



Assessment of the Effect of Community-Based Health Insurance Scheme on Health-Related Outcomes in Ethiopia: A Systematic Review

Abraham Gebrehiwot Yihdego^{1,2}, *Maryam Tajvar*², **Ali Akbari Sari*²

1. Department of Economics, Aksum University, Axum, Tigray, Ethiopia

2. Department of Health Management, Policy and Economics, School of Public Health, Tebran University of Medical Sciences, Tebran, Iran

*Corresponding Author: Email: akbarisari@tums.ac.ir

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Abstract

Background: We aimed to review the effect of community-based health insurance on health-related outcomes in Ethiopia.

Methods: A systematic review was undertaken utilizing a major relevant published literature review from September 2017 to June 15, 2023. PubMed, Scopus, Web of Science, Science Direct, Google Scholar, Semantic Scholar, EMBASE, ProQuest, Hinari, and the Cochrane Library were used to search for relevant literature. Moreover, the Prisma flow model was used to select eligible findings.

Results: Overall, 72% of the articles employed cross-sectional comparative study designs and procedures, and 36% of them employed samples ranging in size from 501 to 1000 participants. Furthermore, 76% were studied using descriptive statistics and logistic regression, whereas fewer utilized a random model, a probity model, or a correlation model. Similarly, 32% of the research used two-stage stratified sampling methods, and around 40% of the data revealed that the scheme increased healthcare utilization services. About 72 % of the reviewed study results showed that the scheme reduced catastrophic health expenditure and increases utilization of healthcare services. And the 20% reviewed studies stated that the CBHI boosts household satisfaction level. Moreover 12% of the reviewed studies stated that, CBHI increased QoL (quality of life).

Conclusion: Most of the studies provide evidence of the positive effect of CBHI in Ethiopia. Mainly, its membership improved the utilization of health services and decreased the incidence of catastrophic health expenditures. Thus, all actors should cooperate to strengthen it to solve the effective attribute of the deprived value of health care and continuity of care delivery system related to the country's new policy.

Keywords: Community-based health insurance scheme; Health-related outcomes; Systematic review; Ethiopia

Introduction

Health insurance positively affects the quality of life, which measures health interventions' impact on health-related conditions through medical supply availability and empowering women and

children in financial healthcare (1). Ethiopia ranks low compared to other low-income countries in terms of health-related indicators (2). She bears a high burden of preventable communica-



ble diseases. According to the country's Ministry of Health (2015) report, the top three leading causes of mortality were malaria, pneumonia, and respiratory tract diseases (1, 3, 4). Despite this high burden, utilization of modern healthcare services is limited (3). One of the reasons for the low utilization of healthcare services is the direct user fee charge (5). CBHI is a new method of protecting low-income people's money against medical disasters. It is becoming increasingly popular as a technique for improving access to primary care for the poor, particularly informal sector.

Health care is too expensive for individuals living in developing nations (6) and millions of its people continue to suffer and die as a result of health-related problems (6-8). To reduce the direct costs of healthcare, a health insurance program should be implemented (9).

CBHI has emerged as an alternative to out-of-pocket healthcare expenditures in low- and middle-income countries (10). Six African countries (Rwanda, Tanzania, Mali, Ghana, Senegal, and Ethiopia) are presently pursuing UHC through CBHI (11, 12). CBHIs promote equity in the healthcare sector by reaching out to those who do not have access to financial protection against healthcare costs. However, implementation-related difficulties lead many schemes to underperform (13).

CBHI schemes are being implemented in African countries as a crucial risk-mitigation program, aiming to help them transition to universal health care, making them a significant step towards achieving national health insurance coverage (14, 15). The CBHI scheme in sub-Saharan Africa has shown promise in improving healthcare access; however, enrollment and renewal rates remain low (15, 16). CBHI households have higher yearly outpatient visits and are 70% more likely to seek treatment compared to non-CBHI households, while they have lower total yearly out-of-pocket payments at the point of use (17, 18).

Ethiopia's CBHI enrollment coverage varies by region, with factors influencing family enrollment decisions, but no pooled research exists to in-

form decision-making on this issue (19, 20). Thus, we aimed to assess the effect of the CBHI scheme on health-related outcomes in Ethiopia.

Methods

We searched studies reporting the effect of community-based health insurance schemes on health-related outcomes in Ethiopia that were published between October 2017 and June 2023. This period is chosen because the present CBHI plan, health-related results, and up-to-date information are necessary to explain and satisfy the review article's objective. To collect the data/findings the researchers use databases such as PubMed, Scopus, Web of Science, Science Direct, Google Scholar, Semantic Scholar, EM-BASE, ProQuest, Hinari, and the Cochrane Library, with supplementary hand searching of references. The online databases contain archives of most English biomedical journals. Scientific papers published online by the Centre for Disease Control and the WHO with the keywords "community-based", "community-based health insurance scheme", "Health insurance", "health-related outcomes", "utilization of healthcare services", "catastrophic health expenditure" and "Ethiopia" were also included in this analysis.

We used the Effective Public Health Practice Project Quality Assessment Tool (EPHPP) to grade the quality of the quantitative studies in this review (EPHPP, 2023). Each of the components was given one of three strength ratings: strong, moderate, or weak, which were then put together to establish the total product quality. The papers rated weak are excluded from the review. The quality was assessed by three reviewers and disputes were resolved through dialogue.

Data collection and selection stages

The study team found over 500 publications and reviewed each article's title, summary, and whole body for relevance and appropriateness. A total of 25 papers were determined to be eligible (Fig. 1).

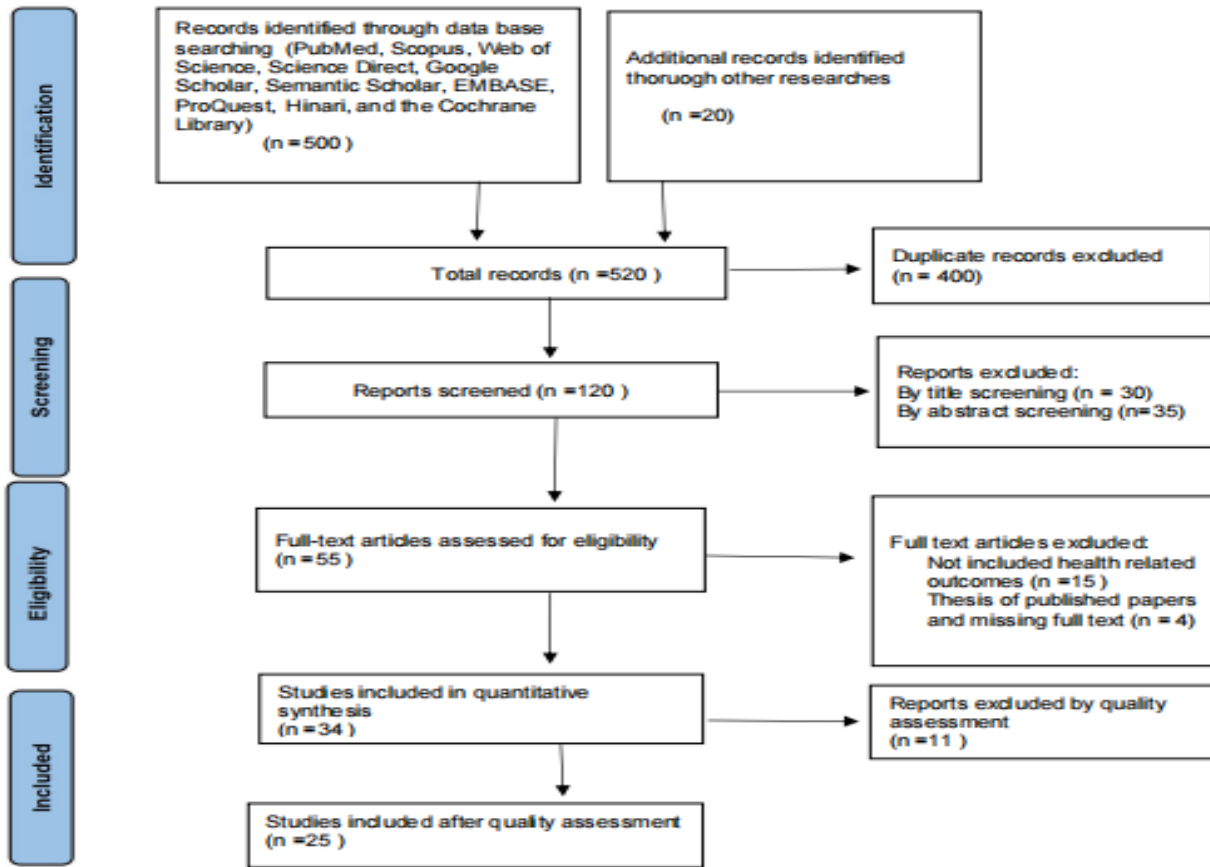


Fig. 1: PRISMA Flow Diagram (21)

Inclusion and Exclusion Criteria

We opted to include papers in the review based on criteria such as relevant key instruments to collect raw data, such as media and other information, on the effect of the CBHI scheme on health-related outcomes in Ethiopia. All quantitative and qualitative full papers published from October 2017 to June 2023 and written in English are included. Studies that did not meet these criteria, such as all abstracts, case reports, conference reports, articles without full text, studies with incomplete data and published thesis papers were excluded from the study.

Results

Overview of CBHI in Ethiopia

The Ethiopian government has been striving to develop CBHI for the informal sector to achieve

UHC (18). Thirteen rural districts in the country's four major regions were the first to implement the plan, and the scale-up began in 2015 (22, 23). In just one year, the country's CBHI adoption rate increased to 41% (24, 25). Ethiopia rates low in terms of access to modern healthcare and a range of other health metrics, and the majority of the nation's high illness burden is caused by avoidable ailments and diseases (26, 27). Despite the effort, current healthcare services remain underutilized. To be effective, more than 80% of families in rural Ethiopian woredas' must be covered by CBHI (26, 27).

Key findings from the Reviewed literature

Table 1 shows that out of 25 reviewed studies, 8 (32%) reviewed papers answered the question by assessing the impact of CBHI on health services utilization (6, 20, 28-33). The majority of 18

(72%) of the reviewed studies were conducted using cross-sectional comparative study design and methods to address the research questions (1, 7, 20, 28-42). Five (20%) of the reviewed studies used community-based cross-sectional study design and methods (36, 38, 41, 43, 44). The remaining 3 (12%) are qualitative study design (45-47) and quantitative research design and methods (39, 43, 48). However, only one (4%) of the re-

viewed studies used a data-layered, structured-based survey study (37).

Fig. 2 indicated that the majority 9 (36%) of reviewed studies conducted their research using a sample size between 501 and 1000 participants (28, 32, 34, 37, 38, 41, 42, 44, 48). Followed by 8 (32%) were sample sizes between 201 and 500 participants (7, 20, 29, 30, 39, 40, 43, 46).

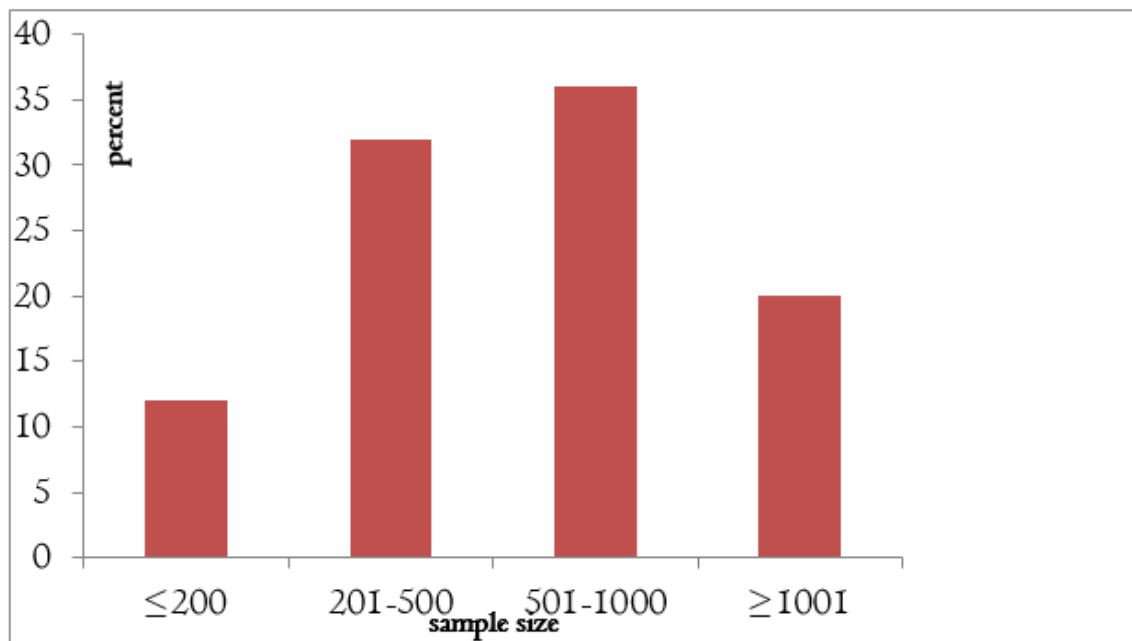


Fig. 2: the percentage of the sample size used to address research questions among 25 examined papers in Ethiopia (2017–2023)

Regarding study setting as shown in Table 1, the majority (32%) of the reviewed studies were conducted at the national level of the country. Followed by 4 (16%) conducted in SNNPR and 3 (12%) were in Addis Ababa, Ethiopia. Two (8%) of the reviewed studies were also conducted in Thehuderred District, North East, Ethiopia. and two (8%) were conducted in Chilga District,

Amhara Regional State, Ethiopia. The remaining were conducted in Kutaber district, Yirgalem town, Southern, Sheku district, South West, Ethiopia, Arsi-Negle woreda health centre, Akaki District, Oromia Special Zone, Oromia, Ethiopia and Yirga Chafe district, Gedeo zone, Southern Ethiopia.

Table 1: Characteristics of the individual included studies, Ethiopia (n = 25), 2023.

<i>Author name Published year</i>	<i>Aim of the study</i>	<i>Study design</i>	<i>Sample size</i>	<i>Study setting</i>	<i>The model used for analysis</i>	<i>Purpose of Model</i>
Bayked et al., 2023(6)	To evaluate the impact of Ethiopia's CBHI	Systematic review	23 studies	Ethiopia	Random Model	To measure the effect of estimates
Alemayehu et al., 2023a(33)	To assess Health services utilization and financial risk protection	Comparative cross-sectional	4301 Households	Ethiopia	Logistic regression Model	To measure financial risk protection and Health Services Utilization
Asfaw et al., 2022a(41)	investigates the household welfare impact of CBHI	Cross-sectional	531 households	Chilga District, Amhara Regional State, Central Gondar Zone, Ethiopia	Probit and propensity score matching (PSM)	To measure the impact of CBHI on welfare
Mulat et al., 2022(45)	To identify early achievements in scaling up CBHI	Qualitative design	18 Key informants	Ethiopia	NA	NA
Kassa, 2023(30)	to evaluate the impact of CBHI on CHE	Comparative cross-sectional study	472 households	Kutaber district, Ethiopia.	A probit regression mode	To identify co-variants that affected CBHI scheme participation.
Addise et al., 2021 (42)	To assess the magnitude of satisfaction and associated factors	Community based cross-sectional study	627 households	Nilemo District, Hadiya Zone, Southern Ethiopia	Bivariate and multivariate logistic regression	to determine associations
Moyehodie et al., 2022a(28)	To identify factors associated with CBHI, Health Care Service Utilization	community-based cross-sectional study	619 households	Gonder town, Amhara, Ethiopia	binary logistic regression analyses	To determine association
Demissie and Gutema, 2020 (20)	To analyze the effects of a CBHI on healthcare	comparative cross-sectional	405 household heads	Yirgalem town, southern Ethiopia.	Multivariate logistic regression	To identify the effect of HRQoL
Gebru and Lentiro, 2018(1)	to measure the impact of CBHI on HRQoL	comparative community-based cross-sectional	1964 Households	SNNPR	linear regression analysis	To describe the functional predictors of health-related QoL.
Christian, 2017(47)	To establish the impact of the public health project on CBHI performance	Qualitative	45 staff working for CBHI	Ethiopia	NA	Na
Moyehodie et al., 2022b(51)	To identify the individual and community-level factors associated with CBHI enrollment	EDHS	8663 Households nested and 305 community	nationally representative, Ethiopia	NA	NA
Gashaw, 2020(7)	To assess the level of household satisfaction in CBHI	Cross-sectional (Quantitative)	336 CBHI beneficiaries	Addis Ababa, Ethiopia	NA	NA
Abdilwohab et al., 2021(40)	To establish the impact of the public health project on CBHI performance	A community-based cross-sectional	386 HHs	Addis Ababa	Na	NA
Shigute et al., 2020(35)	To measure the impact of CBHI on Health-related quality of life	Comparative community-based cross-sectional	1964 HHs	Southern Ethiopia	NA	NA
Atinafu et al., 2018 (32)	To compare differences in health care utilization between CBHI member and non-member households	Comparative community-based cross-sectional	652 (326 insured and 326 uninsured)	North-west, Ethiopia	NA	NA

Table 1: Continued ...

Workneh and Woreta, 2017(34)	To assess the compliance of the community to the CBHI scheme	A community-based cross-sectional	511 respondents	The hudere district, Northwest, Ethiopia	Bivariate and Multivariate logistic regression models	To find associated factors with the outcome variables
Mekonen et al., 2018 (29)	investigated the effect of CBHI on catastrophic health expenditure	A community-based cross-sectional	454 (224 insured and 230 uninsured)	Northeast Ethiopia	A Multi stage sampling technique and propensity score matching	To determine the effect of CBHI on catastrophic health expenditure.
Jembere, 2018(31)	To examine access, use and quality of services after the introduction of the scheme in Ethiopia	Cross-sectional	344 head of HHs	Thehudere district, Northwest, Ethiopia	Statistical test T-test and ANOVA model Pearson correlation	To examine group differences and see the relationship
Mitiku Kebede and Geberetsadik, 2019(37)	to assess the level of household satisfaction with the CBHI scheme and associated factors	Cross-sectional study	528 households	Sheko district; southwest Ethiopia.	logistic regression analyses	To determine the independent predictors of household's satisfaction with CBHI
Fufa et al., 2021(39)	to assess the satisfaction level of the Community for health insurance	A facility-based cross-sectional	399 patients	Arsi Nagele Woreda Health Centres	logistic regression	To identify determinant factors the satisfaction of CBHI client on the public health service
Geferso and Sharo, 2022(48)	to determine community-based health insurance utilization and its associated factors among rural households	A quantitative community-based cross-sectional	600 households	Akaki District, Oromia special zone surrounding Finfinnee, Oromia, Ethiopia	A binary logistic regression model	to identify the factors associated with CBHI utilization
Bantie and Zewdie, 2020(43)	to determine knowledge and attitude levels towards CBHI	community-based cross-sectional	335 informal workers.	Bahir Dar City	Logistic regression analysis	To identify potential associations between the study variables.
Kaso et al., 2022 (44)	assessed the CBHI membership renewal rate	community-based cross-sectional	537 respondents	Yirga Chafe district, Gedeo zone, Southern Ethiopia	logistic regression model	determine factors associated with the CBHI scheme
Girmay and Reta, 2022(38)	To assess CBHI services usage and related factors	Community-based cross-sectional	652 participants	Gulele Subcity	Logistic regression model	To find associated factors
Mussa et al., 2021(53)	To examine CBHI enrollment	Cross-sectional	5398 PSMP beneficiary households	Ethiopia	Logistics regression model	To identify factors associated with households' CBHI enrollment decisions

Table 2 shows that the majority of 8 studies (32%) of reviewed studies used two-stage stratified sampling techniques (1, 7, 28, 33, 34, 40, 47, 49, 50). Followed by 5 (20%) who used multi-stage sampling techniques (6, 20, 30, 31, 48, 51) and Five (20%) were using simple random sampling (33, 36, 37, 41, 44, 51, 52), four (16%) were purposive sampling techniques (20, 39, 42, 45) and 2 (8%) were systematic sampling techniques technique (38, 43), and 1(4) is mixed method (46).

Most (76%) of the reviewed studies were analyzed by using descriptive statistics and logistic regression (1, 7, 20, 28-30, 33, 34, 38-40, 42-44, 47, 48, 51, 53, 54). Followed by 3(12%) who used descriptive statistics and an econometric analysis

approach (32, 41, 52) and 3(12%) qualitative and descriptive statistics (6, 45, 46).

Majority 10(40%) of the reviewed study results showed that the scheme increases utilization of healthcare services (6, 20, 28, 31-33, 38, 41, 45, 48). Followed by, 7(32%) of the reviewed studies result showed the CBHI scheme reduced catastrophic health expenditure (1, 6, 20, 29, 32, 34, 47, 54). Followed by 5 (20%) reviewed studies stated that the CBHI boosts household satisfaction level (7, 37, 39, 40, 42). Three (12%) of the reviewed studies also showed that utilizing the CBHI services is strongly required to assure quality health care or increase QoL(quality of life) (1, 46, 55). and the last 12 % of the reviewed researches talked about the benefits of CBHI on

community management and other resource utilization practices.

Regarding to the gap, the CBHI system provided 45.6% of UHC while reducing yearly OOP expenditures by 28–43% (33, 56). In a given matching algorithm, insured households associated with visits increased by 2.6 times, per-capita health expenditure decreased by 17–14% points, per-capita consumption of non-food items increased by 12–14% points, and per-capita consumption of food items decreased by 12–13% points (41). CBHI had significant government

support, and early pilots aided in understanding the scaling-up process (45). Outpatient department (OPD) visits per capita were 2.09 among CBHI member families, 1.53 among non-member CBHI woreda households, and 1.75 among non-CBHI woreda households (30).

When compared to uninsured family heads, QoL increased by 12.4% among CBHI-insured household heads (7). Healthcare use rates vary considerably between insured (50.5%) and uninsured (29.3%). 77.9% of the study population satisfied CBHI requirements (1, 57).

Table 2: The sampling technique, data collection, analysis, and key relevant results Ethiopia (n = 25), 2023.

<i>Author name Published year</i>	<i>Sampling technique</i>	<i>Data collection Instruments</i>	<i>Method of Analysis</i>	<i>Key relevant results</i>
Bayked etal., 2023(6)	A multistage sampling technique.	Joana Briggs Institute checklists to assess the risk of bias	Descriptive statistics by using Microsoft Excel and Rev Man-5	The UHC provided by the scheme was 45.6%
Alemayehu etal, 2023a(33)	A multistage sampling technique.	Propensity score matching (PSM) accounts for possible selection bias	Descriptive statistics and Logistic regression (Bivariate and Multivariable)	CBHI membership resulted in a 28-43% reduction in annual OOP payment as compared to non-member households
Asfaw etal, 2022(41)	A multistage sampling technique.	The primary data was also collected from observation and key informant interviews Secondary data: published and unpublished documents	Descriptive statistical Econometric analysis approach	The insured households associated with visits increased by 2.6 times, reduced per-capita health expenditure
Mulat etal, 2022(45)	Purposive sampling technique	Semi-structured interview guide	directed content analysis (also called deductive content analysis)	CBHI received strong political support and early pilots helped to inform the process of scaling up the scheme.
Kassa, 2023(30)	multistage sampling techniques	Household survey questionnaire	propensity score matching analysis: Descriptive and logistic regression	The magnitude of CHE was 39.1% with total household expenditure and 1.8% with non-food expenditure measures among insured households.
Addise etal., 2021(42)	stratified sampling and systematic sampling	pre-tested structured questionnaire.	Descriptive statistics, bivariate, and multivariate logistic regression	The magnitude of household heads' satisfaction was 54.1%.
Moyehodie etal, 2022a (28)	Simple random sampling	Survey	Chi-square and bi-variate logistic analysis	Out of the total households, 511(82.6%) were using the CBHI scheme for health care service utilization
Demissie and Negara, 2020(20)	Randomly selected sample	Household survey, focus group discussions	Descriptive, multivariate and bi-variate logistic regression	The CBHI member households were about three times more likely to utilize outpatient care than their non-member counterparts
Gebru and Latino, 2018(1)	two-stage stratified sampling	World Health Organization QoL-BREF too	Descriptive statistics and logistic regression	QoL among CBHI-insured household heads increased by 12.41% than un-insured family heads
Christian, 2017(47)	Two-stage stratified sampling	Questionnaire and interview guide	Descriptive statistics and logistic regression	89% of respondents confirmed that the project helps a lot the CBHI staff to improve their level of CBHI management.
Moyehodie etal., 2022b(51)	Randomly selected sample	Ethiopian Mini Demographics and Health Survey 2019	Multilevel logistic regressions	The prevalence of CBHI enrollment in Ethiopia was 20%
Gashaw, 2020(7)	two-stage stratified sampling	Structured questionnaire	Descriptive statistics, bivariate and multivariate logistic regression	There was no significant association between socio-demographic characteristics and level of satisfaction of patients

Table 2: Continued ...

Abdilwohab, 2021(40)	Two-stage stratified sampling	Pe-tested structured questionnaires	Descriptive statistics and bivariate and multivariable linear regression	CBHI process and management-related factors were also significantly associated with satisfaction
Shigute 2020(35)	Randomly selected sample	World Health Organization QoL-BRIEF Tool	Descriptive summary, simple and multiple linear regression	QoL among CBHI-insured household heads increased by 12.4% than those noninsured family heads
Atinafu 2018(32)	Two-stage stratified sampling	Structure questionnaire	Descriptive summary, simple and multiple regression, X ² test	There was a significant difference in the rate of healthcare utilization between insured (50.5%) and uninsured (29.3%) households
Workeneh, 2017(34)	Two-stage stratified sampling	Self-Administered, structured, pre-tested questionnaire	Descriptive Bivariate and multivariate logistic regression	Appropriately 77.9% of the study population complied with CBHI requirements
Mokenen 2018 (29)	multistage random sampling	survey	Multivariate logistic regression and propensity score matching	The total level of catastrophic health expenditure was found to be 20%. Among the households with catastrophic health expenditure, 4.41% were insured, whereas the remaining 15.64% were non-insured.
Jembere, 2018(31)	Mixed method	Household survey, FGDs, key informant and in-depth interviews	Descriptive and qualitative	CBHI improve access and overall quality of health service
Mitiku Kebede, 2019(37)	Simple random sampling method	Pre-tested and structured questionnaire.	Descriptive statistics, bivariate and multivariable logistic regression analyses	About 45% of households in the Sheko zone in Ethiopia were not satisfied with the CBHI scheme.
Fufa etal., 2021(39)	Purposively Systematic random sampling	Pre-test structured questioners And semi-structured questioners	Descriptive statistics, bivariate and multivariable logistic regression analyses	Overall customer satisfaction with health services received from the selected health institutions was 63.4 %.
Geferso and sharo, 2022(48)	Multistage sampling design	A standardized and structured questionnaire	Descriptive, Bivariate and multivariate logistic regressions	The magnitude of CBHI utilization was 398 (66.3%)
Banitie etal, 2020(43)	Systematically	Structured face-to-face interviews using a newly developed and validated questionnaire.	Descriptive statistics, bivariate and multivariable logistic regression analyses	51% of them had good knowledge of CBHI, while 56% of participants had a favorable attitude towards CBHI.
Kaso, 2022 (44)	Simple random sampling technique	Structured questionnaire	Descriptive statistics and Multivariate logistic regression	The respondents' CBHI membership renewal rate was 82.68%.
Girmay and Reta, 2022(38)	Systematically	Face-to-face interview	Descriptive methods fitted binary logistic regression	60% of respondents utilize the CBHI services
Mussa etal., 2021(53)	Simple random sampling	Integrated safety nets programs baseline survey implemented	Binary logistic regression and multiple regression	Current CBHI enrollment is higher among PW households (70.1%) than PDS clients (50.3%)

Discussion

Ethiopia has seen significant improvements in health outcomes and economic growth over the past decade, yet its total health spending remains among the lowest in Africa (45). Ethiopia launched a CBHI strategy intending to cover 80% of districts and 80% of the population by 2020 (58).

The research indicates that few studies have examined the impact of CBHI on health service utilization, despite the importance of tailored designs and evidence-based implementation. The study found that only 4% of studies analyzed the effects of the CBHI scheme on healthcare utiliza-

tion, comparing differences in healthcare utilization between CBHI member households and non-member factors.

This review concluded that 84% of articles published from 2018–2023 and 16% in 2017 were evaluated. The majority of studies under review used appropriate methodologies and study designs, such as cross-sectional comparative studies, data-layered surveys, mixed cross-sectional studies with low and medium risk, community-based cross-sectional studies, qualitative study designs, and quantitative study designs. However, only 4% of the studies examined employed structured and layered data for their surveys, which revealed measurement bias. Omair (2015) argued that de-

scriptive studies are equivalent in that they are all based on a single sample and do not include a comparison group as part of the research design. This review of research found 36% used samples of 201 to 500 people and nearly all (88%) of the studies reviewed used samples of less than 1000 people for their study evaluations, but the sample size had to be large enough for the study to have appropriate statistical power to detect significant changes. Even if it is allowed, there may be practical and financial reasons for it.

We found that close to two-fifths of reviewed studies were conducted at the national level of the country (Ethiopia), and the remaining 86% were conducted in SNNPR, Addis Ababa, Thehudered District, North East, Chilga District, Amhara Regional State, Kutaber district, Yirgalem town, Sheku district, South West, Arsi-Negle woreda health centre, Akaki District, Oromia Special Zone, Oromia, Yirga Chafe district, Gedeo zone, Southern Ethiopia. This review study found that 40% of the evaluated research employed a logistic regression model to analyze its data, while some used no model at all. Additionally, the majority of the studies examined contained probity and propensity models. Mebratie et al classified the 48 schemes into three categories: 25 community-involved health insurance schemes operated by the government, 7 insurance programs initiated by healthcare professionals, and 16 community-based prepaid health clubs. Ethiopia's CBHI approach fits within category (25). The 2019 Ethiopian Mini-Demographic and Health Survey used face-to-face interviews, key informant advice, and structured questions. Only a small proportion of researchers used the WHO QoL BRIEF instrument, the Jana Briggs Institute checklist, propensity score matching (PSM), and the integrated safety net programs baseline survey.

About 72% of the study results showed that the scheme reduced catastrophic health expenditure and increases utilization of healthcare services. The 20% reviewed studies stated that the CBHI boosts household satisfaction level. The last 12% of the reviewed researches talked about the benefits of CBHI on community management, re-

source utilization practices and enrollment factors. Numerically, the CBHI system provided 45.6% of UHC while reducing yearly OOP expenditures by 28–43%, healthcare use rates vary considerably between insured (50.5%) and uninsured (29.3%), and QoL increased by 12.4%.

Conclusion

Most studies prove that Ethiopia's CBHI program significantly reduced beneficiaries' exposure to catastrophic health expenditure, improved their health status, and played a significant role in improving health-related QoL.

The government and associated organizations should increase public awareness of CBHI programs, improve their accessibility and coverage, and reduce the cost of premium services for the less fortunate. Depending on the level of risk sharing and the government's initiatives to boost domestic income, CBHI's financial stability will vary. To reach bigger and more stable population coverage, it is crucial to improve the quality of the healthcare system and pharmaceutical accessibility. New partners would boost the amount of funding available for CBHI expansion. A reliable information system, along with operational staff training, would improve CBHI performance and provide information to support decisions.

Journalism Ethics considerations

Ethical issues (Including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc.) have been completely observed by the authors.

Conflict of Interest

The authors declare that there is no conflict of interests.

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