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**Factors Affecting Utilization of Private Medical Insurance Services among Teachers in
Selected Public Primary Schools in Kilifi County**

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Abstract

Purpose: This study sought to determine the factors influencing utilization of private medical insurance services among public primary school teachers in Kilifi County, Kenya.

Methodology: A descriptive cross-sectional study was conducted among 265 public primary school teachers employed by the TSC in Kilifi County. Data was collected using semi-structured, self-administered questionnaires. Variables analyzed included socio-demographic characteristics (age, gender, marital status) and socio-economic factors. Statistical analysis was carried out using SPSS version 22. Associations between independent variables and insurance utilization were assessed using chi-square tests at a 5% significance level.

Findings: Overall, a high proportion of teachers reported utilizing private medical insurance services. A Chi-square test of association revealed a significant relationship between gender and private medical insurance uptake, $\chi^2(1, N = 265) = 4.07, p = 0.044$. with female teachers more likely to be enrolled than their male counterparts. In contrast, no significant associations were observed between utilization and age group ($\chi^2(4, N = 265) = 7.22, p = 0.125$), marital status ($\chi^2(3, N = 265) = 4.54, p = 0.209$), or education level ($\chi^2(2, N = 265) = 1.20, p = 0.549$). Teachers reported that access and affordability of healthcare improved with private insurance compared to out-of-pocket payments. However, barriers such as a shortage of specialists and limited working hours among service providers constrained optimal utilization.

Unique Contribution to Theory, Practice and Policy: These findings demonstrate that while private medical insurance significantly improves access and affordability of care, gender disparities and structural health system challenges remain key barriers to universal utilization

Keywords: Health Insurance, Public and Private, Teachers, Medical Access

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INTRODUCTION

Access to health services is a human right that everyone should enjoy without facing any risks of financial impoverishment and ruin which is the main objective of Universal Health Coverage (UHC). Access to financial risk protection and quality health services are yet to be balanced to protect communities from disastrous payments (Dye et al., 2013)

The United Nations (UN) in 2012, saw great momentum for achieving UHC aiming to give each person the health services they needed without causing any financial hardships (Rodin & Ferranti, 2012). UHC is the one strongest idea that public health can offer. ("The Contributions of Human Rights to Universal Health Coverage," 2016)

In Kenya, each month 20% of the population experiences some form of illness. Approximately 7.8 million of these people seek health care at one of the 10,000 facilities in the country. A great percentage of these families face challenges during hospital stay and final clearance of high bills leaving them with financial hardships. ("A Look at Kenya's Struggle to Purchase Healthcare," 2016) Out-of-pocket(OOP) health expenditure accounts to around 36% of the total household expenditure, which is a huge amount, health insurance has been considered as an instrument in reducing the high costs (Kiplagat, 2011).

Poorest households and in the rural areas are most affected resulting in the proportion of poor people rise by 2.2 percentage points in both rural and urban areas. (Salari et al., 2019)

Roughly one out of every five (17.1%) Kenyans had access to a type of health insurance coverage which indicates an increase in coverage of insurance from the 9.7 % in 2003 and 10 % in 2007. Private insurance coverage in rural areas accounted for 4 % and 14 % was observed in urban regions (Barasa et al., 2018)

The Teachers Service Commission (TSC) is a semi-independent agency in the Government of Kenya and is under the Ministry of Education. As of 2015, TSC serves 235,000 teachers in more than 22,000 institutions of education across the nation. The TSC is the largest employer in the East African Region as it boasts 68.5 billion annually and Kshs 5.7 billion monthly of personal emoluments. This translates to 16 % of the national budget and 70 % of the yearly budget of the Ministry of Education .(*Teachers Service Commission - Kenya*, n.d.)

Teachers and their families faced some health access challenges to list them; untreated medical conditions (Preexisting conditions), cash payment for medical treatment, Harambee for medical expenses, absenteeism at work, destitution of families of deceased teachers. Prior to 2015, all teachers employed by the TSC were entitled to a medical allowance ranging from KSH954 to KSH3044per month.

In 2015, this allowance was stopped and channeled to a private medical insurer who would now offer teachers and their dependents (one wife and four children) medical insurance. The scheme also extended to offer compensation to the next of kin in terms of last expense and group life in the event that a teacher passed on while in service. (Walimu, n.d.)

Studies on the utilization of private health insurance among teachers who form the largest workforce in East Africa are few. (Kazungu & Barasa, 2017a) notes that health insurance coverage in Kenya remains low and is characterized by significant inequality, implementation of contributory and voluntary health insurance mechanism have also been problematic. School absenteeism due to health issues was cited to be a factor to school absenteeism among teachers by (Mgandi, 2017) with an equal number of male and female teachers affected.

Statement of the Problem

Health insurance uptake among teachers has been seen to face challenges across Africa despite adequate knowledge on the availability of Insurance services within the cohort. In Nigeria (Omoera & Adegioriola, 2021) found challenges to include poverty, inequality, unfavorable registration process and lack of interest hinder enrolment there was a high level of awareness (81.7%) but a very low enrolment level (7.8%) of private school workers in the NHIS(National Health Insurance scheme). On the contrary in Kampala, Uganda, 60% of the teachers were ignorant about a proposed health insurance policy and the rest had scanty and often incorrect information, many did not want deductions towards the scheme and had no confidence in the policy (Byabashaija, 2009)

Kilifi County is ranked as one of the five counties with the most income inequality in Kenya. (Exploring Kenya's Inequality - Pulling Apart or Pooling Together-Compressed.Pdf, n.d.) Limited studies are focused on health insurance uptake and utilization among teachers making this study of timely need to fill knowledge gaps.

The TSC contracted a private medical insurer to provide a voluntary medical insurance scheme for its members. During its inception, the 296,669 TSC teachers were automatically entered into the system, however, only 142,646 members had registered and received medical smart cards. This statistics indicate that there is low uptake of the TSC medical insurance scheme as less than half (48 %) of the TSC members had registered with the scheme.

The medical insurance scheme aims to increase registration and uptake of the insurance scheme address health challenges teachers and their families face aiming at improving access to UHC. In order to effectively identify and target members not covered in the scheme, there is need to understand the socio-demographic factors of non-users. Several studies (Kimani et al., 2014a); Kiplagat, 2011; Motlagh et al., 2015; Muketha, 2016; Mulenga et al., 2017; Orayo, 2014) have found that socio-demographic factors play a significant role in uptake of voluntary health insurance schemes.

There is need to determine the socio-demographic factors that influence or inhibit health insurance uptake among teachers to improve education service delivery in developing countries such as Kenya. This study contributes to the achievement of the UHC by promoting greater access to health insurance among teachers in Kenya.

LITRETURE REVIEW

Theoretical Framework

Andersen Health Utilization Framework

The Andersen Health Utilization Framework is credited to Andersen (1968) who sought to determine the situations that impeded or facilitated use of health services by a person. The Andersen framework comprises of three factors of use of healthcare which are enabling factors, predisposing factors, and perceived needs (Andersen, 1995)

In this study, predisposing factors such as age, gender, marital status, and education shape teachers' likelihood to utilize medical insurance. For instance, female teachers may have greater health-care demands and awareness of family health needs, influencing their decision to activate or use insurance benefits. Demographic factors consist of gender and age. Health beliefs include knowledge, values, and attitudes of an individual towards the health care system (Hughes & Wingard, 2008)

The need factors are the direct cause of health service use from health and functional issues that can create the requirement for health care services. This perceived need will better assist in comprehending adherence and care-seeking to a medical routine. (Andersen, 1995). Need factors reflect perceived and evaluated health conditions that motivate health-care use. Teachers with chronic illnesses or greater perceived health risks are more likely to rely on insurance than those who view themselves as generally healthy.

Enabling factors refer to the aspects of logistic involved when procuring healthcare. These include the community factors such as availability of facilities and personnel and waiting time at the facility. (Hughes & Wingard, 2008) Enabling factors capture the practical and resource-related conditions affecting service access. In Kilifi County, long distances to accredited facilities, limited specialists, and administrative barriers within the Teachers Service Commission (TSC) scheme may hinder utilization, despite teachers' steady income.

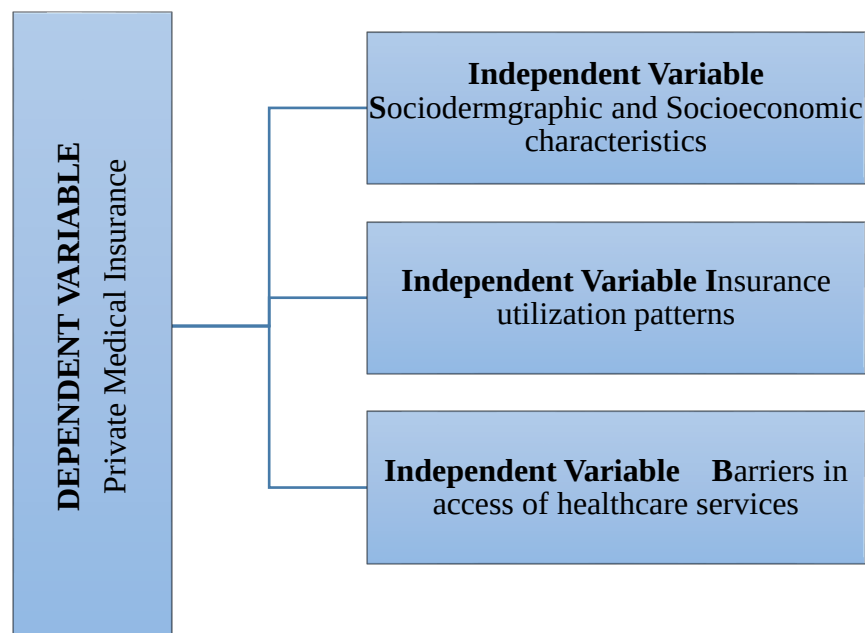
This model is suitable for this study as it consists of the predisposing factors which are the independent variables of this research and are assumed to have an influence on the decision of an individual to take up voluntary health insurance. The model is thus suitable as it covers the age, gender, place of residence, and education on utilization of health insurance

Conceptual framework

Healthcare has had three major transitions with the first running through the 18th century that looked into the demographic structures with focus on sanitation and sewage management to eliminate premature deaths. The second one was epidemiological in the 20th to the 21st century that had a wide spread reach globally with communicable diseases like small pox and poliomyelitis vanquished and controlled on a never imagined scale. The 3rd of which we are is the financing and organization of health systems to achieve global health access without breaking the bank (Rodin & De Ferranti, 2012)

The study is anchored on the premise that socio-demographic and socio-economic characteristics, together with structural barriers, influence the utilization of private medical insurance among teachers. Socio-demographic factors such as age, gender, marital status, household size, and place of residence shape health-seeking behavior, while socio-economic variables such as income, employment status, and education level determine affordability and decision-making regarding insurance uptake.

Barriers such as poor service delivery, inadequate policy administration, low awareness, and perception challenges further inhibit utilization. The interaction of these factors ultimately determines the proportion of teachers who enroll and use private medical insurance, which has implications for access to healthcare and the attainment of Universal Health Coverage (UHC).



Empirical Review

Utilization of Health Insurance

Globally, studies indicate low but growing utilization of health insurance. In China, uptake was inadequate despite coverage, with insured households still experiencing high out-of-pocket expenditures(Wang et al., 2013) . In Malaysia, health insurance ownership facilitated access but had no significant impact on frequency of use(Abu-Bakar et al., 2016) . Health insurance coverage in Kenya remains low and is characterized by significant inequality. In a context where over 80% of the population is in the informal sector, and close to 50% live below the national poverty line, achieving high and equitable coverage levels with contributory and voluntary health insurance mechanism is problematic. Kenya should consider a universal, tax-funded mechanism that ensures revenues are equitably and efficiently collected, and everyone (including the poor and those in the informal sector) is covered (Kazungu & Barasa, 2017b) Private health insurance is an integral component of Kenya's healthcare system. It aids in bridging the gaps in public healthcare services, integral to human resource management through employer-sponsored health plans and adapts to the changing needs of consumers by offering innovative and accessible healthcare solutions. The enactment of supportive regulatory frameworks further strengthens the role of private health insurance in public healthcare delivery and aligns it with Kenya's Universal Health Coverage goals. (*The Growing Role of Private Health Insurance in Kenya's Healthcare System*, n.d.)

Socio-Demographic Factors

Gender has been found to be a significant determinant of insurance uptake. Studies in Iran and Ghana established that female-headed households had higher enrollment in health insurance (Nouraei Motlagh et al., 2015) Similarly, (Kimani et al., 2014b) revealed that women in Nairobi

were more likely to be insured compared to those in other provinces. Age also plays a critical role: older individuals were more likely to be covered in Zambia (Mulenga et al., 2017). Marital status and household size also influenced uptake, with larger families more likely to seek coverage (Abu-Bakar et al., 2016)

Socio-Economic Factors

Education is consistently linked with higher insurance uptake. Studies in Russia showed many socioeconomically empowered individuals are opting for private medical insurance (Perlman et al., 2009). Across sub-Saharan Africa (Amu et al., 2018) confirmed that higher education significantly increases the likelihood of insurance enrollment. The study further noted Ghana recorded high insurance coverage while Kenya, Tanzania and Nigeria may not be able to achieve universal health coverage and meet the sustainable development goals on health by the year 2030 if the current fragmented public health insurance system persist.

Barriers to Utilization

Barriers to accessing health services despite insurance remain a common theme. In the U.S., Medicaid enrollees faced more barriers to timely healthcare compared to those with private insurance (Cheung et al., 2012). In Ghana, Tanzania, and South Africa, high medical and transport costs, drug stock-outs, limited diagnostic equipment, unpredictable opening hours and insufficient skilled staff also limit service access and poor staff attitudes were significant obstacles (Macha et al., 2012). In Kenya, (Chuma et al., 2007) highlighted financial burdens and inequities in the Kenyan Coast, where poor households experienced regressive cost burdens despite insurance schemes.

Research Gaps

While numerous studies have explored health insurance uptake, several gaps remain.

Limited focus on teachers: Few studies specifically examine teachers, despite evidence that they face low insurance uptake (Komoni, 2015) (Falaki & Juni, 2017). This leaves an important group underexplored, particularly given the implications of absenteeism on education quality. County-level disparities: Most studies in Kenya rely on national surveys (Kimani et al., 2014c) overlooking localized variations. Kilifi County, with its high poverty and fertility rates, presents unique demographic challenges that require county-specific investigation. Barriers beyond affordability: Much of the existing literature emphasizes financial constraints, yet structural and administrative challenges (e.g., inefficiencies in registration, card distribution, and service provision within the TSC medical insurance scheme) are under-researched. Alignment with UHC goals: There is limited research on how voluntary schemes, such as the TSC medical insurance, can be scaled and aligned with UHC objectives to achieve equity and inclusivity among marginalized populations.

METHODOLOGY

Study Design

The study adopted a descriptive cross-sectional study design which aims to select a few units from a large population to infer the results to the selected sample (Kesmodel, 2018). The research design allows a researcher to be able to see what information is needed, which methods are suited to collect these data, and analyze these data in the hope of answering a research question. An advantage of this design is that they are easier to undertake and are cited extensively in medical journals. This research design is appropriate for this study as it aimed

to collect data from a sample of teachers of public primary schools in Kilifi County to answer questions on additional health insurance coverage.

Study Site

The study was conducted in Kilifi County which is one of the 47 counties in Kenya and one of the six counties in the coastal region of Kenya. In the South West, the county borders Kwale County, to the west, Taita Taveta County, the Indian Ocean to the East, Tana River County to the North, and Mombasa County to the South. The county covers 12,370.8 Km². There are seven counties in Kilifi County; these are Kilifi South, Kaloleni, Magarini, Kilifi North, Malindi, Rabai, and Ganze with 35 Administrative Wards, 54 Locations, and 165 Sub locations. There are 213 private primary schools and 543 public primary schools making a total of 756 primary schools in the county. There are 2,551 female teachers in the county and 3,111 male teachers making a total of 5,662 teachers (*Kilifi County Integrated Development Plan 2018-2022*, n.d.)

Study Population

The target population of the study was public primary school teachers in Teachers Service Commission (TSC) thus 5,662 teachers.

Inclusion Criteria

In order to be included in the sample, the teachers must have been employed by the TSC for more than six months.

Exclusion Criteria

Teachers that did not meet the criteria were included in the study. Newly employed teachers not willing to participate or sign informed consent, teachers on leave, and newly transferred in teachers were excluded from study.

Sampling

Sampling Procedure

The study adopted the stratified random sampling technique. Stratified sampling is where the whole population is divided into strata's in this case geographical strata. Subsequently, a random sample is taken from these strata into the final sample size.

Table 1: Study Population

Sub-County	Number of Teachers
1 Kilifi	1,519
2 Ganze	1,082
3 Malindi	1,001
4 Magarini	957
5 Kaloleni	688
6 Rabai	256
Total	5,503

Sample Size

The Yamane (*Yamane, T. (1967) Statistics An Introductory Analysis. 2nd Edition, Harper and Row, New York. - References - Scientific Research Publishing, n.d.*) sample size formula will be used to calculate the sample size from the population. The advantage of this formula is that

it is simple to manipulate when there is a finite population as in our case. The sample size for the study is determined as 373 respondents as distributed in Table 2.

$$n = \frac{N}{1+N(e^2)}$$

Where;

n = sample size

N = study population

e = tolerance at the preferred level of confidence

$\alpha = 0.05$ at 95% confidence level.

$$\begin{aligned} n &= 5,503 / 1 + 5,503 (0.05)^2 \\ &= 5,503 / 14.7575 \\ &= 373 \end{aligned}$$

Table 2: Sample Distribution

Sub-County	Number of Teachers	Sample
1 Kilifi	1,519	103
2 Ganze	1,082	73
3 Malindi	1,001	68
4 Magarini	957	65
5 Kaloleni	688	47
6 Rabai	256	17
Total	5,503	373

Study Instruments

The data will be collected using a semi-structured questionnaire. The questionnaire is preferred for this study as it is easier to use, time effective, and cost effective especially when dealing with a large sample as in this study. A semi- structured questionnaire will be developed which is aligned to the research objectives of the study. However, the questionnaire will also include some contingency, matrix and open-ended question types which will give the respondents more room to give information.

Data Collection Methods

The questionnaire will be administered using the drop-and-pick method of administration. This approach is selected because it allows the respondents the time and space to respond to the instrument in their own time and comfort. The questionnaires will be collected 3 days after being dropped and the researcher will keep them safe throughout the data collection exercise. The researcher will also be checking the questionnaires for errors and consistently during the data collection process and will do follow-ups for those instruments that have any inconsistency at the end of each data collection day.

Data Management and Statistical Analysis

The researcher will seek the assistance of a research and data professional for the coding and entering of data into a computer package for analysis. The Statistical Package for the Social

Sciences (SPSS) Version 22 will be used to analyse the data. The data will first be analyzed using descriptive statistics which are used to summarize data to enable readers to identify patterns and trends in the data. Descriptive statistical tools include frequencies, percentages, means, and standard deviation. The study will use t-tests, Analysis of Variance (ANOVA), and Chi-Square statistics to determine whether there are differences between socio-economic and socio-demographic factors and utilization of the TSC health insurance scheme

Ethical Considerations

Ethical clearance was obtained from KNH Scientific and Ethics Review Unit. The study then sort for Permission to carry out the study from FACES Director and sort permission from the county director of TSC to collect information from its members in Kilifi County.

The participants were asked for their permission to be involved in the study. An informed consent form was administered to the participants which included full description of the objective and purposes of the study .The respondents were guaranteed of their privacy and confidentiality of any information that they provided for this study. Moreover, their anonymity was guaranteed as the study did not ask for any identification from respondents when filling in the questionnaire.

RESULTS

Study Coverage by Sub-County

The study was conducted in Kilifi County and the administration of the questionnaire was conducted in the Ganze Sub County that accounted for 15.5 % of the sample. The findings show that 23.8 % responses were attained from Magarini, 23.4 % instruments were administered in n Kaloleni and Malindi followed by Rabai Sub County was the least represented sample in the study at 14.0 % as shown in Table 3

Table 3: Respondents Reached in Sub Counties

Sub-County	Frequency	Percent
Ganze	41	15.5
Kaloleni	62	23.4
Magarini	63	23.8
Malindi	62	23.4
Rabai	37	14.0
Total	265	100.0

Gender

Table 4 shows majority of respondents were female accounting for 60.0 % and 40.0 % were male respondents which imply that most of the teachers in public primary schools in Kilifi County were female. The finding goes against the statistics on teachers in the Kilifi County Integrated Development Plan (CIDP) 2018-2022 that there are 5,662 teachers in the public schools comprising of 3,111 male and 2,551 female.

Table 4: Gender

Gender	Frequency	Percent
Male	106	40
Female	159	60
Total	265	100.0

Education

The findings show that majority of the teachers had a diploma level of education where those with a diploma level of education represented 56.6 % of the sample, this was followed by 28.6 % had an undergraduate level of education, 14.7 % had a postgraduate level of education as shown in Table 5. The findings suggest that there is a need to increase the quality of teaching staff in primary education in Kilifi County which is also proposed by the County's 2018-2022 CIDP which that states for a need to improve the quality of education by recruiting qualified and competent staff.

Table 5: Education Level

Education level	Frequency	Percent
Certificate	3	1.1
Diploma	150	56.6
Undergraduate	76	28.6
Postgraduate	39	14.7
Total	265	100

Age

Table 6. shows that the majority of the respondents were in the 30-38 years and this accounted for 36.6 % of the sample, teachers in the 39-47 years age group were 23.0 % of the sample, 23.8 % was in the 48-56 years age group; respondents above 56 years were representative of 14.3 % of the sample, and 2.3 % were in the 21-29 year demographic.

Table 6: Age Groups

Age groups	Frequency	Percent
21-29 years	6	2.3
30-38 years	97	36.6
39-47 years	61	23.0
48-56 years	63	23.8
Above 56 years	38	14.3
Total	265	100.0

Marital Status

The findings on the marital status of the respondents' show that 67.2 % were currently married, followed by 21.9 % were living with a partner, 9.1 % were formerly married, and 1.9 % were never married as shown in Table 7.

Table 7: Marital Status

Marital status	Frequency	Percent
Never married	5	1.9
Living with partner	58	21.9
Formerly married	24	9.1
Currently married	178	67.2
Total	265	100.0

Source of Drinking Water

In the source of drinking water, the results of the study showed that piped water into the house was the most cited source as mentioned by 42.6 % of the sample, 21.5 % of the sample got their water from Rain water/well, there were respondents who sourced their water from a well/borehole and this accounted for 16.2 % of the sample. The results show that community taps were used by 12.5 % of the sample with 7.2 % purchasing water as illustrated in Table 8.

Table 8: Source of Drinking Water

Source	Frequency	Percent
Well/borehole	43	16.2
Purchase water	19	7.2
Piped water from community tap	33	12.5
Piped water into house	113	42.6
Rain water/well	57	21.5
Total	265	100.0

Boiling Drinking Water

The study sought to determine whether if respondents were boiling their drinking water where 43.8 % of the sample indicated they boiled water sometimes, 38.1 % said no to boiling drinking water, and 18.1 % did boil their drink as shown in Table 9.

Table 9: Boiling of Drinking Water

Boiling water	Frequency	Percent
Always	48	18.1
No	101	38.1
Sometimes	116	43.8
Total	265	100.0

Cooking Food Energy Source

In terms of their sources for cooking energy, charcoal was the most popular source of energy cited by respondents as shown by 35.8 %, firewood was used as a source of cooking energy as mentioned by 19.2 %, 15.1 % of the sample used gas and gas/charcoal for cooking, with respondents that used firewood, charcoal, and gas as cited for 10.6 % of the sample with those using kerosene/charcoal for cooking accounted for 4.2 % as shown in Table 10.

Table 10: Sources of Cooking Energy

Sources	Frequency	Percent
Charcoal	95	35.8
Firewood	51	19.2
Gas	40	15.1
Gas/charcoal/firewood	28	10.6
Gas/charcoal	40	15.1
Kerosene/charcoal	11	4.2
Total	265	100

Toilet Type

Table 11 shows the types of toilet that were used by respondents and the output indicates that 64.2 % using flush toilet and 35.8 % used pit latrines.

Table 11: Toilet Type

Toilet type	Frequency	Percent
Flush Toilet	170	64.2
Pit Latrine	95	35.8
Total	265	100.0

Utilization of Teachers Service Commission Health Insurance

The study was interested in establishing the use of TSC's medical insurance as provided by private health insurer. This section of the analysis also presents the information on household size, use of private health insurance, distance to health facilities, distance to health facility, transport to health facility, frequency of visits to health facility, health facility visit reasons

Use of Private Health Insurance Services

In Table 12, the findings show the results of the study on the use of private health insurance among primary schools teachers where the bulk of the sample indicated that 94.7 % were using the insurance scheme in comparison to the 5.3 % who did not use the services.

Table 12: Utilization of Private Health Insurance

Utilization of Private health Insurance	Frequency	Percent
Yes	251	94.7
No	14	5.3
Total	265	100.0

Household Size

The findings also aimed to determine the number of household members that was covered under private health insurance scheme they had registered. Table 13 shows that 26.4 % were 3 household members, 23.4 % had 4 household members, 20.8 % had 5 household members, 12.5 % had 2 household members, 8.3 % had 6 household members, 7.2 % had 1 household member, and households' with 7 members accounted for 1.5 % of the sample.

Table 13: Households Size

Household size	Frequency	Percent
1	19	7.2
2	33	12.5
3	70	26.4
4	62	23.4
5	55	20.8
6	22	8.3
7	4	1.5
Total	265	100.0

Utilization of Private Insurance

The findings indicate that majority of the respondents had private insurance as cited by 93.6 % of the sample and 6.4 % teachers reached did not have any private insurance as shown in Table 14.

Table 14: Utilization of Private Insurance

Utilization of private insurance	Frequency	Percent
Yes	248	93.6
No	17	6.4
Total	265	100.0

Distance to Health Facility

The study sought to find out the distance that the respondents had to cover to reach a health facility. Table 15 indicates that the shortest distance to a health facility was reported by 62.6 % respondents, 22.6 % reported a distance of 11-20 Kms, those who mentioned a distance of 21-30 Kms accounted for 6.8 %. There were respondents that lived more than 40 Kms from a health facility and this represented 4.9 % of the sample with 3.0 % citing that they lived 31-40 Kms from a health facility.

Table 15: Distance to Health Facility

Distance in Kms	Frequency	Percent
0-10 Kms	166	62.6
11-20 Kms	60	22.6
21-30 Kms	18	6.8
31-40 Kms	8	3
More than 40 Kms	13	4.9
Total	265	100

Means of Transport to Health Facility

The participants were asked how they reached the health facility; the results showed that most of the respondents were using matatu/bus means of transport as reported by 43.8 % and this was followed by those using a motorbike accounting for 21.1 %. Other means of transport used among the participants were walking (9.1 %), bicycle (5.3 %), tuk tuk (6.8 %), and personal car/ other personal car (9.4 %) as seen in Table 16.

Table 16: Means of Transport to a Health Facility

Means of transport	Frequency	Percent
Walk	24	9.1
Bicycle	14	5.3
Matatu/Bus	116	43.8
Personal car/ Other personal car	25	9.4
Motorbike	56	21.1
TukTuk	18	6.8
Walk/bicycle/motorbike/matatu	12	4.5
Total	265	100

Frequency of Visits to Health Facility

Table 17 shows the results on the frequency of health visits among sampled teachers which shows that visits to health facilities were done when needs arises as mentioned by 91.4 %. The respondents who visited health facilities weekly accounted for 1.9 %; those with monthly visits represented 6.0 % and 0.8 % visited a health facility on a quarterly basis.

Table 17: Frequency of Visiting a Health Facility

Frequency	Frequency	Percent
Weekly	5	1.9
Monthly	16	6
Quarterly	2	0.8
When need arises	242	91.4
Total	265	100.0

Health Facility Visit Reasons

In determining the frequency of visits to health facilities, the researcher aimed at finding out the reasons that respondents visited health facilities when need arises. As such, the findings in Table 18 reveals that 46.8 % went to a health facility for follow-up and general check-up, 33.2 % went to hospital when emergencies arose while 6.8 % went to a health facility was for previous untreated chronic/non chronic ailments. The results further showed that drug re-fills were a reason to visit a health facility among a sample of 3.8 %, 3.0 % went for referral care, specialists reviews and maternal and child health services were reasons for health facility visits among 1.9 % of respondents and 2.6 % sought treatment when sick from a health facility.

Table 18: Reason for visiting a Health Facility

Reasons	Frequency	Percent
General check-up and follow up	124	46.8
Drug re-fills	10	3.8
Referral care	8	3.0
Emergencies	88	33.2
Previous untreated chronic/ non chronic ailments	18	6.8
Specialist review	5	1.9
Maternal and child health services	5	1.9
Treatment when sick	7	2.6
Total	265	100.0

Barriers to Utilization of Private Medical Insurance Health Services

One of the objectives of the study was to find out the barriers that respondents faced when utilizing private medical insurance services. The respondents were asked to indicate their level of agreement on a 5 point Likert scale with 14 statements based on barriers of health insurance utilization adapted from the literature review. Table 19 shows that the highest ranked barrier among the responses was the lack of specialists as shown by a mean score of 3.76 and a standard deviation of 1.426 which implies moderate agreement with this barrier. The respondents disagreed that there were network challenges (M=2.95; SD=1.331) and co-payment (M=2.97; SD=1.348).

Table 19: Descriptive Statistics

Barriers	Mean	Std. Deviation
Distribution of service providers	2.93	1.238
Working hours by the service providers	3.33	1.229
Poor services by service providers	3.15	1.382
Delays at service provision by providers	3.05	1.359
Network challenges	2.95	1.331
Co-payment	2.97	1.348
Long queues at hospitals	3.08	1.382
Lack of services needed by providers on panel	3.24	1.464
Lack of knowledge on the tailoring of the scheme	3.06	1.373
Delay in approvals by the insurer	3.11	1.422
Dependents not registered	3.00	1.592
Terminal illnesses	3.09	1.508
Referral process too long	3.21	1.474
Lack of specialists	3.76	1.426

Access to Health Services

The respondents were asked to indicate if the utilization of health insurance had contributed to the access in health services. Table 20 shows that participants felt that health insurance increased access to health services on a 50 – 74 % as cited among a sample of 47.2 %, this was followed by 23.4 % who perceived that there was a 25 – 49 % increase in their access to health services, 20.8 % felt that they had access to health services after insurance utilization had

increased by 0 – 24 %. The major finding from this analysis was that there was an increase of 75-100 % in health services accessibility reported by 8.7 %.

Table 20: Access to Health Services

Increase in access to health services	Frequency	Percent
75 – 100 %	23	8.7
50 – 74 %	125	47.2
25 – 49 %	62	23.4
0 – 24 %	55	20.8
Total	265	100.0

Affordability of Health Services

In Table 21, the findings show that participants agreed that health insurance had made health services available as mentioned by 34.0 % of the sample size and 4.2 strongly agreeing with this statement. The respondents who strongly disagreed on the affordability of health services after insurance accounted for 14.0 % with 20.0 % disagreeing with this statement.

Table 21: Affordability of Health Services

Medical allowances and affordability of health services	Frequency	Percent
Strongly Agree	11	4.2
Agree	90	34.0
Moderately Agree	74	27.9
Disagree	53	20.0
Strongly Disagree	37	14.0
Total	265	100.0

Sociodemographic and Socioeconomic Factors and Private Medical Insurance

The study aimed to identify the influence of socioeconomic and sociodemographic factors influence on the utilization of private medical insurance. A two-variable chi-square test was conducted to determine this influence and the findings summarized in Table 22 shows that gender had a statistically significant difference in utilization of private medical insurance while the other variables did not exhibit any statistically significant difference in utilization of private medical insurance.

Table 22: Chi-Square Tests

Variables	Pearson Chi-Square	df	Asymptotic Significance (2-sided)
Education	1.201a	2	0.549
Marital status	4.538a	3	0.209
Age	7.224a	4	0.125
Gender	4.072a	1	0.044

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The results show that majority of primary school teachers in Kilifi County reached had enrolled to the private medical insurance.

The socio-demographic factors considered in this analysis were age and gender of teachers where these factors were analyzed using Chi square statistics which revealed that there was no statistically significant difference between teachers age and utilization of private medical insurance but there was a statistically significant difference between gender and private medical insurance services utilization. The findings agree with (Zhou et al., 2021) who found gender differences in utilization of private health insurance. This findings support the hypothesis by (Nguru, 2018) that females especially at the reproductive age demand more medical services and are therefore more likely to purchase health insurance cover. The findings from the study revealed that socio-economic factors had no statistically significant difference as marital status and education did not have any statistical significant difference with utilization of private medical insurance services. The findings corroborate (Oraya, 2014) found out that age of the migrants' education levels and marital status were statistically significant factors which determined health insurance demand among migrants in Kenya. The findings of the study disagree with the predisposing factors of Andersen (1968) health utilization framework that education and marital status are a determinant of utilizing health care services.

The findings of the study indicate that the highest ranked barrier to utilization of private medical insurance services among teachers was lack of specialists and the second ranked barrier among respondents was working hours by the service providers. The findings on lack of specialists in health institutions have been found to be existent by earlier researchers. For instance, (Miseda et al., 2017) found an overall huge gap on selected specialists across the 46 counties, and the recommended focus of training of specialists in medicine and nursing. The respondents shared that working hours were a barrier to accessing health services to public health facilities covered by private health Insurance. The findings give credence to past studies that found working hours influenced service delivery in health facilities. One such study is (Bakibinga et al., 2022) found that interaction of factors like poverty and lack of insurance, poor infrastructure, limited facilities, and health system factors such as limited facility opening hours limit healthcare access and perpetuate health inequalities.

Conclusion

This study concludes that a high proportion of public primary school teachers in Kilifi County utilized private health insurance, indicating growing recognition of insurance as a form of financial protection against health-related risks. Consistent with Andersen's Health Service Utilization Model, the findings show that predisposing factors, particularly gender, influenced utilization, with female teachers more likely to use private health insurance than their male counterparts. However, other predisposing variables such as age, marital status, and education did not show significant associations, suggesting that demographic characteristics alone may not fully explain utilization behavior in this context.

Enabling factors identified in the study such as limited availability of specialists and restricted service hours reflect structural barriers that constrain access despite insurance coverage, aligning with Andersen's view that resource and system-level factors can hinder effective service use. Although need factors were not directly measured, teachers' perception that private

insurance improved affordability and access implies that perceived need for quality healthcare also motivates utilization.

Overall, the study supports Andersen's model by demonstrating that health service use results from the interaction of predisposing and enabling factors. However, the limited influence of some demographic factors and the persistent structural barriers highlight the need to adapt the model to local realities such as healthcare infrastructure and administrative challenges within the TSC scheme.

Limitations

One of the limitations of the study was the inclusion of primary school teachers and did not include teachers from the secondary level of education. The study also did not collect views from teachers in other counties as the study was limited to Kilifi County. The study was also limited to using quantitative methods of data collection and this means the study lacked personal experience and stories of the respondents which would have provided deeper insight into utilization of private health insurance. The study was also limited to the drop and pick method of administration which means the researcher could not have personal interactions with the respondents due to the COVID-19 restrictions and guidelines imposed by the authorities. These restrictions and guidelines and closure of schools during data collection were also a limitation of the study to achieving a higher response rate.

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