

Research Article

Household Satisfaction with Community Health Insurance Scheme and Associated Factors in Adama Woreda, East Shewa Zone, Ethiopia

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Abstract

Understanding the level of satisfaction and factors associated with it is essential to ensure the sustainability of the community-based health insurance (CBHI) program. Therefore, this study aimed to assess household satisfaction with a community-based health insurance scheme and its associated factors in the Adama district. A community-based cross-sectional study was conducted in households of Adama district from February 15-30, 2023. The Systematic random sampling technique under multi-stage sampling was used to select study participants. A face-to-face interview with a total of 620 households was conducted by using a pre-tested structured questionnaire. Descriptive analysis, bivariable, and multivariable logistic regression analysis were conducted. Variables with p-value < 0.05 were considered statistically significant to determine independent predictors of household satisfaction with the CBHI scheme. The level of household satisfaction with the CBHI scheme was found to be 61.1%. Satisfaction was found significantly associated with male household heads (AOR=0.545; 95% C.I 0.358-0.831), households with the educational level of able to read and write, grade 1-4 and grade 5-8, (AOR=0.281; 95% C.I 0.131-0.603; AOR=0.533; 95% C.I 0.311-0.915 and, AOR=0.409; 95% C.I 0.191-0.877) respectively, followers of waqefeta religion (AOR=2.123; 95% C.I 0.858-5.262), occupation of government employment (AOR=3.493; 95% C.I 1.949-6.262), those who strongly agreed with immediate care (AOR=0.508; 95% C.I 0.270-0.957), those who strongly agree and disagree with CBHI scheme office opening time (AOR=0.157; 95% C.I 0.044-0.556; AOR=-0.049; 95% C.I 0.006-0.384) and those who disagree with payment of premium schedule (AOR=150.66; 95% C.I 6.171-3678.207). This study showed that the overall satisfaction of households in the Adama district with the CBHI scheme was very good. Male households, waqefeta region followers, occupation of government employees, educational level, immediate care, BBHI office opening time, and premium schedule paying were significant factors of satisfaction with CBHI. Consideration should be given to increasing the accessibility of immediate health care, improving the educational level of households, and improving enrollee's knowledge of CBHI benefit packages.

Keywords

Community Based Health Scheme (CBHI), Household Satisfaction, Factors, Adama

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1. Background

Numerous countries are pursuing Universal Health Coverage (UHC) encyclopedically one of the targets of Sustainable Development Goals be achieved by 2030. UHC is about people having access to the demanded health services without fiscal difficulty [23]. It includes the full diapason of essential health services, ranging from health creation to forestallment, treatment, recuperation, and palliative care. More specifically, sundries essential in the UHC are (1) equity in access to and use of services, meaning that the health services should be available grounded on need rather than the capability to pay; (2) health services should be of quality to ameliorate the health status of those getting services and (3) cost of using health services should n't put druggies at fiscal threat [22].

To overcome the financial hardships associated with Out-of-Pocket payments ((OOPs) expenditure and achieve UHC, several high, and low income countries adopted different pre-payment insurance system for financing health services, including community-based, social, and private insurance. Particularly, the government of Ethiopia has introduced two types of health insurance programs since 2010; community based health insurance which intends to cover 85% of the population of Ethiopia who are engaged in the informal sectors, and social health insurance (SHI) which intends to cover 10.46% of the population who are involved in formal sectors [12].

Health spending via out- of- fund payments (OOPs) is delicate for numerous people, and 100 million people descend into poverty due to the need to pay for healthcare [18]. Health insurance can be a reciprocal or indispensable source of healthcare finance [3]. In Ethiopia, fluently preventable transmissible conditions are still a major public health problem [7]. One of the reasons for low application of ultramodern health care services is the stoner figure charges [13]. It's one of the walls to healthcare use, especially for poor house- holds who are themselves likely to be particularly vulnerable to ill health ending via out- of- fund payments (OOPs) is delicate for numerous people, and 100 million people descend into poverty due to the need to pay for healthcare [6].

Recent reports of Ethiopia Health Insurance Agency (EHIA) indicate that there's low population content of 28% (in-country position) compared to the target set in HSTP, 80%, and only 77% of CBHI enrolled homes are renewing their class cards that mean 23 of them are dropped out from CBHI registration due to dissatisfaction with CBHI scheme. This powerhouse rate is also increased by 10 in the Southern region (SNNPR). Due to this, the thing of EHIA that want to make total content of CBHI in 2025 is in great question. [11] Several studies showed that socio- demographic characteristics similar as coitus, age, connubial status, educational position, occupation, family size, and ménage's profitable situation affect enrollee's satisfaction with health insurance [19]. In addition to socio- demographic factors, health service- related factors also impact enrollee's satisfaction with CBHI. Satisfaction with CBHI is appreciatively associated with the en-

rollee's perception of proper laboratory service provision, health provider's benevolence, weighting time, and vacuity of drugs [19].

Likewise, studies in developing countries have shown that satisfaction with the health insurance scheme is told by the enrollee's knowledge of health insurance benefit packages. Either, community- grounded health insurance (CBHI) experience- related determinants are also affected by the ménage head's satisfaction with the scheme.

he community- grounded health insurance (CBHI) scheme has been gauged up in this study area. still, the enrollee's magnitude of satisfaction and associated factors are not yet known. Hence, whether this scheme satisfies enrollees and they've a positive perception towards the CBHI scheme is unknown so far in this study area. Up to the position of our knowledge, no studies were conducted in my study area. The former study conducted only saw ménage satisfaction without considering factors affecting satisfaction and the experts' opinions also assessed overall satisfaction by asking only small questions. Asking only small questions to estimate ménage heads' satisfaction might not be enough. either, thus, this study will address these gaps to assess the knowledge gap on ménage heads' satisfaction and other associated factors with a community- grounded health insurance scheme.

Generally, Ethiopia is one of the poorest countries of the continent, to give overcome of the community vulnerability initiating Community Based Health Insurance scheme is veritabily important. Indeed- allowed the community grounded health insurance which intends to cover 85 of the populations of Ethiopia who are engaged in the informal sectors but the, Challenges of Satisfaction with ménage enrolled in scheme is ongoing. So, the end of this study is to assess household satisfaction and factor associated with study area.

2. Methodology

2.1. Description of the Study Area

Adama woreda is located in the Oromia region of Ethiopia. East Shoa Zone are located in the Great Rift Valley, it's framed on the south by the Arsi Zone, on the southwest by Koka Reservoir which separates it from Dugda Bora, on the west by Lume, on the north by the Amhara Region, and on the east by Boset [2]. It's set up in the Awash River receptacle. Highland is 85, low land 10 mid-land 5, Soil types of the woreda are Andsoil 74.3 and, camisole and luvisols 25.7. Notable original landmarks include the Sodere and Gergedi hot springs, and Boku Femoral [2]. The area has three seasons with two stormy seasons locally known as Kiremt{(Ganna)(June- September)} the main stormy period and { Belg (Arfaasaa)(February-May)} which is the small stormy period. Bega (October-January) when dry and cold ages dominate the district [8].

The mean annual rainfall of the gauged station ranges from 678.1- 973.5 mm and the average periodic maximum & minimal temperatures are 29.70 c and 13.10 c, independently. Adama woreda extends between 8.14 ° 8.44 °N and 39.04 ° 39.25 °E longitude. It's located in the East Shoa Zone with the border of Lume, Dodota, Boset, and Bora. The study area covers 37 kebeles & 4 municipalities and is set up in the Awash River receptacle. The altitude of the woreda ranges from 1500 - 2300m. Natural coffers include timbers (known natural coffers of the quarter) with different geomorphology and elevation with gutters and feeders [8].

2.2. Design of the Study

Across-sectional research design, with quantitative and qualitative data factors, were used in for this study. Because cross-sectional exploration design generally entails the collection of data at and concerning one point in time; it's also fairly affordable and takes little time to conduct data collection for exploration works.

2.2.1. Sampling Technique and Procedures

Household heads who enrolled in CBHI scheme at Adama woreda are the target population for this study. To draw the representative samples the study were uses a stratified multi-stage sampling were employed to elect the study actors. In order to exclude selection bias, simple random sample selection system were applied to select study kebeles and systematic random were applied to select study actors in each study kebeles.

Also, the sample size were proportionally allocated to each named kebeles and homes enrolled in CBHI in the named kebeles also will be linked using their individual registration identification number from the enrollment book through the help of health extension workers. Eventually, the study actors was named using systematic random sampling system.

2.2.2. Sample Size Determination

According to [17], constraints like resources, logistics, budget, and time limit the sample size of the study. Thus, taking an optimum and representative sample size is important for the inference of the population. There are several approaches to determine the sample size, out of them the sample were determined using the formula for a single population proportion with the following formula $(Z\alpha/2)^2 * p(1-p)/d^2$. In doing this, sample size calculated by assuming 43% of households are satisfied with CBHI scheme taken from a study conducted previously in Ethiopia [21], a confidence of 95% and a 5% margin of error. Considering this, the sample size was multiplied by the design effect of 1.5. At the end 10% non-response rate was added, and the final sample size were 620.

$$n = \left(\frac{Z\alpha}{2}\right)^2 \frac{p(1-p)}{d^2}$$

$$n = (1.96)^2 * (0.43) * (1-0.43) / (0.05)^2 \quad n = 376$$

Then after since the total sample size for the study is 376, based on source from Adama woreda health office, the overall number of households of the woreda (reference population) is 103025 which is greater than 10000 population. Research design effect (1.5) were used since we followed multi stage sampling techniques, and a 10% response rate. Sample size with design effect $(1.5) = 376 * 1.5 = 564$

Sample size $(n) = 564 + N_r (10\%) = 620$. With this the final sample size for this study were 620. Where: n = lower sample size, z = normal distribution curve /value for the 95% confidence interval (1.96), p = satisfaction of CBHI users in previous study (43%), d = margin of error (5%) and N_r = Non- response rate (10%). The qualitative study's sample size was determined by preliminary analysis during data collection, which revealed the degree of information saturation. Therefore, ten important informants from various positions and members will be chosen for the in-depth interviews.

2.2.3. Data Collection Tools and Quality Assurance

A standardized questionnaire was adapted from the Ethiopian Health Insurance Agency and used to evaluate community-based health insurance pilot schemes in Ethiopia. The current research utilized two steps of data collection. In the first step, a semi-standardized interview method is used to analyze home satisfaction and the associated factors of community-based insurance in Adama District. In the second step, a self-administered questionnaire was provided to farmers registered with CBHI. The data obtained were primary data, and the collecting tool was a self-administered questionnaire distributed to farmers registered in CBHI in selected kebele.

The data collection method is the process of gathering data after the researcher has identified the types of information required, such as the investigative questions the researcher must answer, as well as the desired data type (nominal, ordinal, interval, or ratio) for each of these questions, and has determined the characteristics of the sample unit, such as whether a participant can articulate his or her ideas, thoughts, and experiences. In this study, data were obtained by questionnaires and open-ended interviews to assess household satisfaction and associated factors in the plan. Closed-ended data collection tools tend to be more affordable and require less time compared to other measurement methods, while open-ended interviews were conducted with health extension workers, a chosen clinical nurse, and two Woreda CBHI coordinators, including the head of the Woreda health office and the head of the Woreda finance department.

2.3. Method of Data Analysis

Appropriate methods of data analysis were applied to examine both qualitative and quantitative data gathered through the chosen data collection techniques. Once data collection

was finalized, the information obtained to fulfill all study objectives was analyzed using suitable statistical software, specifically SPSS (version 24) and STATA (version 14). Both descriptive and econometric approaches were utilized for the data analysis. The frequency distribution of all variables was assessed to identify any errors in data entry. Regarding the Household head's satisfaction level with the CBHI scheme, various items pertaining to satisfaction were posed using a five-point Likert scale ranging from strongly disagree = 1 to strongly agree = 5. The household head was classified as satisfied if their total responses were equal to or surpassed the median value of the overall score; otherwise, they were classified as not satisfied.

2.3.1. Descriptive Statistics

Descriptive analysis primarily focuses on examining the distribution of variables and offers concise profiles of participants. In this research, descriptive statistics including the mean, minimum and maximum values, frequencies, percentages, and standard deviation were utilized to evaluate the various explanatory variables influencing households' satisfaction with CBHI schemes through univariate analysis.

2.3.2. Econometric Model Specification of the Functional Form

The econometric model was employed to determine the elements influencing household satisfaction within CBHI schemes. Recent studies have utilized a binary logistic regression model to examine the elements impacting household satisfaction concerning CBHI services. [10]. The specifications for binary logistic regression models are as follows: In this specific research, both bivariate and multivariate logistic regression models were utilized, with Y serving as the dependent variable and X as the independent variable. To clarify the model, the following logistic distribution function is applied. [10].

$$P_i = \frac{E(Y=1/X_i)}{x_i} = \frac{1}{1+e^{-B_1+B_2x_i}} \quad (1)$$

In the equation for the logistic distribution, P_i serves as the independent variable, while X_i represents the data indicating an individual's likelihood of participation, with possible values of either 1 or 0. By substituting $\beta_1 + \beta_2 X_i$ in Equation 1 with Z_i , we arrive at Equation 2:

$$P_i = \frac{1}{1+e^{-Z_i}} \quad (2)$$

Z_i is between $-\infty$ and $+\infty$, and P_i is between 1 and 0. When P_i shows the possibility of the household being participant, the possibility of being non-participant is $1 - P_i$. Then, the possibility of non-participant on benefit of CBHI health packages can be explained as in Equation 3 as follows:

$$1 - p_i = \frac{1}{1+e^{Z_i}} \quad (3)$$

Equation 4 is derived by separating the participants from those who do not benefit from community-based health insurance packages:

$$\frac{p_i}{1-p_i} = \frac{1+e^{Z_i}}{1+e^{-Z_i}} = \frac{e^{Z_i}}{1+e} \quad (4)$$

When the natural logarithm of both sides of the equation is written, Equation 5 is obtained.

$$li = \ln\left(\frac{p_i}{1-p_i}\right) = Z_i = B_1 + B_2 X_i \quad (5)$$

Finally, we will assess multi-collinearity to determine the relationship among the independent variables using standard error. Additionally, we will evaluate the goodness of fit by applying Hosmer-Lemeshow test.

3. Findings and Analysis

3.1. Characteristics of Study Participants Based on Socio-Demographics

The findings show that a total of six hundred twenty heads of household took part in this study, achieving a response rate of 100%. Among these participants, 364 (58.7%) identified as male, while 256 (41.3%) were female, suggesting male participation is prevalent due to the fact that most households in Ethiopia are headed by males. The average age of the participants was 48.15 years, with ages ranging from a minimum of 18 to a maximum of 70. As illustrated in Table 1, when respondents were questioned about their marital status, 308 (59.7%) reported being married, 207 (33.4%) were single, and 59 (9.5%) were widowed. Regarding family size, a majority of households had fewer than three members, comprising 290 (46.8%), those with four to seven members numbered 268 (43.2%), and families with more than eight members totaled 62 (10%). This indicates that family members often leave the household upon reaching the age of 18.

In terms of education levels, 336 (54.2%) of the participants were illiterate, 116 (18.7%) had completed grades 1-4, 76 (12.3%) had completed grades 5-8, 21 (3.4%) had diplomas, and 2 (0.3%) had attained higher education qualifications. This highlights that the predominant educational status among households involved in CBHI is low. Additionally, as depicted in Table 1, the religious affiliations of the respondents show that 409 (66%) practice Orthodox Christianity, 88 (14.2%) are Muslim, 82 (13.2%) are Protestant, and 41 (6.6%) identify as 'Waaqefataa'. The occupations of the households reveal that 483 (77.9%) are engaged in farming, 75 (12.1%) are in low-income government jobs, and 47 (7.6%) have other occupations. Furthermore, the residential status indicates that 519 (83.7%) live in rural areas, 88 (14.2%) reside in urban settings,

and 13 (2.1%) have a lifestyle that includes both rural and urban influences, as shown in Table 1.

Table 1. Socio-economic characteristics of the respondents in the study area (n=620).

Variables	Frequency	Percentage	Mean
Age			48.15
Gender			
Male	364	58.7	
Female	256	41.3	
Marital status			
Married	308	49.7	
Single	207	33.4	
Divorced	46	7.4	
Widowed	59	9.5	
Household size			
>3	290	46.8	
4-7	268	43.2	
<8	62	10	
Education level			
Not able to write and read	336	54.2	
Able to read and write	69	11.1	
Grade 1-4	116	18.7	
Grade 5-8	76	12.3	
Secondary school	21	3.4	
Diploma and above	2	3	
Religion			
Orthodox	409	66	
Muslim	88	14.2	
Protestant	82	13.2	
Wakefeta	41	6.6	
HH occupation			
Farming	483	77.9	
Merchant	15	2.4	
Government Employee	75	12.1	
Daily laborer	47	7.6	
Residence of Households			
Rural	519	83.7	
Urban	88	14.2	
Both	13	2.1	

Source: Own field survey result, 2023

Additionally, The t-statistics value shows that the mean difference in the household age in years among the two groups, households who satisfied and not satisfied, was statistically significant and positive at less than a 5% level of significance; [Table 2](#). This reveals that there is an indirect relationship between the two groups.

Table 2. Mean characteristics of sampled households by satisfaction with CBHI.

Variables	HHs satisfaction with CBHI scheme (N=410)		HHs unsatisfied with CBHI scheme (N=210)		Sig. (2-tailed)
	Mean	Std	Mean	Std	
Age	47.69	12.220	49.06	12.250	0.045*

Note: *, represent significance of factors at 5%.

Source: Research field Survey result, 2023.

3.2. Household Experiences with the CBHI Scheme in the Study Region

As shown in the [table 3](#) the respondents were asked about Health institution visited 214 (34.5%) of the respondents had A history of visits to health centers indicated that 203 (32.7%) of the participants had also visited hospitals and health centers. As illustrated in [Table 2](#), over a quarter of the individuals in the study, amounting to 366 (59%), had utilized healthcare services two to five times since joining the CBHI program. Despite this, 590 (90.3%) of the participants did not take part in any meetings or training during their enrollment period. [Table 2](#) also shows that when asked about laboratory services at health institutions, 536 (86.6%) expressed agreement with the laboratory services provided, while 84 (13.5%) did not.

Among households enrolled in the CBHI program, 586 (94.5%) reported receiving overall benefits, while 140 (22.6%) did not concur with the overall benefits of the CBHI program. As noted in [Table 2](#), when respondents were questioned about discussions with managers or directors, 480 (77.4%) indicated that discussions had not occurred, suggesting a weak relationship between managers and households. Furthermore, when asked about the availability of drug prescriptions, 479 (77.4%) acknowledged the unavailability of sufficient drug prescriptions, highlighting a deficiency in adequate medications, particularly for chronic illnesses and for children under two years old 2.

Table 3. Expreice of the respondent households in CBHI scheme.

Variables	Frequency	Percentage
Health institution visited		
Health center	214	34.5
Hospital	203	32.7

Variables	Frequency	Percentage
Both	203	32.7
Got requested laboratory services		
Yes	536	86.5
No	84	13.5
CBHI benefited households		
Yes	586	94.5
No	34	5.5
Discussion with CBHI managers		
Yes	480	77.4
No	140	22.6
Got prescribed drugs		
Yes	479	77.4
No	141	22.7
Satisfied with visited healthcare institution		
Yes	450	72.6
No	170	27.7
Times premium paid		
Once	41	6.6
Twice	69	11.1
3 times	138	22.3
Greater than 3 times	372	60
Times healthcare visited		
Once	76	12.3
Twice	366	59
3 times	178	28.7
Schedule of payment		

Variables	Frequency	Percentage
Monthly	330	53.2
Quarterly	114	18.4
Twice per year	134	21.6
Once a year	42	6.8
Participation of CBHI-related meeting		
Yes	4	0.6
No	616	99.4

Source: Owen field survey result, 2023

As indicated in Table 3, when asked about their overall satisfaction with healthcare services, 450 (72.6%) households expressed satisfaction, while 170 (27.4%) households reported dissatisfaction with the healthcare services provided. According to Table 3, all 620 (100%) respondents stated that they pay their premiums once a year, indicating that the CBHI policy restricts payments to one time annually. As noted in Table 2, when asked how many times they visited healthcare institutions in a year, 366 (59%) reported visiting twice, 178 (28.7%) visited three times, and 76 (12.3%) indicated other frequencies. Table 2 also shows that all 620 (100%) respondents confirmed paying their premiums once a year. Among the participating households, 616 (99.4%) respondents had not taken part in any meetings or training sessions, demonstrating a weak connection between the CBHI and enrolled households. Only 4 (0.6%) respondents reported participation in meetings or training, indicating a generally low level of awareness and understanding among respondents

regarding the rules and regulations of the CBHI scheme in the area studied..

3.3. Understanding of CBHI Benefit Packages Within Households

Based on Table 4, participants were queried about whether Community-Based Health Insurance (CBHI) is an effective method to help clients manage healthcare costs; the majority, 525 (84.7%), stated that the contribution fee was reasonable for the community, while 95 (15.3%) indicated that CBHI did not alleviate their health expenses. The study revealed that CBHI primarily covers only public institutions, with 517 (83.4%) respondents confirming this limitation to government facilities. Table 4 also shows that 535 (86.3%) respondents acknowledged that CBHI does not provide coverage for transportation costs, whereas only 85 (13.7%) believed it does include transportation fees.

As illustrated in Table 3, when asked whether CBHI covers inpatient care, 435 (70.2%) said that it does, while 185 (29.8%) claimed it does not. Additionally, regarding outpatient care, 517 (83.4%) respondents noted that CBHI does not encompass outpatient services, although 129 (29.8%) confirmed receiving outpatient care from a government institution. As demonstrated in Table 4, when asked if CBHI covers medical services for cosmetic purposes, the majority of respondents, 581 (93.7%), replied affirmatively, while the remaining 39 (6.6%) stated they do not access services for cosmetic reasons. Table 3 indicates that more than half of the respondents, 246 (55.8%), expressed that they received the complete CBHI package, while the remaining 274 (44.2%) did not take advantage of the full benefits offered by the schemes.

Table 4. Knowledge of the study participants about CBHI scheme (n=620).

Variables	Frequency	Percentages
CBHI is good way of helping clients to relieve health expenditure		
Yes	525	84.7
No	95	15.3
CBHI covers only care from public health institutions		
Yes	517	83.4
No	103	16.6
CBHI does not cover transportation fee		
Yes	535	86.3
No	85	13.7
CBHI covers inpatient care		
Yes	435	70.2
No	185	29.8

Variables	Frequency	Percentages
CBHI covers outpatient care		
Yes	103	16.6
No	517	83.4
CBHI does not cover medical care for cosmetic value		
Yes	581	93.7
No	39	6.3
Answered more than the four of CBHI benefit packages		
Yes	346	55.8
No	274	44.2

Source: Own field survey result, 2023

The chi-square statistic indicates a significant distinction at a level below 5 percent concerning gender among satisfied and not satisfied households. Consequently, gender influences household satisfaction with the CBHI scheme. The results reveal a statistically significant disparity in participation in CBHI-related meetings at a less than 5 percent level between satisfied and dissatisfied participants. Thus, it can be concluded that access to training from various providers in the field of CBHI is crucial in motivating individuals to participate in the CBHI program. The chi-square analysis of gender distribution between satisfied and dissatisfied households was significant at a less than five percent significance threshold, with a chi-square value of 0.011.

Therefore, gender plays a role in the satisfaction level regarding the CBHI program. Additionally, the chi-square test indicated that there were significant differences between satisfied and dissatisfied households in relation to the lack of coverage for transport fees, the provision of inpatient care by CBHI, the availability of prescribed drugs for members, and the interactions with managers in the area of study. The findings demonstrate that the lack of coverage for transport fees, the covering of inpatient care by CBHI, the receipt of prescribed drugs by members, and discussions with managers were statistically significant at 1%, 5%, 5%, and 1% probability levels, respectively.

Table 5. Chi-square test of the households by satisfaction level (N=620).

Categorical variables	Category	satisfaction with CBHI scheme (N=410)	unsatisfied with CBHI scheme (N=210)	Chi-Square (χ^2)
Gender	Male	226	138	0.011**
	Female	184	72	
Participation in CBHI related meeting	Yes	4	0	0.0151**
	No	406	210	
Helps clients to health expenditure	Yes	353	172	0.170
	No	57	38	
Only care from public institution	Yes	349	168	0.105
	No	61	42	
Does not cover transportation fee	Yes	354	181	0.000***
	No	56	29	
CBHI covers inpatient care	Yes	286	149	0.046**
	No	124	61	
CBHI covers outpatient care	Yes	63	40	0.244

Categorical variables	Category	satisfaction with CBHI scheme (N=410)	unsatisfied with CBHI scheme (N=210)	Chi-Square (χ^2)
Members got the prescribed drug	No	347	170	0.0200**
	Yes	317	162	
Got the requested laboratory services	No	93	48	0.730
	Yes	351	185	
Sat. with visited health institution	No	59	25	0.280
	Yes	292	158	
Discussion with CBHI managers	No	118	52	0.000***
	Yes	317	163	
CBHI benefited HHs	No	93	47	0.048**
	Yes	389	197	
Answered >4 of benefit packages	No	21	13	0.290
	Yes	235	111	
Not cover medical care for cosmetics	No	410	99	0.185
	Yes	388	193	
	No	22	17	

Note: ***,**= Significant at 1 and at 5% level of significance respectively

Source: Research field Survey result, 2023

3.4. Characteristics Related to Health Service Provision and Management of Participants Enrolled in the CBHI Scheme

In this study, out of the participants, 301 (48.5%) expressed strong agreement and satisfaction with the opening hours of CBHI offices, while 261 (42.1%) agreed, 22 (3.5%) remained neutral, 23 (3.7%) disagreed, and 13 (2.1%) strongly disagreed, resulting in a mean score of 4.31 and a standard deviation of 0.87. The results showed that 335 (54%) of participants strongly agreed they were satisfied with the time it took to access CBHI services after paying the registration fee, while 253 (40.8%) agreed, 10 (1.6%) remained neutral, 8 (1.3%) disagreed, and 14 (2.3%) strongly disa-

greed; this aspect had a mean of 4.44 and a standard deviation of 0.75.

Regarding the collection process for insurance cards, 335 (54%) of participants strongly agreed they were satisfied, 205 (33.1%) agreed, 46 (7.4%) disagreed, 12 (1.9%) strongly disagreed, and 2 (0.5%) remained neutral, resulting in a mean of 4.43 and a standard deviation of 0.79. Out of 620 households that took part in the study, 335 (54%) of participants strongly agreed they were satisfied with the schedule for premium payments, 205 (33.1%) agreed, 46 (7.4%) disagreed, 12 (1.9%) strongly disagreed, and 2 (0.5%) remained neutral, yielding a mean of 4.45 and a standard deviation of 0.78; Table 6.

Table 6. Descriptive statistics of CBHI process related factors.

Statements	Five point Likert scales (1-5)					Mean	SD
	1	2	3	4	5		
Satisfaction with the opening hours of CBHI offices	13 (2.1%)	23 (3.7%)	22 (3.5%)	261 (42.1%)	301 (48.5%)	4.31	0.87
satisfied with the time to make use of the CBHI after payment of registra-	14 (2.3%)	8 (1.3%)	10 (1.6%)	253 (40.8%)	335 (54%)	4.44	0.75

Statements	Five point Likert scales (1-5)					Mean	SD
	1	2	3	4	5		
tion fee							
satisfied with the collection process of insurance cards	2 (.5%)	12 (1.9%)	46 (7.4%)	205 (33.1%)	354 (57.1%)	4.43	0.79
satisfied with the schedule for paying the premium	8 (1.5%)	13 (2.1%)	29 (4.7%)	212 (34.2%)	358 (57.7%)	4.45	0.78

Note: 1= Strongly Disagree 2= Disagree 3= Neutral 4=Agree 5=strongly Agree (in terms of level of satisfaction), out off and in the bracket shows frequency and percentage respectively.

Source: Research field Survey result, 2023.

3.5. Health Provision Related Services in the CBHI Scheme

Out of the 620 respondents, 280 (54.2%) indicated that they strongly agreed with their satisfaction regarding laboratory services, while 177 (28.5%) agreed, 93 (15%) disagreed, and 41 (6.6%) strongly disagreed with their satisfaction related to laboratory services. This suggests that most respondents were content with the laboratory service. Accordingly from those participated households in this study 264 (42.6) respondents strongly agree, 205 (33.1) agree, 80 (12.9) strongly disagree, 51 (8.2) disagree and 20 (3.2) neutral with Service of providers friendly respectively. This reveals that the majority of households are satisfied with the service with providers as friendly. In this study 264 (42.6) respondents strongly agree, 201 (32.4) agree, 242 (39) strongly agree, 31 (5) neutral and 94 (15.2%) disagree 52 (8.4%) satisfied with immediate care when visiting health facility. This reveals that the majority of households are satisfied with the service with providers as friendly. Six hundred twenty of household were participated in this study 225 (36.3%) responded strongly agree, 206 (33.2%) neutral 18 (2.9) disagree, 102 (16.5) and 69 (11.1%) strongly disagree respectively get respect from service providers. This show that almost 70% of respondents are highly agrees with expectation from the service providers; Table 7.

Table 7. Health provision related services in the CBHI Scheme.

variables	Frequency	Percentages
Satisfied with laboratory services		
Strongly disagree	41	6.6
Disagree	93	15
Neutral	29	4.7
Agree	177	28.5

variables	Frequency	Percentages
Strongly agree	280	45.2
Service providers friendly		
Strongly disagree	80	12.9
Disagree	51	8.2
Neutral	20	3.2
Agree	205	33.1
Strongly agree	264	42.6
Can get immediate care when visiting health facility		
Strongly disagree	52	8.4
Disagree	94	15.2
Neutral	31	5
Agree	242	39
Strongly agree	201	32.4
Respect from services providers		
Strongly disagree	69	11.1
Disagree	102	16.5
Neutral	18	2.9
Agree	206	33.2
Strongly agree	225	36.3

Source: Own field survey result, 2023

In this study 280 (45.2) responded strongly agree, 177 (28.5%) neutral 29 (4.7%) disagree, 93 (15%) and 41 (6.6%) strongly disagree respectively get Satisfaction laboratory services with mean of 3.91 and SD of 1.299. Six hundred twenty of household were participated in this study 264 (42.6%) responded strongly agree, 205 (33.1%) neutral 20 (3.2%) disagree, 51 (8.2%) and 80 (12.9%) strongly disagree respectively with households get Satisfaction service provider friendly with

mean of 3.84 and SD of 1.388. Six hundred twenty of household were participated in this study 201 (32.4%) responded strongly agree, 242 (39%) neutral 31 (5%) disagree, 94 (15.2%) and 52 (8.4%) strongly disagree Can get immediate care respectively with households get Satisfaction Can get immediate care with mean of 3.72 and SD of 1.288. Six hundred twenty

of household were participated in this study 201 (32.4%) participants responded strongly agree, 242 (39%) neutral 31 (5%) disagree, 94 (15.2%) and 52 (8.4%) strongly disagree Respect from services providers respectively with households get Satisfaction Respect from services providers with mean of 3.67 and SD of 1.395; [Table 8](#).

Table 8. Descriptive statistics of services provision related factors.

Variables	Five point Likert scales (1-5)					Mean	SD
	1	2	3	4	5		
Satisfaction laboratory services	41 (6.6%)	93 (15%)	29 (4.7%)	177 (28.5%)	280 (45.2)	3.91	1.299
Services providers friendly	80 (12.9%)	51 (8.2%)	20 (3.2%)	205 (33.1%)	264 (42.6%)	3.84	1.388
Can get immediate care	52 (8.4%)	94 (15.2%)	31 (5%)	242 (39%)	201 (32.4%)	3.72	1.288
Respect from services providers	69 (11.1%)	102 (16.5%)	18 (2.9%)	206 (33.2)	225 (36.3)	3.67	1.395

Note: 1= Strongly Disagree 2= Disagree 3= Neutral 4=Agree 5=strongly Agree (in terms of level of satisfaction), out off and in the bracket shows frequency and percentage respectively.

Source: Research field Survey result, 2023.

3.6. Degree of Satisfaction Among Households in the CBHI Program

To evaluate the overall satisfaction level with the CBHI scheme, the internal consistency (Cronbach's alpha) for the satisfaction scale items was initially computed, yielding a Cronbach's alpha of 0.76. The average satisfaction score was

25.46, given a possible range of 6 to 30. In this research, the median score was utilized to differentiate between satisfied and unsatisfied households. Households were classified as satisfied if their score was above the median; otherwise, they were deemed unsatisfied. Consequently, it was determined that 66.1% of study participants expressed satisfaction with community-based health insurance, as illustrated in [Figure 1](#) below.

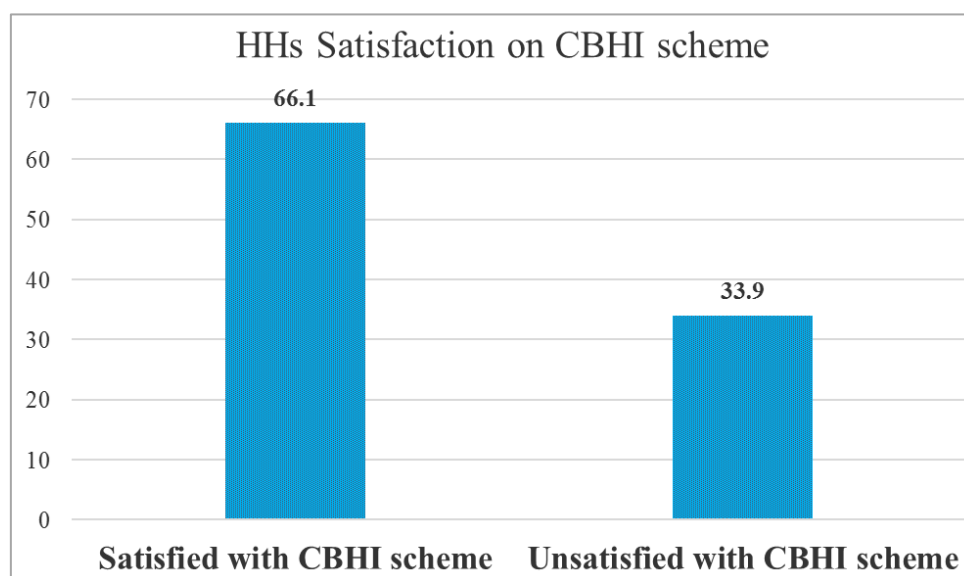


Figure 1. The overall satisfaction level of HHs on CBHI scheme.

Additionally, from those 299 (48.2%) participants were responded strongly agree within respect local CBHI management trustworthy, 250 (40.3%) agree respect local CBHI management is trustworthy within 43 (6.9%) neutral respect local CBHI management is trustworthy while 12 (1.9%) disagree local CBHI management is trustworthy and 16 (2.6%) strongly disagree respect local CBHI management trustworthy within of mean of 4.3 and SD of 0.88. A total of 620 households participated in this study. Among them, 304 participants (49%) strongly agreed that the benefit packages of the CBHI scheme are advantageous, while 225 (36.3%) agreed with the benefit packages. Additionally, 58 participants (9.4%) were neutral regarding the benefit packages, 20 (3.2%) disagreed, and 13 (2.9%) strongly disagreed with the benefits. The overall mean score was 4.27, with a standard deviation of 0.911.

Among participant households 272 (43.9%) participants were responded strongly agree with the information provided by CBHI scheme, 228 (36.8%) agree information provided by CBHI scheme, 77 (12.4%) neutral with the information provided by CBHI scheme, 25 (4%) disagree with the information provided by CBHI scheme whereas 18 (2.9%)

strongly disagree satisfied with the information provided with CBHI scheme and by mean of 4.15 and SD of 0.983. Six hundred twenty of household were participated in this study, From those 318 (51.3%) participants were responded strongly agree stay in the CBHI scheme, 234 (37.7%) agree stay in the CBHI scheme 17 (2.7%) neutral stay in the CBHI scheme and while 31 (5%) disagree within stay in CBHI 18 (2.9%) strongly disagree stay in the CBHI scheme with mean of 4.29 and SD of 0.974.

In a similar vein, 289 participants (46.6%) strongly agreed and felt satisfied that their enrollment in the scheme did not provide any benefits. Meanwhile, 210 participants (33.9%) agreed and were satisfied that their enrollment in the scheme did not result in any advantages. Additionally, 93 participants (15%) felt neutral and were satisfied regarding the lack of benefits from their enrollment in the scheme. On the other hand, 18 participants (2.9%) disagreed and were not satisfied with their enrollment not yielding benefits, while 10 participants (1.6%) strongly disagreed and were unsatisfied with the same situation. The household mean for this evaluation was found to be 4.21, with a standard deviation of 0.914; as shown in Table 9.

Table 9. Summary statistics regarding satisfaction levels with the CBHI program.

Statements	Five point Likert scales (1-5)					Mean	SD
	1	2	3	4	5		
Local CBHI management is trustworthy	16 (2.6%)	12 (1.9%)	43 (6.9%)	250 (40.3%)	299 (48.2%)	4.3	0.88
satisfied with benefit packages of the CBHI scheme	13 (2.9%)	20 (3.2%)	58 (9.4%)	225 (36.3%)	304 (49%)	4.27	0.911
satisfied with the information provided with CBHI scheme	18 (2.9%)	25 (4%)	77 (12.4%)	228 (36.8%)	272 (43.9%)	4.15	0.983
Do not want to stay enrolled in the CBHI scheme	20 (3.2%)	31 (5%)	17 (2.7%)	234 (37.7%)	318 (51.3%)	4.29	0.974
Being enrolled in the scheme did not benefit the household	10 (1.6%)	18 (2.9%)	93 (15%)	210 (33.9)	289 (46.6)	4.21	0.914
Recommending CBHI scheme scale up to other settings/woredas	3 (.5%)	12 (1.9%)	47 (7.6%)	320 (51.6%)	238 (38.6%)	4.25	0.719

Note: 1= Strongly Disagree 2= Disagree 3= Neutral 4=Agree 5=strongly Agree (in terms of level of satisfaction), out off and in the bracket shows frequency and percentage respectively.

Source: Research field Survey result, 2023.

3.7. Bivariate and Multivariable Model Specification and Tests Results

The factors influencing a household's contentment with the community-based health insurance scheme may vary,

prompting this study to estimate both bivariate and multivariate regression models separately. Prior to conducting the econometric analysis, essential tests were performed to confirm the appropriate model for the hypothesized variables. Initially, a bivariate analysis was conducted to identify significant covariates that show at least moderate association

with the response variable (household satisfaction within the CBHI scheme) by examining each independent variable individually. Candidate variables were then selected based on the Wald test from logistic regression, using a P-value cut-off of 0.25 or 0.20, following the purposeful selection algorithm suggested by Hosmer and Lemeshow in 2000. Subsequently, a multivariate logistic regression model was developed using the selected variables. The bivariate analysis results indicated that the identified variables were statistically significant.

While fitting important variables in the models a test for multicollinearity and outlines especially for continuous variables problems among all hypothesized explanatory variables was performed using VIF for each continuous variable were found to be less than ten thus, there is no multicollinearity problem among all the hypothesized continuous explanatory variables included in the model as indicated in Appendix Table 1. Finally the overall goodness of fit Hosmer and Lemeshow test to check the model estimates are Adequate to fit the data at an acceptable level (which is P-value > 0.05) seen and made including the Cronbach's Alpha for the data reliability and validity. Based on the result Cronbach Alpha of each construct is greater than .70.

3.7.1. Bivariate Logistic Regression Analysis Results on Different Predictors with the CBHI Scheme

The results of the regression analysis indicate that the chosen model provided a strong fit for logistic regression, as evidenced by the Hosmer-Lemeshow goodness of fit p-value being below 0.05. Furthermore, the Pseudo R-Square revealed that the squared correlation between the predicted values from the model and the actual values was 13.1%. The outcome suggests that the socio-demographic factors incorporated into the model accounted for 13.1% (Nagelkerke R²) of the variance in household satisfaction with the community-based health insurance (CBHI) scheme in the region of study. Specifically, age, family size of four to seven members, educational attainment (being able to read and write, grades 1-4, and grades 5-8), religion (Protestant), and occupation (government employment) were significantly associated with household satisfaction with the CBHI scheme in the area studied. Likewise, it was found that households practicing the Protestant religion exhibited an average increase of 0.702 in satisfaction with the CBHI compared to those adhering to the Orthodox faith ($p < 0.05$).

In the simple binary logistic regression analysis, variables linked to the household experience with the CBHI scheme that had a significant association at a p-value of 20% were identified. This experience-related variable pertaining to CBHI members was incorporated into the model. The variables included related to the household's interaction with the community-based insurance scheme encompassed access to desired laboratory services, benefits from the CBHI scheme, conversations with CBHI managers, satisfaction with health institutions visited, availability of prescribed medications, frequency of visits to healthcare institutions, frequency of

premium payments, payment schedules, and involvement in CBHI-related meetings. According to the model, the experience-related variables explained only 5.3% (Nagelkerke R²) of the variance in household satisfaction with the CBHI scheme in the study area. Among the variables included, only one—having paid premiums more than three times—was found to be significant ($p < 0.05$). Specifically, households that paid premiums more than three times enjoyed an average increase of 0.110 in CBHI satisfaction compared to households that paid premiums just once at a time ($p < 0.05$).

Seven items were used to measure household's knowledge related to the CBHI benefit package. As the result shows household heads who responded yes with CBHI is good way of helping clients had an averages increase of 1.368 in the CBHI scheme satisfaction with compared to household heads who were responded no in the study area. Furthermore, household heads who responded yes with CBHI covers from public institution and doesn't cover care for cosmetics had an averages increase of 1.430 and 1.55 respectively in the CBHI scheme satisfaction with compared to household heads were who responded no in the study area ($p < 0.25$ or 0.25).

Participants were asked four questions using a five-point Likert scale concerning various facets of health service delivery. Factors related to health service delivery were incorporated into the bivariate regression analysis. Each question was rated on an ordinal scale ranging from 'strongly disagree' to 'strongly agree,' resulting in a highest possible score of 20 and a lowest of 4. Among the candidate variables, respondents who expressed dissatisfaction with the friendliness of service providers experienced a 0.583 average decline in satisfaction with the CBHI schemes compared to those who strongly disagreed ($p < 0.05$). In the same vein, household heads who affirmed receiving prompt care reported an average increase of 0.613 in CBHI satisfaction compared to those who strongly disagreed in the observed area ($p < 0.05$). Additionally, household heads who felt dissatisfied with laboratory services showed an average rise of 1.802 in their CBHI satisfaction compared to those who strongly disagreed ($p < 0.05$).

Those who disagreed with the adequacy of CBHI office hours experienced an average decrease of 0.303 in CBHI satisfaction, when compared with household heads who strongly agreed ($p < 0.05$), whereas those who strongly agreed noted an average boost of 0.171 in their satisfaction scores compared to those who strongly disagreed ($p < 0.05$). A total of 253 household heads (40.8%) indicated that they were satisfied with the card collection process. Respondents who agreed had a satisfaction score that increased on average by 8.35 compared to those who strongly disagreed ($p < 0.05$). Furthermore, household heads expressing dissatisfaction with premium payment satisfaction had an average rise of 196 in their scores compared to those who strongly disagreed ($p < 0.01$). Likewise, household heads who reported a neutral stance on premium payments had a 5.79 increase in satisfaction compared to those who strongly disagreed ($p < 0.05$).

Satisfaction with the CBHI scheme among households was evaluated using six items, each rated on a five-point Likert scale from strongly disagree to strongly agree. The internal consistency of these six items was measured at 0.758 using Cronbach's alpha. The scores obtained from the six items for each respondent were compiled to calculate the total score for each individual. Household heads who expressed neutrality regarding the trustworthiness of local CBHI scheme management reported an average satisfaction increase of 32.667 compared to those who strongly disagreed ($p < 0.05$). Similarly, those who strongly agreed with the trustworthiness of local CBHI management experienced an average increase of 0.044 in their satisfaction with the CBHI scheme compared to household heads who were strongly disagreed ($p < 0.001$).

Moreover, household heads who felt neutral or agreed regarding the satisfaction with the information provided experienced average increases of 1.943 and 0.488, respectively, in their CBHI satisfaction compared to those who strongly disagreed ($p < 0.05$). Additionally, household heads who strongly agreed with recommending the scaling of CBHI to other districts observed an average increase of 0.004 in their satisfaction with the CBHI scheme compared to those who strongly disagreed ($p < 0.001$).

3.7.2. Results of the Multivariable Logistic Regression Analysis on Factors Associated with Overall Household Satisfaction in the Research Area

In the binary logistic regression analysis, variables that demonstrated a significant relationship at a p-value of 20% were subsequently analyzed using multiple binary logistic regression to account for confounding factors and to assess their true association with the outcome variable. The total satisfaction score for the responses to the five-point Likert scale question on satisfaction was calculated as 15789 for each individual, ranging from 10 to 30. In this study, the median score was utilized to classify overall household satisfaction as either satisfied or not satisfied. The median value was 25. Utilizing this median value (25) as a threshold, households were identified as satisfied if they scored above this median; otherwise, they were considered unsatisfied. Consequently, it was determined that 66.1% of participants in the study expressed satisfaction with community-based health insurance (CBHI).

At the bivariate analysis level, variables such as age, gender, educational status, religion, occupation, family size, premium payment duration, perception of CBHI as beneficial for clients, coverage of services from public institutions by CBHI, lack of coverage for cosmetic care, friendliness of

service providers, immediate care, satisfaction with laboratory services, trustworthiness of local CBHI management, satisfaction with benefit packages, contentment with information provided, unwillingness to remain enrolled in the scheme, and willingness to recommend scaling up CBHI to other districts showed significant associations with household satisfaction toward the CBHI scheme at ($p < 0.25$).

These variables were then included in a multivariable regression analysis for those found significant in the bivariate analysis to construct a final model for CBHI scheme satisfaction. As a result, gender, educational level, religion, household occupation, access to immediate healthcare, satisfaction with CBHI office hours, and satisfaction with the premium payment schedule emerged as strong predictors. According to the model's findings, male-headed households were 0.545 times more likely to be satisfied with the CBHI scheme compared to female-headed households {AOR=0.545, 95% CI (0.354 to 0.831)}. Household heads who were literate with educational qualifications experienced an average increase of 0.281 units in satisfaction compared to those who strongly disagreed ($p < 0.05$), whereas those with education levels from grade 1 to 4 saw an average increase of 0.533 units in satisfaction compared to individuals who could not read or write. Similarly, household heads with educational attainment in grade 5 to 8 achieved an average increase of 0.409 units in satisfaction compared to non-literate households ($p < 0.05$).

The analysis below indicates that households adhering to the waqefeta religion were 2.123 times less likely to express satisfaction with the CBHI scheme when compared to those belonging to orthodox religions [AOR=2.123, 95% CI (.858 to 5.262)]. Moreover, the findings reveal that heads of households employed in government roles experienced an average increase of 3.493 units in satisfaction with the CBHI scheme relative to farmers ($p < 0.05$). Similarly, household heads who strongly agreed with the local CBHI scheme office hours reported an average increase of 0.157 units in satisfaction compared to those who strongly disagreed, whereas those who disagreed with the local CBHI scheme office hours experienced an average decrease of 0.049 units in satisfaction compared to those who strongly disagreed ($p < 0.001$). Furthermore, household heads who strongly agreed with the immediate care process saw a 0.524 unit increase in satisfaction with the CBHI scheme compared to those who strongly disagreed [AOR=.524, 95% CI (.270 to .957)]. Additionally, household heads who disagreed with the premium payment schedule reported 150 units more satisfaction with the CBHI scheme compared to those who strongly disagreed (AOR=150, 95% CI (6.171 to 3678.207); $p < 0.001$; [Table 10](#)).

Table 10. Predictor sof the overall satisfaction of CBHI members with the program in the researched area.

variables	No (%)	P-value	Unst (B)	Stan (B)	COR with 95% CIs for B	AOR with 95% CIs for B
Gender						
Male	364 (58.7)	005	641	545	454 to 905	.358 to .831**
Female	256 (41.3)				R	R
Edu level						
Not write & read	336 (54.2)	004			R	R
Able to read & write	69 (11.1)	001	310	281	160 to 599	.131 to .603**
Grade 1-4	116 (18.7)	023	662	533	422 to 1.037	.311 to .915**
Grade 5-8	76 (12.3)	022	362	409	197 to 662	.191 to .877**
Secondary school	21 (3.4)	848	1.337	1.106	553 to 3.235	.392 to 3.122
Diploma and above	2 (3)	486	1.471	2.710	091 to 23.713	.486 to 44.846
Religion						
Orthodox	409 (66)				R	R
Muslim	88 (14.2)	687	932	886	574 to 1.513	.491 to 1.597
Protestant	82 (13.2)	984	702	1.007	416 to 1.184	.543 to 1.866
Waqefeta	41 (6.6)	013	661	-2.123	322 to 1.357	.858 to 5.262**
Occupation						
Farmers	483 (77.9)				R	R
Merchant	15 (2.4)	998	2.228	000	1.363 to 3.642	.000 to
Employment	75 (12.1)	000	2.228	3.493	1.363 to 3.642	1.949 to 6.262***
Daily laborer	47 (7.6)	810	786	911	404 to 1.532	.426 to 1.947
Immediate care						
Strongly disagree	52 (8.4)	182			R	R
Disagree	94 (15.2)	1330	.714	.707	.358 to 1.425	.353 to 1.419
Neutral	31 (5)	950	1.038	.972	.425 to 2.540	.394 to 2.398
Agree	242 (39)	121	.623	.614	.339 to 1.145	.332 to 1.138
Strongly agree	201 (32.4)	036	.524	.508	.280 to .980	.270 to .957**
Happy with CBHI offices opening times						
Strongly disagree	13 (2.1)				R	R
Disagree	23 (3.7)	0004	.303	-.049	.072 to 1.269	.006 to .384**
Neutral	22 (3.5)	751	1.837	1.306	.448 to 7.539	.252 to 6.778
Agree	261 (42.1)	310	.877	.520	.287 to 2.680	.147 to 1.838
Strongly agree	301 (48.5)	004	.171	.157	.055 to .530	.044 to .556**
Satisfied with paying premium schedule						
Strongly disagree	8 (1.3)				R	R
Disagree	13 (2.1)	002	196.00	150.66	10.86 to 3536.9	6.171 to 3678.207**
Neutral	29 (4.7)	160	5.79	5.155	.700 to 47.911	.523 to 50.794
Agree	212 (34.2)	208	1.793	4.384	.214 to 14.60	.438 to 43.852

variables	No (%)	P-value	Unst (B)	Stan (B)	COR with 95% CIs for B	AOR with 95% CIs for B
Strongly agree	358 (57.7)	1.000	.000	.000	.000 to	.000 to

Note: R=References category. *** Significant at $p < 0.001$, ** significant at $p < 0.05$

CBHI may help to achieve the World Health Assembly call on all countries to move towards universal health coverage, especially in LICs with significant inequalities in health service delivery [22]. some LICs have started to implement the CBHI program. However, the satisfaction and the factors it limits of CBHI is poorly documented. Here, we assessed the households who are members of the CBHI scheme perceived satisfaction of CBHI scheme using households satisfaction in one of the adama districts, in east Shewa, Oromia regional state in rural Southwest Ethiopia. Thus, the overall high satisfaction rate shown here may help and encourage scale up of the CBHI scheme to the remainder of the community and enhance universal health coverage.

Based on the result from the study above 50% of households satisfied to CBHI scheme in the study area. In this study, the level of satisfaction with the CBHI scheme was found to be 61. 1%. This finding level of satisfaction is above from the study conducted in Sheko district, Southwest Ethiopia by [16]. Another study conducted in the Anilemo district Hadiya zone in southern Ethiopia also reported that the magnitude of household satisfaction with the CBHI scheme was 54.1% [1]. The possible reason for this discrepancy might be due to the difference in the socio-demographic characteristics of the respondents, the tools used to measure the satisfaction level of households, and the time difference of the study.

In this study, gender was associated with CBHI satisfaction this in lines with the study by [15]. in Turkey, male households were more satisfied with CBHI scheme than the counterparts. However, other variables such as age, residence, marital status, and income were not significant predictors, consistent with studies conducted in India on national health insurance satisfaction, who also found no differences in satisfaction across socioeconomic and demographic variables [9]. In this study also aimed to identify health service provision related factors that were significantly associated with CBHI satisfaction with immediate care service provision increased satisfaction with CBHI. Study participants who got immediate care during their visit were 0.5 times more likely to satisfied with the CBHI compared to their counterparts (AOR=0.508, 95% CI: 0.270, 0.657). The finding of this study was in agreement with the previous studies conducted in Rwanda by [20], households who received immediate and respectful care during the recent visit were more likely to satisfy with the CBHI scheme. It is known that participants who got immediate care during visiting health facilities will have a better level of satisfaction.

This result also shows that CBHI process and management

were significantly associated with CBHI satisfaction, particularly with respect to CBHI office opening times and paying of premium schedule, which were both positively associated with satisfaction. Households who is happy with CBHI office opening times were 0.16 times more likely to satisfy with CBHI scheme compared to their counterparts (AOR=0.157, 95% CI: 0.044, 0.556). The result of this study was similar to the previous studies conducted in the Damot woyde district of the Wolyta zone in SNNP [20, 4, 5]. The possible reason might be households who have a better understanding of the regulations of the CBHI scheme have a higher chance of satisfying with the service. Finally, in as this findings indicate that gender, education level, religion, occupation, immediate health care, office opening times, and paying the premium schedule were the main predictors of CBHI members' satisfaction with this CBHI scheme.

4. Conclusion

The research indicated that over fifty percent of the heads of participating households expressed satisfaction with the CBHI scheme in Adama. However, the overall health insurance coverage in Adama remains relatively low. Additionally, this study offers valuable insights into the factors that contribute to household satisfaction with CBHI schemes. According to this Study results participants household heads who strongly agreed with the immediate health care services, households who are male in their sex, households who are employers of governments in works, household heads with educational level of grade 1 to 4, grade 5 to 8 and who able read and write, households disagree with premium payment schedule and households who are strongly agree and disagree with CBHI scheme office opening times were more satisfied than their counterparts.

In order to boost enrollee satisfaction and ensure the sustainability of the CBHI scheme, it is essential to focus on the accessibility of healthcare facilities, enhancing the quality of healthcare providers, and increasing enrollee awareness about CBHI benefit packages. There should be a strong emphasis on educating enrollees about CBHI benefit packages through targeted education and information initiatives. It may also be better to staff health centers with experienced professionals and equip with better infrastructures. The bureau of health together with adama woreda should work to create awareness among members and to improve the way CBHI clients are treated both at hospitals and at health centers. In addition to this it might also be better to have a strategy like trainings to improve practice of CRC healthcare practices in health facilities. Moreover, further

studies to identify other predictors of CBHI members' satisfaction not addressed here.

Abbreviations

AOR	Adjusted Odd Ratio
CI	Confidence Interval
CBHI	Community Based Health Insurance
UHC	Universal Health Coverage
EHIA	Ethiopia Health Insurance Agency
OOPs	Out of Pocket Payments
SNNPR	Southern Nation Nationality People Representative Region
SPSS	Statistical Package for the Social Sciences
STATA	Software for Statistics and Data Science

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Author Contributions

Jemal Midekso Nebi: Conceptualization of original draft, data collection, analysis and interpretation

Belay Roba Tadesse: Data curation, analysis, methodology arrangement, literature review and interpretation of findings

Data Availability Statement

The data utilized for this research can be obtained from the corresponding author with a reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

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