

Making health insurance work for the poor: Learning from the Self-Employed Women's Association's (SEWA) community-based health insurance scheme in India

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Abstract

How best to provide effective protection for the poorest against the financial risks of ill health remains an unanswered policy question. Community-based health insurance (CBHI) schemes, by pooling risks and resources, can in principal offer protection against the risk of medical expenses, and make accessible health care services that would otherwise be unaffordable.

The purpose of this paper is to measure the distributional impact of a large CBHI scheme in Gujarat, India, which reimburses hospitalization costs, and to identify barriers to optimal distributional impact. The study found that the Vimo Self-employed Women's Association (SEWA) scheme is inclusive of the poorest, with 32% of rural members, and 40% of urban members, drawn from households below the 30th percentile of socio-economic status. Submission of claims for inpatient care is equitable in Ahmedabad City, but inequitable in rural areas. The financially better off in rural areas are significantly more likely to submit claims than are the poorest, and men are significantly more likely to submit claims than women. Members living in areas that have better access to health care submit more claims than those living in remote areas. A variety of factors prevent the poorest in rural and remote areas from accessing inpatient care or from submitting a claim.

The study concludes that even a well-intentioned scheme may have an undesirable distributional impact, particularly if: (1) the scheme does not address the major barriers to accessing (inpatient) health care; and (2) the process of seeking reimbursement under the scheme is burdensome for the poor. Design and implementation of an equitable scheme must involve: a careful assessment of barriers to health care seeking; interventions to address the main barriers; and reimbursement requiring minimum paperwork and at the time/place of service utilization.

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Introduction

Financial risk protection arrangements are inadequate for very large numbers of the poor in low and middle income countries (WHO, 2000). All too often, poor people who seek health care face out-of-pocket payments that can push them into poverty. For example, one cross-country analysis found that in several developing countries, annually, more than 3% of all households faced catastrophic health expenditures (i.e. exceeding 40% of income remaining after subsistence needs have been met) (Xu et al., 2003).

During recent years, community-based health insurance (CBHI) has emerged as a possible solution. CBHI schemes involve prepayment and the pooling of resources to cover the costs of health-related events. Membership is generally voluntary and targeted at lower-income populations. The nature of the “communities” around which schemes have evolved is quite diverse: e.g. people living in the same town or district, members of a work cooperative, micro-finance groups. Often the schemes are initiated by a hospital, and targeted at nearby residents.

There is a shortage of empirical evidence to assess whether or not CBHI schemes have improved financial protection among the poor. The World Health Report 2000 noted that prepayment schemes represent the most effective way to protect people from the costs of health care, and called for investigation into mechanisms to bring the poor into such schemes (World Health Organization, 2000). This enthusiasm was fuelled in part by studies showing disproportionate increases in utilization among the poorest with the implementation of insurance (Yip & Berman, 2001) or mandatory prepayment schemes (Diop et al., 1995). But studies of voluntary CBHI schemes have yielded less promising results. CBHIs have tended to exclude the poorest, in part because they generally charge a flat premium that is regressive and unaffordable (Bennett et al., 1998; Preker et al., 2001). Opportunities for cross-subsidization—the transfer of resources from wealthier to poorer members—has been limited as many schemes are small, with fewer than one or two thousand members (International Labour Office (Universitas Programme), 2002).

Given the limited evidence base, and the great variation amongst schemes in terms of size and design, their impact needs further investigation. The purpose of this paper is twofold: to measure the distributional impact of a large CBHI scheme in Gujarat, India, and to identify barriers to optimal distributional impact. We first measure the extent to which three socio-demographic determinants (socio-economic status (SES), gender and place of residence) are related to joining the scheme and submitting a claim. We then explore factors that may limit access, particularly among those of low SES, to the scheme and its benefits.

Health care financing in India

According to WHO, greater than 80% of total expenditure on health in India is private (figure for 1999–2001 (World Health Organization, 2004)) and most of this flows directly from households, in the form of out-of-pocket payments, to the private-for-profit health care sector. Because the poor lack the resources to pay for health care, they are far more likely to avoid going for care, or to become indebted or impoverished trying to pay for it (Peters et al., 2002). The richest quintile of the population is six times more likely than the poorest quintile to have been hospitalized, whether in the public or private sector (Mahal et al., 2000). Peters et al. (2002) estimated that at least 24% of all Indians hospitalized fall below the poverty line because they are hospitalized, and that out-of-pocket spending on hospital care might have raised by two percentage points the proportion of the population in poverty (Peters et al., 2001).

CBHI schemes in India are extremely diverse in terms of design, size and context, including the size and nature of their target populations (Ranson, 2003; Ranson et al., 2003). Of the 10 schemes visited by Ranson et al. (2003), five were hospital-based (i.e. an NGO owned and managed both the insurance scheme and the associated health care services), one operated as an independent third-party payer, and four involved an NGO acting as an intermediary between the target population and a formal insurance company (the latter category includes Vimo SEWA, described below). There is little empirical information on the equity/distributional impact of Indian CBHI schemes. Most cite the provision of insurance services to poor or disadvantaged groups (e.g. tribal populations) as an explicit goal. But in terms of their distributional impact, the schemes generally reach a fairly small percentage of their target populations (10–50%) and face difficulties in enrolling diverse member populations (Ranson et al., 2003). This may indicate that the poorest among the target population are not enrolling, and certainly limits the potential for cross-subsidization. Dave (1993) cites a number of mechanisms that have enabled poorer individuals and households to participate in “prepayment/insurance” schemes in India (including sliding-scale premiums, premiums that can be paid in kind and exemptions) although she provides no evidence of their effectiveness in terms of increased enrollment among the poor. But the majority of schemes use a flat-rate (community-rated) premium, and at many of the schemes visited by Ranson et al. (2003), “high premium” was cited as a reason for non-participation.

SEWA's health insurance scheme

The Self-Employed Women's Association (SEWA) is a trade union of informal women workers, started by

Ela Bhatt in Ahmedabad in 1972. Headquartered in Ahmedabad (Gujarat, India), and inclusive of members from 11 of the state's 25 districts, "It is an organization of poor, self-employed women workers... who earn a living through their own labour or small businesses... (and who) do not obtain regular salaried employment with welfare benefits like workers in the organized sector" (Self-Employed Women's Association, 1999). The organization has two main goals: to organize women workers to achieve full employment, i.e. work security, income security, food security and social security; and to make women individually and collectively self-reliant, economically independent and capable of making their own decisions. The union's membership in Gujarat was 469,306 in 2003.

In 1992 SEWA started an integrated insurance program, Vimo SEWA, for its members. Vimo SEWA provides life, hospitalization and asset insurance as an integrated package. Membership is voluntary. Women are the principal members, and can also buy insurance for husbands and children. Most members pay an annual premium, and this amount is passed on to a formal-sector insurance company, which shoulders most of the financial risk. Members also have an option of making a one-time fixed deposit in SEWA Bank—the interest from this deposit is used to pay the annual premium.

Membership in Vimo SEWA is not restricted to members of SEWA. At the time of Vimo SEWA's annual membership campaign, women and their families are approached to join the scheme. Those who report they already belong to SEWA union are charged only the insurance premium, while those who report they do not belong to SEWA are charged the Vimo SEWA premium plus a nominal fee (Rs. 5) to become a SEWA member.

Vimo SEWA's health insurance component covers hospitalization expenses only, to a current maximum of Rs. 2000 (USD 46) per member per year. The choice of health care provider is left to the member, and can be private-for-profit, private-non-profit or public facilities. At the time of treatment, members pay out-of-pocket. They are later reimbursed by Vimo SEWA upon submission of medical certificates and bills documenting the hospital stay and expenses. Benefits have evolved considerably since 1992, with the types of diseases and treatments covered expanding markedly. There has been considerable discussion about providing claimants in the most rural sub-districts with a fixed transportation reimbursement. This has not been implemented, in part because it would have to be kept as a separate SEWA-administered fund, and would mean treating members of Vimo SEWA differently, depending on their place of residence.

Vimo SEWA is run by a team of full-time staff and local women leaders called *aagewans*. The *aagewan* is a

grassroots level worker who is the critical link between members and scheme administrators.

In calendar year 2003, Vimo SEWA had over 1,00,000 members, over 85,000 adult women and 18,000 adult men, most of them in Gujarat state. Approximately two-thirds of scheme members were in rural areas (67,500) and one-third in Ahmedabad City (33,000).

Despite the capped benefits, research has shown that the scheme confers considerable financial protection. An analysis of all claims submitted between 1994 and 2000 (Ranson, 2002) revealed that the median rate of reimbursement for all reimbursed claims was 92.6% (mean 76.5%). Reimbursement more than halved the percentage of catastrophic hospitalizations (i.e. those where total expenditures exceeded 10% of annual household income).

Methodology

Conceptual framework

We assess the distributional impact of the Vimo SEWA scheme based on the extent to which select vulnerable groups—those of low socio-economic status, female gender, and remote rural place of residence—are able to join the scheme and submit health insurance claims.

In order to benefit from Vimo SEWA's CBHI scheme, consumers must first join the scheme and secondly, having undergone a hospitalization, they must submit an insurance claim. There may exist constraints to joining, seeking hospitalization or submitting a claim (Fig. 1), and one would expect these constraints to be greater among vulnerable populations. For example, low SES individuals may choose not to invest in CBHI because they consider the premium to be too expensive or they perceive other household needs (for example, food) to be of greater importance. On falling ill, those of low SES may face barriers, such as distance and cost, to seeking inpatient care. Having been hospitalized, low SES members of a CBHI scheme may face barriers to seeking reimbursement, such as an inability to read the required documentation, or the expense of traveling to the nearest claims office. Constraints to equity may relate to the context in which the scheme is operating (e.g. socio-cultural, health system) or the design and management of the scheme itself.

Equity has always been a key concern at Vimo SEWA. SEWA Union targets the poorest of women workers—those who work in the informal sector. Vimo SEWA aims to provide insurance services to all union members, with special efforts directed at reaching the poorest, particularly those who are living below the international poverty line (below one US dollar per person per day). Given these objectives, the scheme can

Step	Constraints	Measures of equity
1. Joining Vimo SEWA	<ul style="list-style-type: none"> • Health or HI not a priority • Lack of solidarity • Lack of trust in the insurer • Lack of community participation • Lack of awareness of the scheme/benefits • Unaffordable premium • Unattractive benefits 	Distribution of members: <ul style="list-style-type: none"> • by SES (% from below-poverty line) • by gender
2. Using (benefiting from) Vimo SEWA	<ul style="list-style-type: none"> • Serious illness not perceived as such • Problems in seeking hospital care or submitting a claim due to: <ul style="list-style-type: none"> - distance - lack of transportation - lack of money - lack of information/education - time constraints 	Distribution of claimants: <ul style="list-style-type: none"> • by SES (% from below-poverty line) • by gender • by place of residence

Fig. 1. Conceptual framework: potential constraints to joining and using Vimo SEWA, and how they may be quantified.

Table 1
Equity outcomes by which Vimo SEWA is evaluated

	Membership	Claims submission
Socio-economic status (deciles of SES)	> 30% should be in the lowest three SES deciles	Equal
Gender (female vs. male)	> 50% should be female	Equal
Place of residence (rural vs. urban, and taluka of residence)	Not applicable	Equal

be considered to have equitable coverage only if it enrolls a disproportionate number of poor people and women (Table 1). Among its insured members, Vimo SEWA aims to provide *equal* access to scheme benefits; as such, one would expect the rate of claims among the more vulnerable groups—the very poor, women, and those living in remote rural areas—to be no lower than the rate of claims of other segments of the membership, such as those who are less poor, are men, or live in urban or semi-urban areas. The scheme will be deemed to have equitable utilization if the rate of claims is equal across all groups.

The study reported here includes both quantitative and qualitative components. Quantitative methodologies were used to measure the equity of scheme coverage and claims, and qualitative methodologies to identify the barriers that disadvantaged groups may face in joining the scheme, accessing health care, and making a claim.

Quantitative household survey data

The quantitative data were collected in three cross-sectional household surveys of three different populations: (Survey I) the general population from which Vimo SEWA draws its members; (Survey II) Vimo SEWA 2003 members; and (Survey III) those who submitted claims to Vimo SEWA in calendar year 2003 (Table 2). At the study's inception, it was decided that Ahmedabad City and the rural areas served by Vimo SEWA differ so significantly—for example, in terms of types of housing and amenities, density of hospitals, and the nature of services provided by Vimo SEWA—that throughout the study, they would be dealt with separately.

The questionnaire used in Survey I was the same for rural and urban areas. It is based largely on a standardized survey tool developed by the Consultative

Table 2
Overview of the three household surveys

	Survey I: General population		Survey II: Vimo SEWA members		Survey III: Vimo SEWA claimants	
	Rural	Urban	Rural	Urban	Rural	Urban
Questionnaire	Same for all households: CGAP tool modified to local setting					
Sampling universe	Households in 11 rural districts (2001 pop'n = 19,298,638)	Households in Ahmedabad City (2001 pop'n = 4,519,278)	36,837 adult women 2003 members who reside in 16 rural talukas	10,844 adult women 2003 members who reside in four zones of Ahmedabad City	724 hospitalization claims, Jan. to Sept. 2003	483 hospitalization claims, Jan. to Sept. 2003
Sample size	800	800	1200	300	724	483
Sampling methodology	Two-stage random sampling	Two-stage random sampling	Two-stage random sampling	Systematic random sampling from list.	NA (all claimants interviewed)	NA (all claimants interviewed)
Sampling at first-stage	Towns/villages sampled with PPS ^a	Systematic random sampling of enumeration blocks	Villages (or clusters of villages) sampled with PPS	NA	NA	NA
Sampling at second-stage	Random walk	Random walk	Systematic random sampling from list.	NA	NA	NA
Fieldwork dates	22 May–5 August 2003	22 May–5 August 2003	16 October–24 December 2003	2 January–12 February 2004	16 December 2003–25 February 2004	30 January–25 February 2004
Interviewers	10 Vimo SEWA interviewers	10 Vimo SEWA interviewers	10 Vimo SEWA interviewers	10 Vimo SEWA interviewers	20 district-based, Gram Vikas interviewers	10 Vimo SEWA interviewers
Criteria for counting household as absent	No Hh member present on day of 1st (and only) visit	No Hh member contacted after 3 visits	No Hh member contacted after 2 visits	No Hh member contacted after 3 visits	No Hh member contacted after 2 visits	No Hh member contacted after 3 visits
Achieved sample size	780 (98%)	745 (94%)	967 (82%)	220 (75%)	690 (95%)	442 (92%)
Reasons for “non-response”	Refused int. (5%); All Hh members absent (95%)	Refused int. (51%); Hh moved/not found (15%); All Hh members absent (34%)	Hh moved/not found (86%); All Hh members absent (14%)	Hh moved/not found (88%); All Hh members absent (12%)	Refused int. (5%); Hh moved/not found (69%); All Hh members absent (26%)	Hh moved/not found (85%); All Hh members absent (15%)

^aPPS—probability proportionate to size.

Group to Assist the Poorest (CGAP) and the International Food Policy Research Institute (IFPRI) to measure the poverty of microfinance clients (Henry et al., 2000). The instrument has modules on:

- demographic characteristics of household and members,
- quality of housing,
- household assets,
- human capital,
- food security and vulnerability,
- household expenditures on clothing and footwear, and
- hospitalization.

Shorter questionnaires were used for Surveys II and III, one for urban and one for rural households. These “rapid assessment” questionnaires included only a subset of the questions asked in Survey I—the questions necessary to provide data for the indicators that most strongly distinguish relative levels of socio-economic status based on statistical analysis (see Table 3).

In 2003, Vimo SEWA was actively working in 11, largely rural, districts and in Ahmedabad City. Sample size estimation for Survey I was based on the premise that a socio-economic score would be developed for each surveyed household, and that the key statistic to be identified was the cut-off value of this score identifying the poorest 30% of the population. With a sample size of 800, the true value of this cut-off point can be assumed, with 95% confidence, to fall between the observed values of the 27th and 33rd percentile of the sample (Mood & Graybill, 1963). This was determined to be adequate precision for the purposes of the study and 800 rural and 800 urban households were sampled.¹

For the survey of the general population (Survey I), sampling in both rural areas and Ahmedabad City was by two-stage, random sampling. At the first stage in rural areas, towns/villages were randomly selected, with the sampling probability proportionate to the size (PPS) of the town/village. For villages with more than one enumeration block (EB) (blocks of roughly equal population that are demarcated for conducting the national census) a single EB was randomly selected. At the first stage in urban areas, a list was made of all of the EBs in Ahmedabad City (a total of 10,385). Fifty EBs were randomly selected using systematic random sampling.

¹A household was defined as a group of people regularly eating from the same kitchen; members had either to have (1) been present in the household 4 of the last 7 nights or (2) lived in the household 6 of the last 12 months and intended to return within 2 months, to spend at least half of their time living in the house.

In both rural and urban areas, 16 individual households per EB were selected by “random-walk” sampling. On the EB maps, each block of houses was numbered and a ‘start point’ was randomly selected. After the start point, every second household was included in the sample, following structures in the same order in which they were numbered on the EB map.

Surveys II and III, carried out with Vimo SEWA members and claimants, respectively, were restricted to 16 rural talukas and 4 urban zones.² The 16 rural talukas were those with the highest number of adult, women Vimo SEWA members. Each of the four urban zones selected for Surveys II and III was comprised of two wards of Ahmedabad city. Thus a total of eight wards were selected. These eight wards had the highest number of Vimo SEWA members, each with more than a 1000 adult women members. Approximately 64% of the rural 2003 Vimo SEWA members lived in these 16 selected talukas and 42% of urban members lived in the four selected urban zones.

The sampling universe for Survey II was the 36,837 adult women members in the 16 rural talukas and the 10,844 members in the four urban zones. Both rural and urban surveys were sufficiently large to estimate the proportion of members drawn from the poorest 30% of the general population to within 3 percentage points either side of the true value. The rural survey was larger for reasons related to the subsequent trial.

Survey III did not involve sampling, and included all claimants from the 16 rural talukas and four urban zones who were discharged from hospital between 1 January 2003 and 30 September 2003. This temporal window was defined so as to obtain ≥ 900 claims (rural and urban areas combined) and to avoid any distortion in the claim data as a result of a seasonal peak or trough.³

All survey data were double entered into customized EpiInfo databases. Principal components analysis (PCA) using Stata 7.0 (Stata Corporation, College Station, TX, USA) was applied to the socio-economic data to obtain an index as a proxy for household socio-economic status.

PCA involves breaking down assets (e.g. radio, wrist watch) or household service access (e.g. water, electricity) into categorical or interval variables. The variables are then processed in order to obtain weights and principal components. The results obtained from the first principal component (explaining the most variability) are usually used to develop an index based on the

²Districts are divided into sub-district areas called talukas, each centered around a major town (taluka place) and with a population of 50,000–250,000.

³The summer/monsoon season—June through September—is the peak claims period.

Table 3
Indicators assessed in Surveys II and III

Human resources	<ul style="list-style-type: none"> ● The percentage of household adults who can read and write (continuous) ● The percentage of household adults whose max. level of schooling was “attended college or university” (continuous) 	<ul style="list-style-type: none"> ● The percentage of Hh adults whose main occupation was reported “unskilled work for daily wages” (continuous) ● The percentage of Hh adults whose max. level of schooling was “attended college or university” (continuous) ● The percentage of Hh adults whose max. level of schooling was “completed secondary” (continuous)
Dwelling	<ul style="list-style-type: none"> ● Number of rooms, excluding kitchen (continuous) ● Whether the home’s walls are made of “brick or stone with plaster” (dichotomous) ● Whether the home’s walls are made of materials other than brick or stone (dichotomous) ● Whether the household has no electrical connection, shared connection, or its own connection (categorical) ● Whether natural gas is the primary cooking fuel used (dichotomous) 	<ul style="list-style-type: none"> ● Number of rooms, excluding kitchen (continuous) ● Whether natural gas is the primary cooking fuel used (dichotomous) ● Observed structural condition of the dwelling (categorical) [1 = seriously dilapidated; 2 = needs major repair; 3 = needs minor repair; 4 = sound structure]
Food security	<ul style="list-style-type: none"> ● During the last year, when cooking oil stores were highest, whether there was sufficient stock to last 1 month (dichotomous) ● During the last year, when millet or millet flour stores were highest, whether there was sufficient stock to last 12 months (dichotomous) ● During the last year, when wheat or wheat flour stores were highest, whether there was sufficient stock to last 1 month (dichotomous) 	<ul style="list-style-type: none"> ● During the last year, when cooking oil stores were highest, the number of months for which the stores were sufficient (categorical)
Assets	<ul style="list-style-type: none"> ● Number of refrigerators (continuous) ● Number of electric fans (continuous) ● Number of mattresses (continuous) ● Number of wrist watches (continuous) 	<ul style="list-style-type: none"> ● Number of refrigerators (continuous) ● Number of wrist watches (continuous) ● Number of televisions (continuous) ● Number of video-cassette recorders (VCRs) or video CD players (VCDs) (continuous) ● Number of motorcycles or scooters (continuous)

formula (Filmer & Pritchett, 1998):

$$A_j = f_1 \cdot (a_{1j} - \bar{a}_1)/s_1 + \dots + f_N \cdot (a_{Nj} - \bar{a}_N)/s_N$$

where j subscripts households, f_1 is the scoring factor or weights for the first asset, a_1 to a_N are the various assets, \bar{a} indicates the mean value of an asset (over all households), and s the standard deviation. Based on this equation, socio-economic statuses of households were assigned to the residents of those households, and the resulting population was divided into deciles that then represent proxies for socio-economic status. The deciles developed are thus expressed in terms of deciles of individuals of the total population at risk for all measures. The 1st through 10th deciles were assigned in the continuum of poorest and least poor.

Accompanying each of these frequency distributions is a value of pro-poor inclusiveness, namely the percentage of members or claimants that fall below the 30th percentile of SES. The latest poverty statistics for India suggest that 34.7% of the total population lives below \$1 per day (World Bank, 2004). While comparable state-level figures are not available, we have assumed that roughly 30% of Gujarat’s population falls below this international poverty line, given that Gujarat tends to perform slightly better than all-India based on other measures of poverty. Confidence intervals for this estimate of pro-poor inclusiveness are presented to show the statistical significance of the measured inequality.

In addition to socio-economic status, we also look at two other determinants of scheme use: (i) distance lived

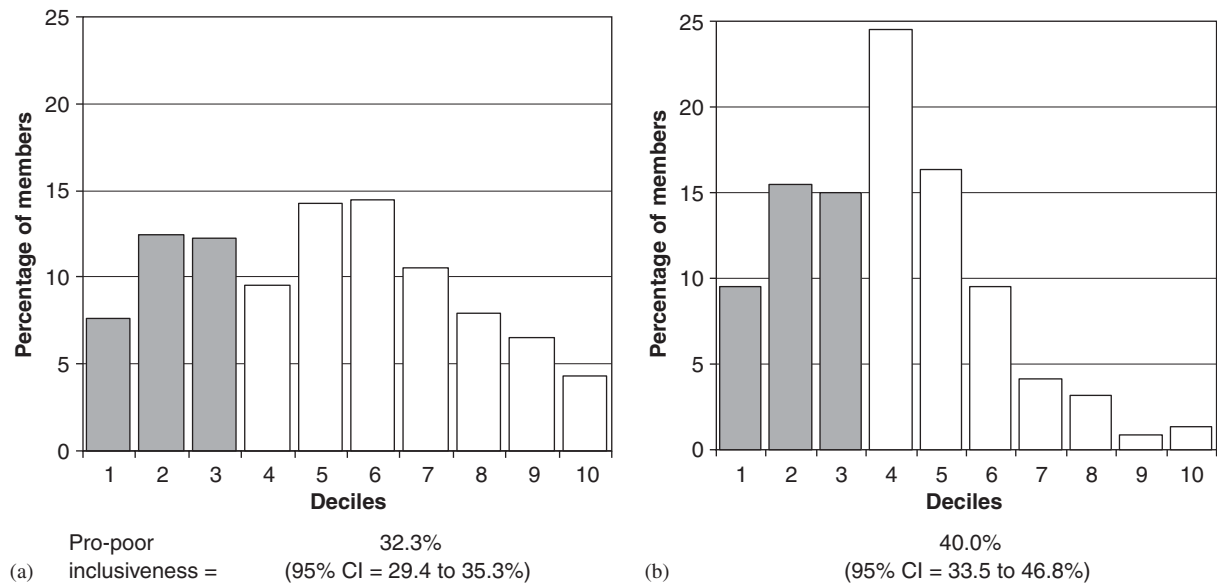


Fig. 2. Frequency distribution of Vimo SEWA members by deciles of the general population's socio-economic status: (a) rural and (b) urban.

from Ahmedabad City, as a proxy for economic and infrastructural development of the area of residence and (ii) gender. For the former, we use the distance between Ahmedabad City and the taluka place.

Qualitative interview data

To examine barriers that the poor may face in enrolling and benefiting from the scheme, we carried out focus group discussions (FGDs) with Vimo SEWA members and grassroots level staff. Four FGDs were carried out with members in different locations, and two with grassroots level staff in two other locations. All of the FGDs were conducted in the Gujarati language and were video-recorded, with the permission of participants. The FGDs were later translated into English, transcribed by the interviewers, and coded using N-Vivo software.

Results

Equity by socio-economic status

Appendix A (Table A1) compares the general population, Vimo SEWA members and claimants by the variables that make up the SES index.

Vimo SEWA is inclusive of the poor in rural areas. The mean SES score of rural Vimo SEWA members (-0.19 ; $SD = 0.76$) is significantly lower than the score of the general rural population (0.00 ; $SD = 0.94$) (see Table A1); the difference between the two values is -0.19 ($95\% \text{ CI} = -0.27 \text{ to } -0.11$). The frequency

distribution of members, by deciles of the SES index, resembles a normal distribution, but with disproportionate numbers in some of the poorer (particularly 2nd and 3rd) SES deciles (Fig. 2). Approximately 32% of rural members are drawn from the poorest 30% of the general population.

Conversely, all indicators suggest an inequitable pattern of claim submission among rural members. The mean SES score of rural claimants (0.10 ; $SD = 0.91$) is significantly higher than that of members (difference = 0.29 ; $95\% \text{ CI} = 0.21\text{--}0.37$). Only 20% of claims come from the poorest 30% of members (Fig. 3).

As in rural areas, Vimo SEWA's membership in Ahmedabad City is inclusive of the poor. The mean SES of urban members is -0.50 ($SD = 0.60$), significantly lower than the mean SES of the general population of Ahmedabad (0.00 ; $SD = 0.95$). The difference between the two means is -0.50 ($95\% \text{ CI} = -0.63 \text{ to } -0.37$). The frequency distribution of members (Fig. 2) shows that 40% of members fall below the 30th percentile of SES score.

In urban areas, the pattern of claim submission is equitable. The mean SES score of urban claimants (-0.58 ; $SD = 0.58$) does not differ significantly from that of members (difference = -0.073 ; $95\% \text{ CI} = -0.16 \text{ to } 0.022$). Forty percent of claims come from the poorest 30% of members (Fig. 3).

Gender equity

Women comprise 83% of all adult Vimo SEWA members in rural areas and 80% in urban areas.

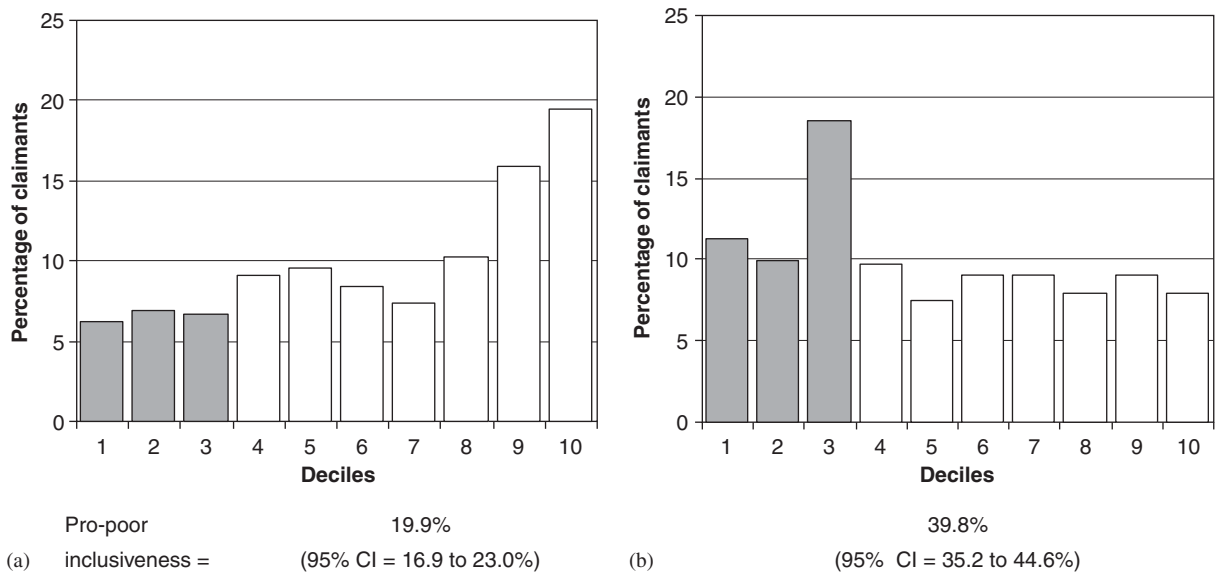


Fig. 3. Frequency distribution of Vimo SEWA claimants by deciles of Vimo SEWA members' socio-economic status: (a) rural and (b) urban.

However, the data show that having joined the scheme, men are significantly more likely to submit claims than women. In the 16 rural talukas, the rate of claims among men is 1.8 times than among women (95% CI = 1.5–2.1), while in the four urban zones, the claims rate among men is 1.3 times higher (95% CI = 1.1–1.5) (Fig. 4).⁴

Geographic equity

Rates of claims (claims/1000 members/9 month period) are much higher in the zones of Ahmedabad City (35.0) than in the rural talukas studied (16.6).⁵ And among the 16 talukas included in this study, rates of claims are inversely associated with the distance of the taluka from Ahmedabad City. Every increase of 100 km in distance (between Ahmedabad City and the main taluka town) is associated with a decrease in claims rate of 4.2/1000 (p -value = 0.014).

Reasons underlying quantitative findings

The qualitative research helps explain some of the reasons for this differential access to Vimo SEWA benefits.

⁴This differential also holds true for all rural areas (20.2 versus 11.3) and for all Ahmedabad City (37.5 versus 29.7).

⁵This also holds true for all Ahmedabad City (31.2) versus all rural areas (14.5).

Barriers to being hospitalized

For the poorest, seeking care at an inpatient facility may simply not be an option, as they perceive such care to be unaffordable. One Vimo *aagewan* reported feeling helpless when called to see a young, insured woman living far from the nearest hospital:

The mother said, “you have sold my daughter insurance, and now she has a severe fever. We don’t have a hospital here, so where do I take her?” I said, “Either you get her admitted in Dhrangadhra or in Patdi.” She said, “Sister, I don’t have the money right now and look at the fever she is running” (Woman Vimo *aagewan*, 28 years old, Surendranagar district).

Even when the insured have access to loans for paying for a hospitalization, they may prefer to forego the hospitalization:

Many just stay at home because they do not have money to go to the doctor... My husband does not go (to hospital). When there is no money, he says, “What is the need to go?”... (Even with insurance) the problem is, you have to borrow the money, go to the hospital and then return the money with interest (Woman Vimo SEWA member, 32 years old, village in Gandhinagar district).

Some of Vimo SEWA’s members live in remote villages, far from urban centres and hospital facilities. Transportation is expensive, and sometimes unavailable. An *aagewan* in one of the FGDs felt that the cost of

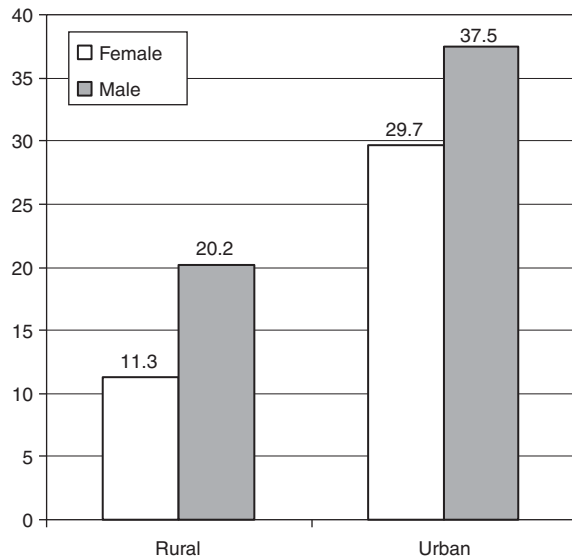


Fig. 4. Rate of claims (per 1000 members over a 9-month period) in rural areas and Ahmedabad City, by gender.

transportation, added to the cost of inpatient care, was enough to prevent poor insured women from going for hospitalization:

Members living in the villages have to travel to the city in order to be admitted to hospital, and they find the cost of travel expensive. They feel that, “The reimbursement from the insurance will only amount to what I spent on transportation, and nothing will be left with us” (Woman Vimo aagewan, 28 years old, Surendranagar district).

Women’s household responsibilities inhibit them from getting hospitalized even when they need it:

Sometimes if the woman has to cook, make tiffin (lunchbox), send her children for tuition, then she does not get admitted to hospital. She takes some pills and continues with her work (Woman Vimo SEWA aagewan, 37 years, Anand district).

Barriers to submitting a claim

The direct and indirect costs of compiling documents, and submitting the claim to the local Vimo SEWA representative, can be substantial:

They (the members) are reluctant to come here (to the district office) because they cannot pay the transportation fare. So they cannot come here (Woman Vimo aagewan, 28 years-old, Surendranagar district).

Interviewer: Did you submit a claim?

Respondent: A visit to the Vimo office costs us twenty-five rupees (Woman Vimo SEWA member, 50 years old, Ahmedabad City).

Commonly the poor have limited literacy skills and also lack the confidence to negotiate with officials and formal systems. They therefore have greater difficulty in getting together all the required documents for submitting a claim. As one *aagewan* in Anand taluka explained:

We ask the claimant for all bills for the hospitalization. If the doctor has not given these bills—many women are illiterate and don’t ask for the certificates or bills at the time of discharge—then we ask them where they were admitted and we go along with them to collect the certificate and bills.

Discussion

Summary of findings

The Vimo SEWA scheme is inclusive of the poorest, with roughly 32% of rural members, and 40% of urban members, drawn from households below the 30th percentile of socio-economic status. Submission of claims is inequitable, particularly in rural areas. The less poor in rural areas are significantly more likely to submit claims than are the poorest. Members in talukas closer to Ahmedabad are more likely to submit claims than those living in distant talukas. And, among rural Vimo SEWA members, the rate of claims among men is almost twice as high as among women. In Ahmedabad City, there is no association between socio-economic status and rate of claims submission, but the rate of claims among men is significantly higher than among women.

The qualitative research revealed some of the factors that may underlie these inequities. The poorest in rural areas (and women, and those living in the most distant/isolated areas), despite being members of Vimo SEWA, may find it difficult or impossible to access hospitals with inpatient facilities. Their access may be limited by lack of money to pay for the hospitalization or by their physical distance from a hospital. Women are also reluctant to be hospitalized because of their household responsibilities of cooking, childcare and care of live-stock. Even when women or poor members are admitted, they may face several hurdles in filing an insurance claim because it requires skills and capabilities less common in the poor, such as literacy and negotiating the formal systems of hospitals. Other factors affecting claiming include the costs of compiling a claim, and lack of cooperation from doctors.

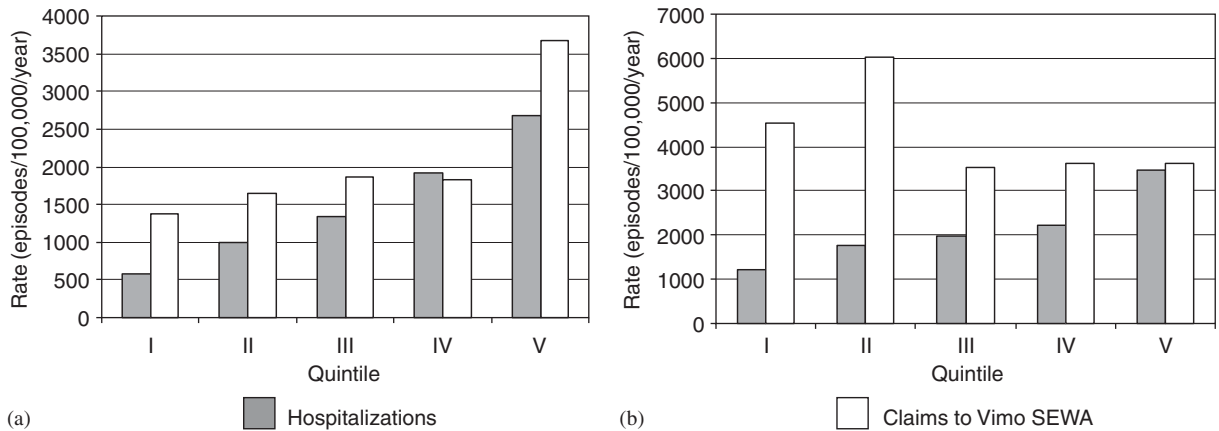


Fig. 5. Rate of hospitalization among the population of Gujarat by expenditure quintiles and rate of claims to Vimo SEWA (among the insured) by SES quintiles (both rates are per 1,00,000 per year): (a) rural and (b) urban.

Strengths and limitations of the study

The methods used to determine SES and equity are strong, relative to other studies of equity, insofar as they are: based on recent household data, collected expressly for assessing SES among the target populations; and use an SES index that has strong conceptual grounding. The data are easy to collect, less prone to manipulation (particularly under-reporting) than income or expenditure data, partially verifiable, and are thought to have minimal measurement error.

Limitations are four-fold. Firstly, the study did not include a representative sample of *hospitalized* Gujaratis. As such, we are unable to assess the degree to which differences in claims rates (by decile of SES) are due to differential rates of hospitalization versus differential rates of claims submission among those hospitalized. Comparison of our results with the best available hospitalization data for Gujarat state, collected by the National Sample Survey Organization in 1995–96 (Mahal et al., 2002) is revealing (Fig. 5). First, in rural areas, the rate of claims by quintile of SES runs parallel to—but fairly consistently higher than—rate of hospitalization,⁶ suggesting that the inequitable pattern of Vimo SEWA utilization in rural areas is due largely to an underlying, inequitable pattern of hospital utilization. It also suggests that the Vimo SEWA membership, overall, has a higher rate of hospitalization than the general population. Second, in urban areas, the rate of claims to Vimo SEWA is relatively flat (and consistently higher than rate of hospitalization), while the rate of hospitalization rises with level of wealth. These data suggest that the Vimo SEWA scheme may help to overcome barriers to hospitalization—i.e. that the

scheme is doing what it was intended to do. While our qualitative data did not shed any light on the relative importance of barriers to hospitalization versus barriers to claim submission, they do identify some of the specific factors that limit access, within each of these two categories.

Second, due to errors in the members' address data, 9% of all members in rural areas could not be included in the sampling frame, and 12% of the sampled households could not be found. In urban areas 2.3% of members fell outside the sampling frame and 10% of the sampled households could not be found. The exclusion from the study of households with incomplete data is likely to bias the results only if such households are significantly different than those that were successfully found and interviewed, in terms of socio-economic status. It is possible that such a difference does exist: it may be the case, for example, that the poorest members in Vimo SEWA live in the more remote areas, are enrolled by illiterate, or less literate, *aagewans*, and therefore have poorly recorded address data relative to the less poor members. If poor address data led to greater exclusion of the poorest members, then our decile cut-off points for the membership base will be inappropriately biased upwards. While this will underestimate the poverty among the members, it will have the effect of exaggerating the relative poverty of the claimants.

Third, the study does not actually assess the overall “equity impact” of the scheme—it stops short of measuring any re-distribution of resources between socio-economic strata. The study does not answer the question, “Under the scheme, do better-off households subsidize the health care costs of poorer households?” The additional data required to answer this question are: (1) whether each claim was accepted/rejected; and (2) for accepted claims, the total amount reimbursed by the

⁶The NSSO divides the Gujarati population into quintiles on the basis of consumption expenditure.

scheme. These data are gradually being entered into Vimo SEWA's MIS, and will be analyzed when available.

Fourth, the inverse association between distance from Ahmedabad City and the rate of claims in rural talukas is likely to be confounded by a number of other variables. Vimo SEWA has generally been working in the distant talukas for fewer years; as a result, the scheme's infrastructure is less developed in these areas, and local people may have less confidence/trust in the scheme for lack of a lengthy involvement. It appears also to have been the case that, in 2003, members in distant talukas were more likely to have been enrolled by non-Vimo *aagewans* (particularly grassroots workers from SEWA Rural Development) as opposed to Vimo *aagewans*. The former may have been less conversant with the scheme details and hence members may have been provided with less information about scheme benefits and how to submit a claim.

Conclusions: Broader policy implications

This study suggests that CBHI can be inclusive of the poor. Throughout its target area, Vimo SEWA is successful in enrolling poor members in its insurance scheme. This is contrary to the experience of some other CBHI schemes—particularly those with flat-rate premiums—which excluded the poorest (Bennett et al., 1998). The fact that the scheme is nested within a large, well-known (and trusted), pro-poor trade union has undoubtedly contributed to this success. In urban areas, there is equitable use of the scheme by poor and less poor members. This is (perhaps) remarkable, in light of the rural findings, and in light of the fact that other studies in India have found hospitalization rates to be significantly higher among wealthier (vs. poorer) urbanites (Mahal et al., 2000).

While this study did not directly collect data on the factors that facilitate claim submission among the urban poor, possible explanations are closer proximity to hospital, closer proximity to Vimo SEWA's central office, and stronger links with the local *aagewan* resulting in better knowledge about scheme benefits and processes. At least two other important research questions related to this issue which need to be explored further are:

- (i) Is there a significant difference in the quality of inpatient care used by the poor vs. less-poor insured?
- (ii) Given that one would expect higher morbidity among the poor, should not the rate of claims actually be much higher among the urban poor, relative to the better-off?

This study supports the argument that addressing financial barriers to hospitalization is not enough to provide equity of access. The risk of unequal access is particularly high if: (1) the scheme does not address other non-financial barriers to accessing (inpatient) health care; and (2) the process of seeking reimbursement under the scheme is burdensome for the poor. To ensure equity in a CBHI scheme, therefore, there needs to be careful assessment of the barriers to health care seeking and causes of medical indebtedness. To increase access, some CBHI schemes have, for example, covered the costs of transportation (e.g. the "Community Health Insurance—Karnataka" scheme documented by Ranson et al., 2003) or provided transportation by ambulance directly. Others have reimbursed the insured for wages lost during the hospital stay (Ranson et al., 2003).

In India, low perceived quality of health care is one of the barriers that prevent people from seeking health care. Vimo SEWA has already begun to experiment with an intervention which aims to encourage its members to use better-quality (and lower cost) public and private hospitals. In a few pilot sub-districts, Vimo SEWA is reimbursing its members prior to their discharge from hospital provided that they have used select ("empanelled") hospitals deemed to offer comprehensive, high-quality services at a reasonable cost.

To provide equitable access, schemes must also be designed and managed so as to avoid "internal" barriers. Many CBHI schemes, including those that are hospital-owned (13 of the 82 schemes documented by Bennett et al. (1998), and 5 of the 10 Indian schemes visited by Ranson et al. (2003)) provide benefits at the time of discharge. Where the CBHI does not have institutional links to providers, a critical barrier is the paperwork that claimants are required to complete. This can be avoided by dealing only with select ("empanelled") providers, or by providing health care directly. Schemes that aim to reach the poorest must train their insurance agents in how to identify the poor, and how to deliver the insurance product to them such that they can readily use it in case of hospitalization. Finally, the ongoing monitoring of the scheme should include periodic assessments of the distributional impact of the scheme, such that a negative distributional impact can be detected, and corrective mechanisms put in place. In recent years Vimo SEWA has created a research cell and been actively involved in this research, testifying to its willingness to obtain good evidence of the impact of its work.

Several roles can be played by government and/or donors. Firstly, schemes may benefit from technical assistance in incorporating measures of distributional impact into scheme MIS and decision making. Governments/donors can provide this technical assistance directly, or help to facilitate the sharing of information across these (often isolated) schemes. Secondly, they can

finance research/projects that test different approaches to extending insurance to the poorest. Thirdly, their priority should remain supporting organizations such as SEWA, and NGOs committed to serving the poor, to provide high-quality, low-cost, easily accessible health care to those who live in remote or rural areas and improve awareness of health, disease, disease prevention, and available health care among these disadvantaged groups.

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Appendix A

Comparison of the general population, Vimo SEWA members and claimants by the variables that make up the SES index are given in Table A1.

Table A1

Comparison of Vimo SEWA members and claimants with the general population by variables that comprise the SES index, rural and urban

SES variable	General population			Vimo SEWA members	Vimo SEWA claimants
	Mean/frequency	SD	Coefficient	Mean/frequency	Mean/frequency
<i>Rural</i>	(N = 780)			(N = 967)	(N = 690)
If wall brick or stone with plaster	42.9%	0.9%	0.1502	42.3%	45.6%
If wall "Other"	22.6%	0.6%	-0.1508	16.9%	19.1%
If gas for cooking	8.0%	0.3%	0.2833	6.1%	15.9%
If oil store for ≥1 mo	27.8%	0.7%	0.3447	14.0%	18.5%
If millet store for = 12 mo	17.7%	0.5%	0.2264	8.7%	13.6%
If wheat store for ≥1 mo	55.0%	0.9%	0.2008	35.0%	47.1%
Number of rooms	1.921	1.029	0.0671	1.788	1.860
"No", "Shared" or "Own" electrical connection	2.151	0.933	0.0882	2.141	2.395
Percentage of Hh adults literate	0.496	0.361	0.2660	0.499	0.596
Percentage of Hh adults attended college or univ.	0.040	0.134	0.6090	0.022	0.050
Number of refrigerators	0.077	0.266	0.3714	0.040	0.090
Number of fans	0.898	0.957	0.2885	0.831	1.082
Number of mattresses	1.026	2.120	0.0550	0.536	0.822
Number of wrist watches	0.569	0.874	0.0968	0.501	0.847
SES index	0.000	0.944	NA	-0.190	0.104
<i>Urban</i>	(N = 745)			(N = 220)	(N = 442)
If gas for cooking	65.6%	0.8%	0.2580	59.5%	46.6%
Number of rooms	2.286	1.522	0.0649	1.705	1.722
Structural condition of dwelling	3.501	0.807	0.1327	3.505	3.559
Months of oil store	0.657	0.710	0.2094	0.509	0.287
Percentage of Hh adults attended college or univ.	0.184	0.309	0.3909	0.077	0.051
Percentage of Hh adults completed secondary	0.415	0.395	0.3907	0.143	0.104
Percentage of Hh adults unskilled work/daily wages	0.092	0.213	-0.2403	0.355	0.221
Number of wrist watches	1.784	2.018	0.0614	1.045	1.133
Number of refrigerators	0.427	0.519	0.2870	0.164	0.127
Number of televisions	0.832	0.461	0.1819	0.827	0.796
Number of VCRs/VCDs	0.104	0.318	0.1736	0.050	0.059
Number of motorcycles/scooters	0.575	0.780	0.1755	0.150	0.158
SES index	0.000	0.952	NA	-0.503	-0.575

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