing human capital, and (3) counseling OVC households on how to navigate INAS bureaucracy improving political capital and access to government-sponsored social protection. Key to these observances is that the routine interaction between the *activistas* and the OVC households in the community enhanced community capitals broadly. See [Table 1](#) for a summary of CCP impacts across community capitals.

Discussion

The current study presents the integrated and multiple pathways through which integrated development programs operate. Based on our analysis, we build a dynamic systems model of community capitals and development as derived from the stories of our study participants. The analysis shows that multi-component OVC programs like CCP generate complex, mutually reinforcing causal pathways, including those linked to ES and social protection components.

Stigma, poverty, and hiv-related health

Our causal model demonstrates how complex, overlapping causal pathways of a multi-component OVC program generates a system of synergistic effects at individual, household, and community levels. Social protection, primarily in the form of in-kind transfers through CONFHIC, and economic strengthening interventions were reported as important inputs for this system. Unsurprisingly, the health pathways were foundational to the CCP’s outcomes. Less intuitive, however, was the emphasis on the emotional and relational pathways that emerged from the Most Significant Change stories. CCP provided emotional support through routine interaction with *activistas* in OVC households, which in turn facilitated change in community norms around stigma and improved HIV-related and economic outcomes.

Early on researchers recognized that HIV stigma played a critical role in the HIV epidemic, observing that battling the disease as well as the epidemic of fear, stigmatization, and discrimination would be pivotal in addressing HIV (Gilmore & Somerville, 1994). HIV-related stigma feeds risk-taking behavior, impedes demand for HIV testing, and decreases therapy adherence and retention (Chan & Tsai, 2016). Within the context of Mozambique, Pearson, Micek, and Pfeiffer (2009) find that stigma was associated with higher reports of depressive indicators and did not decrease after initiating treatment. Furthermore, researchers have found that stigma has significant consequences for HIV-related wellbeing in the context of Mozambique, showing important associations with violence (Dlamini et al., 2007), driving loss to follow-up treatment (Micek, Gimbel-Sherr, & Baptista, 2009), and undermining public health education and social change programming (Audet et al., 2010).

Researchers recognize that interventions targeting cultural and social norms that drive stigma are needed to comprehensively combat HIV (Chan & Tsai, 2016). Our study showed that personalized counseling from *activistas* addressed these norms directly, with clear impacts on linkage to testing, treatment, and care. Other research shows that the introduction of quality HIV care itself can lead to a reduction in stigma, with resulting increased uptake of testing (Castro & Farmer, 2005). The introduction of intense counseling and social support through the *activistas* suggests that “quality HIV care” should very well include efforts to address stigma and offer counseling and social support.

The literature also suggests that economic barriers may worsen HIV prevention, treatment, and health outcomes even when stigma has been addressed (Castro & Farmer, 2005). Castro and Farmer (2005) suggest that poverty may impede uptake of HIV testing. In their review of qualitative and epidemiological studies, Tsai, Bangsberg, and Weiser (2013) found that poverty drives stigmatization by reducing the labor capacity of those made ill by HIV, thereby reducing their ability to fully contribute economically to their families and communities. This sets off a vicious cycle of social exclusion, further compromising the livelihoods of PLHIV, and increasing barriers to treatment. Research also shows more stigmatizing attitudes by participants belonging to medium and low SES in comparison to high SES (Mateveke, Singh, Chingono, Sibanda, & Machingura, 2016). In our findings, this is where the integration of an economic component of CCP was critical. CCP attacked stigma by addressing one of its structural drivers: poverty.

Our study adds to the evidence that livelihood interventions, the broader umbrella under which we can include economic strengthening, have positive effects on stigma reduction. A longitudinal qualitative study among 54 persons with HIV participating in a 12-month randomized controlled trial of a livelihood intervention in rural Kenya found that treatment arm participants reported significant reductions in stigma and increased self-confidence. They also reported improvements in how the community viewed them as active economic agents contributing to community life. The control arm, however, reported no reductions in stigma or in community perception (Tsai et al., 2017). Kellett and Gnauck (2016) qualitative study of women in Uganda found that, for participants in an intervention combining antiretroviral therapy (ART) and peer support with varying levels of an economic empowerment component, those who participated more in the economic component reported greater reductions in stigma.

We expected that our findings would highlight the importance of CCP's role in providing linkages to government social protection programs. However, we found that participants had little to say about these programs, with some of them reporting that their applications for benefits had been stymied or that they never received a referral. Given the low outreach of these programs, and the narrow eligibility criteria for cash transfers (United Nations in Mozambique, 2011), CCP's experience demonstrates a nation-wide challenge. However, participants were able to access in-kind transfers through CCP, which were linked to improvements in education and coverage of basic needs. Though economic interventions and in-kind transfers supported participants, many reported only marginal improvements to their economic status, underscoring the need for better social protection coverage.

Linking household and community outcomes: Social capital

Our study assessed how impacts of OVC programming extended to the community level across multiple capital domains. Social capital serves as an important catalyst for scaling up broader level impacts across other capitals during periods of decline, where collective action can lead to increasing assets across other capitals (Emery & Flora, 2012). We saw scaling up patterns across community capitals in our data, where the interaction with *activistas* served to reintegrate OVC households into the local community, thereby reducing stigma and building social capital. This reintegration not only improved the OVC caregivers' perceptions of themselves and their health, it also enabled them to participate in the community, seek education for their families, grow gardens, participate in savings groups, and encourage others to seek HIV care. These actions contribute to social and political, human, natural, financial, and cultural capitals respectively.

The counseling and visits by the *activistas* fostered both bonding and bridging social capital among OVC households and the community (Flora & Flora, 2008). Research shows that when family members fall ill, they usually rely on their bonding social capital resources to get through immediate challenges (Garrison & Sasser, 2009; Norris et al., 2002). At the same time, bridging social capital can provide critical access to resources and information. Bridging social capital is also essential in facilitating broader collective action and cooperation among communities that fosters broad-based community development (Jicha et al., 2011). Our findings reinforce earlier research in the United States demonstrating that, for people with HIV, social connections, combined with positive relationships with health care providers, lead to a better quality of life (Jong et al., 2017).

Study limitations

The present study has several limitations. First, our findings are exploratory, not experimental. We used them to build a causal model that will require further testing to validate. Our study is also limited by the Most Significant Change methodology. We chose this method because we wanted to identify the most profound impacts of the CCP program to inform an applied causal model. Because the purpose of our inquiry was to focus on successful program outcomes, we did not collect meaningful data on what did not work.

Conclusion

We show the integrated and multiple pathways through which integrated development programs operate, building a dynamic systems model of community capitals and development. Our study found that multi-component OVC programs like CCP generate complex, mutually reinforcing causal pathways, including those linked to ES and social protection components. Stigma reduction and social support through regular interaction with *activistas* provided integral support to these pathways to yield sustained program outcomes, which spiraled up to the community level through building social capital and fostering collective norm change. Future research should test the causal pathways identified in our analysis to better understand if they work across multiple settings and what observed synergies may yield in terms of improving HIV outcomes. Additional research should also examine the impacts of gender on the causal pathways identified. This is particularly important to inform USAID and other development funding agencies in their efforts to design and implement projects that improve gender equality and women's empowerment.

Notes

1. PEPFAR defines economic strengthening as “a portfolio of interventions to reduce the economic vulnerability of families and empower them to provide for the essential needs of the children in their care.” (President's Emergency Plan for AIDS Relief (PEPFAR), 2012, p. 38). Common interventions include financial literacy training, savings groups, and income-generating activities.
2. Orphans and vulnerable children are defined by PEPFAR as “children who have lost a parent to HIV/AIDS, who are otherwise directly affected by the disease, or who live in areas of high HIV prevalence and may be vulnerable to the disease or its socioeconomic effects” (President's Emergency Plan for AIDS Relief (PEPFAR), 2012). For this study, we interviewed caregivers within OVC households as the OVC household was the primary point of intervention for the CCP program.
3. Complex system is defined here as a system that can be analyzed into many components having relatively many relations among them, so that the behavior of each component depends on the behavior of others (Simon, 1962).
4. Participant numbers are used to identify study respondents while protecting their identity.

Acknowledgments

This study was produced under United States Agency for International Development (USAID) Cooperative Agreement No. AID-OAALA-13-00001 and was made possible by the generous support of the American people through USAID and the United States President's Emergency Plan for AIDS Relief. The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government. The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript. The authors would like to thank Silvia Chicuecue, Rotafina Donco, Daan Velthausz, and Emily Namey for their research support. We also thank David Myhre and Michael Ferguson for their input and thoughtful review of the manuscript.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the United States Agency for International Development [Cooperative Agreement No. AID-OAA-LA-13-00001].

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