

# Overcoming access barriers to health services through membership-based microfinance organizations: a review of evidence from South Asia

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## ABSTRACT

It is a challenge for the poor to overcome the barriers to accessing health services. Membership-based microfinance with associated health programmes can improve health outcomes for the poor. This study reviewed the evidence published between 1993 and 2013 on the role of membership-based microfinance with associated health programmes in improving health outcomes for the poor in South Asia. A total of 661 papers were identified and 26 selected for inclusion, based on the relevance and rigour of the research methods. Of these 26, five were evidence reviews. Of the remaining 21 papers, 12 were from India, seven from Bangladesh, and one each from Sri Lanka and Indonesia. Three papers addressed more than one theme. Five key themes emerged from the review: (i) the impact of microfinance programmes on the social and economic situation of the poor; (ii) the impact of microfinance programmes on community health; (iii) the impact of integrated microfinance health programmes on raising client awareness; (iv) the impact of integrated microfinance health programmes on financing health care; and (v) the impact of integrated microfinance health programmes on affordable health-care products and services. The review provides new evidence on the pathways through which microfinance helps to improve population health and value for money for such programmes. Among countries with large populations in the informal sector, there is a strong case for policy-makers to support these groups in providing access to life-saving health care among the poor.

**Key words:** Bangladesh, community health, India, microfinance, poverty, women's group

## INTRODUCTION

Poverty and ill health are strongly linked.<sup>1</sup> To have maximum impact, interventions designed to improve health outcomes need to address this dual burden. Evidence from low- and middle-income countries shows that barriers to accessing health services are likely to be higher for the poor and other vulnerable groups, for whom the cost of access, lack of information and cultural barriers reduce the optimum benefit that they could derive from public spending on health care.<sup>2,3</sup> Factors such as poverty, inadequate housing and lack of education are among the social roots of morbidity in developing countries,<sup>4</sup> and governments need to address these barriers, which lie outside the health sector.

One of the development initiatives with a primary focus on poverty alleviation and empowerment of women consists of organizing the poor around microfinance. Although outside the health sector, microfinance, which involves poor (mostly) women organizing themselves around women's groups or self-help groups (SHGs), can complement health-sector initiatives.

An earlier review indicated the positive health benefits of integrating microfinance and health strategies on maternal and child health, domestic violence, malaria and other infectious diseases.<sup>5</sup> This article updates and extends the argument with a focus on nations of South Asia, which have remained the cornerstone of the global microfinance movement. In addition, the review aims to explore the pathways through which microfinance improves population health, and provide evidence on the economic benefit of such programmes.

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In South Asia, and elsewhere, an extensive network of microfinance institutions and programmes has been established in recent decades. As a model to address poverty, and as a development tool, microfinance was popularized by the work of Professor Muhammad Yunus in Bangladesh in the 1970s. At its simplest, microfinance is the provision of financial services such as loans, savings facilities and business training for the poor, who otherwise lack access to formal banking services. In many cases, membership-based organizations, such as SHGs, as well as savings and credit groups, have been established to implement programmes. Comprising predominantly women, these groups focus on poverty reduction and women's empowerment through access to credit and business training.

The wide variety of models and levels of financing range from perhaps the best known model by the Grameen Bank of group-based lending (primarily to women), to the more informal village savings model where the very poor both save and give loans to one another, without an intermediary. In India, the most common models of microfinance are:<sup>6</sup>

- the SHG model, where members (10–20 per group, predominantly women) form a group facilitated by a nongovernmental organization (NGO) or by the microfinance institution (MFI) or bank, or a traditional revolving savings and credit group;
- the Grameen model, wherein regular, and usually weekly, meetings are supervised by an MFI worker, who collects savings and repayments, and maintains records;
- a joint-liability group model of informal groups comprising 4–10 individuals coming together to take advantage of a bank loan, either singly or through the group mechanism, against a mutual guarantee;
- a cooperative society model where at least 10 individuals with common economic objectives, such as farming, weaving or consuming, form a group.

In India, the SHG model is promoted by state governments, NGOs, regional rural banks and specialized MFIs. Operationally, the programme works in two different ways: the SHG–bank linkage model involves SHGs financed directly by the banks; and MFI–bank linkage involves financing of MFIs by banking agencies for subsequent lending to SHGs and other small borrowers within the microfinance sector. A detailed description of the forms of lending in India is available elsewhere.<sup>7</sup>

According to The State of Microcredit Summit Campaign report 2014, 204 million clients globally, 82.3% of whom were women, were associated with microfinance as of 31 December 2012.<sup>8</sup> Two thirds of the microfinance-assisted entrepreneurs were among the poorest within the total population when they took their first loan.<sup>9</sup> Eighty-two per cent of microfinance activity was concentrated in the Asia-Pacific region. In 2010, 68.8% of families living in absolute poverty in the Asia-Pacific region took advantage of a microloan.<sup>10</sup>

The primary objective of microfinance has been developmental in nature, aimed at reducing poverty and overcoming hunger.

However, these aims cannot be addressed adequately without factoring in the issue of health.<sup>11</sup> By combining financial services for the poor with proven community health interventions, two fundamental needs can be met through an outreach infrastructure that already exists within the microfinance sector and SHG movement. Health programmes are usually designed to address three principle barriers: awareness and information for behaviour change; ability to pay for health care; and convenience of access to effective and safe health services and products.<sup>5</sup> Some MFIs routinely provide health services to their members, primarily to ensure healthier clients, and to reduce the rate of loan defaults. However, adoption of such an integrated approach remains low. Part of the reason for this has been an inadequate understanding of the impact of such programmes on improving access to health services. There is also an uncertain understanding of the pathways, and economic benefit of such programmes. This gap in knowledge is addressed in this paper through a review of evidence from South Asia.

## METHODS

A literature review was conducted of evidence published between 1993 and 2013 on microfinance programmes that addressed access barriers to health. Several databases were searched for peer-reviewed publications in the English language: Academic Search Complete (EBSCO), Google Scholar, PubMed, Scopus and Web of Knowledge. To identify the keywords, a thesaurus (such as MeSH) was consulted in all the databases. In the advanced search feature of the databases, the search terms used were (microfinanc\* or microcredit\* or micro-financ\* or micro-credit\* or microinsuranc\*) and (health\* or disease or barrier\*) and (Bangladesh, Bhutan, India, Nepal, Pakistan, Sri Lanka or Maldives). Keywords for the initial search were adopted from Leatherman et al.,<sup>5</sup> but restricted to South Asian countries. Two of these countries, India and Bangladesh, represent more than half of the total number of global microfinance clients.<sup>10</sup> The initial review of articles was based on title and abstract content. If relevance could not be determined and the full text was readily available, the text was also reviewed. The study also searched for relevant references among citations in the reviewed publications. Given the paucity of literature in peer-reviewed journals, additional grey literature, including unpublished reports, were searched for through Google, Google Scholar and Microfinance Gateway. The research was considered rigorous if it dealt with analysing the impact of a health programme or intervention through a randomized controlled trial or a quasi-experimental design or a defined quantitative or qualitative research design. Non-original papers such as theoretical reviews, book reviews, letters, editorials, summaries of conferences, historical papers or papers without an abstract were excluded. The first author primarily reviewed the papers, under supervision of the second author. All abstracts deriving from the search terms were read. Once a comprehensive list of abstracts had been retrieved and reviewed, studies appearing to meet the inclusion criteria were obtained and reviewed in full. A simple data-extraction table organized the information by country, publication year, nature of study and key messages.

## RESULTS

The initial search returned 661 studies. Of the 661 papers, 635 were removed because they met the exclusion criteria; of these, 158 were simply case-studies, 325 were letters, conference summaries or historical papers, and 152 dealt with barriers other than health access. Twenty-six papers were included for final review. Of these 26, five were evidence reviews. Of the remaining 21 papers, 12 were from India, seven from Bangladesh, and one each from Sri Lanka and Indonesia. Three papers addressed more than one theme. No papers from Bhutan, Nepal, Pakistan or Maldives were found.

Five key themes on overcoming access barriers to health through microfinance programmes emerged from the review: (i) the impact of microfinance programmes on the social and economic situation of the poor; (ii) the impact of microfinance programmes on community health; (iii) the impact of integrated microfinance health programmes on raising client awareness; (iv) the impact of integrated microfinance health programmes on financing health care; and (v) the impact of integrated microfinance health programmes on affordable health-care products and services.

Table 1 lists the papers included in the review. The five key themes are illustrated below.

### The impact of microfinance programmes on the social and economic situation of the poor

There has been intense debate about the impact of microfinance on the social and economic situation of the poor. Critics of microfinance doubt whether the mechanism actually contributes to poverty reduction,<sup>37</sup> with some researchers arguing that the poorest are deliberately excluded from microfinance programmes.<sup>12</sup> In India, an excess of microfinance loans was linked to an increased rate of suicides, and a study by the Consultative Group to Assist the Poor found that households in Andhra Pradesh had too many loans and more debt than seemed supportable, considering their income levels and ability to repay.<sup>14</sup> A randomized evaluation of the impact of introducing the standard microcredit group-based lending product in a new market found no effect on health outcomes in the short run.<sup>13</sup>

Proponents of microfinance, on the other hand, argue that access to finance can help to reduce poverty substantially.<sup>15,16</sup> Leatherman et al. argued that, in general, studies that found no effect of microfinance programmes on women's empowerment were relatively short term, and thus less likely to detect impacts on poverty and health that were slower to develop.<sup>5</sup> An intensive year-long study using financial diaries from about 300 poor and low-income families in Bangladesh, India and South Africa showed that business investment is just one use of microloans, others being money for health care, schooling, housing, nutrition, transportation and unexpected emergencies.<sup>38,39</sup> The study showed that discrimination against women and gender inequality result not only from the financial aspect but also from other structural impediments. Microfinance cannot be viewed as the sole contributor to poverty reduction, or as an alternative to government intervention, but may certainly help

reduce some of the ill effects of income inequity, and can be effective for consumption smoothing among those living in poverty.<sup>20</sup>

In the post-tsunami period in Sri Lanka, a quasi-natural experiment was conducted involving recapitalization of a Sri Lankan MFI. The aim was to assess the effectiveness of microfinance as a recovery tool. Analysis of retrospective panel data from 350 randomly selected borrowers, both damaged and non-damaged by the tsunami disaster, showed that microfinance loans provided after the disaster were instrumental in reducing the income gap between borrowers who were affected by the disaster and those who were not.<sup>17</sup> Using examples from the Grameen Bank in Bangladesh (land leasing and housing loans), Anand Milk Union Limited (commonly known as Amul) in India, and the Self-Employed Women's Association (SEWA) in India, Kay<sup>18</sup> argued that, when combined with savings and credit, SHGs have enabled women to benefit economically by monetizing their contributions and, in the process, have empowered women to become the agents of change.

### The impact of microfinance programmes on community health

While microfinance has essentially been a tool for poverty alleviation, the nature of the microfinance transaction – where (usually) women get together on a regular basis to repay loans and deposit savings – promotes group solidarity, trust and mutual support. Microfinance can improve long-term development, as women are the main brokers of children's health and education.<sup>40</sup> Globally, there is emerging evidence to show that microfinance programmes have created non-financial benefits, including improved health, hygiene and sanitation.

The Indonesian Family Life Survey (1993–2000), representing 83% of the Indonesian population living in 13 of the country's 26 provinces, collected anthropometric data related to the measurement of child health and development. The survey also collected information on the types of financial institutions available, as well as other key infrastructures that typically come with development. After 1993, Indonesia experienced significant growth preceding the 1997 economic crisis. Deloach and Lamina analysed this shock-induced variation, to study the effects on child health due to changes in the presence of microfinance and those due to changes in other indicators associated with community development.<sup>19</sup> Using height as a proxy indicator for child health, the authors found that the presence of an MFI in the community had a substantial and positive effect on changes in children's health. Children in communities with MFIs gained roughly one standard deviation in height relative to the international standard.<sup>19</sup> The result was valid after inclusion of indicators to control for real household expenditure, community-level economic development and important infrastructure. The authors concluded that part of the increase in height can be attributed to the improved bargaining power of women, the strengthening of social capital through the MFI, and consequently a larger share of the limited food resources going to children than had done so previously.

Table 1: Articles included in the review and key messages

Country	Design	Primary outcome	Sample	Key messages	Study
<b>Key theme (i) The impact of microfinance programmes on the social and economic situation of the poor</b>					
MFI's from India, Bangladesh and South Africa	Review	Participation of the poorest in microfinance programmes		Inadequate exploration of financial products and low-cost service-delivery mechanisms that would allow MFIs to include extremely poor households without compromising their sustainability objectives	Simanowitz, 2001 <sup>12</sup>
India	Randomized trial on the impact of introducing microcredit in a new market	Consumption, new business creation, business income, etc., as well as measures of other human-development outcomes such as education, health and women's empowerment	6850 households from 52 neighbourhoods in Andhra Pradesh state of India	No effect of access to microcredit on average monthly expenditure per capita, but expenditure on durable goods increased in intervention areas. No impact on measures of health, education or women's decision-making	Banerjee et al., 2009 <sup>13</sup>
India	Situation analysis	Analysis of the microfinance crisis in Andhra Pradesh state of India		Households in Andhra Pradesh have too many loans and more debt than seem to be supportable, considering their income levels and ability to repay	Consultative Group to Assist the Poor, 2010 <sup>14</sup>
Asia and Africa region	Analysis of MIX Market, and Microcredit Summit Campaign database	Scale, sustainability and impact of microfinance	41 microfinance programmes that were serving at least 20 000 very poor clients.	Microfinance – particularly when provided to relatively poorer women – increases incomes and savings, improves nutrition and health, and empowers women. Many microfinance programmes are reaching large numbers of the very poor while fully covering their costs	Dunford, 2006 <sup>15</sup>
Asia and Africa region	Review of evidence	Impact of microfinance as it relates to the attainment of Millennium Development Goals		Availability of microfinance services for poor households has a strong impact on the achievement of the Millennium Development Goals	Morduch et al., 2003 <sup>16</sup>
Sri Lanka	Retrospective panel survey	Microfinance as a recovery tool after tsunami	Random sample of 305 borrowers: 200 with at least one type of damage (treatment group) and 105 with no damage (control group).	Loans obtained from the MFI after a catastrophic event (tsunami) have a positive and significant effect on the change in real income. The impact is stronger for damaged than non-damaged borrowers	Becchetti et al., 2004 <sup>17</sup>
Global	Review of evidence	Women's empowerment		While existing evidence is of uneven quality, it indicates positive health benefits in diverse areas such as maternal and child health, malaria and other infectious diseases, and domestic violence	Leatherman et al., 2012 <sup>5</sup>
Global	Review of literature	Women's empowerment		Microcredit will not work in locations that do not have sufficient cash-based market activity, are isolated and with low population densities, or are largely self-contained with few outside ties	Kay, 2002 <sup>18</sup>

Country	Design	Primary outcome	Sample	Key messages	Study
<b>Key theme (ii) The impact of microfinance programmes on community health</b>					
Indonesia	Analysis of data from the Indonesian Family Life Survey 1993–2000	Height as a proxy indicator for child health	7224 households from 13 of the country's 26 provinces	The presence of MFIs in communities significantly improves the health of children	DeLoach and Lamanna, 2011 <sup>19</sup>
Bangladesh	Analysis of panel dataset	Household outcomes	3000 households in 91 villages	Households with access to microcredit are less likely or not likely to sell productive assets (livestock) in response to idiosyncratic health shocks	Islam and Maitra, 2012 <sup>20</sup>
India	Cross-sectional survey	Health exclusion	928 non-elderly poor women from one panchayat (territorial decentralized unit) in Kerala	The odds of facing exclusion are significantly lower among SHG participants compared to non-participants. Early joiners of an SHG are less likely to report emotional stress and poor life satisfaction compared to non-members	Mohindra et al., 2008 <sup>21</sup>
<b>Key theme (iii) The impact of integrated microfinance health programmes on raising client awareness</b>					
India	Controlled trial (not randomized)	Stillbirth rate; perinatal mortality rate; neonatal mortality rate; infant mortality rate	The baseline population was 39 312 in 39 intervention villages and 42 617 in 47 control villages	Over the first 20 years, the Jamkhed project showed a reduction in infant mortality rate from 176 to 19 per 1000 and a birth rate decline from 40 to 20 per 1000. Community empowerment, delegation of responsibility and authority to community members made the programme resilient.	Rosato et al., 2008; Arole and Arole, 2002 <sup>23</sup>
India	Cluster-randomized controlled trial	Stillbirth rate; perinatal mortality rate; neonatal mortality rate	36 clusters across 3 districts; 7000 people per cluster	Neonates born to mothers who are the main decision-makers within their households have significantly improved likelihood of survival within the first 6 weeks of life compared to babies born to analogous households in non-SHG communities	Montalvao et al., 2011; <sup>24</sup> Tripathy et al., 2010 <sup>25</sup>
Bangladesh	Cluster-randomized controlled trial	Neonatal mortality	19 301 births during the final 24 months of intervention	The neonatal mortality rate was significantly lower in the intervention arm – a reduction in neonatal mortality of 38% when adjusted for socioeconomic factors	Fotrell et al., 2013 <sup>26</sup>
India, Bangladesh and other countries	Meta-analysis	Neonatal mortality	Seven trials with 119 428 births	Meta-analyses showed that exposure to women's groups was associated with a 37% reduction in maternal mortality, a 23% reduction in neonatal mortality and a 9% non-significant reduction in stillbirths	Prost et al., 2013 <sup>27</sup>
Bangladesh	Cross-sectional survey	Acute respiratory infection	2814 mothers of children aged under 5 years residing in 200 randomly selected villages in five districts of Bangladesh	A microcredit programme can be a catalytic agent in raising knowledge of acute respiratory infection among poor women	Hadi, 2002 <sup>28</sup>
Bangladesh	Cross-sectional survey	Health awareness, health-care utilization	Grameen bank clients with health insurance: 329 households	MHI placement contributes to increasing awareness of important health problems and to the probability of seeking formal health care	Hamid, 2011 <sup>29</sup>
Bangladesh	Sample survey	Maternal health knowledge	500 mothers covering 70 villages in 10 regions of Bangladesh	Participation in a microcredit forum has a significant positive effect on maternal knowledge of prenatal care. Further duration of participation raised the odds ratio for knowledge of prenatal care	Hadi (2001) <sup>30</sup>

Country	Design	Primary outcome	Sample	Key messages	Study
<b>Key theme (iv) The impact of integrated microfinance health programmes on financing health care</b>					
India	Household survey	Financial protection	Eight pilot subdistricts.	Vimo SEWA, a comprehensive insurance scheme of SEWA, does provide some elements of financial protection, particularly for less expensive hospitalizations	Ranson et al., 2007 <sup>31</sup>
India	Cluster randomized controlled trial	Malaria	150 villages randomly assigned to intervention and control arm	Ownership of insecticide-treated bed nets increased substantially in the group that had a microloan for net purchase, relative to a control area where nets were not offered for sale. The increased ownership was also associated with large increases in use	Tarozzi et al., 2011 <sup>32</sup>
India	Secondary analysis	Utilization of health insurance	280 000 microfinance borrowers in India	Women who were borrowers made significantly more use of health insurance than non-borrowing women who had obtained the insurance through their husbands	Rai and Ravi, 2011 <sup>33</sup>
Bangladesh	Cross-sectional survey	Health awareness, health-care utilization	Grameen Bank clients with health insurance: 329 households	MHI placement contributes to increased probability of seeking formal health care.	Hamid et al., 2011 <sup>29</sup>
<b>Key theme(v) The impact of integrated microfinance health programmes on affordable health-care products and services</b>					
Bangladesh	Household survey	Contraceptive use	Data were collected in two phases: a 1992 household survey of 656 women (15–50 years), and a 1997 survey of 2105 and 1721 women from the project's experimental and control areas	There was a significant increase in contraceptive use and a decline in fertility when essential service packages in child and reproductive health and family planning were integrated with a microcredit programme for poor women.	Amin et al., 2001 <sup>34</sup>
India	Randomized controlled trial	Awareness and uptake of water purifier	200 primary and middle schools and anganwadis (nurseries) in the Krishnigiri and Bargur administrative blocks of Krishnigiri district, Tamil Nadu, India.	Membership in an SHG was critical to increasing awareness and uptake of water purifier. SHGs not only provide credit to members but also influence other critical aspects for diffusion through exposure to product demonstrations, early adopters, or changing social norms through peer influence	Freeman and Clasen, 2011 <sup>35</sup>
India	Cluster-randomized controlled trial	Stillbirth rate; perinatal mortality rate; neonatal mortality rate; maternal mortality ratio	36 clusters across 3 districts; 7000 people per cluster	The incremental cost of the women's group intervention was US\$ 910 per neonatal life saved, increasing to US\$ 1308 (in 2007 prices) when health-service-strengthening activities were included. The incremental cost per year of life lost averted was US\$ 33 for the women's group intervention (US\$ 48 inclusive of health-service-strengthening activities)	Tripathy et al., 2010 <sup>25</sup>
Bangladesh	Cluster-randomized controlled trial	Neonatal mortality	19 301 births during the final 24 months of intervention	The cost per neonatal death averted was US\$ 393 for the intervention group. The estimated cost-effectiveness of scaleup is US\$ 220 per year of life lost averted	Fottrell et al., 2013 <sup>26</sup>
India	Quantitative before-and-after outcome research	Impacts on clients' health and financial status	Data from five MFIs in Benin, Bolivia (Plurinational State of), Burkina Faso, India and the Philippines	The cost to the MFI (for offering health protection package) was low – average annual net marginal cost of US\$ 0.29 per client and average total annual cost, including allocated expenses, of US\$ 1.59 per client. The health protection products resulted in a drop in MFI profit margin from 23.58% to 21.67% on average	Reinschet al., 2011 <sup>36</sup>

MFI: microfinance institution; MHI: microhealth insurance; SEWA: Self-Employed Women's Association (India); SHG: self-help group.

In Bangladesh, analysis of a household-level panel dataset, spanning about 8 years, showed that access to microcredit enabled households to insure against health shocks.<sup>20</sup> Households with access to microcredit were less likely to sell productive assets (livestock) in response to idiosyncratic health shocks. If there was a sick member in the household, those who did not receive microcredit reduced ownership of livestock on average by 7.94 thousand Taka, while those receiving an average amount of 10 000 Taka in microcredit actually increased ownership of livestock by an average of 5.03 thousand Taka.

The duration of participation in a microcredit scheme seems to matter in terms of the health and well-being of members. In Kerala state in India, a cross-sectional survey among 928 non-elderly poor women showed that the odds of facing exclusion from health care were significantly lower among microcredit participants organized in an SHG, compared to non-participants. Early joiners of an SHG were less likely to report emotional stress and poor life satisfaction compared to new members or non-members.<sup>21</sup> Social capital as a result of participation in the SHG activity of microfinance programmes acted as a coping strategy, helping women to overcome financial barriers and budgetary constraints.

### The impact of integrated microfinance health programmes on raising client awareness

While direct behaviour change communication improves awareness, in the presence of community structures like microfinance and SHGs, the incremental effect may be further enhanced. As early as 1970, in rural areas of Jamkhed, Maharashtra state of India, and within a broader holistic community development initiative, a programme was implemented among women's groups in which one woman was trained as a health worker and funds were provided to assist women with a household health emergency. An evaluation of the initiative over the first 20 years found a reduction in the infant mortality rate from 176 to 19 per 1000, and a birth rate decline from 40 to 20 per 1000. Access to antenatal care, safe delivery and immunization was nearly universal, and malnutrition declined from 40% to less than 5%.<sup>22,23</sup>

In Jharkhand and Odisha states of India, a cluster-randomized trial was carried out to assess the impact of a community mobilization programme working through participatory women's groups among the indigenous communities.<sup>25,41</sup> A participatory learning and action cycle was undertaken with group members to identify maternal and neonatal health problems in the community. Health committees were formed to discuss maternal and neonatal health-entitlement issues. The trial found neonates born to mothers in SHG communities had a significantly improved likelihood of surviving within the first 6 weeks of their lives compared to babies born to analogous households in non-SHG communities.<sup>24,25</sup> A follow-up study conducted through prospective surveillance among the trial population found the intervention effect was stronger among the most marginalized women.<sup>41</sup>

A similar cluster-randomized trial conducted from January 2009 to June 2011 with a participatory women's group in Bangladesh found a 38% reduction in neonatal mortality, adjusting for socioeconomic factors. The trial researchers attributed the findings to improvement in hygienic home delivery practices, neonatal thermal care and breastfeeding practices.<sup>26</sup> The most conclusive evidence to date on the effect of women's group intervention comes from a meta-analysis of seven trials from Bangladesh, India, Malawi and Nepal. The analysis found that membership of a women's group was associated with a 37% reduction in maternal mortality, a 23% reduction in neonatal mortality and a 9% reduction in stillbirths.<sup>27</sup> The study further concluded that the proportion of pregnant women participating in groups and the population coverage of groups were key predictors of the effect.

A cross-sectional survey on the impact of the uptake of microhealth insurance (MHI) among Grameen Bank clients in rural Bangladesh compared three areas based on placement of MHI: branches with MHI for at least 5 years, branches with MHI for less than 5 years, and branches with no MHI. The study measured the impact of MHI on three health outcomes: health awareness, health status and health-care utilization. Duration of membership in MHI was found to be positively correlated with awareness of important health problems and the probability of seeking formal care.<sup>29</sup>

BRAC, a nongovernment development organization in Bangladesh, requires women in its microcredit programme to know basic health practices as a condition of loan eligibility. BRAC's health-promotion activities include social-awareness education, monthly meetings on issues such as violence against women and human rights, and essential health care, including family planning, water and sanitation, immunization, nutrition education and basic curative services. An analysis of demographic and health-surveillance data from the study area found that credit recipients paid more attention to health-promotion activities, in order to retain their eligibility to receive credit, free education for their children and subsidized health care for their family members.<sup>30</sup> The study found participation in a microcredit forum had a significant positive effect on maternal knowledge of prenatal care. Furthermore, longer duration of participation raised the odds ratio for indicators of prenatal care. BRAC also involved community health volunteers as frontline health workers, to identify and treat acute respiratory infection. Although the acute respiratory infection control project was aimed at raising maternal awareness in the community in general, it was expected that the social development aspects of BRAC's microcredit programme would add to the process of promoting knowledge among its participants.<sup>28</sup> The project used electronic media such as radio and television to disseminate health information among BRAC microcredit members. Compared to a control group, knowledge of clinical signs of acute respiratory infection was greater where women participated in a microcredit programme, received information about acute respiratory infection from volunteers, and had regular exposure to the media.

## The impact of integrated microfinance health programmes on financing health care

In India, one promising approach to delivering health insurance to the poor works in partnership with the existing rural networks of microfinance branches. A study on health insurance and microfinance in the Andhra Pradesh state of India found that members of a women's credit group made significantly more use of health insurance than non-borrowing women who obtained health insurance through their husbands. This provides evidence for the claim that access to microfinance empowers women.<sup>33</sup> Since 1992, Vimo-SEWA, a trade union with over 1.2 million poor self-employed women workers in India, has been providing voluntary integrated insurance, covering life, assets and medical expenditure, to informal sector workers. Data suggest that the scheme does provide some elements of financial protection, particularly for less expensive hospitalizations. By reducing the financial barriers, the scheme has improved access to inpatient health care.<sup>31</sup> The Grameen Bank in Bangladesh provides members with access to voluntary MHI schemes to protect its clients from health risks. A 2006 survey among 32 branches of the Grameen Bank found that participation in MHI contributed to increasing awareness of important health problems and to the probability of seeking formal health care. Micro-insurance programmes for health reduced barriers to health services for the poor, for basic and preventive health care.<sup>29</sup>

In Odisha state, India, a cluster-randomized controlled trial was conducted to evaluate the uptake of insecticide-treated bed nets through micro-consumer loans, as compared to a control group in which the nets were distributed free. The trial found the use of insecticide-treated bed nets increased substantially in the group that had microloans for net purchase, with 16% of individuals using a treated net the previous night compared to only 2% in control areas where nets were distributed free of charge.<sup>32</sup>

## The impact of integrated microfinance health programmes on affordable health-care products and services

In Bangladesh, a programme between 1992 and 1997 involved members of an organized microcredit group as outreach volunteers for door-to-door educational campaigns, delivery of nonclinical family planning methods and child immunization, and provision of an essential service package. An evaluation of the programme found that the contraceptive prevalence rate increased from 28% to 53%, while the total fertility rate decreased from 4.66 to 3.66 per woman. The corresponding contraceptive prevalence and total fertility rates in the control area at the end of the project were 38.41% and 4.72, respectively. Members in the intervention area had higher use of static clinic services for the purpose of vaccination, minor illnesses, family planning and nutritional supplements, compared to non-members.<sup>34</sup>

In September 2007, the United Nations Children's Fund (UNICEF) and Hindustan Lever Limited collaborated in a

pilot study among 200 schools in Krishnigiri district of Tamil Nadu, India, designed to provide (through a local credit group) safe drinking water to children in school, while increasing awareness and adoption of effective point-of-use water treatment at home. The intervention consisted of placing a water purification system in classrooms; providing basic instruction to students, parents and teachers on waterborne diseases; and providing generic information on effective point-of-use water treatment (boiling, chlorination, filtration, solar disinfection and safe storage). The programme found that membership in an SHG was critical to increasing awareness and uptake of the purifier. SHGs not only provided credit to members to meet the upfront cost of purchasing the purifier, but also added to other critical aspects for diffusion, through exposure to product demonstrations, early adopters, or changing social norms via exposure to peer influence.<sup>35</sup>

A programme for community mobilization through participatory women's groups among the indigenous communities of Jharkhand and Odisha states of India estimated a cost-effectiveness ratio of US\$ 910 per neonatal life saved.<sup>25</sup> In a similar intervention in Bangladesh, the same effect was US\$ 220 to US\$ 393 per year of life lost averted.<sup>26</sup> According to the World Health Organization (WHO) generalized benchmark for cost-effectiveness, these interventions were cost effective. There is scope for MFIs to absorb the additional cost of health programmes. A 5-year demonstration project by Freedom from Hunger, with five MFIs from different countries, found the programme cost was US\$ 1.59 per client per year. This cost can be absorbed by the microfinance operation, and at best resulted in an average drop in MFI profit margin from 23.58% to 21.67%.<sup>36</sup>

## DISCUSSION

While universal health coverage is considered a key imperative for all countries to consolidate public health advances, the grand global challenge is still inequity in coverage, particularly among the poor and vulnerable in the informal sector.<sup>42</sup> This is acute for countries like India, where 90% of the workforce is in the informal sector. Along with strengthening existing health systems, plans for universal health coverage need to work with allied sectors and programmes that seek to address the wider determinants of health linked to poverty, livelihood and empowerment. In this context, this review provides new evidence on the role of membership-based microfinance with associated health programmes in improving health outcomes for the poor.

The review has identified five themes or pathways via which microfinance facilitates access to health: (i) the impact of microfinance programmes on the social and economic situation of the poor; (ii) the impact of microfinance programmes on community health; (iii) the impact of integrated microfinance health programmes on raising client awareness; (iv) the impact of integrated microfinance health programmes on financing health care; and (v) the impact of integrated microfinance health programmes on affordable health-care products and services. Microfinance transactions were usually organized as members who meet together to form SHGs. Such groups



meet on a frequent basis to repay loans and deposit savings. This creates solidarity and social capital among members. These group meetings also serve as a medium to communicate health messages and generate community awareness on key health issues. Also, the microfinance organization can reduce vulnerability through tailored products such as health loans and insurance that provides financial risk protection. Such programmes address not only demand-side access barriers related to awareness and care-seeking, but also several supply-side barriers like access to finance, consumption smoothing, and products. The success of such community interventions depends on their ability to engage and strengthen social capital.

In addition to impact-evaluation type research design, future research must analyse programme-intervention factors and learning through process evaluation. This is particularly important in expanding learning from individual interventions to a country-level initiative.

A solution through a microfinance-based approach works within the structural impediments that exist in the society, such as gender discrimination, power relations and inequity in access to care. Such an approach cannot be viewed as the sole contributor to poverty reduction, or as an alternative to government intervention. Also, to achieve the desired impact on community health, a community health programme with a microfinance-based SHG needs a maturity period. While a cut-off time frame is hard to predict, there is a strong correlation between duration of participation and measured changes in health outcome.

Finally, although evidence is scarce, it indicates that a programme that relies on a women's group or SHG can provide value for money. There is scope for MFIs to absorb the additional cost of health programmes. Over time, such initiatives can deliver business savings for MFIs, through reduced microcredit default and increased trust among members.

In summary, this review confirms the work by Leatherman and colleagues,<sup>5</sup> which concludes that MFIs can provide a platform for integrating poverty-alleviation and health-improvement programmes. In addition, the key message from the review is that, among countries with a large population in the informal sector, public spending on health will continue to have a limited impact unless vulnerabilities linked with poverty and inadequate social pressures are addressed. In the presence of a vibrant microfinance infrastructure in countries like India, aligning community health programmes with membership-based MFIs is a pragmatic approach to address both financial and social security for the poor. From a research and evaluation perspective, the pressing need is for a framework to analyse such programmes. Such a framework should help analyse the determinants of health, structure and operation of microfinance programmes, the structure of health programmes and the regulatory and policy environment in the country.

There are a few limitations in this review. Almost all evidence of integrated microfinance and health programmes was from India and Bangladesh, the two countries where the microfinance movement is the strongest. There is little or no evidence from other countries in the South Asian region, though

evidence from Sri Lanka was identified and used. While many community-oriented MFIs routinely integrate health services in their programmes, with support from local government or donors, the outcomes have not been published in peer-reviewed journals, and hence are not included in this review. Notable programmes were *Swayam Shakti*, a mandatory pilot health-insurance programme of *Swayam Krishi Sangam*, an MFI in India offering cashless maternity, hospitalization and accident benefits among network hospitals to its members, and the Velugu II project in Andhra Pradesh (renamed as *Indira Kanti Patham*) that mitigated risk and improved security through a comprehensive insurance package covering health, life, crops and livestock. These are some of the limitations of this review. While compelling, the evidence in the literature is limited to projects and research activities linked to large, motivated organizations that have integrated health services with a microfinance programme, and dedicated research funding to implement, analyse and publish the effect. With the exception of a few countries, like Bangladesh and Indonesia, large-scale national health surveys have traditionally ignored the collection of information on savings and credit groups. There are notable gaps regarding an in-depth understanding of factors that contribute to the observed change in health outcomes. These remain issues for future research.

This review shows that membership-based organizations, like MFIs, provide an effective platform to improve a range of priority health and hygiene services in the community. It shows that access to health care is just one facet among many social issues, and that complementary programmes focusing on empowerment, social capital and social exclusion, along with health access, can result in a greater impact.<sup>3</sup> Targeted health programmes delivered with microfinance-based SHGs, while not an alternative to government interventions, can improve the social determinants of health by reducing poverty, income disparities and gender inequity. When carefully designed, such programmes offer a low-cost alternative to reach the poor with much-needed health services and generate demand for quality health services within the community. In communities with a wider network of such membership-based organizations, there is a strong case for policy-makers to take note, and work with these groups in providing access to life-saving health care in poor rural communities.

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