Title:

The role of microfinance in reducing poverty-driven healthcare costs: A systematic review

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AUTHOR CONTRIBUTION
LA conceived the paper, designed the method, screened articles, made the full-paper review of the eligible articles and carried out the descriptive analysis of included articles, drafted and edited the manuscript. RK, MR and SN verified the articles, oversee the data analysis, reviewed and edited the manuscript. All authors contributed in search of articles, interpretation of results, critical review and revision of the manuscript.

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1.1. Abstract

The global health sector has identified poverty-driven healthcare costs that compel poor people to delay or forgo needed medical care. This can lead to disease progression or worse, death. The health sector alone cannot address such a challenge. This study focuses on the role of microfinance in promoting health among marginalised populations by reducing medical care and treatment costs. It aims to provide insights that will guide health promotion practices among MFIs and make a valuable contribution to the healthcare system.

The authors conducted a systematic review of the literature published between 1990 and the present from the databases of EBSCO, EconLit, RePEc, Web of Science, PubMed, Google Scholar, and webpages from the World Health Organization. Using the search terms: microfinance OR microlending OR microcredit OR microfinance, medication costs OR cost of medical care OR cost of health care OR healthcare costs OR medical costs OR health care costs, 817 articles were reviewed, 39 articles qualified for further reading after a title and abstract review. Only seven articles met the criteria and were analysed.

This review suggests that microfinance institutions’ (MFIs’) core competencies in finance and healthcare linkage capabilities can potentially reduce poverty-driven healthcare costs using different schemes of combined microfinance-healthcare models. Although promoting healthcare and sustaining healthcare cost-reduction interventions are challenging for many MFIs, it is imperative to sustain these interventions. More studies are needed to examine more MFIs’ healthcare cost-reduction initiatives, their outcomes, and other sustainable actions towards promoting medical care and treatment adherence.

Keywords: microfinance, healthcare cost, medical care cost, poverty
1.2. **Introduction**

Globally, the issue of rising healthcare costs is a constant challenge to the healthcare system. For the poor, the costs of treatment and medical care services are a significant financial burden (World Bank, 2014). Healthcare costs, however, are not only confined to direct spending for medical procedures and medicines. Costs also include indirect outlays incurred by to-and-fro transport, accommodation, and other equipment used for health-related care. For people with low incomes, both direct and indirect healthcare spending can be catastrophic and deter adherence to medical care (Flores, Krishnakumar, O'Donnell, & van Doorslaer, 2008). Poor households cope by reducing food consumption, children’s education (Alam & Mahal, 2014), or forgoing medical treatment (Russell, 2004). Others respond through borrowing, increasing their mortgage (Habib et al., 2016), or selling their limited assets (Islam, 2011) The burden of healthcare costs are not only impoverishing but also cyclical to poverty.

In parallel with initiatives to combat poverty and the burden of diseases; the healthcare sector has positioned itself to take the populace closer to achieving the goals of UHC. However, despite advances which improve healthcare, issues with overcoming the burden of acute and chronic diseases, poor health-seeking behaviour and the cost of medical treatment continue to confront healthcare systems. Russell (2004) argued that improving health services alone could not protect households from all illness costs. Essue et. al (2015) mentioned that an estimate of 150 million people around the world struggle to meet the costs of accessing and using health care. Many impoverished people delay treatments as long as possible and a collective response to illness is to "wait and see" (Chronic Poverty Research Centre, 2008-09). Unless an illness is perceived as severe, household members do not seek treatment (Jembere, 2018). The issue of healthcare costs is significant because a higher level of healthcare service (tertiary and secondary healthcare) mostly entails the higher cost of service utilisation (Ensor & Cooper, 2004). Access to all levels of healthcare services is vital because diseases are dealt with based on the stage of progression – from risk factors, signs, symptoms, sickness, rehabilitation, to death if left untreated.

Healthcare issues are mostly faced by people from developing countries where government and healthcare systems do not adequately provide financial protection to their population against high-care costs. With limited or no financial
health protection and where medical care is inevitable, people are forced into OOP expenditure. The World Health Organization (2010) defines OOP as direct payments made by individuals to healthcare providers at the time of service use. Accordingly, low to middle-income countries registered an average of 38.89% to 56.19% OOP expenditure in 2016, which equates to many people not having enough financial protection for health. In the quest to alleviate impoverishing healthcare costs, strategies directed towards social health risk protection are essential. The WHO noted that a lack of social health protection impedes health service access (2019). Likewise, Aregbeshola and Khan (2018) concluded that aside from an increase in public healthcare funding, there is an urgent need to provide social health protection plans against OOP health payments to afford financial risk protection.

One of the development initiatives which focuses on financial risk protection and poverty alleviation involves organising microfinance for the poor. Community-led microfinance adheres to the principle of cooperativism. In most cases, mothers take the membership into a microfinance system. It is, thus, easy to integrate health and welfare concerns such as practical health courses, nutrition, and sanitation into the system (Leatherman & Dunford, 2010). MFIs in Africa, Asia and Latin America successfully offered services beyond microcredit by employing interventions which provided financial and health risk protection among their members (Ruducha & Jadhav, 2018). Habib (2016) posited that MFIs contribute financial protection by reducing OOP health expenditure, total health expenditure and household borrowing. Particularly noted is evidence illustrating an increased number of health-related services that facilitate access to healthcare (Amin, St. Pierre, Ahmed, & Haq, 2001) and significant improvement in the use of medical care (Agha, Balal, & Ogojo-Okello, 2004). Other studies mentioned that microfinance membership promoted greater health awareness of health services (Hamid, Roberts, & Mosley, 2011a) and demonstrated positive effects on health knowledge and health-seeking behaviour among households (Bhuiya, Khanam, Rahman, & Nghiem, 2018). Gertler (2009) confirmed the ability of microfinance to mitigate the effects of health shocks such as hospitalisation, medical treatment or death due to ill health, and non-medical expenditures including food and transportation.
The effects of mitigating health cost shocks by using microfinance programs (Pham Tien Thanh, 2017), increases health awareness and health-seeking behaviour. These effects reduced the barriers to healthcare utilisation for primary and preventive care (Hamid et al., 2011a), but not necessarily medical care or treatment costs. Medical care affordability continues to be an issue. Impoverishing healthcare costs are considered to be one of the significant causes of poverty (World Health Organization, 2019), along with the burden of diseases (Taber, Leyva, & Persoskie, 2015) and poor healthcare utilisation (Jembere, 2018). Similarly, healthcare systems identified these issues as significantly contributing to why many people forgo or do not adhere to medical care.

On a positive note, as governments advocate microfinance, their healthcare systems can capitalise on the strength and promising role of MFI-healthcare partnerships. Molyneux (2007) argued for the importance of building on organisational networks that will assist households in meeting treatment and medical service costs. However, to our best knowledge, there is no systematic review that synthesised evidence of the extent to which microfinance affects healthcare costs. This review will explore the MFIs’ interventions in addressing healthcare costs which compel poor people to forgo or not adhere to medical care or treatment. Exploring their potential will answer the call of UHC and add valuable information to the existing body of knowledge.

1.3. Method

Search strategy

The authors conducted a rigorous and systematic review of the literature published between 1990 and the present from the databases of EBSCO, EconLit, RePEc, Web of Science, PubMed, Google Scholar, and retrieved peer-reviewed articles and webpages from WHO. We used the search terms search terms: microfinance OR microlending OR microcredit OR microfinance, medication costs OR cost of medical care OR cost of health care OR healthcare costs OR medical costs OR health care costs. The selection criteria considered were: (1) Population: MFIs, (2) Intervention: Health strategies that aim to reduce medical care costs, treatment costs, (3) Outcome: Supports medical care service utilisation, treatment adherence and reduced medical care costs, particularly among the poor.
Study selection

PRISMA was used to manage the literature search and selection process (Appendix A). The preliminary search returned 817 papers from different databases. Following de-duplication, title and abstract searches on 778 articles were conducted. The first author independently assessed the title, abstracts and full paper of shortlisted articles. With considerations of the inclusion criteria, two reviewers voted on each article and conflicts were resolved through discussions and by a third reviewer. The identified articles for initial review were uploaded to two developed Excel data templates. One template was customised to screen and assess articles and resolve disagreements. Another was tailored to display the characteristics of the study such as author/s name, article type, publication year, country, objectives, study design and results/key finding concerning medical and treatment cost-reduction.

In the screening stage, 778 articles did not meet the inclusion criteria, thus were excluded; while 39 articles were shortlisted for eligibility. After a full paper review of all eligible articles, seven articles met all inclusion criteria and were critically examined. Since the methodologies and settings of the study/report were heterogeneous, we decided not to conduct a quantitative synthesis or meta-analysis. The included articles had differences in study designs, population covered, and the inability to directly examine MFI interventions on medical care or treatment costs. However, all seven articles found that MFIs’ health-related activities had reduced healthcare or treatment costs. Appendices B and C show the Excel template populated with characteristics and quality (Critical Appraisals Skills Programme, 2019) of the articles which met the inclusion criteria.

While many studies were found to reduce poverty and improve health, none were found to specifically investigate medical care and treatment cost-reduction. The primary objective of this study is to present essential elements that will help understand and clarify what is known about the role of microfinance in reducing poverty-driven healthcare costs. Hence, only articles/reports that explicitly narrated the activities and results were included. Articles that did not stipulate cost-reduction measures by an MFI were excluded. Peer-reviewed reports from the WHO were considered to be included articles.
1.4. Results

From the list of 39 articles initially shortlisted after the title and abstract review, 32 were excluded either due to lack of evidence of medical care or treatment cost-reduction. Most of the excluded articles demonstrated protection from OOP expenditure caused by ill health but did not necessarily reduce the cost of medical care or treatment. Table 3.1 shows a summary of the characteristics of the seven articles that were finally included.

All seven articles/reports in this review showed evidence of potential microfinance medical care or treatment cost-reducing initiatives. Peer-reviewed studies came from Argentina, Bangladesh, Bolivia, Ethiopia, Guatemala, India, Mexico, Nicaragua and Peru. The analysis of the seven articles revealed that interventions employed by MFIs could potentially reduce medical and treatment costs, namely: (1) microfinance and community-based health insurance; (2) microfinance and micro-health insurance; (3) microfinance and micro-franchise; (4) microfinance with integrated services; (5) a microfinance and care model. Notably, all measures were geared towards an MFI network and collaborative effort. Table 3.1 shows the summary of findings of MFI interventions in reducing medical and treatment costs of the included articles.
Table 3.1:

Summary of findings of MFI interventions in reducing medical or treatment costs of the included articles

<table>
<thead>
<tr>
<th>MFI intervention</th>
<th>Description</th>
<th>Number of studies and participants</th>
<th>Quality of evidence</th>
<th>Included article</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integrated health services</td>
<td>MFIs provide primary healthcare or combine health programs with microfinance activities With collaborative partnerships With health organisations</td>
<td>Three studies MFI with integrated health programs Health organisation linkage</td>
<td>High quality</td>
<td>Colom et al. (2018) Geissler and Leatherman (2015)</td>
</tr>
<tr>
<td>Model of care</td>
<td>Microfinance and health organisation provides social support to clients with specific health needs.</td>
<td>One studies MFI Groups with specific health</td>
<td>High quality</td>
<td>Muñoz et al. (2011) Saha et al. (2015)</td>
</tr>
<tr>
<td>Micro-franchise</td>
<td>Microfinance creating health franchises using groups of affiliated doctors or nurses within the community</td>
<td>One article MFI Affiliated doctors or nurses</td>
<td>Good</td>
<td>Lashley (2008)</td>
</tr>
<tr>
<td>Community-based health insurance</td>
<td>MFIs linkage with existing community-based health insurance</td>
<td>One study MFIs community-based health insurance partnering with non-government hospitals</td>
<td>High quality</td>
<td>Devadasan et al. (2007)</td>
</tr>
<tr>
<td>Micro-health insurance</td>
<td>MFI in collaboration with medical centres</td>
<td>One study</td>
<td>High quality</td>
<td>Hamid et al. (2011b)</td>
</tr>
</tbody>
</table>

This review identified five interventions employed by MFIs which potentially contribute to the reduction of medical care or treatment costs among their members.

1. **Microfinance and integrated health services.** The literature offers ample confirmation that MFIs’ networks with organisations offering free or discounted health services and utilities had gained popularity. A case study conducted in Latin America regarding the provision of a universal screening program and primary care services in conjunction with microfinance loans showed evidence of the capability of MFIs to reduce healthcare costs and access-barriers to
healthcare use (Geissler & Leatherman, 2015). As mentioned in the study, MFI clinics were co-located with loan services to directly provide preventive and primary care services to female adult clients and their children. Primary care services included annual health screenings, counselling, and delivery of modules on health education. Referral for secondary and tertiary care was covered, and point of care was free. Other services, such as diagnostic tests and dental services, were fee-for-service at nominal or discounted rates. Notably, the MFIs’ health program component addressed the affordability of health services and products. Services were reduced to an affordable price, thus improving treatment and medical service adherence among clients from Argentina, Bolivia, Mexico, Nicaragua, and Peru.

In a similar manner, an MFI Friendship Bridge alliance with Wuqu Kawoq, a primary healthcare system providing services in rural Guatemala, reduced the barrier to care by offering preventive services at no cost, a low treatment package for clients with confirmed diabetes and hypertension and assistance with follow-up care at no cost for positive cervical and breast cancer screening (Colom et al., 2018). Accordingly, the overall acceptance of the medical care services under the MFI Friendship Bridge program was high.

2. **Microfinance and model of care.** Muñoz et al. (2011) mentioned that through an MFI and the Peru National HIV Program partnership, patients starting antiretroviral therapy received Community-based Accompaniment with Supervised Antiretrovirals (CASA), psychosocial group support and microfinance assistance. Alongside business technical training, HIV patients were given financial aid for diagnostic tests and treatment, transportation and nutritional support. Unquestionably, CASA tailored a treatment adherence intervention which targeted the reduction of indirect healthcare costs for HIV clients. The study concluded that the MFI-CASA partnership increased the adherence to retroviral treatment among the vulnerable populations in Peru. Meanwhile, in India, Saha (2015) mentioned that the MFI Swayan Krishi Sangaw offers cashless maternity, hospitalisation and accident benefits to its members among network hospitals.

3. **Microfinance and micro-franchise.** In Kenya, HealthStore clinics used microfinance and a micro-franchise model (Lashley, 2008) to provide cheap and quality medicines (Berk & Adhvaryu, 2012). Some of the services offered by
the HealthStore were diagnostic tests, medicines for common illnesses, and general health counselling. The HealthStore Clinic is an example of an emerging development strategy that builds on microfinance (Berk, 2011) and works with three classes of partners – the government, donors and suppliers (Fertig & Tzaras, 2005). In Argentina, MFI members access healthcare services such as maternal and child care, and specialised and general medicine through a system of affiliated doctors and an MFI subsidy (Lashley, 2008). Accordingly, MFI members and their extended families only pay a third of the consultation cost per visit.

4. Microfinance and community-based health insurance. In India, access for the self-help group to microfinance which offered health products through Community Health Insurance (CHI), reported lower expenditure than the comparison group, for the treatment of health problems. Devadasan et al. (2007) mentioned that the CHI scheme reduced OOP expenditure among insured members as they were entitled to hospital care up to US$23, while non-insured members paid the whole of a hospital bill costing between US$15-20. The CHI was effective in halving the incidence of catastrophic health events among hospitalised patients (Somen Saha & Annear, 2015). It indicated that the CHI package for MFI members protected up to US$83 in medical expenses per year while paying only a US$3 annual contribution. Similarly, the community-based health insurance scheme introduced in Ethiopia improved the overall utilisation of health services. Jembere (2018) noted that the CHI scheme made healthcare services more affordable and equitable, thus, it increased the access and use of healthcare services.

5. Microfinance and micro-health insurance (MHI). In Bangladesh, the microinsurance for health targeted towards the poor and the ultra-poor, provided basic healthcare at an affordable rate (Werner, 2009). The micro-health insurance scheme of Grameen Bank offered primary healthcare directly from its health centres (Hamid et al., 2011b). Accordingly, its service package comprising mainly curative care, maternal and child healthcare, benefitted its members with reduced medical consultation fees, discounts on drugs and tests, hospitalisation benefits, free annual health check-ups and immunisations. Compared to non-cardholders, MHI cardholders benefitted from a 40 to 50% lower consultation fee, 25% lower pathological test fees, hospitalisation benefits
of US$29, school health packages and cataract operations. Hamid concluded that MHI affordable offerings significantly improved the use of basic healthcare services among MFI members. In developing countries, MHI has been used as a means of risk pooling and reducing OOP health expenditure (Habib et al., 2016). Accordingly, it allowed the poor to smooth consumption, and avoid informal loans and health shocks. MHI helped prevent households from potentially reducing food consumption, thereby protecting the health of vulnerable household members (Akotey & Adjasi, 2018). MHI is a microinsurance defined as "protection of low-income people against financial risk, in exchange of payment of premiums, according to the probability and cost of the risk" (Churchill, 2019).

1.5. Discussion

This systematic review primarily focused on the role of MFIs in reducing direct and indirect costs of health and medical care utilisation. Our analysis supports the findings of other studies which indicate that MFIs had made significant contributions in supporting health and protecting financial health risks and are considered to be emerging potential actors in reducing financial barriers to medical treatment (K. Geissler et al., 2013).

This review points out that many studies have been undertaken to evaluate the roles of MFIs in improving health and reducing access-barriers to healthcare services. However, none evaluated the medical care and treatment cost-reduction strategies of MFIs. This review examined the pieces of evidence that linked the role of MFIs in reducing medical care and treatment costs. Remarkably, the range of actions was geared towards an MFI and health organisation collaboration and linkages. Such partnerships, with each having a distinctive experience in microfinance or healthcare, made a successful MFI-healthcare alliance which facilitated the access to health service products and providers. This result is consistent with the findings of Ruducha (2018), which concluded that MFIs’ current leading intervention to expand health and social services are through cooperative and collaborative partnerships. This finding is also in line with the WHO's advocacy to promote and support partnerships within the private sector for health development (Buse & Waxman, 2001).
Notably, we found that most studies were based on large-scale MFIs. This finding supported a prior study which posited that studies involving MFI integrated health services were linked to large and motivated organisations (2015). For example, Grameen Bank played a significant role in developing microcredit in Bangladesh (Hamid et al., 2011b). Pro-Mujer was one of the few long-term and fully integrated MFIs operating in Latin America (Geissler & Leatherman, 2015). SHGs were extensively promoted in India through government and non-government organisations and have reached an estimate of 93 million members in 2012 (Saha et al., 2015). In Guatemala, Friendship Bridge provided microfinance services and education to more than 20,000 indigenous Mayan women (Colom et al., 2018). Banco Mundial de la Mujer provided microcredit to over 5000 accounts in 2008 in Argentina (Lashley, 2008). These large-scale MFIs’ core competencies extended beyond financing, and their expertise and capacities in building up partnerships (Cull & Morduch, 2017) could be a tool in reducing poverty-driven healthcare costs.

Studies are few, although evidence from the Philippines and India were identified. The outcomes of these studies are not published in peer-reviewed journals, hence they are excluded from this review. In the Philippines, the CARD created linkages with healthcare providers to increase affordable access to primary care and essential drugs in rural and semi-rural areas. Meanwhile, other MFIs integrated various health initiatives into their programs, such as periodic medical and dental missions, medical assistance during emergencies, medical loans, and blood monitoring. Some large- to medium-scale MFIs provided feeding programs, free annual check-ups, vitamins, health and safety training, a refund for x-ray and urinalysis, and set-up of blood bank and pharmacies (CDA, 2019). Also, the emergence of a health maintenance cooperative provided a promise to deliver accessible and affordable healthcare among Filipinos (Literatus, 2019). The health cooperative package provided outpatient services, laboratory tests and preventive healthcare services at a reduced price of US$76.50. Corporate service providers offered a similar range of services at a much higher premium of US$224.00 to US$1,263.00 per year. Meanwhile, in India, an MFI Swayan Krishi Sangaw offered cashless maternity, hospitalisation and accident benefits among network hospitals to its members (Saha et al., 2015). It is vital to investigate and measure the impact of
these ongoing initiatives on the incidence of foregone care and treatment adherence and its contribution to alleviating catastrophic healthcare costs.

There are limitations to this review. Reducing medical care or treatment care costs was not the primary outcome of all included studies. The medical care and treatment cost-reduction components were merely within the scope of the studies relating to integrated microfinance and health programs. There is a need to conduct studies using more rigorous designs and indicators to unveil MFIs’ contributions to treatment and medical care cost-reduction.

This systematic review emphasised the importance of medical care and treatment in promoting health and reducing the burden of disease. The need for affordable healthcare products is pronounced; thus, interventions beyond the health sector are necessary. Promoting healthcare and sustaining healthcare cost-reduction interventions are challenging for many MFIs; thus, it is imperative to support these interventions.

1.6. Conclusion

MFIs’ collaborative and partnership efforts with healthcare potentially play a significant role in reducing the costs of medical care. Although limited, evidence shows that such a unique partnership potentially helps promote medical care or treatment adherence using different schemes of combined microfinance-healthcare models. These schemes can be replicated and customised accordingly by other MFIs. The challenge for more MFIs to advocate and sustain healthcare cost-reduction interventions is urgently encouraged. Notably, a knowledge gap exists due to the scarcity of literature. Not all the included articles solely and extensively focused on reducing medical care or treatment costs. In addition, the data was from large-scale MFIs. Some MFIs are seen to have medical care cost-reducing initiatives; however, there are no studies confirming this. Exploring their practice and output will help fill this gap in the literature. Additionally, the conduct of more studies will help ascertain the potential contribution of microfinance to reduce medical care and treatment costs.
REFERENCES

References:


APPENDICES

Appendix A: PRISMA 2009 Flow Diagram

Identification
Literature published between 1990-present from databases of EBSCO, EconLit, RePEc, Web of Science, PubMed, Google Scholar, and retrieved peer-reviewed articles and webpages from WHO (n = 817)

Screening
Articles excluded after de-duplicating, reviewing titles and abstracts (n = 778)

Eligibility
Articles included after full review on these criteria (n = 39)
1) Population: Microfinance Institution (MFIs)
2) Intervention: health strategies that aim to reduce medical care service or treatment cost
3) Outcome: supports medical care service utilization, treatment adherence and reduced medical care costs, particularly among the poor.

Articles excluded after full paper review (n = 7)

Included
Articles included in systematic review (n = 7)
### Appendix B: Characteristics of the included articles

<table>
<thead>
<tr>
<th>Reference/Year</th>
<th>Type of article</th>
<th>Aim</th>
<th>Country/Population</th>
<th>Intervention</th>
<th>Study Design</th>
<th>Results/Key Findings in relation to healthcare cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colom et al. (2018)</td>
<td>Journal article</td>
<td>To quantify the impact of cash transfer and microfinance interventions on a selected list of tuberculosis (TB) risk factors and assess their potential role in supporting TB control.</td>
<td>Guatemala</td>
<td>Partnership with a healthcare organisation. A &quot;mobile clinic&quot; approach that focuses on serving female clients in their own homes and communities is a useful approach when target populations live in rural, isolated areas.</td>
<td>Case study</td>
<td>MFI Friendship Bridge alliance with Wuqu Kawoq, a primary healthcare system providing services in rural Guatemala, reduced the barrier to care by offering preventive services at no cost, low treatment package for clients with confirmed diabetes and hypertension and assistance with follow-up care at no cost for positive cervical and breast cancer screening.</td>
</tr>
<tr>
<td>Devadasan et al. (2007)</td>
<td>Journal article</td>
<td>To determine whether insured households are protected from CHE</td>
<td>India</td>
<td>Provision of community health insurance among the indigenous population</td>
<td>Comparative study</td>
<td>CHI scheme reduced OOP among insured members as they were entitled to hospital care up to US$23, while noninsured members paid the whole of hospital bill costing between US$15-20.</td>
</tr>
<tr>
<td>K. H. Geissler and Leatherman (2015)</td>
<td>Journal article</td>
<td>To examine the supply- and demand-side factors in a microfinance client population receiving integrated services.</td>
<td>Latin America</td>
<td>Universal screening program and primary care services provided in conjunction with microfinance loans</td>
<td>Case study analysis</td>
<td>The components of the Pro Mujer health program address four dimensions of healthcare access: geographic accessibility, availability, affordability, and acceptability. Significant progress has been made to meet basic health needs.</td>
</tr>
<tr>
<td>Hamid et al. (2011b)</td>
<td>Journal article</td>
<td>Examine the impact of micro health insurance placements in health awareness, health utilisation and health status of microcredit members in rural Bangladesh</td>
<td>Bangladesh</td>
<td>Provision of micro health insurance</td>
<td>Econometric analysis</td>
<td>MFI provision of a healthcare package directly from health centres that it operates, showed reduced consultation fees, discounts on drugs, tests, and hospitalisation, and free annual check-ups and immunisation.</td>
</tr>
<tr>
<td>Author(s)</td>
<td>Publication</td>
<td>Title</td>
<td>Location</td>
<td>Summary</td>
<td>Methodology</td>
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<tr>
<td>Lashley (2008)</td>
<td>WHO Bulletin</td>
<td>To create a health enterprise that seeks to help low-income people through MFI service</td>
<td>Guatemala</td>
<td>Healthcare model creating health franchises, using groups of affiliated doctors</td>
<td>Archived news bulletin</td>
<td></td>
</tr>
<tr>
<td>Muñoz et al. (2011)</td>
<td>Journal article</td>
<td>To maximise treatment adherence of antiretroviral treatment among participants living with HIV/AIDS</td>
<td>HIV/AIDS clients in Peru</td>
<td>Community-based accompanied treatment with MFI loans and financial care</td>
<td>Comparative study</td>
<td></td>
</tr>
<tr>
<td>S. Saha et al. (2015)</td>
<td>Journal article</td>
<td>To investigate the effect of combining health intervention with a microfinance based SHF on health behaviours and outcomes</td>
<td>Self-help group in India</td>
<td>Access of SHG to microfinance offering health products such as mobile health camps, health awareness campaigns and insurance</td>
<td>Comparative study</td>
<td></td>
</tr>
</tbody>
</table>

On the preliminary survey, 76% of respondents felt that access to service was vital. Healthcare model franchise helped clients generate income and gain access to quality and affordable healthcare.

Clients under community-based accompaniment with supervised antiretrovirals (CASA) program had higher adherence to treatment.

One participating MFI offered an annual contribution of US$3 from each member, providing protection for up to US$83 in medical expenses per year.
Appendix C: Critical Appraisal Skills Programme (CASP) checklist of the included articles

<table>
<thead>
<tr>
<th>Reference/Criteria</th>
<th>The research aims clearly stated</th>
<th>Appropriate methodology</th>
<th>Study design addressed the aims of the research</th>
<th>Recruitment strategy appropriate to the aims of the research</th>
<th>Data collected in a way that addressed the research issue</th>
<th>Relationship between researcher and participants been adequately considered</th>
<th>Ethical issues have been taken into consideration</th>
<th>Data analysis sufficiently rigorous</th>
<th>A clear statement of findings</th>
<th>Research is valuable</th>
<th>Total Mark</th>
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<tbody>
<tr>
<td>Colom et al. (2018)</td>
<td>y</td>
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<td>Devadasan et al. (2007)</td>
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<td>K. H. Geissler and Leatherman (2015)</td>
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<td>Y</td>
<td>NK Secondary Data</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>10 HQ</td>
</tr>
<tr>
<td>Hamid et al. (2011b)</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>10 HQ</td>
</tr>
<tr>
<td>Lashley (2008)</td>
<td>Y</td>
<td>NK</td>
<td>NK</td>
<td>NK</td>
<td>NK</td>
<td>Y</td>
<td>NK</td>
<td>NK</td>
<td>NK</td>
<td>Y</td>
<td>4 VG</td>
</tr>
<tr>
<td>Murillo et al. (2011)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
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<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>10 HQ</td>
</tr>
<tr>
<td>S. Saha et al. (2015)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>10 HQ</td>
</tr>
</tbody>
</table>

Legend: Y = yes; N = no; NK = not known
HQ (high quality) = 10 points VG (very good) = 7-9 points G (good) = 4-6 points A (acceptable) = 1-3 points