Microfinance and Health

The relative successes and challenges of integrating health strategies into Microfinance: considerations for eye care and related fields.

November 2010

Author:
Sophie Butcher
University of Melbourne
Melbourne, Australia

Supervisors:
Paul Courtright
Susan Lewallen
Kilimanjaro Centre for Community Ophthalmology
Moshi, Tanzania

ABBREVIATIONS

MFI	Microfinance Institution
IMAGE	Image
BRAC	Bangladesh Rural Advancement Committee
WHO	World Health Organization
MDG	Millennium Development Goal
NGO	Non-government Organisation
CRECER	Credito con Educacion Rural Asociacion Nacional para Problemos de Crecimento (English: Spanish Association for Little People)
Project HOPE	Health Opportunities for People Everywhere
ITN	Insecticide Treated Net
SHG	Self-Help Groups
CREPA	Le Centre Régional pour l'Eau Potable et l'Assainissement (English: Regional Centre for Drinking Water and Sanitation)
EPI	Expanded Programme on Immunisation
HIV	Human Immunodeficiency Virus
FINCA	Foundation for International Community Assistance
CCBRT	Comprehensive Community Based Rehabilitation in Tanzania

TABLE OF CONTENTS

INTRODUCTION

a) The Concept of Microfinance

Microfinance involves the provision of small loans to the poorest socioeconomic strata for the purpose of improving earning capacity and standard of living. The concept of microfinance originated in 1976, in Bangladesh with the establishment of Mohamed Yunus' Grameen Bank. Yunus recognised that lack of credit was the major obstacle preventing development of the poor, who had been largely excluded from formal banking institutions. Since 1976, microfinance has grown enormously and there are now more than 3,100 institutions of various types offering microfinance services to more than 92 million clients, over 80 percent of whom are women (Watson 2005). Microfinance is emerging as a highly promising tool in the fight against poverty because, as well as being sustainable, it addresses multiple dimensions of poverty because economic empowerment has downstream benefits for health, education and social wellbeing.

The following methodology forms the foundation for most microfinance institutions worldwide;

- Involves group-based lending whereby loans are given to groups of borrowers who will mutually guarantee each other's loans, replacing the need for physical collateral requirement of either land or assets (Watson 2005). Solidarity lending refers to groups consisting of five to seven people whereas Village Banks are larger (usually approximately thirty people). The groups meet on a weekly or biweekly basis to repay loans, receive new loans and deposit savings which is overseen by field staff who are involved with running the program on the community-level. There are also microfinance institutions which have individual-based lending programs however these are less appropriate for integration with health and consequently will not be discussed in-depth in this literature review.
- Loan programs generally consist of a series of very small (between $10- $300 US per capita), short-term (from one to twelve months) loans which are generally used for expansion of existing businesses and income sources rather than establishment of new ones. A specified amount of savings is usually required in order for a group to receive a loan. (Watson 2005) .
- There is a distinction between microfinance and microcredit institutions; whilst a microcredit institution will offer loans exclusively, a microfinance institution will, in addition to loans, offer various financial products such as insurance, savings and leasing options.

- Products offered through microfinance institutions (MFIs) are varied and can include credit, savings, insurance and leasing options.
- Most MFI (85%) offer training programs to their clients. These training programs are usually aimed at developing skills and behaviors important for successful business practice. These training-led MFI tend to be more successful than MFI which lack this component. (Stratford, Mizuno et al. 2008)
- In terms of MFI clientele, most clients are women. The Microcredit Summit Campaign (Watson 2005) reported that women make up 80% of clientele.
- Most MFI clients belong to the lowest socioeconomic status; however, usually this does not include the poorest of the poor (Arney, Meckel et al. 200; MkNelly and Dunford 1999). Selection criteria, such as levels of literacy and motivation, are sometimes used by MFI to select clients who are more likely to be successful in managing their microenterprise.

Scope and Methodology

This literature review will focus on the links between microfinance and health. The first section of this review will consider how microfinance alone can have benefits for health via indirect mechanisms, whereas the second section will consider how these health impacts can be amplified through the addition of a separate health component into microfinance. In the third section, we will consider how it is possible to integrate microfinance with eye care and related health issues.

b) Scope:

We have limited this review to studies related to microfinance and health only; other possible impacts that microfinance may have for clients will not be discussed in detail. We have only used studies based in developing countries because our research will be conducted in Tanzania, and thus these studies are more contextually appropriate.

c) Methodology:

The academic literature was searched for peer reviewed studies or reports on microfinance and health using several databases (PubMed, Hinari, University of Melbourne Supersearch database). Key terms that were used included “Microfinance”, “Microcredit”, “Health” “Integration”, “Linkage” “Health tie-ins”. The “grey literature” was searched for reports published by government or non-government organizations using Google scholar. Bibliographies from reports

were scanned and any relevant articles were sourced. The search was limited to articles published in English. There was no limit in terms of dates of studies, however, due to the nature of the topic most studies had been conducted within the past 20 years. Papers were included in the review based on relevance, methodology and strength of research methods.

SECTION 1: IMPACT OF MICROFINANCE ALONE ON HEALTH

Microfinance, even without an additional health component, can lead to health improvements for participants, because economic empowerment will have flow-on benefits for health.

a) How does microfinance improve the health of its clients?

Improvements in economic status

Microfinance will generally lead to improvements in economic status for participants. This will have a beneficial effect on health in at least three ways: by increasing health expenditure, improving the ability to cope with illness, and influencing sexual relations, a factor important for risk of HIV (and other STI) infection.

The association between higher economic status and better health is well-documented and logical; people with more money are generally able to access and use health services more freely, purchase more expensive nutritious foods, have better sanitation and infrastructure installed in their homes etc. There is some evidence from the studies to support this; the Credit with Education (CRECER) Bolivia quasi-experimental study which implemented nutritional education alongside microfinance showed that participants in microfinance purchased more foods in bulk and were more likely than residents in control communities to have spent money on medical costs during the last year (MkNelly and Dunford 1999). However, no significant differences were evident in participants' spending on education, housing improvements and total per capita food, suggesting that this effect on participants' health-related spending is limited. CRECER Ghana, which implemented microfinance alongside malaria awareness education (De La Cruz, Crookston et al. 2009) demonstrated that, amongst participants in this microfinance/education program, those who owned an insecticide treated mosquito net and had taken Fansidar/SP medication for malaria were more likely to be from a higher socioeconomic status, which again demonstrates this link between improved economic status and better health.

Economic empowerment is also important to health because it can increase ability to cope with illness. Ill-health can inflict enormous costs on households through treatment and indirect costs from loss of labour productivity. The financial burden can be high and for poor households who often have no access to health insurance schemes, the costs of seeking treatment and the coping strategies employed to either avoid or meet these costs are potentially catastrophic. Often, poor households resort to 'risky' coping strategies in order to meet the costs of illness such as selling critical assets and sinking into inescapable debt or using cash savings which had been reserved for basic items such as food. Alternatively, households may choose not to seek health care rather than cope with impoverishment. Either way, addressing this inability to cope with illness is a critical step for reducing the global disparities in health. Microfinance has been proposed as one way of providing some financial protection against illness because through microfinance clients can increase their savings and their number of income sources (Chuma, Gilson et al. 2007). In Indonesia, microfinance was shown to play an important role in helping families cope with the costs of medical care and loss of income caused by major health shocks (Gertler, Levine et al. 2009). Doocy et al. found that microfinance helped provide some protection from food shortages and other health-related issues caused by natural disasters (Doocy, Teferra et al. 2005). In Mali, microfinance clients showed increased household ability to deal with periods of crisis and economic difficulty, and established clients were less likely than incoming clients to report periods of acute food insecurity (Dunford 2001).

Economic empowerment can have links to health by shaping sexual relations. Women are more vulnerable to HIV when they are economically dependent on their husbands or others because they are more constrained in negotiating the conditions of their sexual relations, including sexual abstinence, condom use and multiple partnerships. (Pronyk, Hargreaves et al. 2006; Kim, Pronyk et al. 2008). Also, for sex workers microcredit offers an alternative to high risk behaviour based on economic necessity, such as prostitution or engaging in sex in exchange for support, such as payment of school fees. Microfinance, which economically empowers its clients, has thus been used as a way of minimizing the spread of HIV/AIDS. In India, sex workers were given microcredit loans with the hope that personal economic development would enable them to reduce their reliance on sex partners for income and they would spend more time in their microenterprise business or training rather than participating in risk activity (Swendeman, Basu et al. 2009). This study did not find that a significant number of sex worker MFI clients had reduced their number of sex partners despite participation in the program but this may have been due to the short duration of the study (Swendeman, Basu et al. 2009). However, in Kenya, under

a similar program targeting female sex workers, there were notable reductions in sexual risk behaviour among the borrowers with almost 20% of women leaving sex work completely and those who remained in the industry dramatically reducing their number of clients (Datta and Njuguna 2008). In South Africa, the Intervention with Microfinance against Aids and Gender Equity (IMAGE) study provided microfinance to women with the hope of decreasing HIV incidence; whilst there was no overall decrease in HIV incidence, possibly due to the short duration of the study, there was a decrease in HIV-related risk activity amongst participants (Pronyk, Hargreaves et al. 2006; Kim, Pronyk et al. 2008).

Empowerment

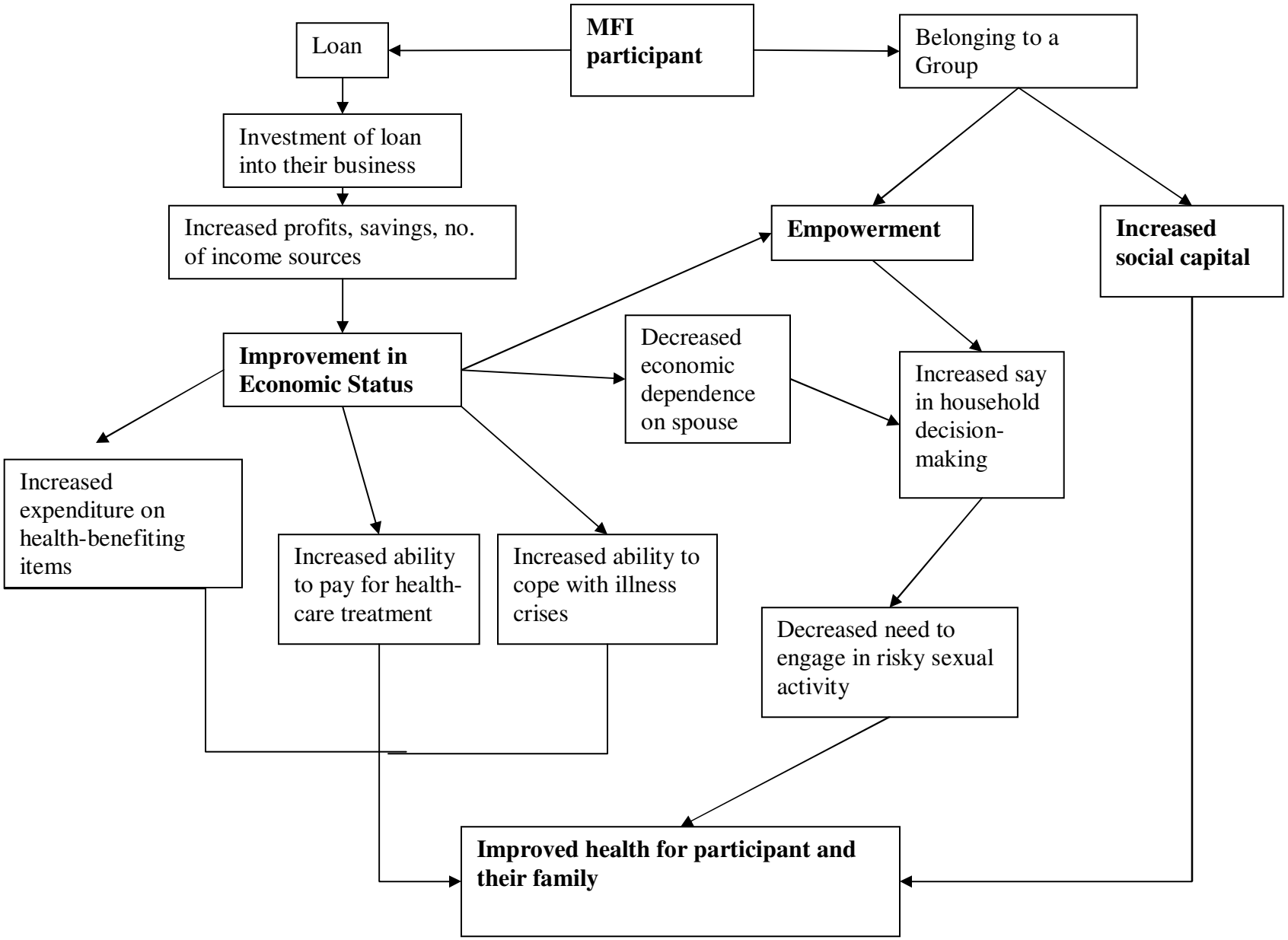
Microfinance has been shown to lead to empowerment[1] of its clients (MkNelly and Dunford 1996). CRECER Bolivia documented positive and significant differences in participants "say" in how much to spend on house repairs and discussion of family planning with their spouses relative to non-participants, both indicators of increased empowerment (MkNelly and Dunford 1999). Other studies reported similar increases in empowerment (Arney, Meckel et al. 2008). In Tiruchirappalli, India Women's Self-Help groups were provided with microfinance loans for investment in the water and sanitation sector. These women expressed that participation had given them an increased sense of empowerment; many women, for the first time in their lives, entered banks to obtain loans and procured additional loans for income-generating activities previously not considered acceptable for women (Arney, Meckel et al. 2008). Empowerment has an important influence on the demand and use of health services by women and adoption of positive health-related behaviour changes. Griffiths provides strong evidence for this from his studies in India; he showed a positive correlation between mothers' self-image and the health and nutrition of their children. He also showed that greater self-confidence was linked to breastfeeding, introducing weaning foods, and making changes in health practice (McGuire and Popkin 1989). In Bangladesh, participation in microfinance programs was shown to lead to higher levels of contraceptive use and better family planning. This was explained as being a result of economic and social improvements for those participants involved in the programs; 65% of "empowered" women were practicing contraception as opposed to only 45% of those who were "not empowered" (Schuler and Hashemi 1994). Therefore, microfinance, by increasing empowerment of women, is believed to have a positive influence on health of participants, particularly in terms of promoting good health-seeking behaviour.

[1] For the purpose of this study, empowerment has been defined as self-confidence, status and bargaining power within households.

Social Capital

The other aspect to consider is the expanded social capital that microfinance provides through formation of new and strengthening of existing friendships via solidarity and village banking groups. Pronyk et al. provide quantitative and qualitative data which showed that the IMAGE project generated improvements in social capital; after two years, participants showed enhanced participation in social groups and there were multiple examples of participants who had used existing social networks and established new partnerships with local leadership structure, police, health sector and NGOs to try and address community concerns (Pronyk, Harpham et al. 2008). CRECER Bolivia reported that participation positively affected women's participation in the civic life with an increased number of participants joining community groups and it was also perceived as being important in reinforcing contacts with family and friends (MkNelly and Dunford 1999).

Diagrammatic representation of how microfinance leads to health benefits for participants



c) What has been the overall impact of microfinance on health of participants, according to the studies?

Until this point, we have shown (and provided evidence) that microfinance leads to improvements in psychological well-being, empowerment and economic status of clients and consequently should lead to health benefits for the participant. However, this relationship between microfinance participation and health is not likely to be as direct and simple as it has been described so far. Other factors will complicate the relationship. Therefore, to understand this relationship on a practical level rather than the theoretical level, we will now assess the evidence which demonstrates the impact that microfinance directly has on the health of participants;

- Microfinance was found to have an important impact on nutritional status and well-being of female clients and their families in Wisdom MFI, Ethiopia. (Doocy, Teferra et al. 2005)
- In Kerala, India, Microcredit was shown to help protect poor women against exclusion from health care and possibly aid in promoting their mental health (less likely to report emotional stress and poor life satisfaction). However, no association was found between self assessed health or exposure to health risks and participation in MF health schemes. (Mohindra, Haddad et al. 2008)
- In the Dominican Republic, participants in a microfinance-only program did not show any significant improvement in the 11 health indicators that were measured (Dohn, Chavez et al. 2004).

The mixed results above may be partly due to lack of available data because microfinance studies often base evaluations on economic rather than health or social outcomes. It could also be due to the short time between intervention and assessment. However, it is also likely to be a reflection of the links between microfinance and health being more complex and tenuous than previously described. For example, it cannot be assumed that microfinance will lead to improvements in terms of income, empowerment and social capital for all participants- this can be highly variable and dependent on multiple factors including the particular MFI project in question and the client. In terms of the economic benefit achieved, this is dependent on the particular participant's loan use strategy and her commitment; CRECER Bolivia reported 67% of participants had income increases and augmented household assets, and whilst some participants had profits as high as $150-225, one quarter reported profits less than $10 (MkNelly and Dunford 1999). Thus, health benefits achieved are also likely to be highly variable. With regards to empowerment, this is not

always a reported side-effect of microfinance. In Kerala, no clear link between participation in microfinance and decision-making was found (Mohindra, Haddad et al. 2008) and whilst the CRECER Bolivia study found links to empowerment, this was only in 2 of the multiple indicators of empowerment that they had employed (Mohindra, Haddad et al. 2008). The links between income, empowerment and social capital and health are also fragile. For example, increased income often does not result in increased health expenditure as the Project HOPE study in Ecuador and Honduras found (Smith 2002).

Overall, microfinance does not always have as significant a benefit for health that it should, according to the theory. This is probably because health is an indirect effect of these programs; health needs to be targeted and promoted more actively in order to have a bigger impact.

SECTION 2: TEAMING MICROFINANCE WITH HEALTH

a) Expected benefits of teaming the two

The concept of integrating a health component into microfinance emerged as one way of maximising the health gains that could be achieved through microfinance. If economic and health resources are provided to the same participants this could have a synergistic impact, making improvements in health status more likely than would be the case if either resource was provided alone. The health education component could equip clients with the knowledge necessary for influencing expenditure patterns in a health-benefiting way, whilst simultaneously improving socioeconomic status could help to remove any financial obstacles that prevented application of this newly acquired health knowledge. Thus, incorporating a health component into microfinance addresses the failings of delivering microfinance and health education strategies separately, and seems a more promising health development strategy than microfinance alone.

This section of the review will aim to assess how effective these health strategies, implemented through microfinance, have been in generating improvements in health. We hope to provide answers to the following questions:

1. What have been the relative success and challenges in integrating health strategies with Microfinance Institutions (MFI)?

2. Given experiences to date, what are the potential eye health, disability and diabetes strategies that could be integrated into MFI?
3. What would be the most appropriate ways to integrate eye care, diabetes and disability strategies into MFI?

The innovation of adding a health component to microfinance is relatively recent and consequently studies providing evaluative data are relatively limited, which may explain why there have been few attempts so far to compile and synthesise data from this field. However, by addressing this research gap through this literature review, we hope to provide greater insight into the potential of this development strategy for the future and whether or not there should be more significant investment and scale-up of this strategy globally. By learning from past mistakes and successes of these health tie-ins, it will also enable future studies to have greater chance at achieving impact.

b) Teaming microfinance with health; an overview.

The suitability of microfinance for delivery of health services and education.

Microfinance institutions have unique characteristics that enable them to overcome some of the difficulties encountered in providing health services and education to the poor, making them highly appropriate as a vehicle for achieving impacts in this area.

Access

MFIs enable us to gain access to the sectors of society which are most in need of health education and service provision. With hundreds of millions of clients worldwide MFIs provide us with a huge distribution channel. However, rather than sheer number, it is the characteristics of these clients which make MFIs so useful for the facilitation of health services.

Firstly, clients of MFIs are generally from the poorer sectors of society. The ability to draw the poorest sectors of society to educational health strategies and services is often very difficult, because such services often do not provide the incentive of immediate benefit. However, integrating health services into MFIs can provide this incentive through the offer of loans which will provide immediate economic relief for the client (Smith 2002).

Secondly, women make up approximately 80% of MFI clients (Watson 2005) They are preferred as clients to men because they are a better credit risk and are more likely to spend any incoming money in a way which will directly and positively increase the health of their family and themselves. In Bangladesh, a substantial impact on children's health from women's borrowing was found, but not from male borrowing, which had an insignificant or even negative effect (Pitt, Khandker et al. 2003).

Sustainability and Self-Sufficiency

MFIs are designed for long term duration and with the aim of becoming ultimately financially self-sufficient through the interest earned on loans. This sustainability of MFIs has important implications for health because it means that not only are we able to gain access to a particularly vulnerable target group but we are also able to maintain a sustained degree of contact. As well as being important for the follow-up of patients, sustainability and self-sufficiency provide a huge advantage for health-related strategies. This is because they are less susceptible to donor fatigue and there is an adequate timeframe for behaviour change to occur meaning that impacts are likely to be more significant and longer-lived.

Group-based delivery mechanisms

The majority of MFIs have group-based delivery mechanisms where clients form groups that meet at regular intervals for loan administration. These groups usually consist of between 5- 30 clients and whilst loans are administered individually, the other members of the group act as guarantors for the loan. This group-based forum is ideal for the administration of health education services because it enables access to a large number of people regularly (most MFIs have fortnightly or at least monthly meetings) without the huge organisational costs that are usually involved.

MFIs act at the community level

MFIS are particularly appropriate in a context such as Africa because they operate at the community level and this is realistically, in light of the widespread poverty, limited healthcare services and the strong family-centred cultural tradition, where certain basic and preventative healthcare takes place and where there is the greatest potential for achieving impact.

Different ways to organize microfinance with an added health component

The basic methodology for these health components is fairly universal; health education or services are generally provided to clients through the weekly meetings of the microfinance institution, although how these services are specifically delivered and managed varies greatly among institutions.

In terms of management, there are 2 main options;

- The **unified or "in house" model** is where the MFI takes on full responsibility for the development and running of this added health component and the health service is delivered through their own staff. The converse is also possible; a health organization can integrate microfinance activities into their program. The unified approach provides greater control over the program and provides cost efficiencies because separate administrative and program structures are not necessary to sustain both services, allowing the marginal costs of the education to be covered with revenue generated from the microfinance (Watson 2005). However, development of an educational curriculum by an MFI is very costly in terms of money, resources and time. Consequently it has been suggested that this set-up is appropriate and feasible only for larger, substantially funded multi-objective organizations such as World Vision(Achola 2006). Second, the quality of information provided by such programs is likely to be uneven and will depend on the level of investment and commitment by particular field staff as was shown in the CRECER Bolivia study (MkNelly and Dunford 1999). As well, field staff with limited experience in teaching or education are ill-equipped to provide quality education services (MkNelly and Dunford 1999) and health organizations providing microfinance are often plagued by financial difficulties because of lack of experience in this field. However, the hugely successful CRECER campaign in Bolivia and other studies such as Project HOPE (Smith 2002) which also used this unified approach, suggests that achieving success through this model is possible given adequate funding and careful set-up.

- The **Linked model** is where financial services are provided to clients by a specialist microfinance institution and simultaneously health education services are offered by an independent health organization. Each organization is responsible for the administration, costs and staffing of their services. This is often a preferred organizational set-up because it means that each specialized organization can deliver those services in which they have experience and expertise in; thus the quality of services provided is generally

higher. MFIs are generally more willing to accept this set-up compared to the unified approach because it means that the educational organization is responsible for the added costs and administration of this health tie-in and this burden does not fall on the MFI. However, there are disadvantages to this arrangement. In terms of educational delivery, because the teachers are completely unrelated to the MFI and there is less familiarity, clients have been found in some studies to be less accepting of these educational messages. It can also lead to management confusions; The IMAGE study found that uncertainties arose regarding division of responsibilities in the partnership and in particular, there was confusion as to whether the microfinance was supposed to be liaising with or managing the educational team. This led to inefficiencies for the MFI (Pronyk, Hargreaves et al. 2006).

The key lesson that emerges is that deciding which management option to use when integrating health into microfinance or vice versa is highly dependent on contextual factors such as funding, size of the organization, health education syllabus etc…. Deciding on an appropriate management-set-up is critical because it can have a strong influence on the efficiency and success of the microfinance-health program subsequently.

Impact that microfinance with a health component has had on health

There is evidence from the studies that suggests that microfinance with a health component has a far more significant impact on health than microfinance alone.

Two key studies provide us with information for assessing this because they provide comparative data between banks where the health component was introduced and banks where no component was added. Project HOPE created village banks both with and without a child and maternal health education component in Honduras and Ecuador, and found that there was reduced subsequent conditional child diarrhea probability, raised subsequent healthcare access amongst participants in the joint MFI-health program, and reduced tendency to switch from breastfeeding to bottle-feeding as income rises, while no such effect was found amongst credit-only bank participants (Smith 2002).

In another study performed in Las Filipinas, Dominican Republic, one community had only the health promotion program, one community had only the microcredit program, and one

community had an integrated microcredit-health promotion program delivered. Whilst health indicators improved in all three communities to a certain extent, the community with parallel microcredit and health programs had the largest changes for 10 of the 11 health indicators(Dohn, Chavez et al. 2004).

Considering the comprehensive and strong quasi-experimental design of both these studies, this provides considerable evidence that integrating health into microfinance does provide a significant added benefit for health compared to microfinance alone. However, of course, there must also be consideration of the extra costs and resources required by integrating a health component into microfinance because this will play a significant role when determining whether implementation is worthwhile or not.

SECTION 3: LESSONS FROM THE FIELD

a) Areas of health that have been integrated into Microfinance.

This section of the literature review will examine what has been achieved and experimented with so far in terms of integrating health into microfinance.

Microfinance and Sexual Health

There has been a significant number of MFIs which have attempted to integrate sexual health into their institutions particularly in terms of HIV/AIDS. The IMAGE study combined microfinance with gender/HIV training and a community mobilization scheme in South Africa. It used a randomized clinical trial study design and had a comprehensive methodology for baseline and follow-up data. After two years, it found reduced intimate partner violence among clients but there was less evidence for impact on condom use, HIV incidence and sexual behaviour. Improvements in knowledge to a certain extent failed to translate into health behaviour change (Kim, Watts et al. 2007). Another study, the STD/AIDS control project of the University of Nairobi which provided small loans, business training and HIV and Aids education to 209 sex workers, found that there were notable reductions in sexual risk behaviour among borrowers (Datta and Njuguna 2008). Almost 20% of the women left sex work completely and those who remained in the industry reduced their average number of clients. There was a remarkable decline in STIs among clients. The WOMAK and MMAAK studies which provided microfinance alongside prevention, treatment and care to HIV/AID infected people, also found

that microfinance enabled clients to move away from the high-risk sex industry (Datta and Njuguna 2008). However, in India, similar set-up providing sex workers with microcredit loans did not find a significant number of clients had reduced their number of sexual partners (Swendeman, Basu et al. 2009).

Microfinance and Malaria

CRECER Ghana conducted a randomized control trial of a project where malaria education was provided alongside microfinance. Clients who participated in this project were found to have consistently more knowledge than non-clients, were more likely to have women of reproductive age and children under the age of 5 sleeping under an ITN and twice as likely to have re-treated a mosquito net in the last six months. There was also a 19 percentage point jump in malaria clients taking Fansidar/SP during their antenatal visits. Despite this, there was a disappointing total increase in number of participants who owned ITNs (only 11% owned ITNs compared to the goal of 60%) reflecting that increased knowledge doesn't always translate into behaviour change.

Microfinance and Nutrition

CRECER Bolivia provides nutritional and child health education alongside microfinance and employed a quasi-experimental study design. MFI participants demonstrated positive and significant increases relative to non-participants in health/nutrition practices promoted by the program such as giving more liquids than usual to children who are suffering from diarrhea, having children immunized, preventing diarrhea through good hygiene etc. There were significantly more participants (21%) in the intervention community who reported feeding or breastfeeding their youngest child differently than in the control communities (9%). No positive effect of the program was found on maternal or clients' children nutritional status, but this could be due to the relatively short time frame of the study (MkNelly and Dunford 1999).

Microfinance and Health care service expansion

The Uganda Private Providers Loan fund provides microfinance loans and technical assistance to small private-sector health providers – including pharmacists, nurses, midwives, doctors- who are significantly constrained in expansion by a lack of credit. These loans were given with the aim of strengthening the private health sector, helping the country to meet their health care needs. Clients' perceptions about a range of services and the presence of essential equipment in clinics which had received these loans remained largely unchanged over the period. The most significant change was in drug availability; respondents were four times as likely to cite drug

availability in the follow-up survey as the reason for their loan clinic choice (Agha, Balal et al. 2004). In Indonesia, a similar program initiated by the SUMMA Foundation which provided loans to midwives, found a marked increase in the number of new family planning clients within one year (Butala, VanRooyen et al. ; Gertler, Levine et al. 2009).

Microfinance, Water and Sanitation

Due to the failure of both the public and private sectors to provide sufficient access to water and sanitation in many developing countries, there has been a recent innovation to try to increase provision and management of water and sanitation services through distribution of microfinance loans. Gramalaya provided microfinance loans by mobilizing a network of women's self-help groups (SHG) to utilize a revolving loan fund for water and sanitation in Tiruchirappilli, India. Gramalaya provided loans directly to SHG who then distributed the loans among borrowers. As well, Gramalaya provided community-wide health and hygiene promotion campaigns which were crucial in spurring the widespread demand for water and sanitation loan products seen under this program. Census data collected by SHG members in 2 villages indicated increased investment in water and sanitation facilities which had resulted in an increase in household access to safe water and sanitation facilities and reduction in self-reported diarrhea incidence among SHG members and their families (Arney, Meckel et al. 200). A similar program has been conducted in West Africa under CREPA (Kouassi-Komlan and Fonesca, 2004). In India, slum upgrading, through loans provided under a microfinance scheme, reduced a claimant's likelihood of claiming health insurance for waterborne illness from 32% to 14% and from 25% to 10% excluding mosquito-related illnesses (Butala, VanRooyen et al.)

Microfinance and Primary Health Care Services

The largest MFIs, in particular BRAC and Grameen Bank, have expanded their services to offer primary health care services in villages where they operate. For example, the Grameen Health Programme has opened numerous medical centres throughout Bangladesh; these centres have reduced fees and offer free counseling with the aim of increasing provision of basic health care to poor people in rural areas(Steinert and Jurgen Rosner 1996). BRAC has organized satellite clinics (including eye care clinics), EPI centres and health education on a wide range of issues to their clients. However, these primary health care services offered by BRAC and the Grameen Health Programme are operated independently to the microfinance component and are offered to all the rural poor, not just microfinance participants; therefore they are very different to the more

traditional integration of health into microfinance and so will not be discussed in depth in this literature review.

Overall, this review demonstrates that studies which have provided microfinance alongside health projects have achieved significant impacts in a wide range of areas of health. However, there is much variation between studies in terms of the extent of impacts that have been achieved which can be explained largely in terms of differences in study design, contextual factors and the specific health objective that has been targeted. There are many areas of health which remain to be undertaken and assessed.

c) Challenges and limitations of integrating health into microfinance

Loss of productivity for MFI because of financial and resource burdens of the added health component

A major argument against integrating health into MFIs is that integration will result in a loss of productivity and financial self-sufficiency for the MFI. Reviewing the literature, it is apparent that many MFIs which have integrated health components into their program are financially very weak (Jain 2004; Datta and Njuguna 2008). Various explanations have been proposed for why adding a health component can be detrimental financially for the MFI. Briefly, these are:

- Targeting clients who are in greatest need of health services can mean increased failure to repay loans because often this population is less reliable as clients
- Loss of clients because clients can regard the educational component as unnecessary and expect that any added costs of this will be reflected in higher interest rates and consequently opt for credit-only banks (Smith 2002). However, evidence from the IMAGE study contradicts this; they reported lower dropout rates in credit-banks which had the added health component compared to credit-only banks.(Kim, Watts et al. 2007)
- MFIs which attempt to integrate a health component into their agenda or vice versa are at risk of taking on more roles and responsibilities than they are capable of providing. This can mean that the MFI spreads their resources too thinly so that loans provided are too small and clients have inadequate funds to do business (McDonagh 2001).
- Mismanagement of microcredit due to it being a run by a health organisation with lack of experience in this field (Datta and Njuguna 2008)

- Integration of welfare-oriented activities into MFIs has created a dependency mentality among some beneficiaries. They expect more assistance and some believe that they don't need to repay because money has been donated (Achola 2006).

However, achieving the ultimate goal of financial self-sufficiency is not a problem confined to microfinance with added health components; many microfinance-only institutions face this problem equally. A survey of 124 MFIs attempting to become self-financing published in the microbanking bulletin found that only 37% were successfully becoming self-financing (Armendariz de Aghion and Morduch 2005).

Numerous studies have demonstrated that incorporating health components into MFIs does not result in significant financial detriments for the MFI. Project HOPE found no clear link between health tie-ins and bank performance when it compared "credit-only" banks to institutions which offered health education alongside microfinance. CRECER Bolivia is the largest group-based lender in Bolivia and has almost achieved financial self-sufficiency without compromising its commitment to health education services, nor to reaching poor clients (MkNelly and Dunford 1999). CRECER calculated the additional costs caused by integrating a health component into their study and discovered that education constitutes only 4.3% out of 10% of total costs of operation. (Vor Der Bruegge, Dickey et al. 1997)

In fact, it can be argued that adding a health component can have financial long-term benefits for the MFI; Smith argued that it would lead to better health of clients resulting in better loan repayments and faster accumulation of individual savings accounts(Smith 2002). CRECER attributes its financial successes in part as being a result of the additional health component that gives it competitive advantage in the microfinance marketplace (Vor Der Bruegge, Dickey et al. 1997).

We conclude that whilst there are added challenges that must be overcome with integrating health into microfinance, a well-designed and well-funded microfinance- health program is capable of achieving financial outcomes that are equal to or even better than those of microfinance-only banks as multiple studies have demonstrated, and is believed to enhance implementation and impact manifold.

Inefficient health schemes which fail to translate into behaviour change.

Providing a health education scheme which is consistently of high quality is a common challenge experienced in studies. Health education schemes provided through the MFI were often highly variable and were dependent on the teacher that had been employed to undertake the task. CRECER Bolivia documented a huge amount of variation in quality of education services received by clientele in the various regions where it had been administered. The variation in education was reflected in the resulting impacts of the study; participants who received better-quality education as determined by feedback from clients and monitoring were significantly and much more likely (38%) to report positive changes in breastfeeding their child than participants who received "average or worse-than average education (8%)" (MkNelly and Dunford 1999).

However, alongside teaching, an equally important component in the provision of quality education is the syllabus. The CRECER Ghana study which integrated malaria education into microfinance was disappointed with the uptake of their educational messages and adoption of appropriate prevention behaviours. It concluded that the syllabus needed to be devised in a more culturally sensitive manner and capitalise more on useful beliefs and behaviours that already exist in local communities, for example, using local terms for malaria and fever. Even though it can be initially costly to include these culturally based ideas and behaviours into the health programmes, the benefit of the added effectiveness over time cannot be discounted (De La Cruz, Crookston et al. 2009).

It is also important to select appropriate media for the target audience. One study found that media such as discussion meetings, newspaper articles, posters and billboards displayed in public places, films and songs on radio and television were not suitable for the poorest women. This was because financial barriers often prevented access to these forms of media by this sector of the population. In addition, health messages provided through this media were designed to cover the whole population and had not been targeted to specific groups which meant that they were often not appropriate and well understood by this group. It was concluded that the focus group discussion was the most suitable media through which to disseminate this health knowledge amongst these poor women (Hadi 2001).

Even if a high quality educational scheme is in place and substantial increases in knowledge are documented amongst participants, this does not always translate into real behavioural change. The relationship between knowledge and behaviour change is not direct and there are multiple intervening variables which may lead to behaviour consistent and inconsistent with knowledge,

such as community perceptions, beliefs and attitudes, cost, incidence and severity of disease. In the CRECER Ghana study, logistic regression analyses showed that doers did not express higher knowledge related to protective methods against malaria/consequences of malaria in pregnancy (De La Cruz, Crookston et al. 2006; De La Cruz, Crookston et al. 2009) . CRECER Bolivia found only 1/5th of the mothers of young children in the credit with education program made positive changes with regards to feeding practices(MkNelly and Dunford 1999). The IMAGE study faced similar challenges; education on HIV/AIDS and violence did not have a significant impact on sexual behaviour, HIV incidence and condom use among clients' households or communities (Hargreaves, Hatcher et al.). Research looking into strategies for translating knowledge into behavioural change will be greatly beneficial for any education program in the future.

Small scale impacts which are not sustained beyond the local context

There are clearly limits to locally based programs for achieving wider impacts on the national or global scale. Some argue that the MFI development strategy provides a very limited window of opportunity to change the political, socioeconomic or institutional forces that are the cause of the health and social inequities in the first place. However, whilst the initial steps of change taken in individual communities may be seemingly insignificant, BRAC in Bangladesh demonstrated that as MFI programs expand they can reach a scale large enough to have impacts for the nation as a whole; in Bangladesh BRAC MFIs played a significant role in the large-scale economic growth of this country and mobilised members to vote for the first time in elections (Hadi 2001).

Only caters for a small group in the community; neglects many

Even at the local level, the MFI excludes many; it is only directly involved with those participating in the program and consequently excludes those who do not make up MFI clientele i.e. the poorest of the poor and males (Arney, Meckel et al. 200; MkNelly and Dunford 1999). However, microfinance' failure to cater to all sectors of the population does not reduce its potential as a poverty alleviation strategy; because microfinance helps lessen the burden of poverty and the number of people affected by it, more funds from aid organisations can be directed towards those sectors of the population who do not benefit from microfinance.

Also, MFIs can engage with those who they exclude from participating in their programs through effective community mobilisation strategies. Community mobilization can be defined as a

capacity building process through which local individuals, groups or organizations identify needs, plan, carry out and evaluate activities on a participatory and sustained basis, so as to improve health and other needs, either on their own initiative or stimulated by others. (Levene) Often, diffusion of information occurs through advice-giving and knowledge sharing by clients with their family and friends as studies found (De La Cruz, Crookston et al. 2009).

The IMAGE study recognised and tried to more actively promote community mobilisation through phase 2 of their study design. In this phase, key women selected from the previous phase were delegated the task of running and leading community forums which would discuss, analyse and propose solutions for the HIV crisis. Each community was given the opportunity to implement these interventions. These community forums provided the opportunity for non-MFI participants to become involved and in this way the trial was able to influence broader change within households and communities. There were mixed results that emerged from this community mobilisation scheme. Whilst women participating in the intervention reported greater household communication and collective action, mobilizing their villages around a range of issues, including violence and HIV infection, this often did not translate into any impacts with regards to changes in condom use or HIV incidence among young people in clients' households or communities. The IMAGE study concluded that involving communities in the implementation of programmes can raise significant challenges and there is little understanding about the process of community mobilisation or the techniques that best promote sustainable community participation (Pronyk, Hargreaves et al. 2006).

Coping with illness of clients

Many MFIs face the significant challenge of coping with clients' illnesses. In particular the HIV epidemic has had a devastating impact for many MFIs. FINCA Uganda reported that poor health of their clients and their family members, due in large part to the AIDS epidemic, had led to high delinquency rates, increase in drop-out rates and insecurity of group savings. It also has impacts for the field staff and all others involved in the administration of MFI. BRAC reported that 25% of the failed loan instalments in MFI groups are caused by mental and physical illnesses of their clients (Hadi 2001). Improving the health of their clients, for example through the implementation of a health component, is therefore in the best long-term interest and will increase their financial sustainability of the MFI. This also advocates for the need for the development of

health insurance programs or pooled funds which can be accessed by MFI clients during times of severe illness.

Cause worsening of working conditions, especially for children

Microfinance programs are recognized as a way of improving incomes and creating employment for large numbers of low-income families, but there are concerns that working conditions can be poor because children may make up the labor shortfall for microenterprise programs until the family can afford to hire adult workers (Carothers, Breslin et al.).

Inappropriate environments for microenterprise development

Microenterprise programs and clients can face significant issues when they are placed in communities with scarce resources. In such cases, developing microenterprises can struggle because of insufficient numbers of potential customers or clients and lack of economic and social networks and services to support their new microeconomic activity. (Stratford, Mizuno et al. 2008). Bateman, a well-known critic of microfinance, argues that microfinance will not have a sustainable impact on development and poverty alleviation because it over-saturates informal sector microenterprises. Microfinance causes an influx of new entrants into this sector and he argues makes the "struggle for survival worse for the rural poor" because there are a limited range of things that these people can take up, given their limited capabilities to diversify. He describes this as the 'fallacy of composition' argument against microfinance (Bateman and Chang). In some communities, even when a microenterprise successfully generates revenue, women do not have control over resources or assets and their own economic and personal development can be put at risk by other relationships such as partner control over assets.

SECTION 4: LINKING EYE CARE AND MICROFINANCE

So far, we are not aware of any attempts to integrate eye care into microfinance (the Grameen Health Bank has set up satellite eye clinics for communities where their microfinance program operates however these two programs are distinct (not integrated). The possibilities of how eye care could be incorporated into microfinance are wide-ranging and promising. Some possible education and eye health services that could be provided through microfinance groups include;

- **Nutritional Blindness:**
    - Education of MFI group members on;

- Preventing nutritional blindness e.g. through consumption of dark green leafy vegetables, breast feeding for the first 2 years of life, adequate fat and protein intake
- Using MFI group members as a channel through which to distribute vitamin A capsules to the rest of the village. Whether or not this is worthwhile would depend on the location; for example, in East Africa after widespread Vitamin A capsule distribution campaigns, Vitamin A deficiency is now rare but in other parts of Africa it is still a significant problem.

- **Glaucoma;**
    - Education of MFI group members on;

- Importance of regularly sending first degree family members of people with glaucoma for check-up.

- **Trachoma;**
    - Education of MFI group members on;

- Recognising symptoms and signs of trichiasis so that they can refer any people in their community with suspected trichiasis to the next outreach service.
- Preventing trachoma through good sanitation and hygiene practices in their community.
- Encouraging MFI members in the group to use their microfinance loans to invest in water and sanitation projects e.g. constructing latrines, proper sewerage systems as was done in India (Arney, Meckel et al. 200)

- **Cataract and Refractive Error**
    - Education of MFI group members on;

- Educating selected members in the group on vision loss in the elderly (cataract or presbyopia) and the fact that it can be corrected. If MFI group members know where these services are available they can provide some guidance and support within the community. Knowing the price for these services (including transport) and the availability of subsidies would also be important.

- **Promotion of eye care seeking behaviours through MFI group;**

- MFI group members could be used to promote people to seek eye care services. Members would be used to promote services available at the district hospitals, when/where the next outreach service will be held and why it is important that they attend. This promotion of the use of eye care services could be via simply asking members to "spread the word", asking MFI group members to distribute posters/pamphlets promoting the district hospital and outreach services throughout the community, announcements in churches/schools and other public meetings for the village etc… This would require that VISION 2020 "district" programmes have the contact details (cell phone numbers) for the MFI group members so contact could be made regarding upcoming outreach service, any chances in service delivery, monitor their work etc… It might be possible to give MFI group members "chits" that they can give to people they suspect having and "eye problem" which could be taken to the eye care provider to receive "free" or subsidized service.

It is important to consider not just *what* possible eye care education and services would could be provided to these MFI group members but also *how* these services could be delivered in an effective and feasible way;

- A linked approach rather than a unified approach appears to be more feasible in most settings in Africa, considering the relatively small-size of VISION 2020 programmes and the lack of experience VISION 2020 programmes have with microfinance. It is more feasible that VISION 2020 programmes link with existing microfinance groups rather than trying to establish new ones.
- There are various possibilities of who could deliver the eye care education services. A member of the VISION 2020 programme team could deliver the services to the groups at each weekly meeting but considering the logistics, costs and time involved with having to travel to multiple villages each week in order to conduct education sessions this does not seem practical. In addition, because the services would be conducted by a person unfamiliar to the community this may not be a good way of promoting the community to look after their own health. A more promising option may be to select one or two members of the MFI group to be the "teachers" for the rest of their group. These "teachers" would undertake training sessions (probably close to their village rather than at a hospital due to logistics). Alternatively, we could use existing community health

workers to administer the education. Advantages with this approach would be that these workers are familiar with the village already and are located there so transport is not an issue. However, using existing community workers may be less reliable- it would be hard to maintain a consistent, high standard of education among different villages because this would be highly dependent on the level of motivation of the community worker.

- A major challenge will be trying to involve the entire community in this project considering that we would only be targeting microfinance groups in the village, which would make up only a small proportion of the community population Whilst it is hoped that the MFI group members will pass on the knowledge they acquire through the project to their family members and friends, there could be more active ways of achieving this; for example, forums in which all members of the community would be invited, could be organized through the MFI group. The forum could be used as a way of passing on health knowledge that the group has learned to others outside the group. It could also be used as a way of proving information on upcoming outreach service or could be used to ask the community about their opinions on health in the community etc… This is similar in set-up to phase 2 of the IMAGE study (Pronyk, Hargreaves et al. 2005).

SECTION 5: LINKING DISABILITY TO MICROFINANCE

VISION 2020 programmes may also chose to provide education on physical disability through this program for a number of reasons;

- Physical disability is an area of critical need in most countries in eastern Africa. For example, today, approximately four million Tanzanians live with impairment. Of those affected, nearly half of those are children and most come from the poorest sectors of society. This is because a large number of disabilities are caused by poverty; poor nutrition, dangerous working conditions, limited access to vaccination programmes, poor health and maternal care, poor hygiene, bad sanitation and poor access to education about causes and treatment of impairments are some of the many risk factors for disability. Disability services provided in most of Africa are inadequate; there are few comprehensive rehabilitative and appropriate basic services available and costs for

transport to these services are prohibitively high for most people. In addition, people are often unaware of the availability of services.

- Ophthalmology, and particularly the area of low vision, is linked to the field of disability. It is logical for VISION 2020 programmes to expand in this direction, as other previously eye-only NGOS have done recently.

Most VISION 2020 programmes have limited experience in physical disability and therefore will need to link to an established organization providing disability services for this project. There are many promising options that exist for incorporating disability services and education into microfinance groups. For example;

Cerebral Palsy

- Education of group MFI members on;

- Improving awareness about the disease and trying to reduce the stigma surrounding it. This could be done through encouraging group members to help and support families who have children suffering from this condition. This could also involve the distribution of posters throughout the village.
- Identification of children living in this village who suffer from this condition. Using people who live in and are familiar with the community is particularly important for identifying people with this condition because a serious obstacle to identification is that parents are often ashamed to have children with this condition and hide them so that only close friends and family know that they exist. Members must understand how important it is that people suffering from cerebral palsy receive treatment and support and are not hidden away. Whilst cerebral palsy can't be cured, treatment will often improve a child's capabilities and children can go on to enjoy near-normal adult lives if their disabilities are properly managed. In general, the earlier treatment begins the better chance children have of overcoming developmental disabilities or learning new ways to accomplish the tasks that challenge them. There is much that can be done, including medical treatment, to help these people to live their lives more normally.
- Education on risk factors which cause cerebral palsy and trying to prevent these risk factors, especially during pregnancy.

- Education on the causes of disability might be an effective strategy for reducing the stigma attached to disability; people might appreciate more that disabled children are not "freaks" if they understand that the medical causes for their condition.

Cleft Lip/Palate

Education of Group MFI members on;

- Identification of cleft lip/palate amongst children in their community. Increasing awareness about this disease; in particular, it is important that group members are aware that cleft lip or palate can be successfully treated with surgery and that it is important to bring affected children in as early as possible so that they have the best surgical outcome possible.

Clubfoot

Education of Group MFI members on;

- Identification of children in the community with club foot.
- Generating an understanding that this is a condition that can be surgically and non-surgically cured. It needs to be emphasised that without any treatment, a child's clubfoot will result in severe functional disability, however with treatment, the child should have a nearly normal foot. Early identification of children is very important because early surgery performed, in the first few years of life is generally more straight forward, more efficient and more likely to be successful than if a child waits many years for treatment.

Vesico-Vaginal Fistula

- Education of group MFI members on;

- Improving awareness about the disease and trying to reduce the stigma surrounding it, for example, through encouraging group members to help and support families who have children suffering from this condition. This could also involve the distribution of posters throughout the village.

- Improving awareness that this disease can be treated and the earlier the treatment, the better the surgical outcome.

Any children suffering from either clubfoot, cerebral palsy or cleft palate that have been identified through these group members need to be referred to the appropriate centre; in the case of Tanzania, groups like CCBRT may conduct outreach services in the village to examine and assess these children onsite or a VISION 2020 outreach may be able to transport affected children back to the centre.

In addition, MFI Group members can be used to distribute posters aimed at educating the rest of the community on disability, focussing specifically on trying to reduce the stigma surrounding disability. Photos of disabled children with information on their condition and details on what treatment services are available can be placed in important village meeting areas such as Church, School. This might increase awareness amongst the community that this is a condition that affects many children and that these children need urgent medical treatment. As well, Group members can be used to promote the services offered by disability groups, and alert the community about any upcoming outreach visits.

By focussing on club foot, cerebral palsy and cleft lip/palate, we have overlooked many other conditions such as Epilepsy, Spina Bifida, and Polio. It may be possible to provide disability services and education on these conditions through our project, however, it is important that we do not overwhelm group members with too much new information and roles to perform in their community. Therefore, we have deliberately selected to focus on only three disability conditions, at least in the initial stages. As the program develops, it may be possible to provide these MFI group members with further education for other disability conditions, depending on how successful and effective the program is.

In most cases, disability organizations are willing to provide educational teaching materials such as brochures and postures.

SECTION 6: LINKING DIABETES TO MICROFINANCE

The other area of health that we have chosen to incorporate into this project is diabetes because this health condition is rapidly increasing in incidence throughout Africa which will have huge

consequences for health care and ophthalmology. In addition, some VISION 2020 programmes have diabetic retinopathy as a priority area of work and have links to diabetic programs, including education services.

Below, we describe some of the ways in which diabetes can be integrated into microfinance groups;

- Education of group MFI members on;

- Improving awareness about the disease, with a particular focus on the symptoms, complications and risk factors of diabetes. There should be promotion amongst MFI members on lifestyle changes that can be implemented to help prevent diabetes such as good nutrition and regular exercise.
- Diabetic patients should be encouraged to have an eye care check-up once a year, to screen for diabetic retinopathy.
- The appropriate health care services which people should seek (health care centre and then referral to the District Hospital) when they suspect they have diabetes.

REFERENCES

1. Achola, P. (2006). Impact of HIV/AIDS on Microfinance: with a case study on HIV/AIDS Mitigation. Canada, Mennonite Economic Development Associates.
2. Agha, S., A. Balal, et al. (2004). "The impact of a microfinance program on client perceptions of the quality of care provided by private sector midwives in Uganda." Health Serv Res **39**(6 Pt 2): 2081-2100.
3. Armendariz de Aghion, B. and J. Morduch (2005). The Economics of Microfinance. Cambridge, MA, MIT Press.
4. Arney, H., M. Meckel, et al. (2008). "Creating access to credit for Water and Sanitation improvements: a case study of women's self-help groups in Tiruchirappalli, India."
5. Bateman, M. and H.-J. Chang (2009) The Microfinance Illusion. Found online at: (http://www.econ.cam.ac.uk/faculty/chang/pubs/Microfinance.pdf)
6. Butala, N. M., M. J. VanRooyen, et al. "Improved health outcomes in urban slums through infrastructure upgrading." Soc Sci Med **71**(5): 935-940.
7. Carothers, R., C. Breslin, et al. "Promoting occupational safety and health for working children through microfinance programming." Int J Occup Environ Health **16**(2): 180-190.
8. Chuma, J., L. Gilson, et al. (2007). "Treatment-seeking behaviour, cost burdens and coping strategies among rural and urban households in Coastal Kenya: an equity analysis." Trop Med Int Health **12**(5): 673-686.
9. Datta, D. and J. Njuguna (2008). "Microcredit for people affected by HIV and AIDS: insights from Kenya." SAHARA J **5**(2): 94-102.
10. De La Cruz, N., B. Crookston, et al. (2006). "Who sleeps under bednets in Ghana? A doer/non-doer analysis of malaria prevention behaviours." Malar J **5**: 61.
11. De La Cruz, N., B. Crookston, et al. (2009). "Microfinance against malaria: impact of Freedom from Hunger's malaria education when delivered by rural banks in Ghana." Trans R Soc Trop Med Hyg **103**(12): 1229-1236.
12. Dohn, A. L., A. Chavez, et al. (2004). "Changes in health indicators related to health promotion and microcredit programs in the Dominican Republic." Rev Panam Salud Publica **15**(3): 193-195.
13. Doocy, S., S. Teferra, et al. (2005). "Credit program outcomes: coping capacity and nutritional status in the food insecure context of Ethiopia." Soc Sci Med **60**(10): 2371-2382.

14. Dunford, C. (2001). "Building Better Lives: Sustainable Integration of Microfinance and Education in Health, Family planning ".
15. Gertler, P., D. I. Levine, et al. (2009). "Do microfinance programs help families insure consumption against illness?" Health Econ **18**(3): 257-273.
16. Hadi, A. (2001). "Promoting Health Knowledge through micro-credit programmes: experience of BRAC in Bangladesh." Health Promotion International **16**(3): 219-227.
17. Hargreaves, J., A. Hatcher, et al. "Process evaluation of the Intervention with Microfinance for AIDS and Gender Equity (IMAGE) in rural South Africa." Health Educ Res **25**(1): 27-40.
18. Jain, A. (2004). An initiative supporting the basic income and needs of HIV/AIDS-affected households and individuals: Lessons Learned, SIMBA, Cooperative for Assistance and Relief Everywhere Inc.
19. Kim, J., G. Ferrari, et al. (2009). "Assessing the incremental effects of combining economic and health interventions: the IMAGE study in South Africa." Bull World Health Organ **87**(11): 824-832.
20. Kim, J., P. Pronyk, et al. (2008). "Exploring the role of economic empowerment in HIV prevention." AIDS **22 Suppl 4**: S57-71.
21. Kim, J. C., C. H. Watts, et al. (2007). "Understanding the impact of a microfinance-based intervention on women's empowerment and the reduction of intimate partner violence in South Africa." Am J Public Health **97**(10): 1794-1802.
22. Levene, J. Community Mobilisation for CABA: Barriers and Recommendations, International HIV/AIDS Alliance.
23. McDonagh, A. (2001). Microfinance strategies for HIV/AIDS Mitigation and Prevention in Sub-Saharan Africa: Working Paper no. 25.
24. McGuire, J. and B. Popkin (1989). "Beating the zero-sum game: women and nutrition in the third world, part 1." Food Nutrition Bulletin **11**(4): 38-63.
25. MkNelly, B. and C. Dunford (1996). Are Credit and Savings Services Effective Against Hunger and Malnutrition? A Literature Review and Analysis. Freedom from HUnger Research Paper No. 1. Davis, California, Freedom from Hunger.
26. MkNelly, B. and C. Dunford (1999). Impact for Credit with Education on Mothers and Their Young Children's Nutrition; CRECER Credit with Education program in Bolivia. Davis, California, Freedom from Hunger. **5**.

27. Mohindra, K., S. Haddad, et al. (2008). "Can Microcredit help improve the health of poor women? Some findings from a cross-sectional study in Kerala, India." International Journal for Equity in Health **7**(2).
28. Pitt, M., S. Khandker, et al. (2003). "Credit Programs for the Poor And the Health Status of Children in Rural Bangladesh." International Economic Review **44**(1).
29. Pronyk, P. M., J. Hargreaves, et al. (2005). "Study Protocol: The Intervention with Microfinance Study protocol: The Intervention with Microfinance for AIDS and Gender Equity Study (IMAGE study); An Integrated Community Randomised trial of a structural intervention to prevent HIV and gender-based violence in South Africa."
30. Pronyk, P. M., J. R. Hargreaves, et al. (2006). "Effect of a structural intervention for the prevention of intimate-partner violence and HIV in rural South Africa: a cluster randomised trial." Lancet **368**(9551): 1973-1983.
31. Pronyk, P. M., T. Harpham, et al. (2008). "Can social capital be intentionally generated? a randomized trial from rural South Africa." Soc Sci Med **67**(10): 1559-1570.
32. Schuler, S. R. and S. M. Hashemi (1994). "Credit programs, Women's Empowerment and Contraceptive Use in Rural Bangladesh." Studies in Family Planning(24 (March/April)): 65-76.
33. Seiber, E. E. and A. L. Robinson (2007). "Microfinance investments in quality at private clinics in Uganda: a case-control study." BMC Health Serv Res **7**: 168.
34. Smith, S. (2002). "Village Banking and Maternal and Child Health: Evidence from Ecuador and Honduras." World Development **30**(4): 707-723.
35. Steinert, A. and H. Jurgen Rosner (1996). "Bangladesh: The Grameen Bank Health Programme." International Social Security Review **49**(3): 81-90.
36. Stratford, D., Y. Mizuno, et al. (2008). "Addressing poverty as risk for disease: recommendations from CDC's consultation on microenterprise as HIV prevention." Public Health Rep **123**(1): 9-20.
37. Swendeman, D., I. Basu, et al. (2009). "Empowering sex workers in India to reduce vulnerability to HIV and sexually transmitted diseases." Soc Sci Med **69**(8): 1157-1166.
38. Thulasiraj, R. D., P. K. Nirmalan, et al. (2003). "Blindness and vision impairment in a rural south Indian population: the Aravind Comprehensive Eye Survey." Ophthalmology **110**(8): 1491-1498.
39. Vor Der Bruegge, E., J. Dickey, et al. (1997). Cost of Education in the Freedom from Hunger version of Credit with Education implementation. Freedom from Hunger Research Paper No. 6. Davis, California, Freedom from Hunger.

40. Watson, A. (2005). From Microfinance to Macrochange: Integrating Health Education and Microfinance to Empower Women and Reduce Poverty. Washington DC. , Microcredit Summit Campaign, United Nations Population Fund.

APPENDIX

a) Summary Table of studies

HEALTH AREA	DESCRIPTION OF STUDY AND REFERENCE	MAIN FINDINGS (note: all studies regarding specific health issues are grouped)
Malaria	**CRECER** (Ghana): clients were provided with microfinance loans alongside malaria education. (De La Cruz, Crookston et al. 2009) (De La Cruz, Crookston et al. 2006)	• Malaria clients had significantly better malaria knowledge than comparison groups and were more likely to use/own an insecticide-treated net (ITN) • Greater knowledge about malaria does not always translate into improved bednet use; integrating local beliefs and values into health education messages is important for increasing effectiveness.
Sexual Health	**IMAGE STUDY** (South Africa); combined microfinance with gender/HIV training and community mobilization in South Africa (Hargreaves, Hatcher et al.) (Kim, Ferrari et al. 2009) (Kim, Watts et al. 2007) (Pronyk, Hargreaves et al. 2005)	• Microfinance coupled with HIV/AIDS education is a promising prevention strategy because it; • Improves knowledge about STDs and prevention methods • Provides an alternative means of income for sex workers who are therefore less reliant on risky sexual activity as a means of increasing income • Addresses environmental barriers of economic vulnerabilities. • improves empowerment so that clients are able to have increased decision-making skills in sexual negotiations

	Sonagachi project, (Kolkata, India) (Swendeman, Basu et al. 2009)	
	SIMBA (Zimbabwe): works with local AIDS Service Organisations, building their capacity to provide microfinance services to their clients (five specific vulnerable groups targeted: widows, orphans and youth, commercial sex workers, care providers and people living with HIV/AIDS). (Jain 2004)	
	FINCA (Uganda): utilize weekly meetings of local microfinance institutions to bring in AIDS organizations to conduct prevention education. (Achola 2006)	
	Concern helped 3 organisations to incorporate microfinance programs for their clients;(Datta and Njuguna 2008) • WOFAK= Woman Fighting AIDS	

	• in Kenya provides prevention, treatment and care services to women and children living in the slums of Nairobi, Mombasa and Kisumu. • MMAAK= movement of men against AIDS in Kenya • STD/AIDS control project of the University of Nairobi = works with sex workers in Kenya.	
Health care service expansion	Provision of microfinance to private-sector healthcare providers (Uganda) (Seiber and Robinson 2007) (Agha, Balal et al. 2004) **Indonesia Midwives Loan fund** (Indonesia): Microfinance given to midwives. (Gertler, Levine et al. 2009)	• Microfinance can play an important role in strengthening private sector health services by increasing private providers' business skills and clients' satisfaction with services; in particular, loan recipients' clients noticed an improvement in drug availability, fair charges, cleanliness, and confidentiality after the microfinance had been provided.
Water and Sanitation	**Ahmedabad, India:** upgraded slums using microfinance as a mechanism for funding. (Butala, VanRooyen et al. ; Arney, Meckel et al. 200)	• Micro-finance principles can be successfully applied to the water and sanitation sector and can be useful in helping to mobilize local resources and increase water and sanitation investment. • Poor clients are keen to take out loans for this purpose, even though these loans are not traditionally considered income-generating.

	Tiruchirappalli, India: A water and sanitation loan fund was developed and deployed through a network of women's self-help groups in Southern India (Arney, Meckel et al. 200)	
Maternal and Child Health	**Project HOPE** (Ecuador, Honduras): Village health banks provide health promotion activities focusing on maternal and child health, in addition to providing credit and basic business skills to low income women for use in productive activities. (Smith 2002)	• Participation in the microfinance-health program was associated with reduced subsequent conditional child diarrhea probability, and increased subsequent health care participation compared to microfinance-only program participations. • There is no clear link between adding a health component into a microfinance institution and bank performance.
Nutrition	**CRECER** (Bolivia, Ghana): microfinance was provided to groups of women, alongside education services focused on nutrition and maternal feeding practices. (MkNelly and Dunford 1999)	• This program showed that microfinance alongside health education can be effective at increasing income and savings, improving health/nutrition knowledge and practice and empowering women. • However, the nutritional status of clients and clients' young children was not significantly different before and after the intervention; this demonstrates the mismatch between knowledge and practices but could also be a reflection of the short duration of the study and failure of the education service to be of consistently high quality and effective. • The health education component was minimally expensive contributing 4% to overall

		costs. • This study had financial figures which represented a much higher level of cost recovery than most income-generation interventions and certainly more than traditional health/nutrition education programs; this demonstrates that adding a health component does not have a detrimental impact on the financial sustainability of the MFI.