Original Article

Factors Contributing to the Bankruptcy of Community-Based Health Insurance Schemes in Northwest Ethiopia

Chernet Mengistie Munie[1], Getasew Tadesse [2], Getachew Sitotaw[2], Ayinengida Adamu[2], Amare Minyihun[3], Eneyew Talie Fenta[4*]

Abstract

Background: The expansion of the community-based health insurance (CBHI) program in Ethiopia from 13 to 1,100 districts indicates a commitment to extending healthcare coverage to a larger population. A significant portion of the CBHI in the Amhara region is facing financial difficulties totaling 4 million dollars. This highlights the need for a more in-depth investigation of the underlying issues, such as financial audits, risk assessments, and governance and management practice evaluations.

Objective: To explore the facilitators of the community-based health insurance scheme bankruptcy in the North Mecha district, Northwest Ethiopia.

Method: A phenomenological study design was utilized. A purposive sampling technique was used to select participants for the study. Data were collected from 14 key informants using a detailed interview guide until information saturation was reached. To ensure consistency of data and avoid researcher bias, all interviews were transcribed verbatim from the audio files into Amharic transcripts and then translated into English. The transcribed data was coded and categorized. The data was then organized into related themes and sub-themes to conduct thematic analysis using Atlas ti 7.

Results: The study found that the main facilitators of community-based health insurance bankruptcy were low enrolment rates, too many benefit packages, low contribution amounts, fraud and moral hazards on both the demand and supply sides, low availability of drugs and laboratory services, low subsidies, increased costs of medical supply and healthcare services, low community awareness, and increased health service utilization.

Conclusions: This study's findings explored program, community, provider, and health insurance scheme-related factors that were identified as facilitating scheme bankruptcy. These facilitating factors would require policy shifts and program redesign. Therefore, all concerned bodies should focus on addressing these factors for the financial sustainability of the schemes and the capacity of members to contribute to membership. [*Ethiop. J. Health Dev.* 2024; 38(3): 00-00]

Keywords: health insurance, adverse selection, capitation, contributions, target subsidy.

Introduction

Community-Based Health Insurance (CBHI) is indeed an alternative health financing mechanism that has gained traction in low- and middle-income countries where traditional forms of health financing, such as government or employer-based health insurance, are limited (1). Millions of people continue to suffer in many nations due to a lack of access to essential healthcare or because paying for it causes great financial hardship or pushes them into poverty (2, 3). Every year, around 150 million people worldwide face catastrophic health costs, with 100 million of them falling below the poverty line (4, 5). The World Health Organization (WHO) claims that a healthcare system is unjust if it forces a household into poverty by forcing them to make catastrophic payments for necessary medical care. The global health financing modalities are general government revenue, social health insurance, voluntary private insurance, external donors, CBHI, and out-of-pocket expenditure (6, 7).

African countries have implemented CBHI schemes as initial steps towards attaining national health insurance coverage. These CBHI schemes are characterized by common principles such as risk sharing, voluntary membership, community solidarity, and non-profit (8-10). The Ethiopian health system has sources of funding from the total amount, the contribution of donors, government, and households was 35.2%, 32%, and 30.6%, respectively, and the remaining 2.1% was contributed by private employers, non-government organizations (NGOs) and other sources of finance (2, 11). The Ethiopian healthcare finance strategy focuses on implementing innovative financing mechanisms to increase domestic resource mobilization and sustainable health financing of essential health services to make them accessible and affordable to all people who need them (12-14).

Ethiopia piloted CBHI in 13 districts for the first time in different regional states to strengthen the current healthcare finance system, increase resource flows into the sector, enhance resource use efficiency, and secure long-term funding to increase overall coverage and quality (15, 16). Financially unsustainable schemes pose a serious challenge to all parties involved in the insurance system. The widespread prevalence of communicable diseases and population aging were

[1.] Resource mobilization directorate, Amhara regional health bureau, Bahir Dar, Ethiopia
[2.] Department of Health Systems Management and Health Economics, School of Public Health, College of Medical and Health Sciences, Bahir Dar University, Ethiopia.
[3.] Department of health economics, College of Medicine and Health Sciences, University of Gondar, Ethiopia.
[4.] Department of Public Health, College of Medicine and Health Science, Injibara University, Injibara, Ethiopia.
***Corresponding Author Email**: Eneyew89@gmail.com

factors affecting financial sustainability (17, 18). Bankruptcy is a legal process involving a person or company that cannot pay its debts. The bankruptcy procedure starts with a petition submitted by the debtor or on behalf of creditors, depending on which is more usual (19, 20). In the Amhara region, 54 schemes dropped out and were unable to cover their medical expenses for contracted health facilities, reaching over $4 million. Health facilities may not be sufficient to deliver the required quality healthcare (21-23).

Previous studies have shown that factors such as enrollment, utilization, and the age of a scheme influence a scheme's financial position and long-term sustainability (24-27). However, challenges related to mobilization, contracting, the referral system, the structure of the scheme, the availability of services, and out-of-pocket reimbursement were not known, and reports showed that the North Mecha district has a higher bankruptcy rate. Therefore, this study aimed to explore the facilitators of community-based health insurance bankruptcy and provide relevant information about why schemes were becoming insolvent for relevant stakeholders to develop evidence-based interventional strategies for the financial sustainability of the CBHI program in Northwest Ethiopia and the nation.

Methods and materials

Study area and design

A phenomenology study design was used to explore the facilitators of community-based health insurance scheme bankruptcy in the North Mecha district, West Gojjam Zone, Amhara Region, Ethiopia, from September to November 2021. The study was conducted in North Mecha, which is one of the 14 districts and five city administrations found in the West Gojjam Zone. North Mecha district is located 546 kilometers from Addis Ababa, the capital city of Ethiopia, 30 kilometers from Bahir Dar, and 150 kilometers from the Zone capital Finote-Selam (Figure 1). According to the 2013 Ethiopian Fiscal Year Plan Commission, the district's total population was estimated to be 261,471. Administratively, it is divided into 37 kebeles and has one primary hospital, 10 health centers, and 37 health posts. It has an estimated target population of 49,389 households, and from these, 27,457 were enrolled in CBHI. The CBHI scheme has contractual agreements with 13 health centers and two hospitals (23).

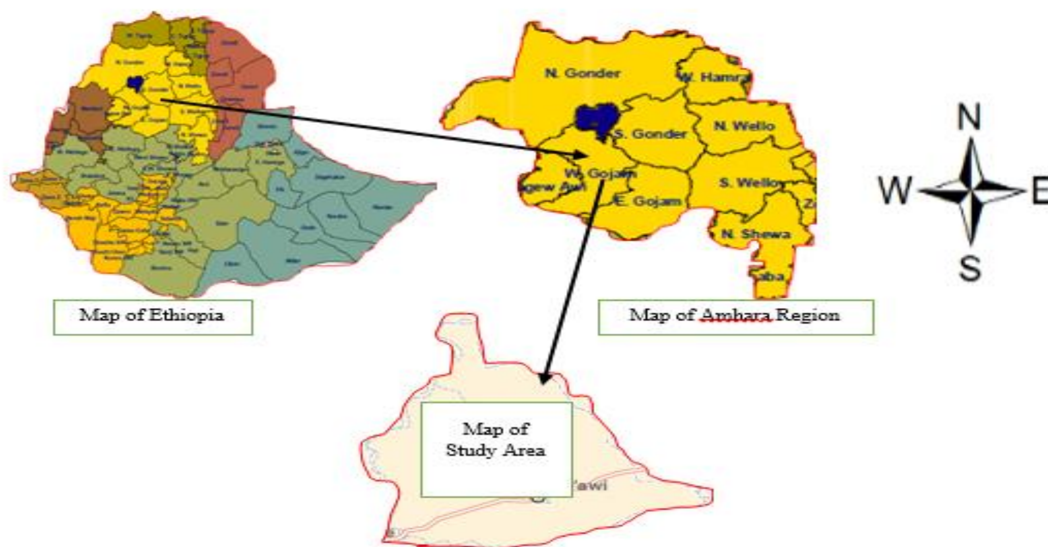

Figure 1: **Map of North Mecha District, West Gojjam Zone, Amhara Region Ethiopia.**

Study population and sampling technique

A purposive sampling technique was applied to select district health office heads: the CBHI scheme coordinator, clinical auditor, and accountant; the Marawi Primary Hospital, chief executive officer and finance head; the admission and liaison officer; the Merawi Health Center head; the Dagi health center head; the zone CBHI coordinator and accountant; the Bahir-Dar branch manager with provider officers; and the CBHI coordinator in the Amhara regional health bureau. In this study, 13 male and one female, 11 degree and 3 diploma holders, 11 married and 3 unmarried key informants participated.

Data collection tools and procedures

Data were collected using a semi-structured questionnaire. The key informant interview (KII) guide and document review checklist were first developed in English, translated into Amharic to collect the data, and then translated back to English to check reliability and consistency. During the interview, codes were given to each participant, and profiles were registered. The principal investigator conducted each interview in a separate, convenient area of the participants' workplace, where only the key informant and data collector were present. To maintain the transferability of the findings, appropriate probes were used to obtain detailed information on responses. All interviews were digitally tape-recorded, and the interviews took 25 to 60 minutes.

Data management and analysis

All interviews were transcribed verbatim directly from the audio files into Amharic transcripts and translated

into English to ensure consistency of data's and minimize researcher' bias. The transcribed data were coded, and the coded data were categorized. The data were then organized into related themes and sub--themes to conduct a thematic analysis. Verbatim quotes were used to represent responses to key questions , and themes. Themes were reviewed repeatedly to ensure they supported the data and to look for missing information and a richer outcome. The data was analyzed using Atlas ti 7 software.

Trustworthiness

To ensure the credibility of the research findings, the study participants were constantly observed during the interview. A Peer debriefing was conducted for the interviewer , and the transcripts were made available to our colleagues. Member checking was conducted by returning the preliminary findings to some participants to correct errors and challenge what they perceived as wrong interpretations. Rigor was attained through strict attention to detail, adhering to procedures, and consistency and accuracy throughout the research process, each of which the investigator has considered at all times. Dependability was attained through accurate documentation by minimizing spelling errors through frequent observation of data, including all documents in the final report, such as the notes written during the interview, and ensuring that the details of the procedures were described to allow the readers to see the basis upon which conclusions were made. The data analysis, interpretations, and conclusions were continuously peer-reviewed. To achieve confirmability of the study findings, raw data, interview and observation notes, documents and records collected from the field, and others should be documented for cross-checking and to conduct an audit trail where triangulation was used. To maintain the transferability of the findings, appropriate probes were used to obtain detailed information on responses, and study participants were selected based on their specific purpose to answer study questions and to get more in-depth findings.

Results

Characteristics of the study participants

This study involved 13 males and 1 female, 11 graduates and 3 undergraduate students, and 11 married and 3 unmarried key informants. Nine participants were selected from the public health facilities of northern Mecha district and the district health bureau, two from West Gojjam Zonal Health Bureau, two from CBHI Bahir-Dar branch, and one from Amhara regional health bureau. The participants were aged between 28 and 60 years. The interviews with the key informants lasted an average of 33 minutes.

Community-based health insurance bankruptcies

The study revealed that various reasons facilitated the community-based health insurance bankruptcy in the selected district. In this study, four main themes were developed: program-, community-, contracted health facility-, and health insurance scheme-related factors (Figure 2).

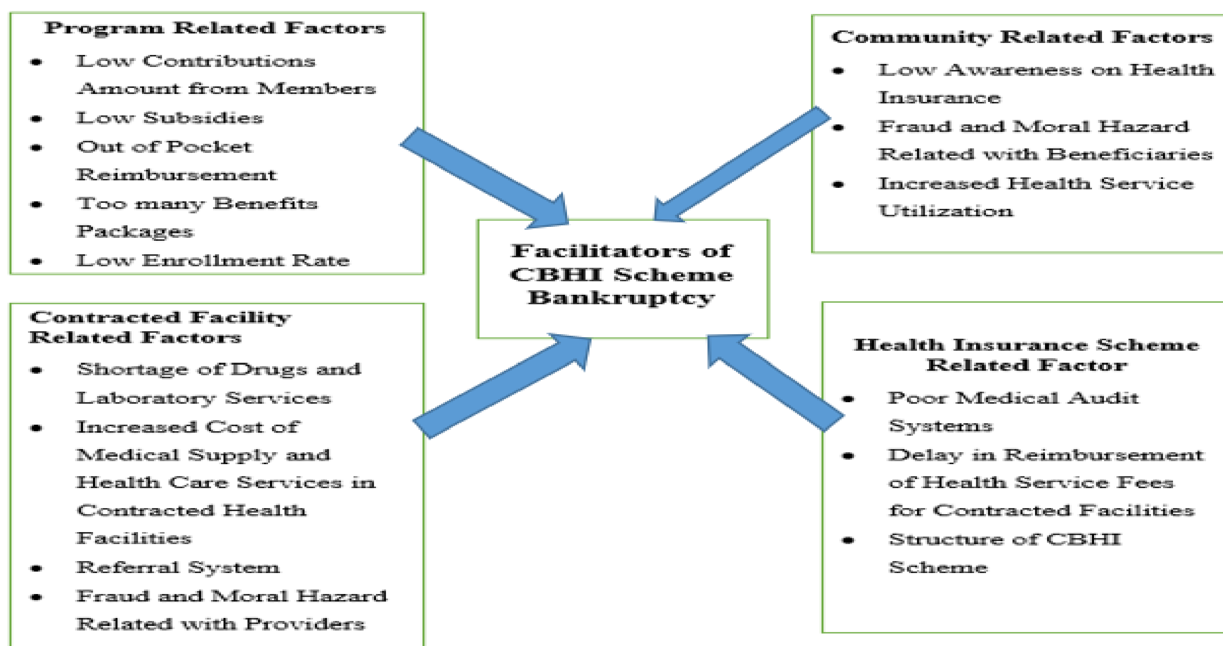

Figure 2: **Summary of the themes and categories for Facilitators of Community-Based Health Insurance Scheme Bankruptcy in North Mecha District, West Gojjam Zone, Ethiopia, 2021.**

Theme 1: Program-related factors

Category 1: Low contribution amounts from members

In this study, the existing amount of contributions collected from members was based on family size, up to 5, 6, and above eight family sizes of 350.00, 400.00, and 480.00 birr, respectively, without considering the cost of current medical care. All participants said that the contributions collected from members are not enough to cover healthcare expenses since there is currently an increase in the cost of pharmaceuticals,

health service fees, and laboratory reagents due to the increased value of foreign currencies.

> *"... contributions do not cover medical expenses; for example, if one household pays 350 birr per year to treat up to five families a year, and at least once each family member goes to a health facility, they will spend at least 200–500 birr. This means that the CBHI Scheme will pay between 1,000 and 2,500 birrs for each family per year." (male participant, BSC degree holder, age 42)*

Category 2: Low subsidies

General subsidies from the Federal Ministry of Health and targeted subsidies for selected indigents are two of the financial sources of these schemes. In this study, all the participants said that there was an insufficiency of general subsidy from MOH, which was expected to account for 10 percent of the total collected by the scheme. It was found that the schemes with target subsidies for the last two years were not allocated. The three-year regional and district target subsidy (4,190,699 birr) was not transferred to the CBHI scheme bank account.

> *"We receive a 10 percent federal government subsidy. However, this subsidy is insufficient. For the past two years, 30% of the district subsidy has been improperly allocated and has not been remitted to the system. Because they did not have a budget, we did not also collect the region's subsidy for two years. " (male participant, degree holder age 28).*

Category 3: Out-of-pocket (OOP) reimbursement

All participants indicated that the system allows for reimbursement of OOP paid by members for drugs, laboratory services, and imaging procedures in the event of supply shortages in contracted healthcare facilities. Most participants indicated that the system did not reimburse OOP expenses for members for almost a year due to a lack of funds.

> *"The scheme was reimbursing the OOP for members during stock out, but currently, they stop due to a lack of money." (male participants, diploma holder, age 50).*

According to the study, the three-year average of out-of-pocket payments per beneficiary was 932, compared to 290 for hospitals and 47 for health centers in public facilities. All respondents agreed that OOP reimbursement facilitated the CBHI scheme's becoming insolvent. Most participants said that the main factors contributing to the high cost of OOP reimbursement were private dealers and incomplete health services in contracted health facilities. Private drug stores and pharmacies were deliberately raising prices, especially for CBHI members.

> *"The increase in members' pocket money is due to several factors. There is a deliberate increase in the price of drugs at private pharmacies for CBHI members, and there is a lack of supply of drugs and laboratory services in the contracted health facilities. For instance, a medicine that costs 10 birrs can cost up to 500 birrs in private pharmacies." (male participant, diploma holder, age 31).*

Category 4: Too many benefit packages

The majority of the respondents stated that CBHI beneficiaries have access to entire domestic packages of health care provision, from the health center to tertiary levels within contracted public health facilities. Outpatient, inpatient, surgical, laboratory, and medication services to contracted health facilities listed as benefit packages in CBHI directives were too many, facilitating the scheme’s bankruptcy.

> *"Because the current amount of money contributed by the CBHI members is low, too many benefit packages will cause the health insurance scheme to go bankrupt." (male participant, degree holder, age 43).*

Category 5: Low enrollment rate

Enrollment rates in the schemes were below the minimum enrollment rate of 60% that is required to commence operations, according to the CBHI directives. All participants said that the membership rate was increasing year over year. Most respondents agreed that enrollment rate and community-based health insurance scheme insolvency are directly proportional. The study showed low numbers of newly engaged members in the scheme, a constant renewal rate, and some increment in net CBHI enrollment in the North Mecha District.

> *"The number of CBHI members in the district is increasing, but not all eligible households can join. If all eligible households were members, everyone would not be sick at the same time, solidarity would be created, and there would be no scheme bankruptcy." (male participant, degree holder, age 50).*

Most participants revealed that the factors leading households not to enroll in the scheme were low household awareness of health insurance, interruption of OOP reimbursement, poor health care services in the contracted health facilities, and lack of money for contributions. Most of the respondents said that members failed to renew their membership due to dissatisfaction with the health services, a dislike of the referral system, and a lack of money to pay.

> *"... Reasons for some people not to enroll in the scheme are problems with health service delivery, a lack of OOP reimbursements, the assumption that certain households are self-sufficient or have health care in private hospitals because they are wealthy, an inability to pay higher contributions, and a lack of awareness about the CBHI." (male participant, degree holder, age 33).*

Theme 2: Community-related factors

Category 1: Low awareness of health insurance

Most of the participants revealed that the community's awareness of health was very low.

> *"The community's attitude towards health is low, especially when they come to treatment, leave their medicine at home, and return to the health facility. For example, if a person suffers from joint pain and is prescribed oral medication, he or she should take this medication and leave it at home. Then they say that I am not feeling well and I should be given medication by injection." (male participant, diploma holder, age 36).*

Category 2: Fraud and moral hazard related to beneficiaries

All respondents said that CBHI members needed to pursue unnecessary medical care in the contracted facility. Most of the participants said that the facilitating factors for CBHI scheme bankruptcies were frauds and moral hazards experienced by members, like giving identification cards to non-members, taking drugs for non-insured family members, selling drugs to private pharmacies, and using forged receipts for OOP reimbursement.

> *"Health insurance members tend to seek unnecessary treatment, claiming that their eligibility will end up unused in November and December. In some cases, they provide an identification card for a non-member to receive treatment. For example, at Tagel Health Centre, a person was found trying to take drugs by telling the staff about his non-member brother's illness. The other female member comes to Merawi Health Centre with her mother's (not CBHI member) symptoms and has been found while taking medication for signs of her mother's illness." (male participant, degree holder, age 34).*

Category 3: Increased health service utilization

The CBHI scheme has a contractual agreement with 13 health centers and two hospitals. All respondents said that with the implementation of the CBHI program, the rate of health service utilization had improved significantly. All participants said that community health-seeking behavior and visits to health facilities, especially by CBHI members, increased, which incurred a high cost to the CBHI schemes, leading to insolvency.

> *"Yes, since the start of CBHI, more patients have been visiting our hospital daily. The main reason for this is that members come to the hospital when they are sick; they do not have to pay for medical expenses, so they want to come and be treated even without having an illness. Frequent use of health services will result in high costs for the health insurance schemes." (male participant, diploma holder, age 38).*

Theme 3: Contract facility-related factors

Category 1: Shortage of drugs and laboratory services

All respondents agreed that the low availability of drugs, laboratory tests, and other health services in the contracted health facilities were the facilitators of the scheme's bankruptcy. The respondent states that this was due to different factors like drugs not being found in the market, an untimely refund from the CBHI scheme, a lack of budget allocated to medical supply, an inability to avail the supply agency, and a rise in the cost of medical supplies due to the shortage.

> *"The total budget allocated to the health center is low, the budget allocated to medical supply is low or may not be allocated occasionally, and there are few drugs available in pharmaceutical supply agencies and very high costs when buying from a private supplier. The other causes are not timely reimbursements from the CBHI scheme for health service utilization claim fees." (male participant, degree holder, age 44).*

Category 2: increased cost of medical supplies and healthcare services in contract health facilities

All participants said that the price of medical supplies and healthcare services increased compared with the previous time. Most participants also revealed that the increase in the cost of drugs and healthcare services was the main reason for the CBHI scheme's insolvency.

> *"The cost of drugs has increased, and the health insurance contributions collected from members will not cover the cost of health services. Currently, the costs of healthcare are increasing at health facilities. For example, the user fees in Tibebe Gion Specialized Hospital for an ICU bed per day are 318 birr." (female participant, degree holder, age 30).*

Category 3: Referral system

The current referral system for CBHI members states that, except for emergencies and patients who have an appointment, all members should initially visit the health center. Some respondents revealed that due to schemes not reimbursing our fees timely, there is a tendency to give a referral for patients treated at the health center level.

> *"Unless there is an emergency or an appointment, health insurance members should have a referral to a hospital. However, for patients who can be treated at the health center level, due to the lack of timely reimbursement of member fees for our health center, we are referring directly to the*

hospital." (male participant, degree holder, age 40).

Category 4: Fraud and moral hazard related to providers

Study participants agreed that fraud, such as treating non-members, filling non-member claims, coding with private pharmacies, and unnecessary referrals, were factors in the CBHI scheme’s bankruptcy. Most participants mentioned that some health care providers had medications prescribed for non-members, more likely for admitted patients, treating non-members as members and requesting unnecessary laboratory tests.

> *"... Sometimes, there is a tendency for others to use the medications prescribed by CBHI members in the inpatient department. This, too, is a virtue. Because I think people who do not have money are left untreated." (male participant, degree holder, age 39).*

Theme 4: Health insurance scheme-related factors

Category 1: Poor medical audit systems

The respondents stated that the scheme's clinical auditor conducts a medical audit every quarter by taking a sample from requested claims. Most of the respondents said that there is no action taken depending on clinical audit findings, in spite of the auditor sending feedback to the health facility.

> *"The health insurance scheme has a clinical auditor. Every three months, they audit the service by taking a sample of 10 cards from each month for a total of 30 patient cards quarterly." (male participant, degree holder, age 43).*

Category 2: Delay in reimbursement of health service fees for contracted facilities

Most participants agreed that the CBHI scheme was delayed in reimbursing the fee for health services given to community-based health insurance members and was the precipitating factor for the scheme’s insolvency. Health facility respondents stated that the fees for health services for CBHI beneficiaries were not reimbursed for the last year. Most respondents said that this was also a factor in the shortage of drugs and supplies in contracted facilities.

> *"The health service utilization payment has been delayed for a year due to a lack of funds in the health insurance scheme." (male participant, diploma holder, age 28).*

Category 3: Structure of the CBHI scheme

Most respondents mentioned that the structure of the CBHI Scheme, with no split between purchaser and provider, was the facilitating factor for the scheme's bankruptcy. Most respondents revealed that the CBHI board was not fully supporting the schemes. On the contrary, there was a respondent the board supported during the membership mobilization period.

> *"The CBHI Scheme's structure is also a factor in its insolvency. Because the purchaser and provider are not separated." (male participant, degree holder, age 54).*

Discussion

This study aimed to explore the facilitators of CBHI scheme bankruptcy in the North Mecha district. The study participants discussed potential facilitators of CBHI scheme bankruptcy that need to be given due attention to the financial sustainability of the CBHI schemes. Low rate of contribution, too many benefit packages, low community awareness, fraud, and moral hazard, low general subsidies, shortage of drugs and laboratory services, no timely reimbursement of the fee for health facilities, the structure of the CBHI scheme, increased health service and drug costs, and a poor medical audit system were related factors with CBHI bankruptcy.

The growth of net enrollment was not significant, even though it was below the criteria for scheme formation stated in the CBHI directives. The drop-out rate was very high as compared with the other studies, signaling the possibility of adverse selection. The current study identifies that the major reasons for high drop-out and not being newly enrolled were lack of money and poor health service quality in a contracted health facility, which is consistent with previous studies (23, 28-30).In this finding, low contribution rates and not properly collecting contributions from extra families were stated as the key facilitators for scheme bankruptcy. This might be due to the kebele cash collectors being unable to receive according to a bylaw since they were not well educated, and the family heads also reduced the child’s age. The study was consistent with the study, which revealed that the number of contributions collected from members was too low to cover the medical expenses (31, 32).

The referral mechanism was also identified as a motive for bankruptcy. The referral mechanisms require only members to visit the health center first, which hinders them from registering in the scheme. On the other hand, findings show that patients were referred directly from a health center to a tertiary hospital, resulting in a high cost for the scheme since the cost of tertiary-level care for diagnostic and consultation fees was higher than in primary hospitals (33, 34). Fraud and moral hazards of the demand side were also facilitators for insolvency, such as frequent visits, giving ID for non-members, seeking treatment for other people by complaining about their symptoms, and selling drugs to private pharmacies. Members of CBHI also tend to collect more drugs by going to other facilities and coming to the service provision area just after putting the drugs in their homes, which is consistent with other study's findings on demand-side fraud (35).

The medical audit system was also stated as facilitating bankruptcy. According to the Ethiopian Health Insurance Service health facilities' Medical Audit System manual, all nominated members should be taken off a claim list and perform a 100% audit. However, it was discovered that the current clinical audit system required 30 patient cards to be sampled per quarter in order to pay the health service utilization fee (36). The other motive for the scheme's bankruptcy was the scheme structure. The current structure is the health service provider and the buyer (health insurance and Health Office/health institutions) together; and would not be taken action in findings of clinical audits, frauds, and misuses (20, 32). Since the beginning of health insurance, regular visits to community health facilities have increased, which has resulted in the inability of a CBHI scheme to cover the cost of members' medical services fees, consistent with the studies reported financial sustainability of CBHI in Ethiopia (37, 38).

This study also explored that too many benefit packages and low community awareness facilitators of bankruptcy. This was supported by the study, which reported that lack of knowledge and understanding of insurance principles and CBHI, stringent rules of some CBHI schemes, lack of adequate legal and policy framework in support of CBHI, and inappropriate benefit packages were barriers to renewal and enrolment that leads to scheme bankruptcy (19, 39). Another stated factor for the bankruptcy of health insurance was the delay in reimbursement of health facilities' health service utilization fees. Although the health insurance scheme agreed to pay members' medical expenses to the health facilities on a quarterly basis, there was a delay in reimbursement for up to one year due to a lack of money, which affected CBHI's bankruptcy (12, 40).

Conclusion

The study explored that low membership rates, too many benefit packages, low contribution amounts, fraud and moral hazards on the demand and supply sides, low availability of drugs and laboratory services, OOP reimbursement, low subsidies, poor medical audit system, delays in reimbursement, a referral system to higher health care level, increased cost of medical supply and health care services, low community awareness, and increased health service utilization were identified as facilitating factors for scheme bankruptcy. Therefore, by investing in awareness campaigns and education initiatives to inform communities about the benefits of health insurance and encouraging higher enrollment rates, policymakers and relevant bodies can work towards ensuring the financial sustainability of health insurance schemes and enhancing the capacity of members to contribute to membership, ultimately supporting the goal of universal health coverage.

Abbreviations/Acronyms

WHO-(World Health Organization), , OPP (Out-of-pocket payments), and UHC (Universal Health Coverage) SSA (Sub-Saharan Africa), SHI (Social Health Insurance), CBHI Community Based Health Insurance), HSTP Health Sector Transformation Plan), Goes'-Government of Ethiopia, ARHB—Amhara Regional Health Bureau, SNNPR- Southern Nation Nationalities People Region, ETB-Ethiopian Birr, USD-United States Dollar, HCF—Health Care Financing, EHIA—Ethiopian Health Insurance Agency, OPD-Out Patient Department, EFY-Ethiopian Fiscal Year, HC—Health Centre; KII—Key Informant Interview.

Acknowledgment

We would also like to acknowledge Bahir-Dar University, the College of Medicine and Health Science, and the School of Public Health for giving us a chance to develop this research. We want to extend our thanks to all of the key informant interviewee participants who agreed to sit down with us and offer their perspectives and knowledge of the community-based health insurance program.

Competing interests

The authors declare that they have no competing interests.

Ethical Statement

The ethical clearance was taken from the ethical clearance committee review board of Bahir-Dar University College of Medicine and Health Sciences (Reference number: MD/2949/2.4). All study participants were well informed about the purpose of the study, and informed verbal consent to participate and use of a tape recorder during data collection was secured from the study participants prior to the interview. Participants had also been informed that participation was voluntary and they could leave the study at any time if they were not comfortable with the questionnaire. This study was conducted in accordance with the Declaration of Helsinki.

Availability of supporting data

The datasets used and analyzed during the current study are available from the corresponding author upon reasonable request.

Funding

No funding

Reference

1. Shigute Z, Mebratie AD, Sparrow R, Alemu G, Bedi AS. The effect of Ethiopia's community-based health insurance scheme on revenues and quality of care. . 2020;17(22):8558.
2. Reid E, Ghoshal A, Khalil A, Jiang J, Normand C, Brackett A, et al. Out-of-pocket costs near end of life in low-and middle-income countries: A systematic review. 2022;2(1):e0000005.
3. Roy P, Sarkar AK. Community-Based Health Insurance Schemes (CBHIs) in health care financing: review of experiences of the Asian and African economies. 2018;7(3):63-8.
4. World Health Organization, World health statistics overview 2019: monitoring health for the SDGs, sustainable development goals.

5. Workneh SG, Biks GA, Woreta SA. Community-based health insurance and communities' scheme requirement compliance in Thehuldere district, northeast Ethiopia: cross-sectional community-based study. 2017:353-9.
6. Hsiao WC, Yip W. Financing and provision of healthcare for two billion people in low-income nations: Is the cooperative healthcare model a solution? 2023:115730.
7. Soofi M, Rashidian A, Aabolhasani F, Sari AA, Bazyar M. Measuring the Exposure of Households to Catastrophic Healthcare Expenditures in Iran in 2001: the World Health Organization and the World Bank's Approach. 2013;12(2).
8. Kakama AA, Namyalo PK, Basaza RK. Feasibility and desirability of scaling up community–based health insurance (CBHI) in rural communities in Uganda: lessons from Kisiizi hospital CBHI scheme. 2020;20(1):1-9.
9. Wood A. Patronage, partnership, voluntarism: Community-based health insurance and the improvisation of universal health coverage in Senegal. 2023;319:115491.
10. Ghimire S, Ghimire S, Khanal P, Sagtani RA, Paudel S. Factors affecting health insurance utilization among insured population: evidence from health insurance program of Bhaktapur district of Nepal. . 2023;23(1):159.
11. WOLDIE M, YITBAREK K, D DINSA G. Resource Mobilisation and Allocation for Primary Health Care: Lessons from the Ethiopian Health System. 2022.
12. World Health Organization, Health financing progress matrix assessment: Ethiopia 2022: summary of findings and recommendations. 2023.
13. Hailu A, Gebreyes R, Norheim OF. Equity in public health spending in Ethiopia: a benefit incidence analysis. 2021;36(Supplement_1):i4-i13.
14. Alemayehu YK, Dessie E, Medhin G, Birhanu N, Hotchkiss DR, Teklu AM, et al. The impact of community-based health insurance on health service utilization and financial risk protection in Ethiopia. 2023;23(1):67.
15. Deksisa A, Abdo M, Mohamed E, Tolesa D, Garoma S, Zewdie A, et al. Willingness of community based health insurance uptake and associated factors among urban residents of Oromia regional state, Oromia, Ethiopia, a cross-sectional study. 2020;20:1-12.
16. Mebratie A, Sparrow R, Debebe ZY, Abebaw D, Alemu G, Bedi AS. The impact of Ethiopia's pilot community based health insurance scheme on healthcare utilization and cost of care. 2014;593:1-46.
17. Benjamin J, Haile M, Abebe Z. Community-Based health insurance program in Ethiopia: assessing institutional and financial sustainability. 2018.
18. Sahoo PM, Rout HS, Jakovljevic M. Consequences of India's population aging to its healthcare financing and provision. 2023;26(1):308-15.
19. Fadlallah R, El-Jardali F, Hemadi N, Morsi RZ, Abou Samra CA, Ahmad A, et al. Barriers and facilitators to implementation, uptake and sustainability of community-based health insurance schemes in low-and middle-income countries: a systematic review. 2018;17(1):1-18.
20. World Health Organization, Community based health insurance schemes in developing countries: facts, problems and perspectives. World Health Organization; 2003.
21. Tenpers B. Wealth, Health Insurance Schemes and Access to Healthcare. 2023.
22. Shaikh BT, Ali N. Universal health coverage in Pakistan: is the health system geared up to take on the challenge? 2023;19(1):4.
23. AMHARA regional health bureau nine month community based health insurance report, 2021.
24. Fadlallah R, El-Jardali F, Hemadi N, Morsi RZ, Abou Samra CA, Ahmad A, et al. Barriers and facilitators to implementation, uptake and sustainability of community-based health insurance schemes in low-and middle-income countries: a systematic review. 2018;17(1):1-18.
25. Vidal-Meliá C, Ventura-Marco M, Perez-Salamero Gonzalez JM. Social insurance accounting for a notional defined contribution scheme combining retirement and long-term care benefits. 2018;10(8):2832.
26. Mirach TH, Demissie GD, Biks GA. Determinants of community-based health insurance implementation in west Gojjam zone, Northwest Ethiopia: a community based cross sectional study design. 2019;19(1):1-8.
27. Mahoney N. Bankruptcy as implicit health insurance. 2015;105(2):710-46.
28. Eseta WA, Lemma TD, Geta ET. Magnitude and determinants of drop-out from community-based health insurance among households in Manna District, Jimma Zone, Southwest Ethiopia. 2020:747-60.
29. Demissie GD, Atnafu AJC, Research O. Barriers and facilitators of community-based health insurance membership in rural Amhara Region, Northwest Ethiopia: a qualitative study. 2021:343-8.
30. Panda P, Dror I, Koehlmoos TP, Hossain SS, John D, Khan J, et al. What Factors Affect Uptake of Voluntary and Community-Based Health Insurance Schemes in Low-and Middle-Income Countries? A Systematic Review. EPPI-Centre. 2016.
31. Temu AA. Perception of Beneficiaries and Non-Beneficiaries on Community Health Fund as a Sustainable Family Health Insurance in Chunya District: The Open University of Tanzania; 2019.
32. Demissie GD, Atnafu A. Barriers and facilitators of community-based health insurance membership in rural Amhara

Region, Northwest Ethiopia: a qualitative study. 2021:343-8.

33. Abenet LA, Alemu BA, Alamirew M. The impact of community based health insurance scheme on health care utilization in North Achefer Woreda, West Gojjam zone, Amhara region. Ethiopia; 2018.
34. Amhara regional health bearue: Amhara Region Public health facility Health Service fees. 2004.
35. Ayana ID. Investigation of Moral Hazard Deportments in community-based health insurance in Guto Gida District, Western Ethiopia: a qualitative study. 2020:733-46.
36. Ethiopian health insurance agency: Medical Audit Manual. 2021.
37. Hussien M, Azage M. Barriers and facilitators of community-based health insurance policy renewal in low-and middle-income countries: a systematic review. 2021:359-75.
38. Mebratie A. Essays on evaluating a community based health insurance scheme in rural Ethiopia2015.
39. Hossain SS, Khan JA. What factors affect uptake of voluntary and community-based health insurance schemes in low-and middle-income countries? A systematic review.
40. Carrin G. Community based health insurance schemes in developing countries: facts, problems and perspectives. Community based health insurance schemes in developing countries: facts, problems and perspectives2003. p. 42-.