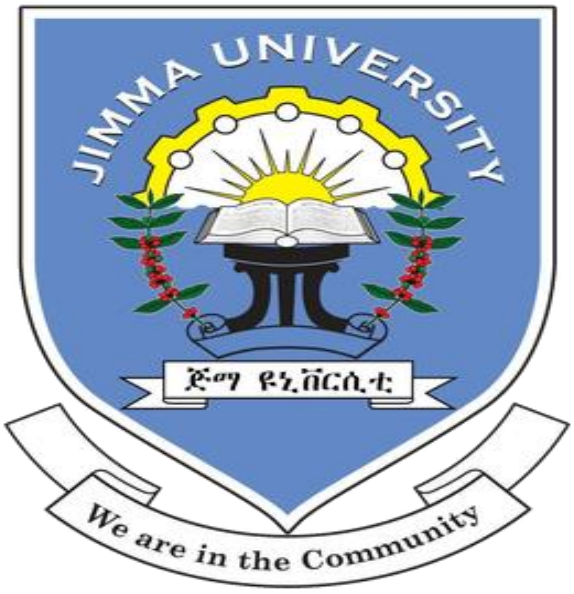

Assessment of Health Service Utilization and its Associated Factors among Community Based Health Insurance Enrolled and Non Enrolled Households in Seka Chekorsa District, South West Ethiopia:

A comparative, Cross-Sectional Study, 2021.

BY

MULUKEN HABTAMU (BSc.)

A thesisto be submitted to Jimma university institute of health, faculty of public health, department of epidemiology in partial fulfillment of the requirement for the degree of masters of general public health.

April 2021

Jimma, Ethiopia

Assessment of health care service utilization and associated factors among community-based health insurance enrolled and non-enrolled households in Seka Chekorsa district, south west Ethiopia: A comparative, cross-sectional study,2021.

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ABSTRACT

Background: Community-based health insurance (CBHI) schemes are becoming increasingly recognized as a potential strategy to achieve universal health coverage in developing countries.

Objective: To compare the differences in health service utilization between CBHI enrolled households and non-enrolled households and identify factors associated with health service utilization in Seka Chekorsa District2021.

Methods: A community-based, comparative cross-sectional study was conducted from April 01 to April 30/2021.A total of 528 sample sizes was calculated using EPI INFO stat calc for the two population proportions to estimate a representative sample.Amulti-stage sampling technique was carried out to address all study participants. Data were entered using Epidata version 3.1 and analyzed usingSPSS version 25. Descriptive statistics were presented in the form of a table, graph, and statistical summary. The binary logistic and multivariate model were used for analysis and the final p-value ≤0.05 was considered to declare the statistically significant factors and the strength of association between a dependent variable and independent variables (covariates) were expressed by odds ratio with 95% confidence interval.

Result: Sex(being female)[AOR=2.7, CI (1.31, 5.75)], household size(>6)[AOR=2.9, CI (1.40, 6.28)], asset based wealth status(Rich)[AOR=4.4, CI (4.90, 22.51)] and high quality of care[AOR=3.0, CI (1.87, 13.70)] were factors significantly associated among CBHI enrolled participants whereas Age(>34)[AOR=7.7, CI (1.80, 23.03)],primary education [AOR=10.2,CI(2.08, 50.28)], medium class wealth status(AOR=2.1,CI:[1.97,4.67) and having chronic illness [AOR= 1.8,CI:(1.85, 75.65)] were significantly associated with health service utilization among non-enrolled study participants .

Conclusion: In this study, health service utilization among enrolled was high and low among non-enrolledparticipants. Their difference was significant. Sex, household size, wealth, and quality of care were statistically significant associated with HSU among CBHI enrolled, and Age, educational status, wealth status, and chronic illness were significantly associated with the HSU among non-enrolled. Households with the identified significant factors deserve special attention.

Keywords: Community-based health insurance, healthservice utilization, health care financing, universal health coverage, Seka Chekorsa district, comparative cross-sectional study.

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Acronyms and Abbreviation

ANC Antenatal Care

CBHI Community Based Health Insurance

EHIA Ethiopian Health Insurance Agency

FMoHFederal Ministry of Health

FP Family Planning

HCF Health Care Financing

HSU Health Service Utilization

ILO International Labor Organization

LBC Left-Behind Children

NHIS National Health Insurance Scheme

OOP Out of Pocket

PBF Performance-Based Financing

PSNP Productive Safety Net Program

SHI Social Health Insurance

UHC Universal Health Care

VCT Voluntary Counseling Testing

WHO World Health Organization

CHAPTER ONE

INTRODUCTION

Background

Community-based health insurance schemes are becoming increasingly recognized as a potential strategy to achieve universal health coverage in developing countries. Given the financial barriers of the poor households and lack of sustainable healthcare financing mechanisms in the country has been recognized to be major factors, to address, the country has implemented community-based health insurance in piloted regions of Ethiopia since 2011 aiming to improve utilization of healthcare services by removing financial barriers(1).

CBHI is an alternative to user fees to improve equity in access to medical care particularly to those rural communities and the informal sector. It has the potential to increase utilization, better protect people against (catastrophic) health expenses, and address issues of equity(2).

Moving away from out-of-pocket (OOP) payments for health care at the time of use to pre-payment (health insurance) is an important step towards averting the financial hardship associated with paying for health-care services(3).Therefore, Community-Based Health Insurance (CBHI)has become part of an overall health financing strategy inseveral countries, several governments in these countries have embraced community-based health financing with national policies and administrative support to the implementation of several CBHI for improving utilization of healthcare services by reducing OOP health expenditures. Community-based health insurance is a prepayment plan by informal sectors in rural and urban areas to overcome financial hardship by pooling health risks and funds that take place at the level of thecommunity(3).

Ethiopia is the second-most populous nation in Africa. In terms of access to modern health care and various other health indicators, the country ranks low even as compared to other Sub-Saharan African countries(4).Despite Ethiopia’s health sector's encouraging achievements to improve access to modern healthcare services (access to primary healthcare services was 92.1% in 2014/15,health-service delivery and health status of the population remain low. Between 2010 and 2015 outpatient visits percapita had marginally increased from 0.29 to 0.48 (5)(6).

1.2. Statement of the problem

Despite incredible improvements in health since 1950, there are still several challenges, which should have been easy to solve. One billion people lack access to health care systems and nearly one-third of the world population couldn't use health services due to different socio-economic and cultural reasons(7)

The health service utilization rate in Africa is low and sub-Saharan Africa, in particular, is very low ranging from only 0.2 annual visits to 2 visits (8).In Ethiopia Modern health service utilization was found to be low, inpatient healthcare utilization was 6%, which is one of the lowest health service utilization rates in Sub-Saharan African countries and similarly, the Federal Ministry of Health (FMoH) reported that in Ethiopia despite a high burden of disease, utilization of health services remains very low, with people visiting a health facility less than ones every two years (9),(10). For the last several years, unimproved healthcare services and the financial burdens of healthcare are the main issues of Ethiopian people (11). Only about 1.2% of the citizens had health insurance from both private and public agencies (12). The lack of health insurance coverage of the poor in developing countries impedes access to adequate health care. Consequently, CBHI has been considered as an effective means to reach poor health care services (12).

Ethiopia is one of the sub-Saharan countries most affected by the high disease burden reflected by the high rates of maternal and child mortality. Under the first 5-year rolling plan of the Health Sector Development Plan, the overall performance of the health sector had improved; however, the ability to deliver essential services in rural settings was less successful. Though health service coverage is 86.7%, total outpatient utilization of government health facilities in Ethiopia suggests that, on average, there are about 0.25 visits per person per year. This is very far from the 3 visits of World Health Organization and Millennium Development Goals and is the lowest in sub-Saharan Africa(13)**,**(14)

Only ten percent of persons reporting illness obtained treatment for their conditions from any health facility, government, or private. In addition, utilization of health services during illness had shown great rural-urban differences with 9.5 percent for the rural and 14 percent for urban areas. Shortages and imbalances of human resources for health, geographical distance from health facilities, and socioeconomic factors aggravated by the poor health-seeking behaviors of the population were among the major obstacles to attaining wider access to health services. The average length of stay (ALOS) is too long six points seven days and the average cost per patient–day equivalent (PDE) is

very high (8.37 US $.) This figure is about five times lower than the sub-Saharan African average (15).

Even though per capita spending on health has increased over the past years to $7.14 in 2004/2005. It heavily relies on household contributions with out-of-pocket expenditure accounting for 30% of total expenditure (HCF) Secretariat 2006. At the same time, the government drug budget remains well below the WHO recommendation of US$1 per person (16).

Due to problems of reimbursement and lack of awareness about the procedure in service utilization through the CBHI channel, a considerably large number of the respondent (28%) households were exposed to additional health care payment (ranging from one to more than four hundred birr).In addition out of pocket healthcare expenditure remain the main cause of low healthcare utilization, low quality of service, and high out-of-pocket payment result in the impoverishment of households(17).

Despite great efforts to improve accessibility to modern healthcare services in the past two decades, in Ethiopia, the utilization of healthcare services has remained very low. Ethiopia is one of the highest disease burden countries.Where utilization of facility-based healthcare is very low. Low-level healthcare utilization might be linked with impoverished health services(18)(19)(20).

In Ethiopia, due to the limited capability to provide adequate and affordable health care and to improve the service utilization of the community, CBHI has been proposed as a feasible alternative. In contrast to user fees, health insurance encompasses risk-sharing and is supposed to reduce unforeseeable or even unavoidable healthcare costs. To change this situation, community-based health insurance first started in four major regions of Ethiopia in the year of 2011 as a pilot project(17). Gradually the program widens its horizons and includes several woredas in these four regional states and to the whole country. Demand for CBHI is shaped by factors at individual household and community levels. These factors might include socio-demographic, economic, and health-related characteristics of the household and its members. Once enrolled, insurance is expected to increase the demand for health care by lowering the price of care at the point of service delivery which results in demanding more services. Thus, insurance can lead to an increase in healthcare utilization. However, several studies were conducted in a different region of the countrybut much was not done so far on the overall utilization of modern health services and factors associated with the use of health care, and again not revealing the effect of CBHI enrollment on health service utilization. Whereas, alot has been tried to assess the health service utilization rate of

individual services and to identify determinants of health care use for the individual services. Hence, this study will aim to assess health care service utilization and associated factors among community-based health insurance enrolled and non-enrolled households in SekaChekorsa district, Southwest Ethiopia.

1.3. Significance of the study

Regardless of the scaling up, the CBHI debate continues to revolve around the effect of the health insurance scheme, in particular, whether or not health insurance enrollment has improvedthe utilization of healthcare services among the target population. Besides this, there are limited studies in Ethiopia in general and in South-Western Ethiopia in particular regarding the role of CBHI on health-care utilization among enrolled members when compared to non-enrolled. Hence, this study could also provide useful evidence for policy makers, health managers, and planners like, for CBHI scheme at the district level, the zonal community-based health insurance coordinators, Ethiopian health insurance agency, and the community as well. The effects of health insurance on healthcare utilization and factors for healthcare utilization are not well described in resource-limited settings, particularly in Ethiopia. The study will also create awareness for CBHI workers which hinderCBHI as a footstep for health service utilization. Identifying the overall status of the healthcare service utilization between the CBHI enrolled and non-enrolled will help to know the effect of CBHI in the health-seeking behavior of the community or the perception of the community towards their health status.

CHAPTER TWO

LITERATURE REVIEW

Overview

Utilization of healthcare service refers to the accessibility and affordability of the households to avail services about health, particularly the poor households in which the elderly lived(21). Being a member of the scheme increases the level of utilization because of decrement in households costs for illness. The evidence shows that even in terms of frequency, the treated group are highly utilized healthcare and more likely to attend healthcare providers even for simple sickness(11).

The magnitude of health service utilization

The deleterious effect of user fees reduces affordability and utilization of drugs and health services in general especially among vulnerable groups such as children (22). Pieces of evidence from countries that have institutionalized national health insurance reported increased intensity of utilization(23),(24) in a study in Baltimore USA,health insurance was found to lead to an increase in non-urgent utilization of health facilities (25).A Study from North Carolina, USA reported that publicly insured children were more likely to have emergency department visits than uninsured children(26). Conversely, uninsured persons more often forgo or delay medical services including preventive care compared with a person who has health insurance(27).Similarly in Taiwan, the utilization of most prenatal and intrapartum care services increased after the commencement of NHIS (28)(31). In Nigeria, studies reported that NHIS led to a 144% increase in the utilization of health services at the staff clinic of the University Teaching Hospital (29).

In the International Labor Organization (ILO) study, it was also concluded that a minority of schemes paid explicit attention to utilization. Out of the 258 schemes reviewed, the report for 24 only contained some analysis of utilization, with 14 out of 24 mentioning a positive impact of CHI on utilization of health care services. Yet, only 1 out of 14 analyses could be said to respect the principle of internal validity. It is also noticed that most of the studies do not analyze differences in utilization across different population groups (30).In Africa population still rely mostly on upon out of pocket payments (accounting for 30%-85% of total health spending in the poorest countries, and 37% in Ethiopia), which are associated with incurring very expensive health expenditure and privation. As a result, health service utilization and quality of service in Ethiopia remain very low.

For example, outpatient healthcare utilization per capita per year has increased only marginally from 0.27 visits in 2000 to 0.3 visits in 2011(31).

Ethiopian CBHI pilot scheme evaluation final report out of 1464 individuals who reported illness in the reference period, 689 were from CBHI member's households and 583 were nonmember households. Of those who reported illness, 1,049 (71.7%) reported visiting health facilities. the disaggregate result of members and non-members, 72.3 % had visited health facilities while 69.3 % of non-members from pilot woreda. The 72 percent average health facility rate by members is very close to the number of per capita visits (0.7) (17).

Health insurance increases access and utilization because of lowers the price of health care. Individuals will have better health if they are utilizing preventive and curative healthcare when needed and promptly. There is a positive impact of health insurance in low and middle-income countries on access and utilization (32).A study was taken by WHO broadly examined that the impact of health insurance schemes in low and middle-income countries in Africa and Asia on various domains. It is strong evidence that CBHI can improve finical protection and enhance service utilization (33).

Factors associated with health service utilization

In Ethiopia, health service utilization has increased among CBHI members due to improved access to health services. In the past three years, a total of 909,599 CBHI beneficiaries have utilized health services (new and repeat visits). A recently completed evaluation of the CBHI schemes revealed that the intensity and frequency of health service utilization have significantly increased among members of the schemes (34).

A study in Ethiopia identified that 68.3 %of respondents fall sick while 49.6% of them utilize health services. It also demonstrated that the most important factors influencing health service utilization of older adults were age, economic problem, education, self-reported health status, and need for care factors (chronic condition) in nature(35).

A study in Ethiopia on health centers efficiency showed the distribution in spending across regions and between urban and rural areas. There was high per capita spending among health centers located in urban areas compared to those in more rural areas. Such differences are not necessarily due to inequitable resource allocation of public funds but might be caused by differences in the distribution of clinical staff relative to utilization rate, and thus an imbalance of per capita health

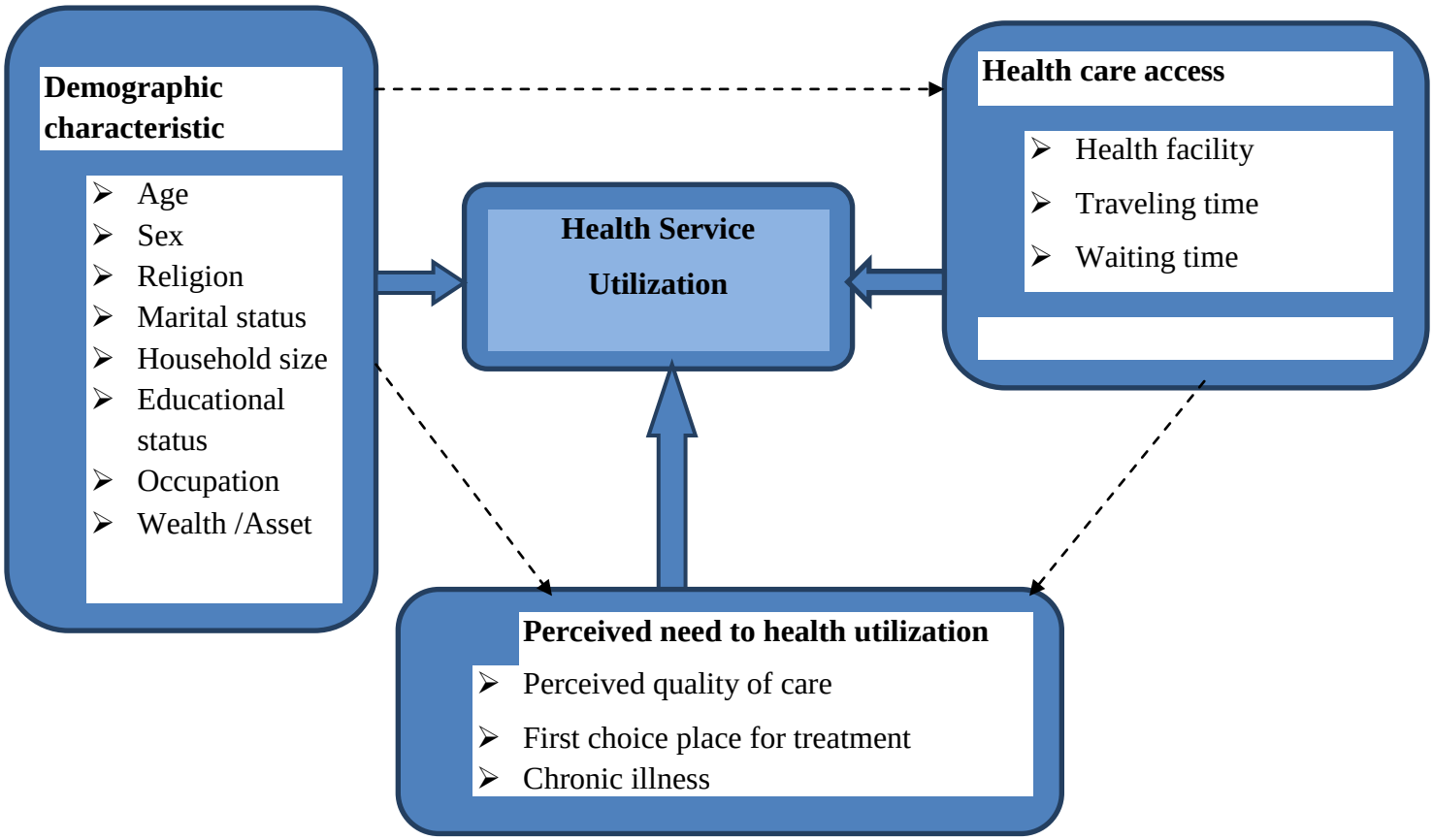
spending between urban and rural sites. Service volume may increase for both rural and urban health centers with the introduction of SHI and the scale-up of the CBHI scheme (36).

There was an independent and significant association between utilization of health services and membership of the schemes even after adjusting for education level, place of residence, and asset ownership, and even with the evidence of selection bias at both the design and in the membership (37)

Health service utilization has increased among CBHI members due to improved access to health services. The recently completed evaluation of the CBHI schemes revealed that the intensity and frequency of health service utilization has significantly increased among members of the scheme(34)

Differences between scheme members and non-members in the utilization of modern health care were reported by several studies(38). For instance, outpatient visits during illness were about 40% higher in the insured groups than the non- insured groups (39). As well another study conducted in Burkina Fasoreveal that there is no statistically significant difference in overall mortality between members and nonmembers (37). A study conducted in North-West Ethiopia shows, health care utilization rate for CBHI scheme members was 50.5% while for non- members it was 29.3%, and this difference was significant. Again this study verified variables that have shown significant variation for enrollment such as educational status, family size, occupation, marital status, travel time to the nearest health institution, perceived quality of care, the first choice for treatment during illness (40). This study used a quantitative approach. Another study in Ethiopia reveals that CBHI members' households were about three times more likely to utilize outpatient care than their non-member counterparts (41). correspondingly similar studies were conducted in the Democratic Republic of Congo the hospital admission rate among the insured increased dramatically, reaching 1.57 visits per individual per year and being five times (0.31) higher than among the non-insured. In Rwanda alike, the hospital admission rate among members was about 1.5, and only 0.06% were nonmembers (42). In Ghana study showed, Measuring the true effect of NHIS is complicated by voluntary selection into the scheme, but studies that control for such bias have still found higher utilization among enrollees, including for visits to outpatient clinics and hospitals, pharmaceutical usage, prenatal care, delivery in facilities, and other maternal health services(43).

Conceptual framework



Key

- - - - - - → Indicates indirect relation between independent variables

⇨ Indicate the direct relationship between independent to dependent

Figure 1Conceptual framework to compare health service utilization and associated factors among CBHI enrolled and not enrolled households, in Seka Chekorsa district, Jimma zone, 2021.

(Which is developed from various kinds of literature by the principal investigator(9,20,44,45)

CHAPTER THREE

3. OBJECTIVE OF THE STUDY

3.1 The General Objective

To compare health service utilization among CBHI enrolled and not enrolled households and to identify itsfactors associated in Seka Chekorsa district, Jimma zone, southwest Ethiopia 2021.

3.2 Specific objectives

- To compare health service utilization among CBHI enrolled and not enrolled households, in Seka Chekorsa district, Jimma zone, 2021.
- To identify factors associated with health service utilization of households, in Seka Chekorsa district, Jimma zone, 2021.

CHAPTER FOUR

METHODS

4.1 Study Area and study period

This study was conducted in the Seka Chekorsa district. It is one of the districts in Jimma Zone, Oromia Region southwest Ethiopia. This district is one of the third-generation CBHI implementation areas. According to the information collected from the district office, out of the existing 55,583 eligible households about 38,728(69.7%) households are currently registered as a beneficiary of the community-based health insurance project. As the 2007 national census reporteda total population is around 208,096, of the 104,758(50.3%) are men and 103,338(49.7%) are women. And the household count is near around 43,353 among the total population. An estimated area of the district is about 1,607.66 square kilometers and an estimated population density of 209.2 people per square kilometer(46). In the district, there are four health centers and twenty health posts. The study was conducted from April 01 to April 30/2021.

4.2 Study Design

A community-based comparative cross-sectional study design was employed.

4.3 Source population

All household heads who enrolled in CBHI and settle at least for 6month in the study area of Seka Chekorsa district were considered as the source population for households enrolled into CBHI.

All household heads who did not enrollin CBHI and settled at least for 6month in the study area Seka Chekorsa district were considered as a source population for households not enrolled in CBHI.

4.4 Study population

All household heads who enrolled in CBHI and settle at least for 6 months in the study area “and were available from April 01 to April 30/2021” were considered as study population for households enrolled into CBHI.

All household heads who did not enrollin CBHI and settled at least for 6 months in the study area during the data collection period were considered as study populations for households not enrolled in CBHI.

4.5 Inclusion Criteria

Household heads who are engaged in the informal sector for the source of living and were not covered by other insurance schemes for health (i.e. Social Health Insurance andPrivate Health Insurance).

4.6 Exclusion Criteria

Household heads or spouses who were employed in the formal sector for the source of living (including pension) covered by other insurance schemes were excluded.

4.7 sample size determination and Sampling technique

4.7.1 Sample size determination

The sample size was calculated for each objective separately. Therefore, the sample size was estimated using the double population proportion formula by using Epi-info, version-7 computer-based sample size calculator software. By considering the following assumptions; 80%statistical power with95% confidence intervals (CI),a level of significance at 5%, insured to the uninsured ratio of 1:1, using a report from a previous similar study which is conducted in North West, Ethiopia(44)the proportion of health service utilization was 50.5% for the insured households and 29.3% for the uninsured household with the design effect of 2 and non-response rate of 10%.Therefore, based on the above assumption the calculated sample size forthe first objective was405.

The second sample size for the second objective can be computed through [Table 1]

Table 1Calculated variables to determine sample size in Seka Chekorsa district, Jimma zone, 2021.

Variable	% of outcome in the unexposed group	% of outcome in the exposed group	AOR	Calculatedsample size		Total calculated sample size(n)	Reference
				Exposed	Unexposed		
Monthly income (>1200ETB)	6.5	27.2	5.376	120	120	240	(45)
Occupation	42.3	17.7	0.293	62	62	124	(45)

Membership status (enrolled)	11.5	27.2	2.871	111	111	222	(45)

Among the given two calculated sample size determination alternatives we take the maximum one which is 528 as a final sample size for this study.

4.7.2 Sampling technique

The study households were selected using a multistage sampling method.n the first stage eleven kebeles (namely Ushanekoche, Gibe boso, Buyokechema,Shashemene, BobaRoge, Meti,DaboYaya, Dabo Gibe, kusaro, GuraUlauke,AndodeAlaga) were randomlyselected out of 34kebles as primary sampling units. In the second stage, Households from those selected kebeles of the district were randomly selected, as secondary sampling units. But due to the sampling frame different sampling techniques were used for both enrolled and non-enrolled group i.e. taking a list of CBHI scheme member households available at the district CBHI scheme Office simple random sampling were used to reach individual households among enrolled using a computer-generated simple random sampling technique. While for non-enrolled systematic random sampling was used through the sampling fraction (k-value) which was computed through k= n/N then every K^{th} household of non-enrolled was selected until the required sample size was reached.The sampling fraction was every 9^{th} household, lottery method was used to select the first household among those nine house households. The required sample size for both groups in each of the selected kebeleswas determined using proportional allocation. Finally, those who were unfulfilled the inclusion criteria were skipped and the next household considered.

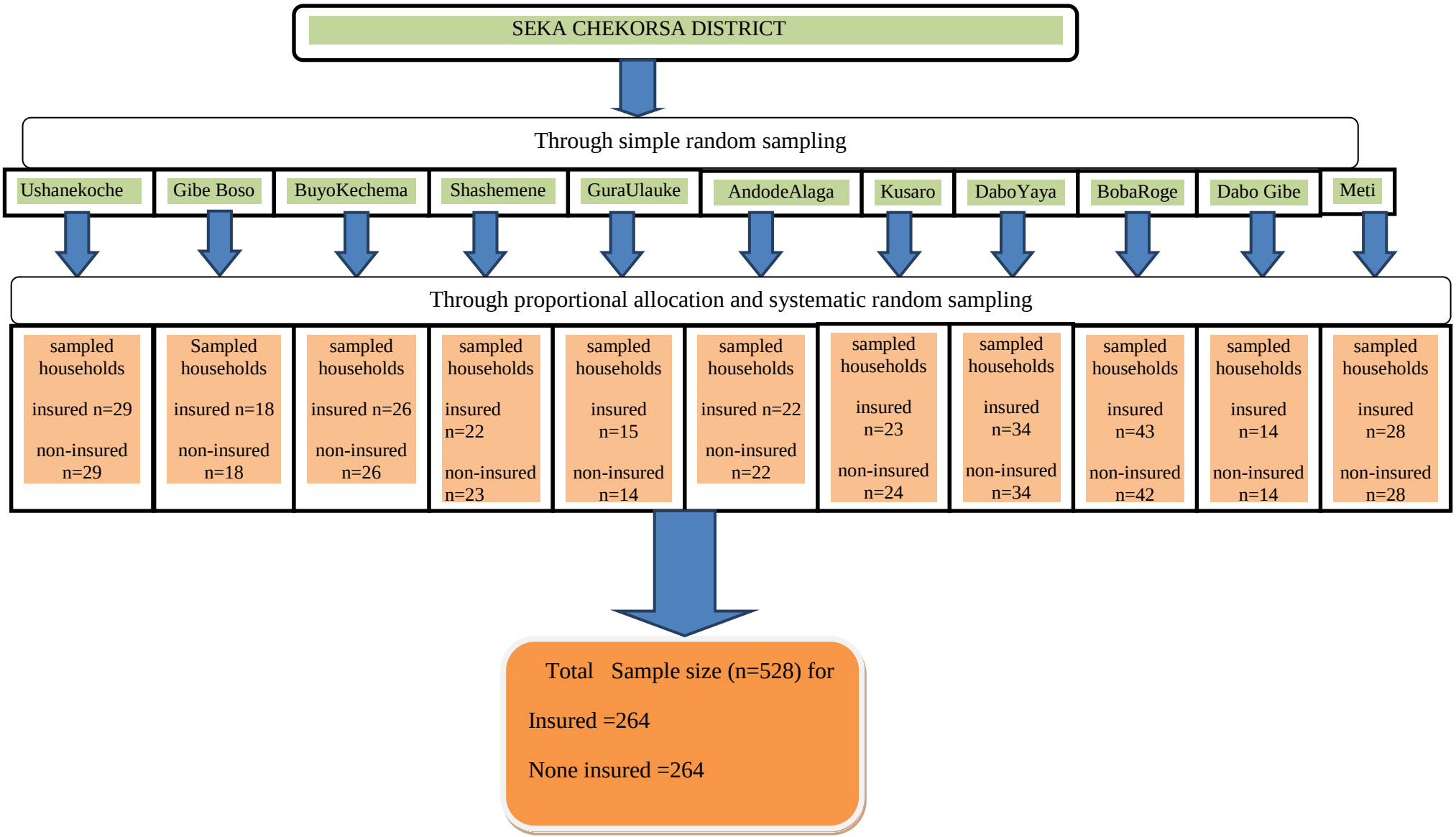


Figure 2 Schematic presentation of the sampling proceduresto compare health service utilization and associated factors among CBHI enrolled and not enrolled households, in Seka Chekorsa district, Jimma zone, 2021.

4.8 Data Collection Method and Procedure

Face-to-face interviews with the heads or spouses of the household were conducted using structured questionnaires that were adopted from different kinds of literature (17),(40),(41)(47)and it was prepared in English translated into AfanOromo then back-translated. The content of the questionnaire was socio-demographic characteristics of enrolled and non-enrolled participants; healthcare access-related factors, health service utilization, and perceived needs to health service utilization.

Perceived quality of care was assessed by requesting the respondents to answer six questions. Each "Yes" response was scored [1] and each "No" response was scored [0]. Three ranges of values were used to categorize respondents as having poor, medium, and good perception about the services being delivered by the facility. Accordingly, the sum value less than two, between three and four, and above four was re-categorized as having poor, medium, and good perception of quality respectively. The possible score ranges from 0 to 6.

4.9 Study variables

The dependent variable of the study was the utilization of healthcare services for illness episodes of the family members. The independent variables are socio-demographic factors (age, sex, religion, marital status, education, family size, occupation); membership status of households (enrolled and non-enrolled) health care access related factors (distance from health institutions, travel time, waiting time, wealth and health care needs variables (first choice of place for treatment, reason of choice, sickness of family members) as adapted from the Ronald Andersen behavior model.

4.10 Operational Definitions

Utilization of healthcare was measured as the number of visit/s made by at least one household member at least once in the last previous 6 months for each service either diagnostic or treatment.

Insured Household: household who share the same membership in community-based health insurance card or are dependents of the same principal member.

Noninsured household: a household thatis not a member ofa community-based health insurance scheme, and uses out-of-pocket health care payment.

Household: is defined as a person or group of people related or adopted legally, who live together and share a common pot of food.

Head of household: is a person who provides actual support and maintenance to other members of the household.

Healthcare Institutions: health-oriented organizations that were established formally including health centers, clinics, pharmacy and hospitals working in the study area.

Community-based health insurances: a scheme characterized by community members to prepay for healthcare services formed based on solidarity and voluntary collective pooling of their resources to share the financial risks of health care services and entitle to own the scheme and control its management.

Perceived quality of care will be the extent of respondent's view on the quality of health care delivery; through responding to some serious of questions about the service of the facility then the value will be re-categorized into high, medium, and low.

Asset-based wealth index wasassessed by asking the following components of assets: Livestock, Crops production, infrastructure (radio, TV, modern bed, mattress, and phone), latrine, housing condition (number of the room), and total farm size.

Sufficient staff means at least minimum requirement of manpower/professional at each department/ward.

Chronic illness is a disease condition that lasts more than 3 months.

CBHI master list book is a registration book that indicates whether a household is enrolled into CBHI or not.

High perceived quality of care: participants who scored between five and six value from the provided six closed-ended questions about the services delivered by the facility.

Medium perceived quality of care: participants who scored between three and four values from the provided six closed-ended questions about the services delivered by the facility.

Low perceived quality of care: participants who scored between zero and two values from the provided six closed-ended questions about the services delivered by the facility.

4.11Data quality assurance

Three diploma graduate data collectors were recruited and trained. Data collectors were supervised by two trained nurses. The data completeness and consistency were checked every data collection time and for incomplete data,a correction measure was taken at the time. In addition to this pre-test was conducted using data collection tools on 5 % (26) of participants in Kersa district which has similar socio-demographic characteristics with Seka Chekorsa district.

4.12 Data analysis and management

Data was entered into Epi-Data version 3.1 and exported to SPSS version 25 for analysis. The descriptive statistics were presented by using the Frequencies and proportions table, graph, and summary of statistics. Chi-square(x^2)was computed for categorical data to compare health service utilization between CBHI enrolled and non-enrolled households. A binary logistic model was used for the analysis of the CBHI scheme's effect on the utilization of healthcare services. Initially, bivariate analysis was computed to identify the significant effect of independent variables of the study on the utilization of healthcare services. Significant factors (< 0.25) resulting from the bivariate analysis weresubjected to a multivariate analysis to determine the effect of CBHI enrollment and other factors on the probability of utilization of healthcare services.Three models were fitted; first for the whole sample (enrolled and non-enrolled household combined), second for enrolled household only, and the third for the non-enrolled household. The household wealth index was computed using iterative principal component analysis process following steps of different assumptions. The wealth index was categorized a poor, medium, and rich. The final p-value ≤0.05 was considered to declare the significant factors and the strength of association between a dependent variable and independent variables (covariates) was expressed by odds ratio with a 95% confidence interval. Variance inflation factors (VIF) were used to identify multicollinearityandthe Hosmer–Lemeshow goodness-of-fit was used to assess model goodness of fit.

4.13 Ethical considerations

Ethical approval was obtained from the research and ethics review committee of Jimma University. To conduct the study permission was obtained from the woreda health bureau and from each kebeles administration that was involved in the study. Then written and verbal informed consentswere obtained from all study participants either by finger printings or signing on the informed consent sheets. Study participants were also aware of the information that was gathered in

this research was coded and kept confidential and data was solely used for the current study and even have the right to change their decision at any time of the study.

4.14 Dissemination of findings

The study participants and administrative officials were informed about the research questions and study objectives. The findings of this research will be planned to be disseminated to Jimma university institute of health department of epidemiology, Jimma zone health department and to EHIA, Ethiopia; furthermore, the results of this research will be disseminated to several stakeholders

Chapter – five

Results

5.1. Socio-demographic characteristic of the study participants

The household survey of this study included a sample of 513households of this 257 study subjects were CBHI enrolled and 256 study subjects were nonenrolled households (HH) were participated in the study yielding 97.3% and 96.9% response rates, respectively.The mean age was 43.47 ± 11.48(SD) years for the enrolled participantand 41.97 ± 10.56(SD) years for non-enrolled.Among study participants, 111(43.2%) enrolled and 159(62.1%)non-enrolledwere female. Most of the respondents among both enrolled 197(76.6%) and non-enrolled 171(66.8%) study participants were in the age of 34years and above.Among enrolled218 (84.8%) and224(87.5%) ofnon-enrolledstudy participants were married. Based on the educational status the higher proportion 102(39.6%) among enrolled and 167(65.2%) among non-enrolled study participants wereunable to read and write. About occupation, farmers were a large proportion of household heads 241(93.8%) among enrolledand 222(86.7%) among non-enrolled households. On the other hand, onasset-based wealth index categorization,the largest proportion of households among both enrolled and non-enrolled households were in the medium class. While 91(35.4%) of enrolled households have 6 or more family sizes, 140 (54.7%) of non-enrolled households have six or more family sizes**[Table 2].**

Table 2. Sociodemographic characteristic of the study participants by health service utilization status in Seka Chekorsa district Jimma zone Southwest Ethiopia, July 2021.

Variables	Enrolled (n=257) %			Not enrolled(256) %		
	HSU		P- value	HSU		P- value
	Yes	No		Yes	No	
Gender						
Female	76(77.5)	35(22.5)	0.158	65(40.9)	94(59.1)	0.274
Male	106(65.8)	40(34.2)	1	33(34)	64(66)	1
Age						
18-25	19(90.5)	2(9.5)	1	21(61.7)	13(38.2)	1
26-33	26(66.7)	13(33.3)	0.057	6(11.8)	45(88.2)	0.625
> 34	137(69.5)	60(30.5)	0.060	71(41.5)	100(58.5)	0.018
Religion						
Orthodox	18(75)	6(25)	0.637	5(35.7)	9(64.3)	0.839
Muslim	164(70.4)	69(29.6)	1	93(38.4)	149(61.6)	1
Marital Status						
Non-married	9(81.8)	2(18.2)	0.685	3(25)	9(75)	0.155
Married	151(69.3)	67(30.7)	0.141	87(38.8)	137(61.2)	0.305
Separated	8(66.7)	4(33.3)	0.198	2(22.2)	7(77.8)	0.153
Widowed	14(87.5)	2(12.5)	1	6(54.5)	5(45.5)	1
Household Size						
<3	52(85.2)	9(14.8)	1	9(18.8)	39(81.2)	1
4-5	60(56.6)	46(43.4)	0.256	39(57.4)	29(42.6)	0.032
>6	70(77.8)	20(22.2)	0.002	50(35.7)	90(64.3)	0.003
Educational Status						
Unable to read and Write	64(62.7)	38(37.3)	0.013	82(49.1)	85(50.9)	0.015
Able to read and Write	57(72.2)	22(27.8)	0.238	13(23.6)	42(76.4)	0.113
Primary education & above	61(80.3)	15(19.7)	1	3(8.8)	31(91.2)	1
Occupation						
Farmer	169(70.1)	72(29.9)	0.413	91(41)	131(59)	0.071
Daily laborer	9(81.8)	2(18.2)	0.636	3(17.6)	14(82.4)	0.166
Merchant	4(80.0)	1(20.0)	1	4(23.5)	13(76.5)	1
Wealth index						
Poor	73(78.5)	20(21.5)	1	26(38.2)	42(61.8)	1
Medium	89(78.8)	24(21.2)	0.963	41(27.5)	108(72.5)	0.114
Rich	20(39.2)	31(60.8)	<0.001	31(79.5)	8(35.3)	<0.001

5.2. Healthcare access-related factors of study participants

The Health Center was the nearest facility for the majority 239(93%) of enrolled and 238(92.9%) of non-enrolled study participants, whereas the hospital was near for about thirty-six (7%) participants of both groups. A higher proportionof both enrolled 138(53.7%) and non-enrolled 148(57.8%) respondents were from less than 1 hr.traveling time to a health facility.

Higher proportion76 CBHI enrolled health service utilized respondents had less than 30 minutes waiting time at health centerwhile 33 of them had greater than 30 minutes compared to 41non enrolled health service utilized respondents had less than 30 minutes waiting time and 24 of them had greater than 30 minutes [Table 3].

Table 3. Health service utilization and health care access among the study participants inSeka Chekorsa district Jimma zone South West Ethiopia, July 2021.

Variables	Enrolled (n=257) %			Not enrolled(256) %		
	HSU			HSU		
Health care access and wealth	**Yes**	**No**	**P - value**	**Yes**	**No**	**P - value**
Nearest health facilities						
Health center	171(71.5)	68(28.5)	1	94(39.5)	144(60.5)	1
Hospital	11(61.1)	7(38.9)	0.351	4(22.2)	14(77.8)	0.156
Travel time in hours						
<1 hour	104(75.4)	34(24.6)	1	56(37.8)	92(62.2)	1
≥ 1 hour	78(65.5)	41(34.5)	0.85	42(38.9)	66(61.1)	0.864
Waiting time at a health center						
< 30 min.	76(100)	0(00)	0.996	41(100)	0(00)	0.997
> 30 min.	33(100)	0(00)	1	24(100)	0(00)	1
Waiting time at the hospital						
<45 min.	25(100)	0(00)	0.997	3(100)	0(00)	0.997
>45 min.	48(100)	0(00)	1	30(100)	0(00)	1

5.3. Health perception and healthcare needs of study participants

Concerning respondents Perception of quality of care of112(43.6%)CBHI enrolled and 130(50.8%) non-enrolled respondents hada high perception of quality of care while the lower proportion 75(29.2%)CBHI enrolled and 56(21.8%)non-enrolled respondents respond low perceived quality of care.

The first choice of place for treatment during illness among 257 CBHI enrolled respondents, 218(84.8%)CBHI enrolled and199(77.7%) non-enrolledrespondents had reportedpublic health facility was their first choice for treatment, while39(15.2%) CBHI enrolledand 57(22.2%) non-enrolledrespondents had a preference toprivate health service over public facilities. On the other hand, 32(82.1 %) CBHI enrolled and 10(31.2) non-enrolledrespondents with chronic illness utilizedhealth services.[Table 4].

Table 4. The perceived need for health service utilization among the study participants in Seka Chekorsa district Jimma zone South West Ethiopia, July 2021.

Variables	Enrolled (%)			Non-enrolled (%)		
	HSU			HSU		
Perception of quality of care	**Yes**	**No**	**P- value**	**Yes**	**No**	**P- value**
Low	55(73.3)	20(26.7)	1	27(48.2)	29(51.8)	1
Medium	39(55.7)	31(44.3)	0.409	22(31.4)	48(68.6)	0.182
High	88(78.6)	24(21.4)	0.001	49(37.7)	81(62.3)	0.056
The first-choice place for treatment during illness						
Private providers	24(61.5)	15(38.5)	1	16(28.1)	41(71.9)	1
Public Health facility	158(72.5)	60(27.5)	0.021	82(41.2)	117(58.8)	0.059
Chronic illness						
Yes	32(82.1)	7(17.9)	0.099	10(31.2)	22(68.8)	0.001
No	150(68.8)	68(31.2)	1	88(38.5)	140(62.3)	1
Expected health care cost of recent treatment						
For enrolled						
Service fee paid	41(100)	0(00)	0.997	88(94)	10(6)	0.996
Service fee not paid	141(65.3)	75(34.7)	1	0(00)	158(100)	1

5.4. Health serviceUtilization among CBHImembers and nonmembers

From the total of 257 respondents of the enrolled households, 182 or 70.8% were utilized health services and 75 or 29.2% households were not utilized health services (**fig.3)**.

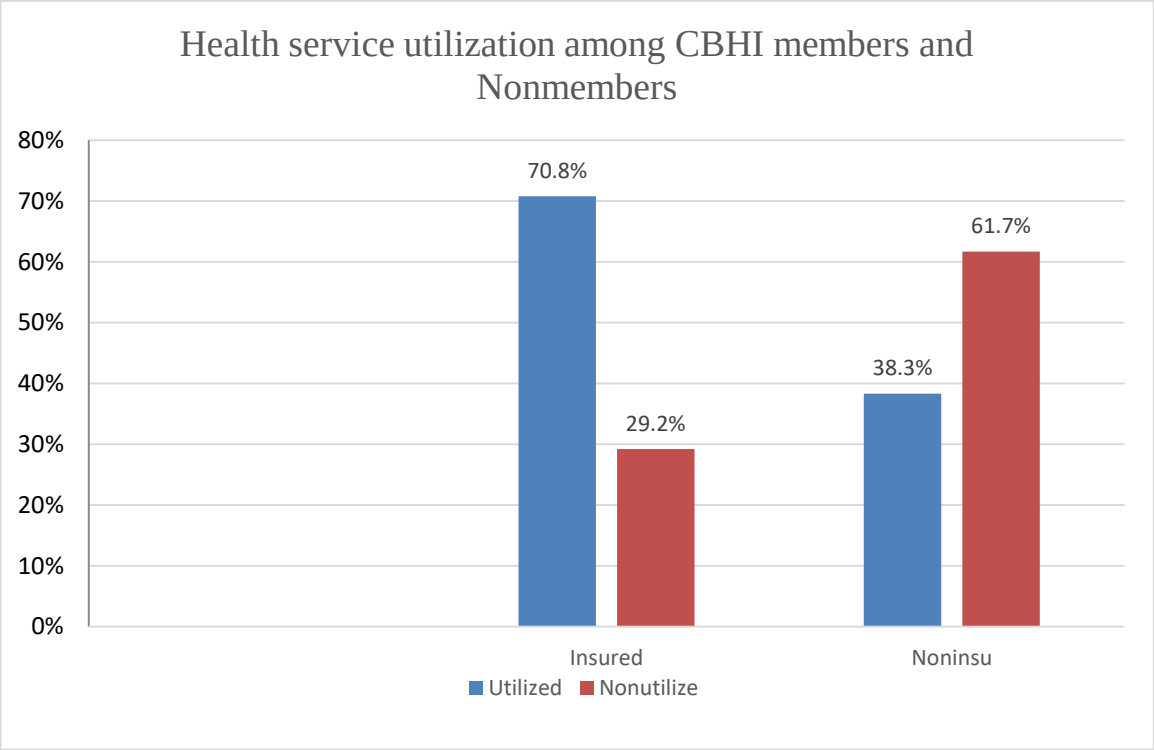


Figure 3.Status of health facility utilization CBHI enrolled and non-enrolled householdsin Seka Chekorsa district Jimma zone SW Ethiopia, July 2021.

5.5 Number of visits to Health Facility with types of the respondent.

The number of health facility visits was significantly different among the enrolled households and the non-enrolled households. Thus 94 (36.6%) CBHI enrolled and 30(11.7.6%) non-enrolled study participants have visited health facilities two to three times the past six monthsbefore this study. And four times and the above visit was 35(13.6%) and 8(3.1%) for enrolled and non-enrolled households respectively.(Fig.4)

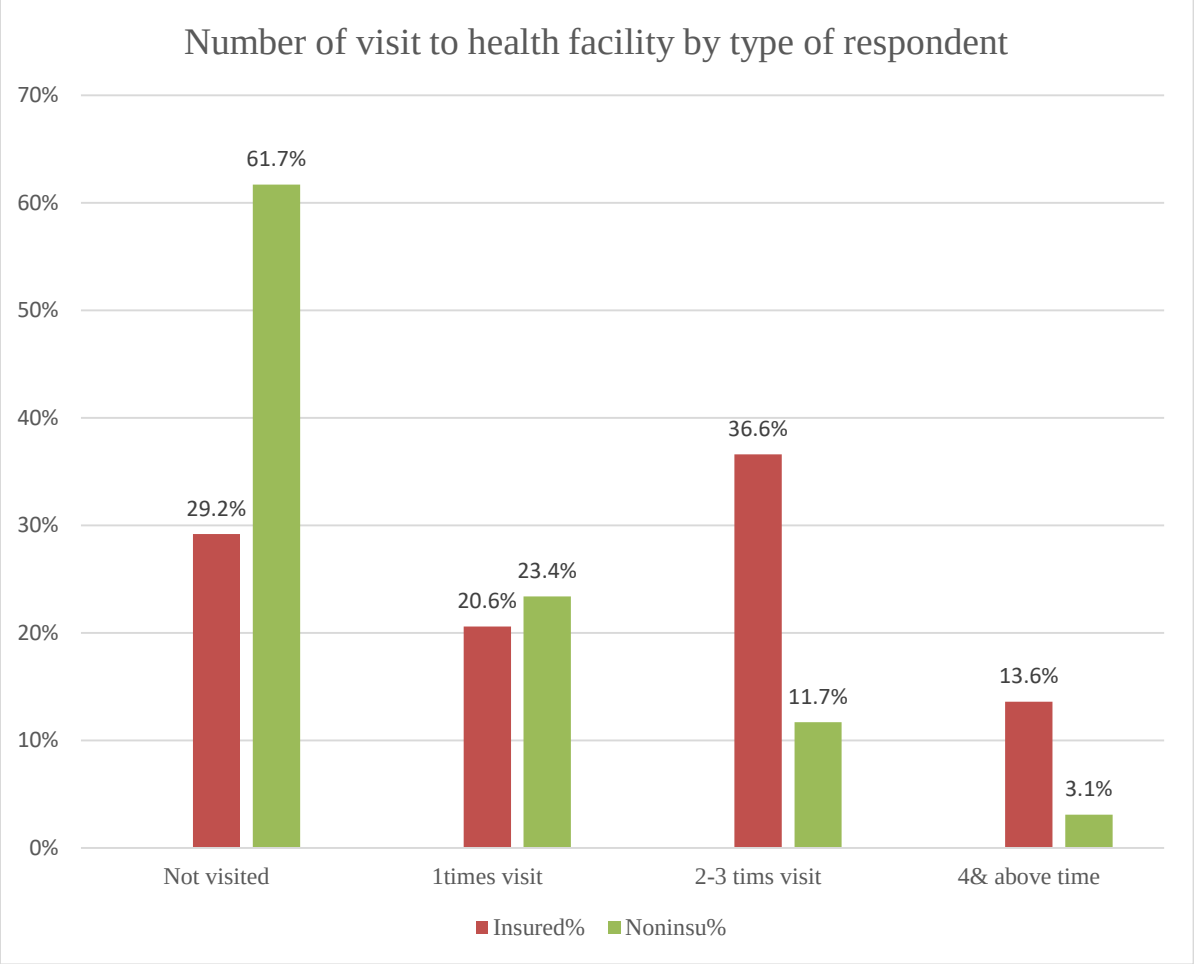


Figure 4 Number of visits to Health Facility with types of the respondentin Seka Chekorsa district Jimma zone SW Ethiopia, July 2021

5.6.Factors associated with health service utilization

To be certain of the observed differences were not just simply caused by individual household head or household characteristics, a binary logistic model was estimated. The Bivariable analysis of explanatory variables, including CBHI members and nonmembers' health service utilization status, with the outcome variable of the study, was computed. Then, all the independent variables that were P-value ≤ 0.25in the bivariateanalyses were taken for multivariate analysis. The variable(s) entered for analysis for CBHI enrolled category were the sex of respondent, age of respondent, marital status, household family size, educational status, occupation, wealth index, perceived quality of care, preference in place of choice for treatment, chronic illness, whereas for the non-enrolled group were the the age of respondent, marital status, household family size, educational status, occupation, wealth index, nearest health

facility, perceived quality of care, preference in place of choice for treatment, chronic illness were all subjected to multivariable analysis.

The result of binary logistic regression among enrolled study participants showed that sex, household family size,asset-based wealth index,and perceived quality of care, whereas age, educational status, asset-basedwealth index, and households who have chronic illness among non-enrolledhad statistically significant relation with health services utilization. This the current analysis showed that enrolled households of females were 2.7 times more likely to utilize health services than males [AOR=2.7, CI (1.31, 5.75)], households having more than six family members were 2.9 times more likely to utilize health services than those having less than three members [AOR=2.9, CI (1.40,6.28)], households whowere categorized under rich were 4.4 times more likely to utilize health services than poorer. [AOR= 4.4, CI: (4.90, 22.51)]. And households who perceived high quality of care were 3.0 times likely to utilize health services compared to households who perceived the service delivered as low [AOR= 3.0, CI: (1.87, 13.70)].Whereas under CBHI non-enrolled households who were categorized above 34 years of age were 7.7 times more likely to visit health facilities than those between 18-25 years of age [AOR= 7.7, CI: (1.80, 33.03)], households who had better educational status i.e. primary school & above were 10.2 times more likely to visit health services as compared to those illiterate [AOR=10.2, CI (2.08, 50.28)].And households who were categorized under the medium wealth index were 2.1 times more likely to utilize health services than poorer. [AOR= 2.1, CI: (1.97, 4.67)]. And those who had chronic illness were nearly 1.8 times more likely to utilize health services as compared to those who don’t have chronic illness [AOR= 1.8, CI: (1.85, 75.65)]. (Table 5)

Table 4. Multivariable logistic regression model for Factors associated with health service utilization among enrolled and non-enrolled in Seka Chekorsa district Jimma Zone SW Ethiopia, July 2021.

Variable	Category	Health service utilization status		COR	AOR	95% CI		p-value
Age		Yes (%)	No (%)					
	18-25	24(64.9	13(35.1)	1				
	26-33	43(41.7)	60(58.3)	2.6	1.512	.523	4.371	.446
	> 34	213(57.1)	160(42.9)	1.4	.787	.264	2.349	.668
Education status	Unable to read and Write	200(59.9	134(40.1)	1				
	Able to read and Write	70(52.2)	64(47.8)	1.4	1.165	.670	2.027	.589
	Primary education & above	10(22.2)	35(77.8)	5.2	7.864	2.760	22.408	.000
Marital status	Non-married	12(52.2)	11(47.8)	1				
	Married	238(53.4)	208(46.6)	2.6	1.347	.361	5.032	.658
	Separated	10(58.8)	7(41.2)	2.5	1.790	.327	9.804	.502
	Widowed	20(74.1)	7(25.9)	2	.699	.128	3.807	.679
House hold size	<3	60(55.6)	48(44.4)	1				
	4-5	110(44.7)	136(55.3)	1.5	1.469	.672	3.212	.335
	>6	110(69.2)	49(30.8)	0.6	.536	.226	1.269	.156
Nearest health facility	Health center	265(55.6)	212(44.4)	1.8	2.153	.910	5.096	.081
	Hospital	15(41.7)	21(58.3)	1				
Insurance status	Non insured	99(38.7)	157(61.3)	1				
	Insured	182(70.8)	75(29.2)	3.8	6.799	4.040	11.442	.000
Wealth index	Rich	182(74.6)	62(25.4)	0.3	3.059	1.511	6.197	.002
	Medium	45(31.2)	99(68.8)	1.6	.345	.187	.636	.001
	Poor	53(42.4)	72(57.6)	1				
Perceived Quality of care	Low	74(60.2)	49(39.8)	1				
	Medium	80(52.6)	72(47.4)	1.01	1.523	.899	2.578	.118
	High	126(52.9)	112(47.1)	0.7	.768	.419	1.409	.394
First choice of place for treatment	Public Health Facility	278(57.1)	209(42.9)	15.9	12.883	2.745	60.473	.001
	Private providers	2(7.7)	24(92.3)	1				
Chronic illness	Not have a chronic illness	196(51.7)	183(48.3)	1				
	Have chronic illness	84(62.7)	50(37.3)	1.6	1.801	1.051	3.089	.032

Table 5.Bivariable and multivariable logistic regression model for Factors associated with health service utilization amon enrolled in Seka Chekorsa district Jimma Zone SW Ethiopia, July 2021.

Variable	Category	CBHI membership status		COR	AOR(95% CI)	p-value
Age		Enrolled n (%)				
		HSU				
		Utilized	Not utilized			
	18-25	19(90.5)	2(9.5)	1		
	26-33	26(66.7)	13(33.3)	4.750	0.3(0.05-3.04)	0.372
	> 34	137(69.5)	60(30.5)	4.161	0.97(0.3-12.94)	0.958
Sex	Female	76(77.5)	35(22.5)	1.22	2.7(1.31-5.75)	0.007
	Male	106(65.8)	40(34.2)	1		
Education status	Unable to read andWrite	64(62.7)	38(37.3)	1		
	Able to read and Write	57(72.2)	22(27.8)	0.65	2(0.9-174.76)	0.079
	Primary education & above	61(80.3)	15(19.7)	0.414	1.1(0.43-3.21)	0.736
Marital status	Non-married	9(81.8)	2(18.2)	1		
	Married	151(69.3)	67(30.7)	1.997	0.7(0.03-14.34)	0.841
	Separated	8(66.7)	4(33.3)	2.250	1.4(0.18-11.47)	0.723
	Widowed	14(87.5)	2(12.5)	0.643	2.2(0.18-27.65)	0.526
House hold size	<3	52(85.2)	9(14.8)	1		
	4-5	60(56.6)	46(43.4)	4.43	0.7(0.22-2.79)	0.711
	>6	70(77.8)	20(22.2)	1.65	2.9(1.40-6.28)	0.004
Wealth index	Rich	20(39.2)	31(60.8)	5.657	4.4(4.90-22.51)	<0.001
	Medium	89(78.8)	24(21.2)	0.984	1.5(0.67-3.3)	0.321
	Poor	73(78.5)	20(21.5)	1		
Perceived Quality of care	Low	55(73.3)	20(26.7)	1		
	Medium	39(55.7)	31(44.3)	2.915	2.4(2.7-15.7)	0.001
	High	88(78.6)	24(21.4)	1.333	3(1.87-13.7)	<0.001
First	Public Health Facility	158(72.5)	60(27.5)	1.64	0.2(0.1-0.81)	0.079

choice of place for treatment	Private providers	24(61.5)	15(38.5)	1		
Chronic illness	Not have chronic illness	150(68.8)	68(31.2)	1		
	Have chronic illness	32(87.7)	7(17.9)	2.072	0.4(0.16-1.47)	0.205

Table 6.Bivariable and multivariable logistic regression model for Factors associated with health service utilization among CBHI non-enrolled in Seka Chekorsa district Jimma Zone SW Ethiopia, July 2021.

Variable	Category	CBHI membership status		COR	AOR(95% CI)	p-value
Age		Non-enrolled (%)				
		HSU				
		Utilized	Not utilized			
	18-25	21(61.7)	13(38.2)	1		
	26-33	6(11.8)	45(88.2)	0.577	19.2(0.9-75.87)	0.057
	> 34	71(41.5)	100(58.5)	2.275	7.7(1.8-23.03)	0.006
Education status	Unable to read andWrite	82(49.1)	85(50.9)	1		
	Able to read and Write	13(23.6)	42(76.4)	3.11	2.3(0.66-8.55)	0.185
	Primary education & above	3(8.8)	31(91.2)	9.97	10.2(2 -50.28)	0.004
Marital status	Non-married	3(25)	9(75)	1		
	Married	87(38.8)	137(61.2)	0.525	0.1(0.01-2.65)	0.209
	Separated	2(22.2)	7(77.8)	1.167	2.2(0.36-13.63)	0.387
	Widowed	6(54.5)	5(45.5)	0.278	7.1(0.59-45.28)	0.121
Occupation	Farmer	91(41)	131(59)	0.44	0.7(0.13-3.95)	0.701
	Daily laborer	3(17.6)	14(82.4)	1.43	1.6(0.35-7.77)	0.523
	Merchant	4(23.5)	13(76.5)	1		
House hold size	<3	9(18.8)	39(81.2)	1		
	4-5	39(57.4)	29(42.6)	0.17	1.8(0.38-9.26)	0.437
	>6	50(35.7)	90(64.3)	0.413	0.6(0.30-1.26)	0.185
Nearest health facility	Health center	94(39.5)	144(60.5)	0.438	0.6(0.14-2.72)	0.542
	Hospital	4(22.2)	14(77.8)	1		
Wealth index	Rich	31(79.5)	8(35.3)	0.160	0.1(1.25-3.55)	0.049
	Medium	41(27.5)	108(72.5)	1.631	2.1(1.97-4.67)	0.003
	Poor	26(38.2)	42(61.8)	1		

Perceived Quality of care	Low	27(48.2)	29(51.8)	1		
	Medium	22(31.4)	48(68.6)	2.031	1.7(0.66-4.46)	0.267
	High	49(37.7)	81(62.3)	1.539	1.6(0.72-3.73)	0.230
First choice of place for treatment	Public Health Facility	82(41.2)	117(58.8)	0.557	0.5(0.21-1.19)	0.120
	Private providers	16(28.1)	41(71.9)	1		
Chronic illness	Not have a chronic illness	85(37.7)	140(62.3)	1		
	Have chronic illness	10(31.2)	22(68.8)	1.38	1.8(1.85-75.65)	0.009

Chapter six

Discussion

This study intended to compare the status in health service utilization between CBHI member households and non-member households, and identified factors for health service utilization. Health service utilization is the use of health services by people. The study applied quantitative techniques to households' level surveys, to analyze the health service utilization for CBHI members compared to non-member households. And it showed that there was a significant difference P-value ≤ 0.05in the rate of health utilization between CBHI enrolled&non-enrolled households. The CBHI enrolled participant has had encouraging results on the utilization of health services compared to non-member households.

The health services utilization status of enrolled and the non-enrolled study participants were 70.8% and 38.3%respectively. This might be due to increased participation of the community in CBHI and those enrolled households have better awareness about the merits of CBHIthat can reduce out-of-pocket spending. This current study finding was consistent witha study conducted on Community-Based Health Insurance Schemes of a Systematic Review that reveals households enrolled in CBHI have utilized health services more thanhouseholds who were not enrolled in CBHI(48).In the study from India, utilization of health services was 6-7% higher for the scheme members than non-members(49).Similarly,a study in Cambodia found that visits to public health-service providers were increased by 18% and by 11% from private providers by CBHI members(38).Another study from Burkina Faso also reported rates of healthcare visits as 30% for insured compared to 12% for uninsured members. In Rwanda, utilization of health services by CBHI members increased by 15% more than non-members (42).Therefore, in Ethiopia where utilization of outpatient service is low, the result of CBHI is to improve access to promote utilization of healthcare services.

This present finding reveals that CBHI enrolled females utilized health services 2.7 times more likely thanmales, this finding is supported by previous research conducted in northeast Ethiopia reviling females were found to utilize the health services 4 times more likely than males(9). which is again consistent with the finding of the study conducted by Fitsum and Chali(50), whereas sex is not significantly associated in non-enrolledparticipants.

In this study households with increased family size(greater than six) among enrolled were nearly three times more likely to utilize health services than those having a family size of less than three. This result was supported by similar findings from the Tigray region which showed an increase in the size of the household will increase in the utilization of health services (11). Furthermore, service utilization among enrolled study participants was significantly associated with the quality of care being delivered to clients in which, those respondents rated as high quality of care were three times more likely to utilize than those who rated as low this finding was supported by a study conducted in Tanzania and Haiti (56)(57)

On the other hand, health service utilization among non-enrolled participants showed significant relation with age thus age group above 34 years likely to utilize health services more than seven points seven times more likely as compared to those between 18-25 years of age. A study conducted in illubaror zone also showed increased health service utilization among the higher age group (35).

In this study households withmedium wealth status among non-enrolled were two points one timemore likely to utilizehealth services compared to those households with low wealth status following illness whereas households categorized under high asset-based wealth index were nearly four points four times more likely to utilize than poorer among enrolled households. This study finding was nearly consistent with a study conducted in southern Ethiopia, which shows, households who were categorized as high wealth status were 1.6 times more likely to utilize health services than households whose wealth index was categorized as poor(51).This study finding was supported by a study conducted in China and Bangladesh, which showed that high-income farmers utilize outpatient services more than low-income farmers(52)(53).And again this finding was supported by a study conducted in Burkina Faso and Rwanda, where the richest income groups had utilized healthcare services more than the lower- and middle-income groups(37).This might indicate that households who had livestock, farmland, and produce crops were affording the cost for health services utilization and annual contributions to engage themselves in the CBHI scheme.

Regarding chronic disease conditions, those with chronic diseases were 1.8 times more likely to use health services among non-enrolled study participants. This finding was in line with previous studies, which reported that having chronic conditions was a strongpredictor of health care utilization (51)(9)(54). This finding was strengthened with studies done in Ghana, Albania, and northeast Ethiopia, which reported that havingmultiple chronic conditions is a predictor of health service utilization (22)(55)(9).

Finally, this study also revealed that educational status among non-enrolled had statistically significant associations with health service utilization. Study participants who could read and write and had primary education and above were 2.3 and 10.2 times more likely to use health services compared to study participants who could not read and write respectively.This is expected because education can enhance individuals' attitudes towards health service utilization and may increase behavior to utilize health services (58)This study result was supported by the evidence study conducted in the Tigray region which stated study participants who were unable to read and write were 1.7 times less likely to utilize health service (59) beside this another study from Zambia also revealed peoples with better educational status were one point four times more likely to be better health care seekerthis might be educational achievement can be assumed to be associated with an increased awareness of illness, symptoms, and availability of services(60). Generally, education remains continuously strong and has a positive effect on health service utilization. People who have low educational status have little attention to the health service. The finding of this study is consistent with research conducted in India(49).The more educated the head of the household is, the more likely to utilize health services.

7.Strength and Limitations of the study

To the researchers' knowledge, this is the first comparative cross-sectional study in Jimma zone Seka Chekorsa district southwest Ethiopia in assessing health service utilization among CBHI enrolled and non-enrolled households and this study identified factors associated with health service utilization in both CBHI members and nonmembers that contributes to a better understanding of the patterns of health service utilization among this groups. And most of the used variables or factors in this study explained the way of health services utilization.

The limitation of this study was the use of six month recall period beforethis study to recall health care needs, the number of visits to the health facilities, encounter of any medical problem, cost of health for the assessment.

8.Conclusion and Recommendations

8.1Conclusion

This study showed that healthcare service utilization was higher among enrolled households and low among non-enrolled households. In this context, the study certainly explains that the CBHI scheme had a positive result on the utilization of healthcare services. In addition age, Educational status, asset-based wealth status, and chronic illness were determinants significantly associated with health service utilization among non-enrolled study participants meanwhile sex, household family size, asset-based wealth status and perceived quality of care were factors significantly associated with health service utilization among enrolled study participants.

8.2.Recommendations

Thus more emphasison these factors is given to enhance health service utilization which leads to universal health coverage (UHC). UHC is ensuring that all people have access to needed promotive, preventive, curative, and rehabilitative health services, of sufficient quality to be effective, while also ensuring that people do not suffer financial hardship when paying for those services.

Based on the findings, the following recommendations were provided to fill the gaps identified.

- The local government shouldwork to improve the educational level of the community so that utilization of health services tends to increase.
- To increase utilization and reduce OOP spending, the government should expand the population's access to health insurance.
- Intervention to improvein quality of service at health facilities should be designedgiven the factors found in the study.
- It is better if the government considers ways to enhance efforts to incorporate households with low socioeconomic status into CBHI.
- The district health bureau needs to consider those people with chronic illness with low health facility visit trends.
- District health bureau should strengthento use an already established structure like health extension workers and health development army to increase enrollment to CBHI so that health utilization will tend to increase.

Reference

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Annex:

I Questionnaire for Household Survey

Preamble

This questionnaire aims to collect data for the study entitled "Community based health insurance and health care service utilization: the case of Seka chekorsa district, Jimma Zone.'' Accordingly, this questionnaire is designed to examine and understand the level of health care service utilization among-*CBHI scheme members and non-members and to identify factors that have been associated with health service utilization. As part of research ethics, I would like to ensure you that the information you will honorably provide is strictly confidential and serve solely for academic purpose. In addition, this study is indispensable in providing information about CBHI. To this end, your participation and genuine response to the questions are valuable to the success of the study. Thank you for your corporation.

Instruction: writing your name is not mandatory or any personal identification. Thus, I kindly ask for your cooperation in this questionnaire truthfully.

Section 1: General Information

Interviewer's Name: _____ signature: _____

Supervisor's Name filling _____signature_____

Date (DD-MM-YYYY) _____ _____ _____

Respondent's Keble Name: _____

Questionnaire ID Number: _____

General instruction: In giving your answer please encircle the number of your choice in the corresponding response space provided. But, if you have different answer other than the givenoptions, use the space provided (YOU ARE NOT RESTRICTED TO THE SPACE PROVIDED FOR OPEN ENDED QUESTIONS

Annex III. Participants research questionnaire

Part 1 Socio-Demographic Characteristic					
S/NO	Variables	Choices	Cod	Skip to question	
Q 101	Age (in a complete year)	_____			
Q102	Sex of households	1. Male 2. females			
Q103	Religion	1. Orthodox 2. Muslim 3. Catholic 4. Protestant 5. Other (specify) _____			
Q104	Marital Status	1. Never married 2. Married 3. Separated 4. Widowed			
Q105	Household size	_____			
Q106	Educational status	1. Unable to read and write 2. Able to read and write 3. Primary education and above			
Q107	Occupation	1. Farmer 2. Merchant 3. Other(Specify)_____			

Q108	Household wealth/assets	Do you own farming land? 1. Yes 2. No If yes specify farm size_____			
		Do you own livestock? 1. Yes 2. No If yes specify in number			
		Do you produce a crop? 1. Yes 2. No			
		Do you own a house? 1. Yes 2. No If yes specify number of room_____			
		Do you have a latrine? 1. Yes 2. No If yes specify type _____			
		Do you have the infrastructure (radio, TV, modern bed, mattress, and phone)? 1. Yes 2. No			
Q109	CBHI membership status of the respondent	1. Enrolled 2. Non-enrolled			

Part 2. Healthcare access related factors and health service utilization

S/NO	Variables	Choices	Cod	Skip to question	
Q 201	Nearest health facility	1. Health center 2. Hospitals 3. Other (Specify)_____			
Q 202	Distance from a health facility in Kilometer(Km)	1. less than 5km 2. Greater than 5km			
Q203	Traveling time to a health facility in hours	1. less than 1 hour 2. Greater than 1 hour			
Q204	Waiting time	For health center 1. Less than 30' 2. Greater than 30' For hospitals 3. Less than 45' 4. Greater than 45'			

Part 3. Perceived needs to health service utilization

S/NO	Variables	Choices	Cod	Skip to question	
Q 301	Perceived health status	Do you have any physical health problems in your family? 1. Yes 2. No			
		Do you have a mental health problem in your family? 1. Yes 2. No			
		Do you have mobility problems in your family? 1. Yes 2. No			
		Do you have self-care problems in your family(washing and dressing)? 1. Yes 2. No			
		Do you have usual activities problems in your family? 1. Yes 2. No			
		Do you have chronic conditions in your family? 1. Yes 2. No			

Q302	**Perceived quality of cares**	Does the facility have sufficient staff? 1. Yes 2. No			
		Do the staff have a good attitude and motivation? 1. Yes 2. No			
		Does the facility have diagnostic/Lab services? 1. Yes 2. No			
		Does the facility haveessential medicines? 1. Yes 2. No			
		Do you think the facility is clean enough? 1. Yes 2. No			
		Does the facility provide ambulance for referral service other than maternal care? 1. Yes 2. No			
Q303	Expected healthcare cost of recent treatment	_____birr			

Part 4. Health facilities visit

S/NO	Variables	Choices	Cod	Skip to question
Q 401	Do you or your families encounter any medical problems in the past six months?	1. yes 2. no		
Q 402	Do you or your families visit health facilities in the past six months?	1. yes 2. no		
Q403	If no why?	1. Lack of money 2. Attending traditional medicine 3. Distance of health facilities 4. Religious belief		
Q404	First choice for treatment	1. Public Health center 2. Public Hospital 3. Private		
Q405	Reasons of choice	1. Proximity 2. Inexpensiveness 3. Medicines are available 4. Short waiting time 5. Staffs are more compassionate 6. CBHI coverage 7. Referral from the first visited facility 8. Other(specify)_____		
Q 406	How many times have you or your families visited health facilities	_____		