Solidarity or Financial Sustainability
An Analysis of the Values of Community-based Health Insurance Subscribers and Promoters in Senegal

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ABSTRACT

Objectives: Although community-based health insurance (CBHI) seemed promising to improve access to health care, its implementation has been slow and laborious. We hypothesize that the existing tension between the competing objectives of solidarity and financial sustainability that are pursued by CBHI may partly account for this. This paper aims to evaluate if there is a gap between CBHI subscribers’ values and their promoters’, and to determine which characteristics of subscribers and CBHI schemes are associated with their values.

Methods: A study of all Senegal CBHI organizations was undertaken in 2002. The analysis includes: 1) content of interviews with subscribers and promoters; and 2) multilevel logistical analysis of the links between characteristics of subscribers (n=394) and organizations (n=46) and composite indicators representing values (redistribution, solidarity when difficulties, solidarity between healthy and unhealthy).

Results: Promoters emphasize financial sustainability; subscribers are split between financial sustainability and solidarity. Men, polygamous families and individuals with a lower socio-professional status are twice as likely to be in favour of redistribution; subscribers who participate in decision-making and those who think their CBHI is facing difficulties are less in favour of solidarity. At CBHI level, although the variance was significant, none of the variables were retained.

Conclusion: More attention should be given to reducing the gap between promoters’ and subscribers’ values, and to increasing member participation in the processes involved in implementing CBHI. This could help all actors involved to understand and improve determinants of enrolment in, and performance of CBHI, thus increasing access to health care for vulnerable populations in developing countries.

Key words: Community-based health insurance; healthcare financing; equity; solidarity; financial sustainability; subscribers; promoters; Senegal; Africa

La traduction du résumé se trouve à la fin de l’article.

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METHODS

This study was part of a research project on health equity in three African countries. The community-based health insurance (CBHI) was introduced in the 1990s in many African countries, including Senegal, as a promising alternative toward improving access to health care for vulnerable populations. Unfortunately, CBHI have had some difficulties, mainly due to low enrolment, which rarely exceeds 10% of the population3-5 and reduced access for the poorest.6 One potential explanation for these problems is the tension between CBHI’s competing objectives of equity and financial sustainability.7

Equity in the context of CBHI translates into three principles.8 The first and second, income redistribution and representation of community interests, are seldom applied;9-11 the third, redistribution between healthy and unhealthy, is much more widely enforced.

Adverse selection, overprescription, moral hazard, fraud and abuse, and catastrophic expenses are considered the main threats to CBHI financial sustainability.12 Thus, in some cases, organizations refuse membership to individuals whose health or economic situation would pose an excessive burden. Also, promoters of CBHI tend to emphasize financial viability rather than equity or solidarity.9,13-17

In addition, there are few studies about CBHI members’ values. Criel18 has compared CBHI to traditional mutual aid organizations. Members often expressed their preference for a system of balanced reciprocity, where members would receive benefits proportional to their expenses. Waelkens and Criel19 found that the majority of CBHI subscribers were in favour of risk-sharing and solidarity.

Concerning values of individuals in general, Ng and Allen20 found that people with a higher socio-economic status, men and older people were more likely to feel that the economic system of their country was fair. Bastounis et al.21 concluded that the more people were satisfied with their country’s economy, the more conservative their values.

The objectives of this study are thus to evaluate if there is a gap between CBHI subscribers’ values and those of their promoters, and to determine the characteristics of subscribers and their CBHI schemes which are associated with their values.
data was collected in 2002 in all regions of Senegal having CBHI. The project was approved by the CERFM (ethics committee of Université de Montréal) on February 20th, 2006. Reference number: CERFM(06) #193.

Information was collected through focus groups with subscribers (n=12 groups), as well as semi-directed interviews with leaders (n=24), local policy-makers (n=12) and administrators (n=24), selected by purposeful sampling. A random sample of 394 subscribers was also selected from 46 community CBHIs to complete a survey. The data included socio-demographic characteristics, information about experience with the organization, and questions about six hypothetical situations to which one had to answer "fair" or "unfair". These were aimed at determining attitudes and expectations of subscribers, to serve as proxies of their underlying values. The complete statements can be found in Annex 1. In order to reflect the values underlying the answers to the six hypothetical situations, composite indicators were developed using cluster analysis with SPSS© 11.5.

Information about characteristics of organizations was also collected.

Data analysis

First Objective: Identifying the Gap
We conducted a content analysis of the focus group and interview transcriptions, comparing expectations of administrators, promoters and leaders of CBHI schemes with those of subscribers. We also considered the proportion of subscribers who had answered "fair" or "unfair" to each of the six hypothetical situations.

Second Objective: Factors Associated with Subscribers' Answers
At this stage, our purpose was to assess whether the CBHIs that subscribers belonged to had independent effects on their values (financial sustainability or solidarity). Because participants were clustered into CBHIs, we applied multilevel logistical regression modelling using Hierarchical Linear Models (HLM©) version 5.04, calculated the intra-class correlation and computed odds ratios (level of significance: p<0.05).

The outcome variables used in the models, following the cluster analysis, were Dimension 1 (income redistribution vs. equality), Dimension 2 (solidarity in case of financial difficulties vs. financial sustainability) and Dimension 3 (solidarity between healthy and unhealthy vs. financial sustainability). Level-one predictors were use of services, participation in decision-making, perception that the CBHI organization is facing difficulties and level of information about the organization. We also controlled for sex, marital status, socio-professional status (composite indicator) and material wealth (composite indicator). Level-two predictors were consultation service, hospitalization service, health structure owned by organization and main office.

RESULTS

Gap between promoters' and subscribers' attitudes and underlying values

Qualitative Study
Content analysis of the qualitative data shows that subscribers consider solidarity as the most important aspect of CBHI. On the other hand, irregularity of contributions is seen as the greatest threat to sustainability.
Leading subscribers consider regularity of contributions as the most important aspect of solidarity. Leaders are conscious that informal workers, who make up much of CBHIs’ membership, have irregular earnings. That is one of the reasons invoked for having fixed contributions instead of sliding scales.

Solidarity is seen among most administrators as the fact that a healthy person pays contributions to help sick subscribers. Equality is also an important principle: “[contributions] should be equal for all subscribers”. Finally, most administrators (as well as local policy-makers) consider that organizations cannot give full protection to individuals with chronic disease, and that social cases risk posing a heavy financial burden on CBHI organizations.

Quantitative Study
Table I shows the distribution of subscribers according to their answers to the six original hypothetical situations. On average, 64% of respondents are in favour of solidarity rather than financial sustainability.

The cluster analysis of the six hypothetical situations led to 3 clusters (Figure 1). Cluster 1 reflects “redistribution” (Dimension 1), Cluster 2 reflects “solidarity in case of financial difficulties” (Dimension 2) and Cluster 3 reflects “solidarity between healthy and unhealthy” (Dimension 3). Each outcome variable is dichotomous, the value [0] representing financial sustainability and [1] representing solidarity. Our results show that the proportion of respondents most in favour of solidarity varies according to the outcome variable: 56% for Dimension 1, 62% for Dimension 2 and 29% for Dimension 3.

Factors associated with subscribers’ values
Data about subscribers and organizations are shown in Tables II and III.

For Dimension 1, only level-1 predictors were introduced. No experience variable leads to an odds ratio significantly different from 1. Women (OR=0.51) and non-polygamous (OR=0.55) respondents are half as likely to be in favour of redistribution; those with a lower socio-professional status are twice as likely (OR=1.88) to be in favour of that dimension.

For Dimension 2, none of the control variables or level-2 variables lead to an odds ratio significantly different from 1. Subscribers who do not participate in decision-making are twice as likely (OR=2.0) to be in favour of solidarity.

For Dimension 3, again none of the control variables or level-2 variables lead to an odds ratio significantly different from 1. Here, subscribers who do not feel that their organization is facing difficulties are twice as likely (OR=2.3) to be in favour of solidarity.

DISCUSSION

Main findings
Our study confirms that promoters emphasize financial sustainability, as was suggested by the literature.11-14 Subscribers tend to have more divergent opinions. Moreover, solidarity is most strongly mobilized in circumstances of unpredictable problematic situations, such as job loss: this may be because the Senegalese, like other Africans, are used to having mechanisms of solidarity for emergencies affecting families.25

The only variable that addresses vertical equity (Dimension 1) is accounted for by control variables only; thus our hypothesis that experience with one’s CBHI organization should be associated with that particular aspect of solidarity could not be confirmed. It is no surprise that polygamous families are more in favour of solidarity, as these families tend to have more traditional social values, as well as greater needs. People of lower socio-economic status are also thought to be less conservative in general.26 But we cannot explain why men are more likely to be in favour of solidarity. Indeed, studies have shown that men tend to have more conservative economic values than women.20

Subscribers who participate in decision-making and those who feel that their scheme is facing financial difficulties are
more likely to be at the financial sustainability end. This may be because tough decisions are made in general assemblies; adverse selection in particular is perceived as a major threat for scheme sustainability, although one study has shown that adverse selection was not a concern for most members of CBHI schemes. Therefore, involvement seems to move subscribers closer to the values of promoters. The values of subscribers who feel that their organization is facing difficulties are closely linked to CBHI survival and are also closer to promoters’ which comes as no surprise.

Study limitations
One of the strengths of our study lies in the number of CBHI schemes studied. Despite this, we were unable to identify CBHI-level predictors. This may have been caused by the conjunction of small sample size and limited variance in predictors belonging to CBHI level; another explanation may lie in the choice of predictors, limited by practical considerations. Further studies would be needed in order to uncover these predictors.

Another limitation of our study is the absence of comparison to an external group of non-subscribers, which was not possible. Enrolment in CBHI is 2.4% in Senegal and belongs to CBHI level predictors. This may have been caused by the conjunction of small sample size and limited variance in predictors belonging to CBHI level; another explanation may lie in the choice of predictors, limited by practical considerations. Further studies would be needed in order to uncover these predictors.

Another limitation of our study is the absence of comparison to an external group of non-subscribers, which was not possible. Enrolment in CBHI is 2.4% in Senegal and remains below 10% on average in West Africa. There is a need to further investigate non-subscribers’ and ex-subscribers’ values. This approach would help determine if subscribers’ attitudes toward CBHI are different from non-subscribers’, as suggested by previous papers. This would mean that our study population is more homogenous than the general population.

Reducing the gap
Reducing the gap between subscriber and promoter expectations may help increase enrolment in, and performance of CBHI. Our results suggest that improving involvement of subscribers might be a good solution. In fact, many authors agree that participation is a key factor in the success of schemes. Some authors hypothesize that schemes providing better information may improve subscribers’ confidence and, secondarily, enrolment rates. Even though our study has not shown that being well informed about one’s scheme has a significant impact on subscribers’ values, we argue that involvement in decision-making may play the same role as information.

Paying contributions proportionately with income appears to be a concern for a majority of subscribers, but is rarely practiced. Concern for simplifying administration of community schemes and difficulty in calculating income for workers in

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level 1 Fixed Effects</th>
<th>Level 2 Fixed Effects</th>
<th>Random Effects (σ²)</th>
<th>Intra-class Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dimension 1 (redistribution)</td>
<td>Dimension 2 (solidarity in case of difficulties)</td>
<td>Dimension 3 (solidarity between healthy and unhealthy)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
<td>OR (95% CI)</td>
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<tr>
<td>Women</td>
<td>0.51 (0.32-0.82)</td>
<td>1.46 (0.85-2.53)</td>
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<td>Non-polygamous</td>
<td>0.55 (0.34-0.90)</td>
<td>0.75 (0.43-1.34)</td>
<td>1.27 (0.69-2.33)</td>
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<td>Poor</td>
<td>0.90 (0.57-1.40)</td>
<td>1.50 (0.84-2.59)</td>
<td>1.52 (0.84-2.74)</td>
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<tr>
<td>Low socio-professional status</td>
<td>1.82 (1.16-2.86)</td>
<td>0.99 (.59-1.68)</td>
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<tr>
<td>No use &lt;3 months</td>
<td>1.57 (0.94-2.61)</td>
<td>1.35 (0.75-2.42)</td>
<td>1.30 (0.68-2.51)</td>
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<tr>
<td>No participation in decisions</td>
<td>0.95 (0.58-1.55)</td>
<td>2.00 (1.11-3.64)</td>
<td>1.50 (0.81-2.90)</td>
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<td>Poorly informed</td>
<td>1.21 (0.70-2.09)</td>
<td>0.84 (0.44-1.6)</td>
<td>1.60 (0.84-2.94)</td>
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<td>No perceived difficulties within organization</td>
<td>1.39 (0.89-2.18)</td>
<td>1.40 (0.85-2.48)</td>
<td></td>
<td>2.30 (1.27-4.24)</td>
</tr>
<tr>
<td>Random Effects (σ²)</td>
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<tr>
<td>Intra-class Correlation</td>
<td>0.18%</td>
<td>15%</td>
<td>8%</td>
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</tr>
</tbody>
</table>

* p<0.05
† constant

Annex 1

Text of hypothetical situations

Same contribution: Ousmane and Modou are subscribers of Yoff (CBHI scheme). Ousmane is a rich businessman who earns millions every year and Modou is a small peasant earning a maximum of 100,000 FCFA (France de la communauté financière d’Afrique). The scheme has decided that all subscribers must pay the same monthly premium of 1,000 FCFA, whatever their income. Does this decision seem fair?

Different contributions: Moussa and Mamadou are subscribers of Yoff and have similar health needs. Moussa pays 200 FCFA/month and Mamadou pays 100 FCFA/month. The scheme has decided that they should receive the same level of benefits. Does this decision seem fair?

Suspension for non-payment: Omar has been a member of Yoff for the past five years. He has regularly paid his premiums but for the past 6 months he has had difficulties and cannot pay. The scheme has decided to suspend his membership until he can pay. Does this decision seem fair?

Non-suspension but non-payment: Salif has been a member of Yoff for 5 years; he has just lost his job and has no other income. The scheme has maintained his membership and he can therefore use the CBHI services just like the subscribers who are honouring their premiums regularly. Does this decision seem fair?

Refusal due to chronic disease: Fatou has had a chronic disease (such as diabetes) for a long time and is spending more than 10,000 FCFA/month for her treatment. She wants to become a member of Yoff but has been refused. Does this decision seem fair?

Suspension due to chronic disease: Mamadou has been a member of Yoff since the beginning. He has become ill; doctors claim it is a chronic illness that will need regular treatment in the hospital (approximately 25,000 FCFA/month). The scheme has decided not to cover this disease because it would risk showing a deficit. Does this decision seem fair?
the informal sector could explain this. The goal of achieving redistribution in community schemes may also be too optimistic. It seems obvious therefore that the “value gap” cannot be eliminated completely, especially in the context of community schemes, which rarely have a sufficient quality of management.29

Policy implications: Realistic goals?
CBHI schemes have many diverging objectives. They aim at achieving financial sustainability while trying to improve access to health care for poor populations. We feel that more may be asked of them than what they can actually provide, and that this is one of the major causes for their poor enrolment rate and viability.

Although CBHI seems to be a promising alternative to out-of-pocket payment, many authors have suggested that CBHI alone cannot achieve the goal of equity for poor populations.27 State participation is needed, as well as assistance from key international actors, in order to ensure an equitable distribution of resources nationwide and worldwide.

The CBHI movement’s slow and laborious implementation processes are inherent to its community base, as it essentially addresses the needs of informal workers. Despite this, we think that CBHI can, if successful, improve the health of populations. First, CBHI’s objective of improving access to health services should have an impact on the health of the beneficiary populations. Second, CBHI organizations also aim at reducing impoverishment caused by catastrophic health expenses. Poverty being an important determinant of health in developing countries, these organizations could have an impact on health through this second mechanism.

REFERENCES


VALUES OF CBHI SUBSCRIBERS AND PROMOTERS

RÉSUMÉ

Objectifs : Bien que les mutuelles de santé aient semblé prometteuses pour améliorer l’accès aux soins de santé en Afrique, elles connaissent un développement lent et laborieux. Ceci pourrait être dû en partie à la tension existante entre les objectifs contradictoires de solidarité et de viabilité financière. Cet article vise à déterminer s’il existe un écart entre les valeurs des adhérents et des promoteurs de la mutualité, et à identifier les caractéristiques des adhérents et des mutuelles qui sont associées à ces valeurs.

Méthodologie : Une étude sur les mutuelles sénégalaises a été menée en 2002. L’analyse comprend : 1) le contenu d’entrevues auprès d’adhérents et de promoteurs; et 2) une analyse de régression logistique multiniveaux établissant les liens entre les caractéristiques des adhérents (n = 394) et des mutuelles (n = 46) et des indicateurs composites représentant leurs valeurs (redistribution, solidarité en cas de difficultés, solidarité entre malades et personnes en santé).

Résultats : Les promoteurs ont un discours mettant l’accent sur la viabilité financière; les adhérents sont partagés entre solidarité et viabilité financière. Les hommes, les polygames et les plus démunis sont deux fois plus susceptibles de favoriser la redistribution; le fait de participer aux décisions et de croire que la mutuelle est confrontée à des difficultés nuit à la solidarité. Au niveau de la mutuelle, la variance est significative mais aucune variable n’est retenue.

Conclusion : On devrait s’employer davantage à réduire l’écart de valeurs entre les adhérents et les promoteurs des mutuelles, et accroître la participation des membres à toutes les étapes de mise en œuvre des mutuelles. Ceci pourrait aider les personnes intéressées à comprendre et à améliorer les déterminants de l’adhésion aux mutuelles et de leur efficacité, et ainsi accroître l’accès aux soins de santé des populations vulnérables des pays en développement.