

Study of the Viability of Community-Based Mutual Health Insurances in the Department of Vélingara in 2019 in Senegal

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Abstract: Introduction: Access to basic healthcare services for the whole population has been a priority the successive governments in Senegal since independence. Mutual health insurance has been the driving force behind health coverage since the 2000s. This policy aimed to reach 75% coverage of the population by 2019. This study aims to describe the characteristics and also analyze the viability of mutual health insurances in Vélingara. Methodology: The mixed method was used to evaluate both the viability of mutual health insurances and the perception of the communities. Viability was evaluated in its four technical, functional, financial and institutional aspects. For the population's perception, interviews were conducted with beneficiaries, non-beneficiaries, community leaders and UHC officials. Results: At the institutional level, all of the mutual health insurances were viable and had internal regulations, a statute, a license and a bank account. On the technical level, they were exposed to the risk of adverse selection. On the other hand, from a functional point of view, none of mutual health insurances was viable, with a very low rate of retention. Finally, from a financial point of view, none of the mutual health insurances had the capacity to honor their medium- and long-term debts without resorting to external resources. In addition, the results of the survey showed a lack of information and a high cost of membership. Conclusion: All the mutual health insurances were experiencing difficulties and required urgent corrective measures and support from the state and local authorities.

Keywords: Mutual Health Insurance, Evaluation, Viability, Perceptions, Vélingara

1. Introduction

After gaining independence, African countries committed themselves to improving the lives and welfare of their populations, eliminating the discriminatory restrictions that underpinned colonial social policy and creating new opportunities for social progress [1].

Indeed, Senegal instituted employment-based social insurance systems in the 1960s and 1970s through health insurance institutions (IPM) and mandatory social insurance through budgetary allocations [2].

However, the situation did not improve, and structural

adjustment programs and devaluation reduced public spending on social sectors in the short term [3].

Faced with these hardships, micro-health insurance systems have emerged with main objective to improve access to health care for poor populations, they can constitute a relevant alternative for people who do not benefit from any social protection [4].

In Senegal, access to basic health care services for the entire population has remained a government priority [8]. Mutual health insurance has been the driving force behind health coverage since the 2000s. This policy aimed at reaching 75% coverage of the population by 2019. This dynamic aims at universal health coverage as a governance

policy of the health system in Senegal [5].

To align with the national policy, mutual health insurances have been created in all the communes of the department of Vélingara. Thus, the health district has sixteen (16) mutual health insurances, which are united in the Departmental Union of Mutual Health Insurance of Vélingara. Despite the support of the State with subsidies and support for holders of family security grants, they are faced with serious financial and/or organizational difficulties [6].

This study aims to describe the characteristics of mutual health insurances in Vélingara and analyze their viability, focusing on the technical, functional, institutional, financial and economic dimensions of the insurance system. It will eventually propose corrective measures.

2. Methodology

A mixed-method design was used to conduct this study.

2.1. Type and Period of Study

This is a descriptive cross-sectional study with an evaluative and normative focus. Interviews were conducted from February 05-20, 2020 and covered the 2019 fiscal year.

2.2. Study Population

The study population consisted of the sixteen mutual health insurances in the district of Vélingara.

2.3. Sampling Method

This was an exhaustive study taking into account all sixteen mutual health insurances in the Vélingara district.

2.3.1. Inclusion Criteria

Belonging to the group of mutual health insurances set up within the framework of universal health coverage and having been in operation for at least one year.

2.3.2. Non-inclusion Criteria

The community mutual health insurance had a life span of less than one year.

2.3.3. Data Collection Tool and Methods

The data were collected using a questionnaire. It was administered to the chairperson and managers of the mutual health insurances by two interviewers and a trained supervisor [9].

2.3.4. Difficulties Encountered

The main difficulties encountered were the mobility of the managers of the mutual health insurances and the poor archiving of the management tools of the mutual health insurances [7].

2.3.5. Data Entry and Analysis

The data were entered and analyzed with the Epi info software version 3.5.3. The description was done by calculating or determining the position parameters and the dispersion parameters.

For the qualitative study, individual interviews were used for the managers of the mutual health insurances, the beneficiaries, the non-beneficiaries and the health providers. For the community leaders we held focus groups. The analysis of sustainability focused on the institutional, technical, functional, financial and economic dimensions.

Institutional sustainability:

It was evaluated on the basis of the existence of an institutional framework by assessing the availability of internal regulations and statutes, the level of collaboration with the authorities and the existence of support.

Technical viability:

It was studied by assessing the degree of control of the risks inherent in adverse selection and the capacity to deal with overuse and over-prescription.

Functional viability:

It is assessed by evaluating the availability of the recommended management tools and the existence of a management body at the level of each mutual health insurance.

Financial viability:

It included to the solvency of the mutual health insurance, the financing of activities or the payment of benefits from contributions.

We evaluated short-term solvency (immediate liquidity ratio), long-term solvency (equity ratio) and financial autonomy (expense coverage ratio).

Economic viability:

It involves taking into account the resources that are not accounted for, called "hidden costs", but which are necessary for the functioning of the mutual health insurance.

3. Results

3.1. Quantitative Results

The average age of operation was 7.9 (+/- 2.99) years. They had their headquarters outside the health structure (62.50%) and had all signed an agreement with the posts and the referral health center.

Institutional viability: All of the mutual health insurance organizations in the department had internal regulations, a statute, a license and a bank account and were members of the departmental union. They received financial and material support (equipment, management tools) and a headquarters.

Technical viability: Membership was voluntary with no limit on the number of beneficiaries per member. They all had an observation period varying between 30 and 60 days. All mutual health insurance had difficulties in running their mutual health insurance such as absence or narrowness of premises, absence or inadequacy of support; delay in the state subsidy, failure to respect the health pyramid, and abusive drugs prescription. Faced with these problems, 68.75% of the mutual health insurance insurances had taken corrective measures such as requesting premises, raising awareness among the population, and lobbying the administrative and territorial authorities. However, none of the mutual health insurances had introduced co-payments, mandatory referrals or a ceiling on coverage.

Functional viability: All the mutual health insurances had a board of directors, a management committee and auditors. One mutual health insurances had not held a general meeting. They had good availability of management tools. The penetration rate was 8.19% in 2019. Membership increased between 2018 and 2019 with a gross growth rate of 6.55%. Contribution collection and retention rates were very low at 10.09% and 8.25% respectively.

Payment time was on average at 7.56 (+/- 3.93) days, indicating a good ability to pay their benefit bills.

Financial viability is one of the major concerns of managers and support structures because it directly affects the autonomy and survival of the mutual health insurance.

All of the mutual health insurances were solvent in the short term with an immediate liquidity ratio greater than 1. However, none of them had any equity and were not solvent in the long term.

They were vulnerable because they had no reserves and

depended exclusively on external financing. The ratio of earned premiums to operating expenses was less than one for all the mutual health insurances, indicating difficulties in meeting their medium-term commitments. The loss ratio was very high (over 75%) for all the mutual health insurances. Their gross margins were too low to cover their other expenses (excluding benefits) and build up reserves. The gross operating expense ratio was very high (299.62%), well above 15%, which means that a large part of the revenues of the mutual health insurances was used for their operations.

Economic viability: The rate of self-financing was sought by calculating the ratio between the self-financing income (income before any subsidies) of each mutual health insurance and the total costs for the year (total expenses recorded + hidden costs). The ratio was zero, as none of them had their own income.

The table below shows the detailed balance sheet of the mutual health insurances in 2019.

Table 1. Annual balance sheet of the assets and liabilities of the mutual health insurances in Vélingara during the 2019 financial year.

Mutual health insurances	Received Contributions	Benefit expenses	Operating expenses	cash amount	bank balances	Benefits liabilities	Other subsidies
AFIA	0	672, 695	20, 000	40, 000	175, 000	0	0
BALLAL	125, 500	1,395, 913	338 800	45, 600	325, 417	0	0
BONCONTO	0	473, 600	24, 000	0	100, 000	222, 710	0
DIAOBE	61, 000	75, 500	932, 000	0	1, 887, 992	0	0
KOUNKANE	0	686, 406	148, 000	9,000	21, 351	670, 420	0
KANDIAYE	17, 500	1, 241 865	15, 200	34, 000	163, 272	1, 017, 257	0
KALIFOUROU	0	60,1 671	3, 475, 000	0	376, 385	0	500, 000
LINKERING	12, 500	688, 296	354, 450	0	15, 174	0	500, 000
M GOUNASS	119, 000	1, 700, 211	1, 174, 350	5,782	2, 205, 016	0	0
NEMATABA	5, 250	1, 037, 879	82, 840	0	224, 745	0	0
OUASSADOU	0	845, 158	85, 000	0	79, 323	283, 326	0
PAKOUR	10, 500	586, 900	36, 000	20, 000	20, 328	24, 000	0
PAROUMBA	14,000	593, 320	120, 000	50, 680	84, 000	0	0
SARE COLY S	1, 276, 722	2, 897,910	184, 800	52, 200	45, 015	1, 201, 559	0
KOUNDARA	0	1, 082, 870	1, 194, 578	8, 000	1, 286, 737	0	120, 000
WAKKILARE	19, 000	1, 273, 465	147, 500	14, 500	84, 650	0	0
District	1, 660, 972	15, 853, 659	8, 332, 518	279, 762	7, 094, 405	3, 419, 272	1, 120, 000

3.2. Qualitative Results

All of the respondents found mutual health insurance very profitable and had heard about it from a close person or from the radio. They would say:

"I got the information about mutual health insurances through the media. Then I discussed it with a friend who told me how interesting a mutual health insurance is. When you get sick or a family member is sick, you spend less money".

Some beneficiaries had difficulties:

"The difficulties I faced were related to the work hours; if you have a prescription for a patient in pain at night, you won't get a letter of guarantee". Most of the interviewees suggested an improvement of the functioning and better awareness raising about mutual health insurances:

Regarding the reasons for not joining a mutual health insurance, they would the following 3 answers:

Lack of information. They would often say: "The reasons why I did not join a mutual health insurance is because I did not have information on mutual health insurances";

Lack of financial means or time. They expressed themselves as follows: "I am not a member of a mutual health insurance because I do not have the means or the time to register.

And for the lack of trust: "I am not a member because most of the population of my village paid money for the booklets but the people in charge of the mutual health insurance never came back to give the villagers their booklets".

In terms of recommendations, most of the non-beneficiaries wanted more awareness about mutual health insurance and a reduction in the price of the booklets: "To increase membership in mutual health insurance, the cost of the booklets must be reduced.

The community leaders were aware of the existence and importance of mutual health insurance. They simply said: "Mutual health insurance is to help the population to get health care.

As for the reasons for massive non-adherence, most of the leaders, as well as the non-beneficiaries, mentioned the inadequacy of awareness and the lack of financial means.

Some leaders talked about the difficulties encountered by beneficiaries to get their medicines from pharmacies as a factor discouraging people from joining mutual health insurances.

The recommendations made by these leaders concerned strengthening awareness, lowering the price of membership and making enough money available in pharmacies to avoid drug shortages:

For the beneficiaries, the mutual health insurance are very beneficial for the populations; they facilitate access to care. They were all satisfied with the timeliness of bill payments by the mutual health insurances: The main difficulties mentioned were related to the lack of knowledge of the procedures by the members. They complained that some beneficiaries often came to consultations without a letter of guarantee.

In terms of recommendations, they wish for increased awareness of the mutual health insurances to boost membership and also enable beneficiaries to know how to use the booklet properly.

The managers of the mutual health insurances were all satisfied with the services offered to the members and the relations they entertain with the beneficiaries. However, they reported problems encountered with beneficiaries in relation to the renewal of contributions and the late subsidies from the state.

"Many beneficiaries do not contribute regularly. In terms of recommendations, mutual health insurances' managers wanted subsidies to be given at the beginning of the year and they also needed more support from the local authorities to enable them to meet their expenses. In addition, they all asked for an improvement in their financial incentives.

4. Analysis of Results

4.1. Analysis of Institutional Viability

With the adoption of Law No. 2003-14 of June 14, 2003 on mutual health insurance, mutual health insurances now have a legal environment that is favorable to their development and growth. All the mutual health insurances in the department have internal regulations, a statute, an approval and a bank account. There was a political will to develop mutual health insurance. In fact, all the communes had at least one mutual health insurance. All these mutual health insurances were members of the Departmental Unit of Health Insurance UDAM. This political will was also reflected in the support of the local authorities, all of which provided support to their mutual health insurance. This support was in cash for 43.75% of the mutual health insurances and in-kind for 56.25%.

In summary, the mutual health insurances in the department of Vélingara were institutionally viable because they had a good internal organization capable of regulating the system and guaranteeing the security of transactions.

4.2. Analysis of Technical Viability

This analysis looks at the management capacity and the

mechanism put in place to control the main risks inherent in mutual health insurance. These include the risks of adverse selection, over-consumption and over-prescription. In our study, this assessment of technical viability focused on the conditions of membership and the management of benefits.

The type of membership was voluntary for all the mutual health insurances in the department of Vélingara, as stipulated in Article 10 of Decree No. 2009-423 implementing Law No. 2003-14 of 14 June 2003. This could expose the mutual health insurance to high risks of adverse selection. The enrollment period was open throughout the year for all the mutual health insurances in the department of Vélingara. This lack of limitation on the membership period could condition the choice of potential members to join when they are sick.

All of the mutual health insurances applied the observation period. This varied from one to two months; it remains an important measure for building the financial basis of the insurance system. The average number of beneficiaries per contributing member was not limited for all mutual health insurances. As the contribution is fixed per person, there is a risk of adverse selection and fraud among beneficiaries.

In summary, these results showed that all of the mutual health insurances in Vélingara were exposed to an average risk of adverse selection.

For the management of guarantees, all of the mutual health insurances essentially covered services that were moderately subject to the risk of overconsumption and adverse selection, such as ambulatory care, medicines, childbirth, evacuations, etc.

The services covered by the mutual health insurance were covered by the co-payment mechanism with a co-payment fee and a 7-day validity period for the fee.

4.3. Analysis of Functional Viability

The analysis will be based on the five indicators related to the membership dynamics of mutual health insurance:

The gross growth rate was positive at 6.55%, attesting to an increase in the size of the mutual health insurances, but this rate hides internal disparities. Mutual health insurances with a low growth rate should review their operating methods and raise awareness among the population about the importance of mutuality.

The loyalty rate was very low for all the mutual health insurances and varied from 49.69% to 0.65%. This means that the level of satisfaction of the beneficiaries of the mutual health insurance services is poor. Moreover, the latter had mentioned many difficulties in relation to obtaining letters of guarantee and the satisfaction of prescriptions by pharmacies.

The penetration rate in 2019 was positive at 8.19% at the district level with internal disparities. This reflects the definite interest of the population in mutual health insurance, which is closely linked to the level of knowledge. Consequently, the mutual health insurances with a low penetration rate need to strengthen their awareness.

The rate of collection of contributions was very low for all the mutual health insurances in the department; it varied between 44.06% and 0% and could hinder the proper functioning of these plans. This situation should lead those in charge of the mutual health insurances to better organize collection campaigns during periods when beneficiaries' income is coming in (peanut or cotton harvest, mahogany nut milking, end of the month for employees).

The average payment period was 7.56 (+/- 3.93) days with a minimum of 5 days and a maximum of 15 days; which means that the mutual health insurances in the department were regularly paying their invoices. This was acknowledged by all the providers interviewed.

4.4. Analysis of the Financial Viability

The immediate liquidity ratio was very high at the district level (215.66). It was greater than 1 for all the mutual health insurances in the department. This means that all the mutual health insurances were solvent in the short term. This could explain why mutual health insurances timely paid invoices services.

None of the mutual health insurances had equity and none were solvent in the long term.

The ratio of earned premiums to operating expenses was less than 1 for all the mutual health insurances, which means that they had difficulty meeting their medium-term commitments.

The loss ratio was very high (over 75%) for all the mutual health insurances studied. This means that the mutual health insurances could be in difficulty. Their gross margins were too low to cover their other expenses (excluding benefits) and build up reserves.

In summary, the calculation of these different ratios (immediate liquidity ratio, equity ratio and expense coverage ratio) showed that none of the mutual health insurances had the capacity to honor their medium- and long-term debts without resorting to external resources.

4.5. Analysis of the Overall Viability of Mutual Health Organizations

At the institutional and technical level, all of the mutual health insurances in the Department of Vélingara were viable. However, at the functional and financial level, none were viable. In fact, the rates of retention and collection were very low for all the mutual health insurances in the department of Vélingara. In addition, they depended entirely on external resources (state subsidies, support from local authorities). These weaknesses of the mutual health insurances required concrete actions to ensure their sustainability.

5. Discussion

5.1. Institutional Viability

The mutual health insurances in the Department of Vélingara were institutionally viable because they had a good internal organization capable of regulating and governing the

system and guaranteeing the security of transactions. In the studies of the viability of mutual health insurances of respectively, Mangane in Kolda [13] and Badiane in Pout [14], we found that almost all were affiliated with a federalist entity (the departmental union of mutual health insurance) and all benefited from state support.

The internal regulations and bank accounts guaranteeing proper functioning existed in all mutual health insurances. This was also the case in Kolda and Pout. We also noted the availability of an organizational chart for the mutual health insurances in the district of Oussouye [11].

5.2. Technical Viability

In our study, we noted that all the mutualists joined voluntarily, as in Kolda.

The membership period was open throughout the year, as in Kolda [13]. Similarly, the observation period was in force in all the community-based mutual health insurances, which is important for the financial security of mutual health insurances.

The number of beneficiaries per member was not limited in all the mutual health insurances, whereas in Kolda it was limited in more than two-thirds of the cases [10].

5.3. Functional Viability

This was measured specifically by the gross growth rate and the penetration rate.

The study showed a gross growth rate of 6.55% in 2019 in Vélingara. We found higher rates in Oussouye with 15% between 2017 and 2018. They therefore needed more support in Vélingara.

However, the study showed the evolution of the penetration rate of 8.19 in Vélingara while it is 80.68% in Oussouye and would reflect a particular interest of the populations in the community insurance system more important.

The recovery rate was low for all the mutual health insurances; these results were obtained almost everywhere else.

5.4. Financial Viability

For good viability, the liquidity ratio must be equal to or greater than 1. It was greater than 1 for all of the Vélingara mutual health insurances, while it was 0.7 for 60% of the Oussouye mutual health insurances. This ratio in the study of Badiane in Pout did not reach 0.5.

None of the Vélingara mutual insurances had equity capital, unlike those in Oussouye with 1.1 and Mlomp with 3.8.

None of the mutual health insurance insurances had the capacity to honor their medium- and long-term debts without resorting to external resources. The same results were obtained in Mlomp and Oussouye where most of the mutual health insurances were operating at a loss.

6. Conclusion

The objective of our study was to evaluate the viability of

mutual health insurance in its four institutional, technical, functional and financial dimensions.

In so doing, we used the analysis tools in the guide for monitoring and evaluating micro health insurance systems (STEP/CIDR, 2001) adapted to our context.

The study framework was the community mutual health insurances in the Vélingara district during their 2019 fiscal year.

A questionnaire was used to collect data from the managers of the mutual health insurances.

The results of the study showed that at the institutional, functional, and technical levels, mutual health insurances faced fewer problems.

However, their financial viability was highly compromised because they were largely depended on the state subsidy. The rate of collection of contributions was very low for all the mutual health insurances, less than 50%, while operating expenses were very high. This situation posed a real threat to the sustainability of mutual health insurance if nothing was done to resolve these difficulties.

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