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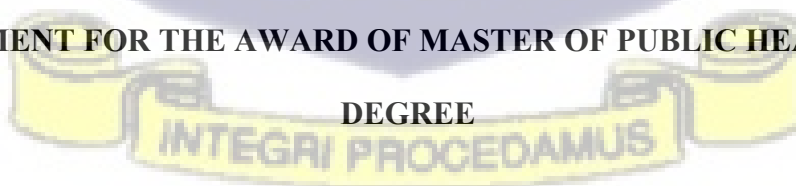
UNIVERSITY OF GHANA



**ASSESSING THE RELATIONSHIP BETWEEN ENROLLMENT ON TO A HEALTH
INSURANCE PACKAGE AND HEALTH-SEEKING BEHAVIOR AMONG DOCTORS
IN THE GREATER-ACCRA REGION**

**BY
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**THIS DISSERTATION IS SUBMITTED TO THE SCHOOL OF PUBLIC HEALTH,
UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH (MPH)**



DECEMBER 2025.

DECLARATION

I declare that except references to other people's work that have been duly acknowledged, this dissertation is the result of my research and this dissertation either in part or whole, has not been presented for another degree elsewhere.

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Date: 26th December 2025.

Wilhemina Fiankobe Adarkwa

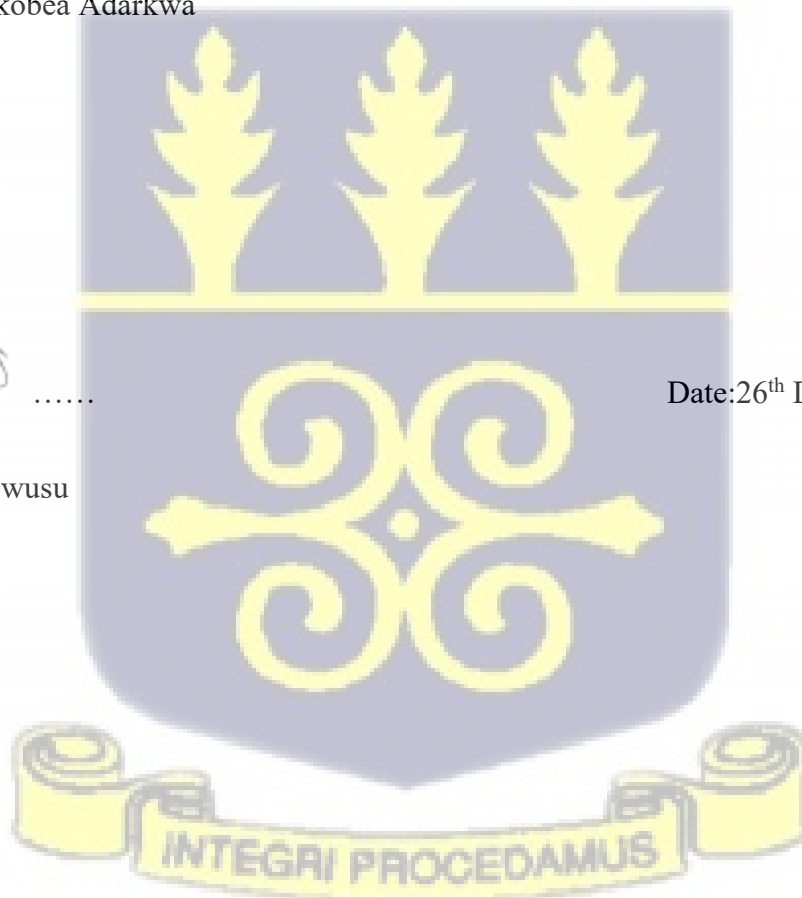
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DEDICATION

This thesis is dedicated to my wonderful family for their profound support, encouragement and understanding over the period. The journey had not been easy but you made it worthwhile.



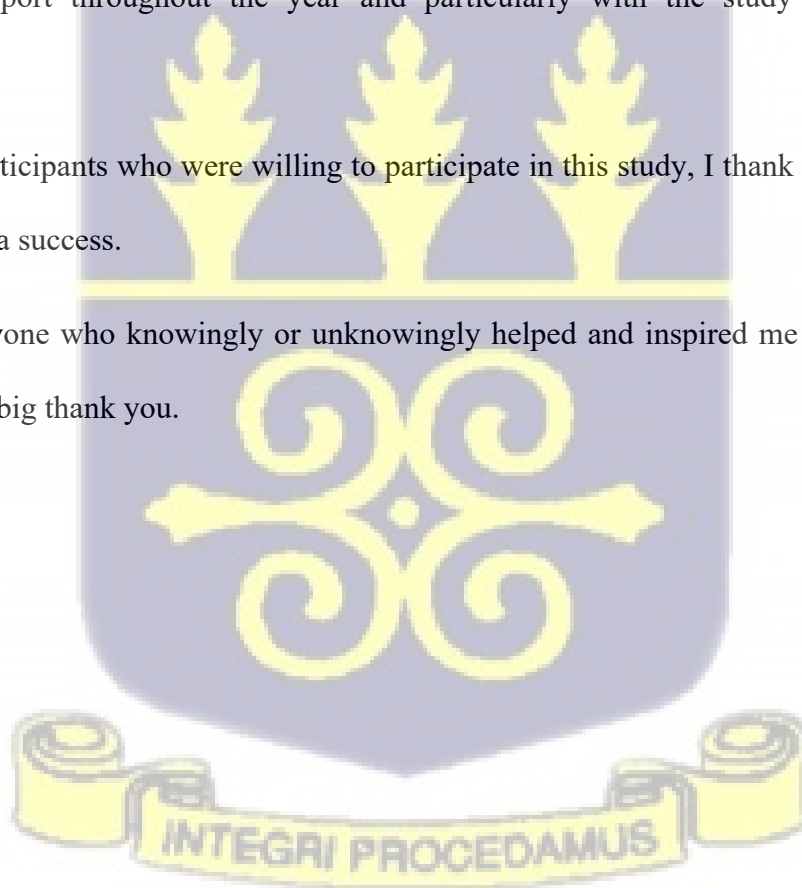
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ABSTRACT

Introduction: Healthcare workers, especially doctors, face high occupational risks that increase their susceptibility to illness, yet literature shows they often exhibit poor health-seeking behavior. Despite their knowledge of the healthcare system, it is unclear whether doctors themselves subscribe to health insurance packages that facilitate appropriate health-seeking behavior. This gap is particularly relevant in Ghana as the NHIS, and universal health coverage initiatives advance. Examining how insurance enrollment influences doctors' health-seeking behavior in the Greater Accra Region is therefore essential for guiding policy and enhancing physician well-being.

Methodology: A quantitative cross-sectional study was conducted in three hospitals in the Greater-Accra region among 361 doctors. A structured questionnaire was used to collect data from 361 medical doctors proportionately sampled from the Korle-Bu Teaching Hospital, Achimota Hospital and University Hospital, Legon. Independent variables included sociodemographic characteristics of participants and their health insurance status. The dependent variables were burden of out-of-pocket payment for healthcare and health-seeking behavior of medical doctors. The data was analyzed using STATA 17. Descriptive analysis of independent variables such as sociodemographic characteristics was conducted. These were reported as frequencies and percentages and presented in tables and graphs. The distribution of the reasons for enrollment or non-enrollment among the insured and uninsured respectively, was presented in tables as frequencies and percentages. Chi-square analysis and Logistic regression analysis were done to determine the association between the dependent and independent variables. A p-value less than 0.05 was considered as statistically significant.

Results: The mean age of respondents was 30.1 years with approximately 63% of them insured. There was a high rate of out-of-pocket payment among doctors with as much as 10.5% of them

having catastrophic health expenditure at a threshold of 10% of their total income. The burden of out-of-pocket payment was found to be significantly associated with health insurance enrollment ($\lambda=8.579$; $p\text{-value}=0.035$). Reducing out-of-pocket payments was the commonest factor (74.3% of the insured) associated with health insurance enrollment whilst poor coverage and service provided was the most cited reason (45.9% of the uninsured) for not enrolling on a health insurance. Most of the doctors (52.6%) were found to have poor health-seeking behavior with more than a third engaging in self-medication (50.4%) and informal consultation with colleagues (36.6%) as their main means of seeking care when unwell. There was a strong association between health insurance status and health-seeking behavior showing that those insured had more than twice higher odds of good health-seeking behavior compared to the uninsured (aOR = 2.25, 95% CI: 1.43–3.55 $p\text{-value} < 0.001$).

Conclusion: Health insurance enrollment has been shown to have higher odds of reducing the burden of out-of-pocket payment and improving health-seeking behavior. There is the need for tailored comprehensive health insurance packages and promotion of benefits of insurance packages among healthcare workers including doctors.



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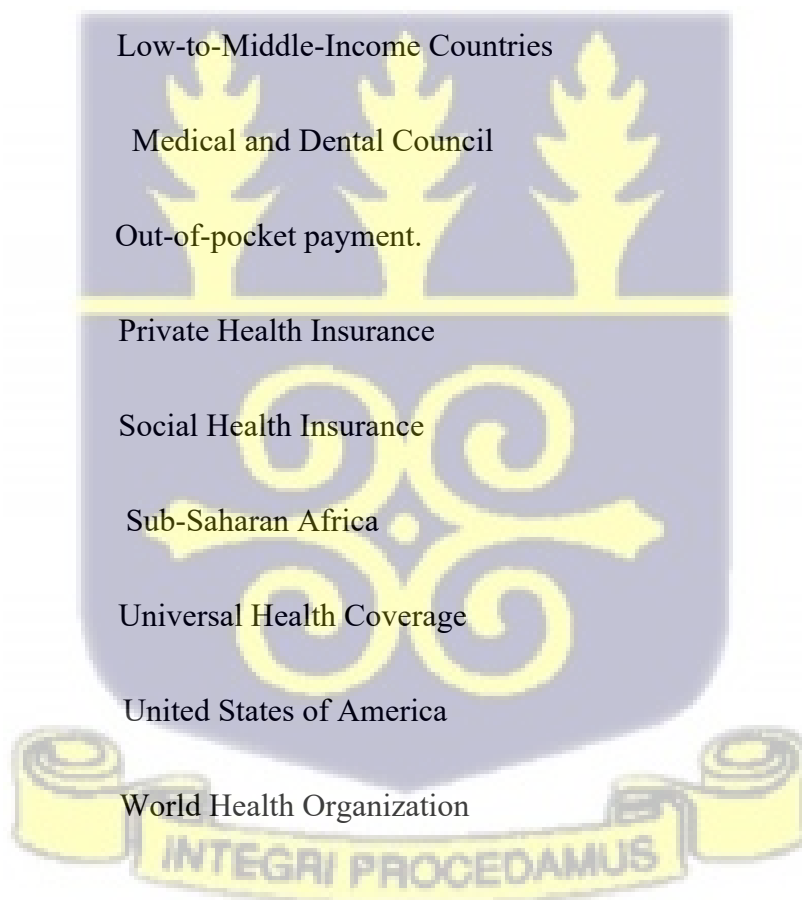
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LIST OF ABBREVIATIONS

<u>Abbreviation</u>	<u>Meaning</u>
CBHI	Community-Based Health Insurance
CHE	Catastrophic Health Expenditure
CHPS	Community-based Health Planning Services
GMA	Ghana Medical Association
KBTH	Korle-Bu Teaching Hospital.
LMICS	Low-to-Middle-Income Countries
MDC	Medical and Dental Council
OOP	Out-of-pocket payment.
PHI	Private Health Insurance
SHI	Social Health Insurance
SSA	Sub-Saharan Africa
UHC	Universal Health Coverage
USA	United States of America
WHO	World Health Organization



CHAPTER ONE

INTRODUCTION

1.1 Background

Doctors are an integral part of the human resource, and this health workforce is important to the delivery of quality health as they form the backbone of any health system. To carry out their functions, which include health promotion, preventive services as well as curative and rehabilitative services, there is the need to ensure the capability of the health worker which is greatly influenced by health status. Sadly, health workers are exposed to various stressors daily such as occupational and safety hazards, enormous workload, and exposure to resistant strains of various microbes known to be resident within the hospital environment, to mention a few (Sun et al., 2017). These all predispose them to various ailments and increase their susceptibility to severe illnesses from the resistant strains which are sometimes difficult to treat (Fawibe et al., 2017). Moreover, with the laborious schedule of professional training and patient care most doctors have, it is noticed they are usually left with little or no time to pay attention to other aspects of life including leisure and health-promoting activities such as exercise and routine health screening (Mihaila et al., 2020). To make matters worse, previous literature suggests poor health-seeking behavior among doctors due to a myriad of factors including the burden of out-of-pocket payments (Bana et al., 2016).

Also, there has been significant evidence supporting a correlation between health insurance coverage and health-seeking behavior (Abu Bakar & Samsudin, 2016; Samsudin et al., 2012). Health-seeking behavior is said to be any activity individuals who perceive themselves to be ill engage in to find the right remedy (Khadka et al., 2022). One of the four fundamental agents that

influence health-seeking behaviors is sponsors, with the other three being health providers, health plans and consumers (Ellis & Fernandez, 2013). The healthcare market is unique with its characteristic feature of uncertainty concerning the future needs of the health of consumers and the volume of care required by providers. This results in uncertainty with both the demand and supply segments thus its uniqueness, making the role of sponsors crucial in the healthcare market (Abu Bakar & Samsudin, 2016). According to the Anderson behavioral model, family, and community resources are enabling factors leading to the utilization of healthcare services. Availability of health insurance and family savings constitute the family resources (Travers et al., 2020). Healthcare access remains a major policy concern and thus attention must be given to measures contributing to it such as health insurance coverage.

Health insurance coverage has been recommended by many researchers as an important bridge to accessing healthcare (Blanchet et al., 2012; Finkelstein et al., 2012). There are three models of health insurance, and these differ in characteristics and even their role in improving access to healthcare. These models of health insurance are Private Health Insurance (PHI), Community Based Health Insurance (CBHI) scheme, and Social Health Insurance (SHI). An example of the SHI is Ghana's National Health Insurance Scheme, a flagship social protection policy implemented in 2003 to help attain the UHC (Kusi et al., 2015). CBHI is a voluntary, non-profit scheme at the community level targeting particularly those not in the formal sector (Robyn et al., 2012). It involves payment of premiums at a flat rate but does not typically generate a large risk pool hence has its limitations to the degree of health coverage it provides. PHI is a package offered by the private sector that individuals or employees are enrolled in by their employers. It is usually characterized by large premiums but offers a degree of financial risk protection to those who can pay. SHI, of which Ghana's NHIS is an example and would be used as a reference, is usually

mandatory with defined health benefit packages. In Ghana, the NHIS was meant to cover both those in the formal and informal sectors. It was to be titrated against socioeconomic status and income expected for the household among those of the informal sector. However, due to challenges with estimating this income, Ghana's NHIS is characterized by payment of a premium at a flat rate regardless of the tax deduction on payroll among those in the formal sector (Amporfu, 2013).

Previous studies show various factors contributing to the lack of subscriptions and lack of renewal of health insurance packages (Acharya et al., 2023; Boateng & Awunyor-Vitor, 2013; Kipo-Sunyehzi et al., 2020; Kusi et al., 2015). These include inability to pay premiums, especially among those of low socio-economic status, some deemed the insurance as unnecessary, poor cooperation between institutions/insurers and the insured was noted, the element of limited coverage of benefits, rigid processes to receive health services, behavior of health professionals and poor-quality healthcare services (Acharya et al., 2023).

Doctors, a pivotal group in the healthcare sector, may however have some peculiar factors influencing their choice of enrolling onto a form of health insurance package or not, despite their awareness of the significant role it plays in reducing out-of-pocket payments and improving health-seeking behavior.

1.2 Problem Statement

Doctors are at risk of several health hazards due to the highly infectious and toxic environment in which they work as well as the stressful schedules that characterize their training and practices (Fawibe et al., 2017). Literature reports that health-seeking behavior is not uniform and there is thus the need for contextual analysis (Kakkar et al., 2013). Context here can be according to awareness, social or economic factors. Considering medical practitioners including doctors who

play a relevant role in sustaining the service delivery of the healthcare system are at risk of several health hazards, it is worthwhile to explore their health-seeking behavior. The higher risk of poor health-seeking behavior among doctors has been reported and this has been attributed to the belief that they are aware of the diseases and their management (Bana et al., 2016) . They also tend to engage in informal means of consultation such as over the phone or in passing which may take place without a comprehensive clinical assessment (full history and thorough physical examination), thereby leading to errors in diagnosis, insufficient treatment, and worsening of ailment (Fawibe et al., 2017). Despite these limitations with informal treatments, inappropriate health-seeking behavior is still noticed among doctors and this has been attributed to several factors, notable among which is the lack of insurance coverage for health (Adewoye et al., 2019).

Whilst there exists a plethora of research that has sought to address the role of health insurance coverage in promoting health-seeking behavior, it mostly focuses on the concept of challenges regarding equity among those with a low-income threshold (Nguyen & Wilson, 2017; Otieno et al., 2020). There appears to be a gap in exploring whether relevant stakeholders of the health sector such as doctors even subscribe to a form of health insurance despite having a better understanding of its role in promoting good health-seeking behavior and healthcare access.

1.3 General Objective

This study seeks to assess the relationship between enrollment into a health insurance package and health-seeking behavior among doctors in the Greater Accra region.

1.4 Specific Objectives

1. To determine the burden of out-of-pocket payments among doctors in the Greater Accra region.

2. To assess the determinants of enrolling into and renewing a health insurance package among doctors in the Greater Accra region.
3. To assess the association between health insurance subscription and health-seeking behavior among doctors in the Greater Accra region.

1.5 Research Question

1. What is the burden of out-of-pocket payments among doctors in the Greater Accra region?
2. What are the determinants of enrolling on to and renewing a health insurance package among doctors in the Greater Accra region?
3. Is there an association between health insurance subscription and health-seeking behavior among doctors in the Greater Accra region?

1.6 Relevance of the Study

The lack of financial risk protection that comes with an individual not enrolling into a health insurance package can significantly compromise the health-seeking behaviour of the individual thus affecting the overall well-being of the individual. This research has particularly been necessitated as there is little or data on the relationship between enrollment and the health-seeking behaviour among doctors in the Greater Accra region of Ghana.

Though doctors form an integral part of healthcare delivery system of any country, there is the likelihood that they may not enroll into health insurance as they may believe they have knowledge

about medical illness and in some cases even engage in informal means of seeking healthcare when they are unwell.

In a low resource country like Ghana, where healthcare the cost involved seeking healthcare is a problem, enrolling into health insurance packages can help reduce the burden of OOP among doctors. By shedding light on the burden of OOP, insurance enrollment and its influence on health seeking behaviour among doctors, the findings can inform the implementation of policies that will promote insurance enrollment, reduce the burden of OOP and promote good health seeking behaviour among doctors.

The data obtained from this study will also add to existing knowledge sue to gap in literature in our sub-region, particularly Ghana. Moreover, findings from this study regarding the association health insurance subscription and health-seeking behavior can serve as evidence for key stakeholder like Ministry of Health and National Health Insurance Authority and hospital administrators to use as a guide in promoting better quality of health of doctors thus improving productivity, quality of patient care and healthcare systems effectiveness.

1.7 Conceptual Framework

The conceptual framework of this study is based on the Anderson's Behavioral Model with a focus on its enabling factors particularly health insurance and its determinants. The Anderson Behavioral Model is a conceptual model that shows the factors leading to the usage of health services. He states that usage is hinged on three categories of factors; predisposing factors, enabling factors, and need factors. Predisposing factors include characteristics such as age and race whilst enabling factors include income, access to health insurance, and availability of health-related information.

Needs on the other hand mainly consider the individual's perception about their health and their need for health care services.

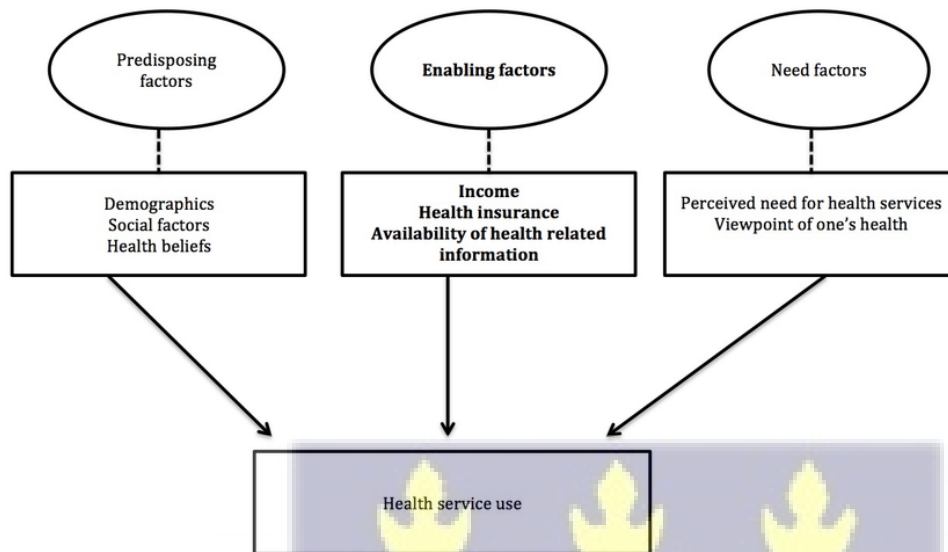


Figure 1.1 Anderson Behavioral Model

Doctors, a key population in the healthcare system, are typically expected to be well-informed about good health-seeking practices and their benefits. It is therefore unlikely that this specific population would practice poor health-seeking behavior due to a lack of appropriate insight concerning the predisposing and need factors as described above. Enrollment into health insurance falls under enabling factors which is a modifiable factor that is not taken away by the fact that doctors have insight into the need for good health-seeking behavior. Its role in enhancing health-seeking behavior is therefore highlighted, and the focus on factors influencing the choice to enroll into one may help inform policymakers and relevant stakeholders on issues to address beyond providing health information. This would improve health insurance coverage and may ultimately promote good health-seeking behavior if there is indeed an association. The individual and

institutional factors identified also serve as confounders as they may influence the health-seeking behavior of the populace. Considering this viewpoint, a simpler schematic diagram seen in Figure 2.0 can be considered to guide the boundaries of this research.

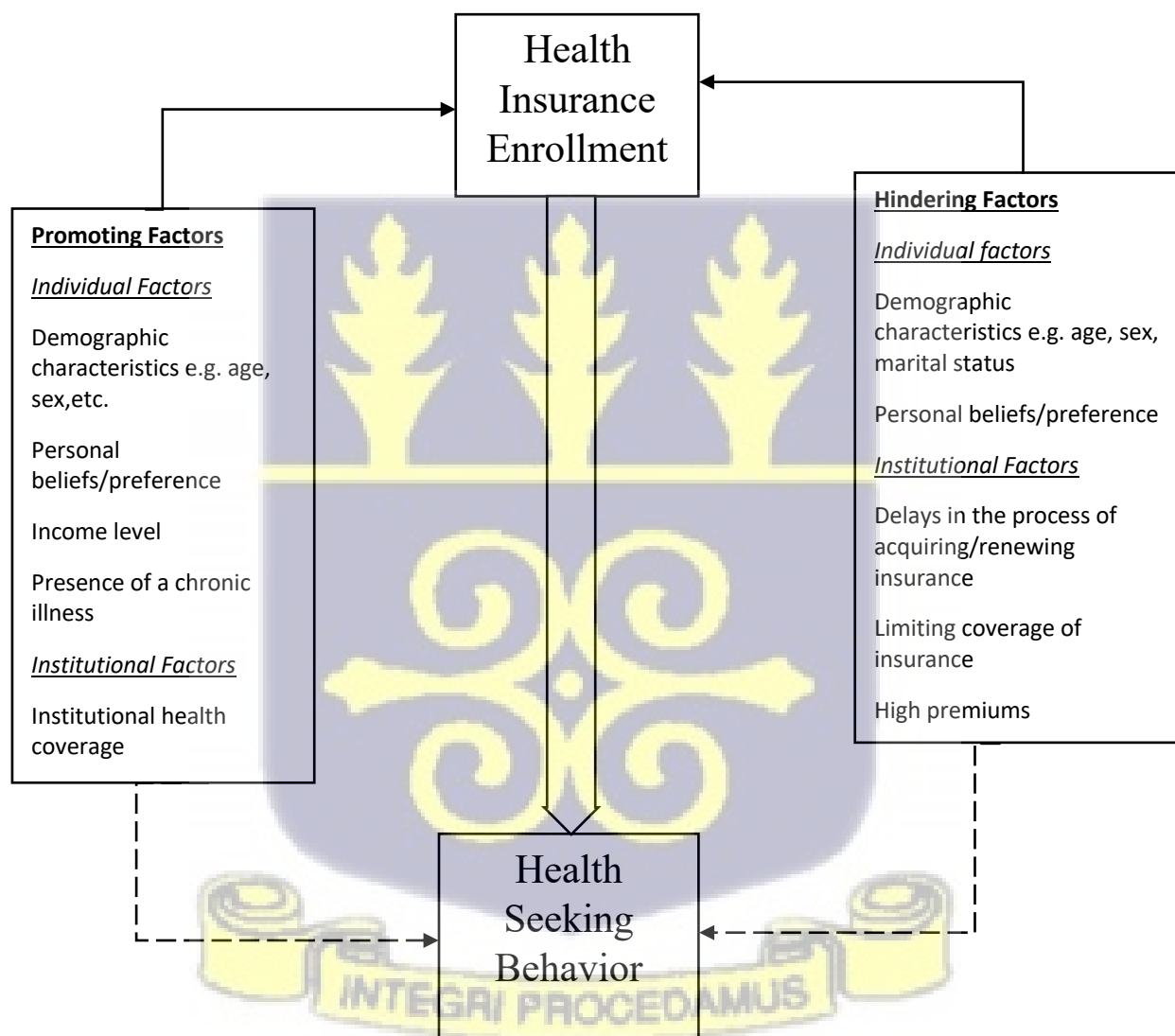


Figure 1.2 Modified Conceptual Framework

1.8 Organization of the study

This section provides an overview of the structure of the study outlining the content and purpose of each chapter. Chapter one introduces the research topic, defines the research problem and sets the objectives and research questions. Chapter two comes next providing a comprehensive review of existing literature relevant to the research topic. The literature review forms the theoretical basis for the research and guides the research approach.

Chapter three describes the methodology employed to carry out the research. It describes the research design, study area and population, sampling techniques, data collection methods and data analysis. Also, the ethical considerations of this study are discussed in this chapter.

The next chapter presents the results of the study. This provides an analysis of the data collected. The results are presented under themes to answer the research questions. It employs descriptive analysis with results being reported as frequencies and percentages and being presented in tables, graphs and pie charts. Tests of association such as Chi-square analysis and logistic regression analysis would be carried out to establish associations between dependent and independent variables in this chapter. Strengths and limitations of the study are also highlighted in this chapter.

Chapter five discusses the findings of the study in relation to the objectives of the study, comparing these findings to those of existing literature and interpreting the comparison.

Finally, the study ends with the sixth chapter which discusses implications of the findings of the study and concludes by summarizing key insights. Recommendations are also made based on these insights for policy, practice and future research.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter is a review of several studies on health insurance enrollment and health-seeking behavior. It discusses available literature under the following theme areas: health insurance and its types, prevalence of health insurance enrollment, factors influencing health insurance subscription, burden of out-of-pocket payment for health, health-seeking behavior and association between health insurance enrollment and health-seeking behavior.

2.1 Overview

Margaret Chan, the former director of the World Health Organization stated that universal health coverage was the most impactful idea in public health. At the root of this is the right to health and that no one should suffer financial hardship to obtain health care (Oxfam, 2013). This highlights the significance of health financing mechanisms. Healthcare financing differs significantly among various jurisdictions. For example, there are countries where universal healthcare is evident to some degree and these include most of Western Europe and Canada. Whereas, other countries have not achieved universal health coverage but have healthcare coverage for their citizens such as Medicaid and Medicare in the United States. In most LMICs however, particularly in sub-Saharan Africa, where there are limited resources and subsequently inadequate funding of healthcare, the role of enrollment into a form of health insurance cannot be over-emphasized (Mensah, 2020). This is expected to improve healthcare access as it would make use of large risk pools and reduce the burden of out-of-pocket payments. As this is not so widely patronized in his

region, using Ghana as a case study, it is relevant to consider the relationship between health insurance, access to healthcare, and health-seeking behavior.

Health-seeking behavior refers to actions taken by an individual when he/she perceives an illness and seeks to find an appropriate remedy (Olenja, 2003) This could be during the clinical stage of the illness when symptoms and signs are evident or potential illnesses. It also includes the attitudes of healthy individuals towards preventing diseases (primary prevention), early detection to facilitate treatment through screening (secondary prevention), and predicting and addressing potential complications so they can be avoided in an established disease (Tertiary prevention).

Good health-seeking behavior is said to improve the health status and insight of the health of a people, and this leads to earlier diagnosis and treatment (Shamsu-Deen & Adadow, 2019). Some researchers have suggested that health insurance enrollment improves access to healthcare but a focus on the causal effect of it on health-seeking behavior has not been established. A study in Burkina-Faso found some positive association between health insurance and health-seeking behavior (Robyn et al., 2012). Adewoye et al. (2019), reported that doctors generally lack good health-seeking practices due to several factors despite being perceived to have the requisite knowledge of ideal health-seeking behavior. Among the factors highlighted in this study was the lack of health insurance. Figure 1.0 below is a characteristic schematic framework of factors influencing the health-seeking behavior of people.

2.2 Health Insurance

Health insurance is a means of financing health services by pooling resources through taxation, salary deductions, or special levels (Owusu-Sekyere & Chiaraah, 2014). The uninsured are the focus of policy concern primarily because health insurance is believed to contribute to better health

by improving access to medical care through the elimination of financial barriers (Blanchet et al., 2012; Krueger & Kuziemko, 2013). Some studies showed the uninsured tend to have worse health outcomes as compared to those insured; these studies have been significant in informing policies for the expansion of health insurance coverage in the United States of America (USA) (Woodhandler & Himmelstein, 2017). It is worth recognizing the role of insurance as a tool for managing financial risk. There is abundant evidence that having health insurance improves financial security (Chuma et al., 2013; Fiestas Navarrete et al., 2019).

2.2.1 Models of Health Insurance

The Social Health Insurance is a mutual fund meant to pool funds to provide financial risk protection for the population. It has been adopted by many countries for which Ghana is no exception (Akweongo et al., 2021). An example of the SHI is Ghana's National Health Insurance Scheme, its flagship social protection policy implemented in 2003 to help attain the UHC (Kusi et al., 2015). Due to its characteristic prepayment mechanism, it does not involve deductibles and co-payments thus making it an asset in policy making for achieving UHC. It replaced the former user-fee policy locally called the 'cash and carry system' which posed a challenge to some individuals and households, particularly the poor, in accessing healthcare as they had to pay cash upon seeking healthcare (Amegbor et al., 2019). It was designed to cover the formal and informal sectors through a combination of insurance premiums and taxes. It was in theory meant to be mandatory but there has been difficulty in enforcing this as it requires annual premium payment by the informal sector before enrollment and it should be structured based on the individual or household's ability to pay (Abihiro & McIntyre, 2013). This is particularly difficult owing to the large informal sector and the corresponding challenges of assessing income and living standards. Thus, in practice, citizens pay a flat rate premium across board regardless of deductions from payroll for those in the formal

sector. This flat rate is an attempt to balance the need to pool enough resources yet not lead to financial hardship for the poor (Amporfu, 2013). After 10 years of implementation, less than 40% of Ghanaians had enrolled into NHIS, with the remaining majority of 64% paying out-of-pocket (Christmalls & Aidam, 2020).

Private health insurance schemes have also played a role in reducing OOP. PHI refers to insurance that is voluntarily subscribed to and thus paid privately, either by individuals or by employers on behalf of employees (Thomson et al., 2020). It typically involves payment of premiums linked to a person's risk of ill-health or set to a flat rate. The USA and South Africa are among the countries that heavily rely on PHI; this accounts for approximately 32% and 42% of total health spending in these countries respectively (Sinha, 2012). Its role in developing countries however remains limited with just about 11 out of 154 low- and middle-income countries funding more than 10% of their healthcare through PHI (Odeyemi & Nixon, 2013). PHI's contribution to health expenditure is relatively small in most countries, however, its effect on the performance of health systems can be surprisingly large due to market failures and weakness in public policy (Thomson et al., 2020).

It plays a variety of roles ranging from primary coverage for population groups to a supporting role for public systems. For example, Medicare exists in the United States for many elderly above the age of 65 years, qualified disabled persons, and persons living with End-stage kidney disease, and Medicaid for certain poor populations. In Germany, with the purchase of a PHI, high-income earners can opt out of the sickness fund system (Crowley et al., 2020). Premier health insurance in Ghana also sells more enticing customized packages to corporate institutions this includes Ghana Medical Association (GMA). Some consider PHI to be second-best to public spending on health but preferable to out-of-pocket payments (Thomson et al., 2020). Though it may not always favor

equity, its role in reducing OOP contributes to the effort of achieving UHC and is thus worthy of notice.

Community-based health insurance (CBHI) schemes are voluntary, non-profit health insurance schemes organized at the community level and mostly target those outside the formal sector (Kusi et al., 2015). It is found that CHBI could provide a level of financial risk protection, especially in settings where more widespread prepayment and pooling avenues are non-existent (Kusi et al., 2015). It, however, continues to have challenges in being scaled up to reach UHC and some recognized factors include low enrollment rates (Soors et. Al, 2010), little revenue generated, and the inability to establish large risk pools (De Allegri et al., 2009). Moreover, there is the payment of flat rates which are usually a significant proportion of the earnings of the poorer population (Chuma et al., 2013) and it intrinsically has no provision to generate revenue for those too poor to pay premiums. There is also the challenge of the high cost of facilitating the collection of premiums and this can reduce the risk pool being generated (Kusi et al., 2015).

2.2.2 Prevalence of Health Insurance Enrollment

Worldwide, the prevalence of enrollment into a health insurance package varies mostly between 20-80% with few outliers being the countries that have achieved a form of universal health coverage such as Brazil, Sri Lanka, and Malaysia, and some low-to-middle income countries that have very low coverage, with more than 80% lacking a form of insurance coverage. These include countries such as Nepal, Bangladesh, Haiti, and Azerbaijan to name a few (ILO News, 2014). The wide disparity in prevalence is seen when we compare some data from developed countries to that of developing countries. In early 2023, nationally representative data from the United States indicated a prevalence of uninsured persons to be 7.7% and this was an all-time low (“National Uninsured Rate Reaches All-Time Low,” 2023.).

The same trend has not been realized in most LMICS, among which most of sub-Saharan countries can be categorized. Amu et al. (2021) and Barasa et al. (2021) report the prevalence of enrollment in countries across Sub-Saharan Africa (SSA) to be 8.5% on average, ranging between 0.9% in Chad to 62.4% in Ghana. Individual studies done in Ghana revealed enrollment rates to be 53% with high drop-out rates of 13-17% (Anaba et al., 2022). The prevalence of enrollment on the NHIS which is its flagship SHI programme is just about 40% (Adjei-Mantey & Horioka, 2023). This low coverage seen in LMICs for which Ghana is inclusive, leaves a significant proportion of the population without any health insurance coverage and at the mercy of out-of-pocket payments.

2.2.3 Burden of Out-of-pocket Payment

Out-of-pocket payment for healthcare according to the International Classification for Health Accounts refers to formal and informal payments for a healthcare good or service provided. This includes user-fees or co-payments and excludes pre-payment mechanisms such as taxes or contributions to health insurance premiums. This can be estimated using direct and indirect costs. Some studies included direct payment for outpatient services such as consultations, purchasing medications, performing laboratory investigations and imaging studies like X-rays, Ultrasonography among others and inpatient services which include performing diagnostic tests, doctors' reviews and essential services such as feeding and lodging to name a few (Mekuria & Ali, 2023). Other studies took into account both direct and indirect payments by interviewing both patients and their relatives about costs incurred during a period of admission among persons with cardiovascular disease. Some indirect costs estimated included cost associated with loss of productivity/income due to sick days as well as income lost by caregivers of the patients (Adeniji, 2021). These highlight the cost from the patient's perspective and can be particularly burdensome

putting one at risk of avoiding appropriate HSB or encountering catastrophic health expenditure (CHE).

CHE is an important measure when considering financial risk protection in the bid to achieve UHC by 2030. It is defined as out-of-pocket expenditure greater than 10% of a household's income or greater than 40% of its capacity to pay for health (CTP). The Global Health Observatory describes this capacity to pay for health as the total consumption of the household minus the set amount for basic needs such as food, housing, water, electricity and fuel for cooking and heating. Thus, catastrophic expenditure on health puts a household at risk of inability to cater for some basic needs. There are however some studies that make use of arbitrary thresholds of 5%, 10%, 25% and 40% of CTP for health expenditure to find out impact of outcomes and compare study findings (Barasa et al., 2017; Mekuria & Ali, 2023).

Approximately 150 million people experience CHE globally each year and as many as 100 million are pushed into poverty by it (Marzban et al., 2015). In Ethiopia, the percentage of households facing CHE estimated using the CTP method was 1% (399,174 persons) in 2010 and 0.73% (401,519 persons) in 2016 and payments for Medicines pushed 11,132 households into poverty in 2015/2016 (Mekuria & Ali, 2023). Barasa et al. (2017), found the incidence of CHE estimated using OOP payments in excess of 40% of CTP/ non-food annual expenditure to be 4.52% among Kenyans. He reported that 453 470 Kenyans were pushed into poverty annually as a result of OOP for healthcare.

Also, a study done among patients with cardiovascular disease in Nigeria, the average direct OOP payments for healthcare was found to be \$1164.2±\$2363.8 which corresponded to more than half (55.2%) the per capita income of the country (\$2110) in the study period (Adeniji, 2021). Macha et al. (2012), stated that Ghana had the highest OOP payments of healthcare making up 40% of its

total expenditure on healthcare as compared to Tanzania (26%) and South Africa (18%). This is of concern as 70% of health facilities in Ghana have been reported to be credentialed NHIS facilities (NHIA, 2017). Navarrete et al. (2019), however found that enrollment unto Ghana's NHIS reduced the probability of unmet medical needs by 15% and that on incurring catastrophic OOP for health by 7% as compared to the uninsured.

2.2.4 Determinants of Health Insurance Enrollment and Renewal

Many factors have been implicated in influencing the choice of subscription to a health insurance package and its renewal subsequently. Across various literature, demographic and household factors such as age, size of household, access to information, educational level, and employment status among others have been identified as determinants (Adjei-Mantey & Horioka, 2023; Amu et al., 2018; Dake, 2018; Jehu-Appiah et al., 2011).

The level of education and access to information have been found to have a bearing on the choice of health insurance enrollment with those who have attained higher forms of education particularly tertiary or above as compared to those with lesser attainment of education such as basic or secondary education and far more than those with no form of formal education. This could be influenced by them being less risk-averse and having a better understanding and awareness of the benefits of insurance. Also, the opportunity cost of time and incapacity from illness may be higher amongst the highly educated, and thus the drive to ensure good health and well-being, to which health insurance enrollment is a positive step (Adjei-Mantey & Horioka, 2023; Jehu-Appiah et al., 2011).

The impact of age has also been found by various literature to be statistically significant as a determinant for health insurance enrollment. A non-linear relationship was found where the extremities of age were more likely to be enrolled on a form of health insurance as compared to

the working class with the age 40 showing the least enrollment. Young adults might be less likely to enroll due to perceived invincibility or lack of perceived need, while older adults may be more inclined due to increased health concerns (Adjei-Mantey & Horioka, 2023; Amu et al., 2018; Dake, 2018).

Again, socio-economic status has been implicated in a myriad of research as an important factor influencing the decision to enroll in a form of health insurance. (Amu et al., 2018) found that poorer households were more likely to be enrolled. In Ghana, this may be attributable to the exemption from premium payments in the SHI, and this implies the NHIS is achieving its objective of being pro-poor. On the contrary, Fronstin, (2010) suggests that higher income levels usually correlate with higher rates of enrollment due to the ability to afford premiums. In addition to this, he also reported that employment status also plays a role as the availability of employer-sponsored health insurance significantly impacts enrollment rates. One is more likely to benefit from such privileges when they have full-time jobs.

Household characteristics such as the size of the household, and marital status cannot be left out in considering determinants of enrollment. Larger households (categorized as greater than 5 in number) were less likely to enroll on insurance. This could be a result of the larger burden on finances reducing the availability of funds to spend on health insurance. The married, as compared to those who never married, are more likely to enroll on a health insurance package. This could be due to the availability of pooling of resources to manage the household and cater for their health needs (Duku, 2018).

Apart from the influence of the socio-demographic features discussed above on health insurance enrollment, other literature has reported various reasons that participants cited for subscribing to a health insurance or failure to do so. Mcwilliams, (2009), stated that those with pre-existing health

conditions or higher healthcare needs may be more motivated to enroll in health insurance. Those who reported more than one illness within the past two weeks of a study were classified as being poorer in health (Adjei-Mantey & Horioka, 2023). In that same study, they found that those who seemed to have frequent bouts of illnesses were likely to enroll on a form of health insurance because they require more health services. Also, reduction of the burden of out-of-pocket payment was stated as a factor that promoted the enrollment into a form of health insurance (Jehu-Appiah et al., 2011).

Other factors have been found to be associated with lack of insurance subscription or failure to renew a pre-existing health insurance package. This includes individual factors and institutional or policy related factors. Individual factors such as inability to pay (Acharya et al., 2023; Boateng & Awunyor-Vitor, 2013) personal sentiments which include a lack of trust in the insurance scheme and a belief that the quality of healthcare will be less when being funded by an insurance scheme (Adebayo et al., 2015; Jehu-Appiah et al., 2011; Kusi et al., 2015) have been identified. Also, taste for other sources of care was found to be a reason for non-renewal of insurance (Boateng & Awunyor-Vitor, 2013), whilst others reported certain household claiming their members did not fall sick so they did not see the need to be insured and also registration difficulties as well as lack of trust in NHIS officials (Acharya et al., 2023; Kusi et al., 2015).

Personal preferences or beliefs have been identified as a determinant of enrollment. This unfortunately is greatly influenced by flaws in service delivery involving insurance schemes such as its lack of acceptability universally (e.g., Private Health Facilities only accepting specific insurance packages for your health coverage), its limited coverage as regards healthcare, its high premiums titrated against certain classes of people such as the elderly and long maturation time to enjoy healthcare services to name a few (Kipo-Sunyezi et al., 2020; Kusi et al., 2015; Ranabhat

et al., 2020). Poor service quality and the double burden of registration and renewal were also identified as reasons why people do not enroll on health insurance(Acharya et al., 2023; Boateng & Awunyor-Vitor, 2013; Kipo-Sunyezi et al., 2020).

2.3 Health-Seeking Behavior

Health-seeking behavior is said to be any activity carried out by individuals or groups who perceive they have a health problem to find an appropriate remedy (Olenja, 2003). It describes actions taken to prevent, minimize or cure a disease condition, thus ensuring good health status. These health-seeking practices determine how health-services are utilized in a population. Health service utilization and the overall health status of a people tend to affect a nation's economic development. These actions are often preceded by decision-making processes which are influenced by individual and household behavior, culture of the people, expectations and health service provider-related characteristics(Ihaji et al., 2014). Consequently, health-seeking behavior is not uniform; it varies based on both cognitive and noncognitive factors, necessitating a contextual analysis. Context can encompass aspects of cognition or awareness, as well as sociocultural and economic influences(Kakkar et al., 2013).

Numerous studies have explored health-seeking behavior (HSB) in relation to different diseases. However, understanding of HSB among specific population sub-groups remains limited. (Latunji & Akinyemi, 2018). Adewoye et al. (2019),states that health professionals often exhibit poor health-seeking practices for various reasons, including the demands of their medical roles. While doctors and nurses are generally thought to possess a solid understanding of optimal health-seeking behaviors, it is essential to assess their level of awareness and whether they apply this knowledge

in practice. Health-seeking behavior of health professionals is essential in maintaining a good health status making them better able to carry out their professional duties which would result in quality health-service delivery to the populace (Khadka et al., 2022). Some research has however found the health seeking behavior of doctors to be dominated by apathy for regular health-screening, delay in seeking healthcare, self-diagnosis and treatment and engaging in informal consultations with colleagues (Adewoye et al., 2019; Khadka et al., 2022). This is of concern as inappropriate health-seeking behavior such as self-medication though helpful in some emergency situations, may be associated with loss of objectivity and may increase the risk of drug abuse and dependence especially in case of sedatives and painkillers (Zheng et al., 2023). Also, the practice of informal consultations, use of alternate sources such as faith-based healing mechanisms or herbal treatments may lead to misdiagnosis or delayed diagnosis as insufficient medical history and relevant investigations may not be carried out resulting in worse outcomes (Nuhu, 2018). Nuhu (2018), reports experiencing such outcomes in a tertiary hospital in Ghana where he worked as a clinician. He states that patients who sought non-orthodox means of healthcare as an initial response, develop complications and then seek formal healthcare much later at a point when their conditions have become more difficult to manage (Nuhu, 2018).

2.3.1 Patterns of Health-Seeking Behaviour

There have been various means of seeking healthcare spanning traditional means such as the use of herbal preparations and these may be from licensed practitioners or not, faith-based healings to orthodox or allopathic medicine (Aziato & Antwi, 2016; Williamson et. Al, 2015). Others have reported self-medication and seeking for consultations through informal means such as the opinions of friends or health-worker colleagues or searching the internet using their symptoms as a guide as a means of seeking healthcare (Adewoye et al., 2019; Fawibe et al., 2017). To add to

this, in recent decades, Ghana has seen the emergence of other alternative medical practices such as naturopathy, acupuncture and seeing a chiropractor, especially in light of globalizations bringing interactions with different cultures (Chan et al., 2010). It is worthy of note, that the decision not to seek healthcare when one perceives to be ill is also described as a form of health-seeking behaviour (Olenja, 2003). Some studies also considered the order of health-seeking behaviour as it was believed that seeking healthcare from various sources may be stepwise as they explored other options based on the outcome of the previous ones. For example, Kpesese (2014) explored the first, second and third healthcare seeking behaviour during a particular illness among the aged in the New Juabeng Municipality, Accra, Ghana.

Considering the various means of seeking healthcare as described above, literature suggests ways of categorizing them to provide a comprehensive view on behaviour that should be encouraged and those that should be discouraged as a primary method of care. Davidson & Schattner (2003) described self-treatment, informal consultations or no treatment as inappropriate. Whilst consulting a general practitioner as a first point of call when unwell was found to be appropriate health-seeking behavior. Alternatively, Kpesese (2014), described health-seeking behaviour either as professional or unprofessional. Professional or formal was when healthcare was sought from practitioners certified by Ministry of Health (MOH) who had received formal training in the setting of a public or private healthcare facility and these included medical doctors, dentists, nurses, physiotherapists, dieticians, physiotherapists and clinical psychologists. He described health-seeking behaviour to be unprofessional when sought from non-licensed herbalists, solely from faith-based healing, self-medication and advice from a pharmacy or chemical seller.

2.3.2 Factors Influencing Health-Seeking Behavior

The health belief model (HBM) suggests that a person's decision to engage in a specific health behavior is influenced by two main factors: their perception of the threat posed by a disease (a negative outcome) and their belief in the effectiveness of the health behavior to mitigate that risk. The first factor, perceived threat, depends on whether an individual thinks they are at risk of contracting the disease and how serious they believe it would be if they did. The second factor, perceived effectiveness of the preventive behavior, considers not just the individual's belief in the behavior's usefulness, but also the costs associated with it, such as time, money, and effort. Research generally supports the hypotheses derived from the HBM. When health messages effectively communicate a real threat to well-being and demonstrate that a specific behavior can reduce that risk, the chances of behavior change significantly increase (Oberoi et al., 2016).

As mentioned above, health-seeking behavior is not uniform, it is influenced by various factors and thus in order to meaningful recommendations to inform policies and improve practice, it is necessary to carry out a contextual analysis. Thus, in this study, the focus is on the health-seeking behavior of medical doctors in Ghana. Considering the HBM, medical doctors are supposed to respond positively considering the first factor which is the perceived threat of illness as their training and practice is supposed to make them well informed (Khadka et al., 2022; Wamaani et al., 2023). Contrary to this, Shaikh (2008) concludes that knowledge of medicine alone cannot ascertain good health-seeking behavior as people frame their make decisions on seeking healthcare from a myriad of sociocultural factors such as demographic characteristics, and lifestyles. The second main factor of the HBM however, highlights the role of the perceived effectiveness of the preventive behavior thus it considers not just the individual's belief in the behavior's usefulness, but also the burden of costs, time and efforts used in seeking formal healthcare. These factors have

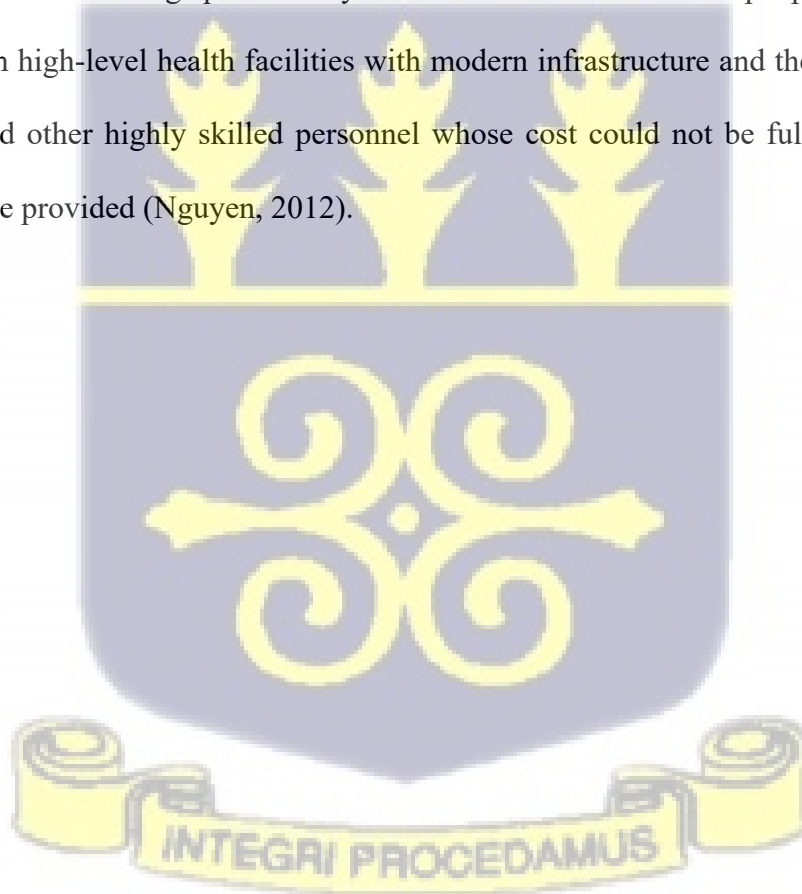
been found to significantly influence the HSB of doctors (Akeju et al., 2016; Audu et al., 2014). Adewoye et al. (2019) found that younger physicians in Nigeria with more working hours as well as those who lack health insurance were more likely to engage in inappropriate HSB such as self-medication predominantly. Other factors they reported include fear of confidentiality and poor satisfaction with the service provided at health facilities.

2.4 Association Between Health Insurance Enrollment and Health-Seeking Behavior

Generally, health insurance has been found to have a positive impact on health-seeking behavior. This claim is supported by Finkelstein et al (2012) who evaluated the effect of those enrolled on Medicaid in the U.S. following the lottery which offered a 25% chance of selection to randomly assess the impact of the increasing enrollment. It was found that after a year of enrollment, the selected were found to have significantly greater healthcare utilization, reduced OOP for medical bills, and improved self-reported health than their counterparts not offered Medicaid, which served as a control group. Blanchet et al. (2012) further buttress this point by itemizing some improvements seen in healthcare utilization among the enrolled as compared to their unenrolled counterparts. For example, only 75.5% of the uninsured as compared to 90.5% of the insured sought formal healthcare when sick. It was also found that 14.7% of the uninsured as against 20.7% of the insured had a general examination in a health-care facility in the preceding 12 months of the survey. Again 7.5% of the uninsured compared to 9.3% of women ensured they had a breast examination done in a healthcare facility in the preceding 12 months to name a few. Again, amongst the elderly living with chronic conditions in New Juabeng, Kpesese (2014) found that there was an overall strong association between means of financing healthcare and the first line healthcare seeking behavior. He reported that out of those who paid out-of-pocket for healthcare services, only 8.60% visited a professional/formal health facility as against the 77.10% who did

so amongst the insured as a first line for seeking healthcare. In contrast as much as 64.70% of the uninsured made use of self-treatment as compared to 0.00% of the insured. Also, 41% of the uninsured visited faith healers or unlicensed herbalists as a first line means to healthcare as compared to 2.10% among the insured.

Conversely, an analysis of the impact of the amendment in Vietnam in 2015 to make Public Health Insurance compulsory showed that it did not significantly reduce OOP (Nguyen, 2012). This was consistent with similar research done in Vietnam and other LMICS even in Ghana (Akazili et al., 2017; Nguyen & Wilson, 2017). This could be attributable to the mismatch between the quality of healthcare desired and coverage provided by Public Health Insurance. The people were noticed to opt for care from high-level health facilities with modern infrastructure and the full complement of specialists and other highly skilled personnel whose cost could not be fully covered by the insurance scheme provided (Nguyen, 2012).



CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter describes the methodology of the study. This includes study design, study area, study population, inclusion and exclusion criteria, sampling, data collection tools and methods, variables, data processing and analysis, and ethical considerations.

3.1 Study Design

This is a quantitative cross-sectional study to investigate the association between health insurance enrollment and the health-seeking behavior among doctors within the Greater-Accra region, Ghana.

3.2 Study Area

The Greater Accra Region is the capital for Ghana. More importantly, despite the huge disparity of the doctor-to-patient ratio reported to be 1:6,355 as at 2020, the region is privileged to hoard a majority of these doctors that seem scarce (Agyemang-Manu, 2021). It has been reported that 3393 doctors, which comprise 42% of all licensed doctors, are found in Accra alone (MDC, 2022; WHO Africa, 2023). The distribution is further skewed with about 50% of these doctors in Accra, working within the KBTH, Ridge Hospital and 37 Military Hospital alone (Kasolo, 2022).

Provision of healthcare in the region is by various levels of health facilities which include 707 Community-based Health Planning and Services (CHPS) facilities, 299 clinics, 101 maternity homes, 32 health centers, 22 polyclinics, 111 hospitals and 2 psychiatric hospitals and a number of Quasi and Private health institutions. Also, the region hosts one Regional Hospital, a Tertiary

hospital as well as a University Hospital (GHS, 2023). These diverse facilities are manned by various grades of doctors except for CHPS compounds and health centers. The levels of expertise of doctors found in the various health facilities include House-Officers (who have a temporary license and have practiced less than 24 months as practitioners and thus are still requiring practical training and supervision), General practitioners (Medical officers), Specialists-in-training (residents) as well as Specialists, Fellows, Consultants, and Professors. There is thus a rich diversity of working conditions due to the variety of levels of institutions and the management of these institutions in the region. The Korle-Bu Teaching Hospital (KBTH) located in the Ablekuma-South constituency, Achimota Hospital located in the Okaikoi North Municipality and the University Hospital located in the Ayawaso-West Municipality, all in the Greater-Accra Region would be used as case studies for this research.

KBTH, the leading tertiary facility in Ghana, houses the various major specialties and sub-specialties of healthcare practice thus patronized as a major referral center. There is the representation of all the different levels of expertise among doctors found in the KBTH as it is a tertiary facility, ranging from House-Officers to general practitioners (Medical officers), specialists-in-training (residents) as well as specialists, fellows, consultants, and even Professors. The Achimota Hospital, on the other hand, is a district hospital that forms the basic functional unit of the health system in Ghana. District hospitals serve a wider range of the populace and serve as an intermediary between the lower categories (CHPS, clinics, Health Centers, and Polyclinics) as their primary referral center and the higher categories which comprise Regional and Tertiary facilities to which cases requiring higher expertise are referred. These hospitals are manned by house officers, medical officers, and Specialists. Unfortunately, as purely governmental institutions just like many others, there is no institutional coverage for the health of its doctors.

University Hospital, Legon on the other hand, provides us with the diversity of being a quasi-facility and stratified at the district level with different dynamics of operation. As a quasi-facility regulated by the Ministry of Education, it serves the populace of the University of Ghana, providing the staff and students care without out-of-pocket payments till a certain threshold. They also serve the general populace under regular conditions of receiving payments. Doctors permanently employed enjoy some benefits just as staff and students of the University. There is the provision of health insurance coverage for the doctors as well as their dependents. These workplaces of doctors have been carefully considered with their differing dynamics with the hope of presenting representative data of this key population.

3.3 Study Population

Doctors in the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon were the focus of this study.

3.3.1 Inclusion Criteria

1. Doctors working within the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon who consented to this study.
2. Doctors working within the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon who are aged 20 years and above.
3. Doctors working within the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon who have worked for six months or more.

3.3.2 Exclusion Criteria

1. Doctors working within the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon who consented to the study but gave incomplete responses or opted out of the study.
2. Doctors working within the Korle-Bu Teaching Hospital, Achimota Hospital, and University Hospital, Legon who is absent or on leave.

3.4 Sampling

3.4.1 Sample Size Determination

The required sample size was calculated using Cochran's formula (Cochran, 1977). The sample size was calculated using the estimated prevalence of health insurance enrollment in Ghana (Amu et al., 2021).

$$\text{Sample size, } n = \frac{z^2 pq}{d^2}$$

Where;

n is the sample size

z is the statistical certainty i.e., 95% confidence interval

p is the estimated prevalence

q is (1-p)

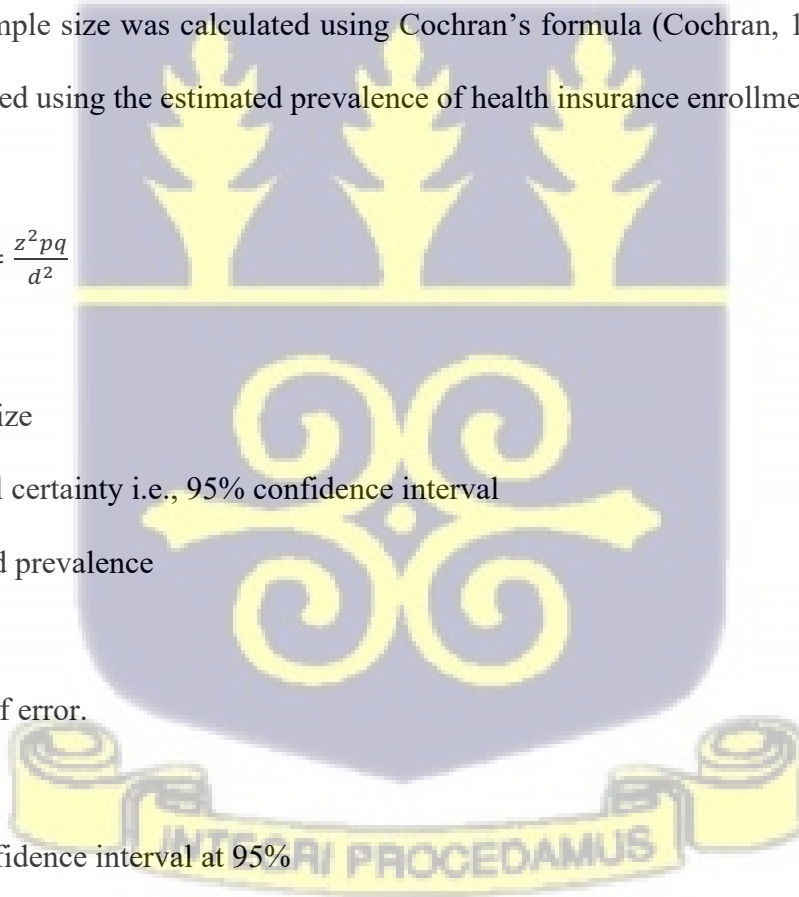
d is the margin of error.

For this study;

Z = 1.96 for confidence interval at 95%

p = 62.4% (0.62)

q = 37.6% (0.38)



$$d = 5\% (0.05)$$

$$\text{Sample size, } n = \frac{1.96^2 \times 0.62 \times 0.38}{0.05^2}$$

$$= 360.5$$

A non-response rate of 10% is then factored into the sample size: $360.5 \times 10\% = 36.1$

$$360.5 + 36.1 = 396.6$$

A total sample size of 397 was used

Table 3.1 Sample size by facility category

Facility category	Population size	Proportion to the total population	Sample size
University hospital, Legon	75	$\frac{75}{810} \times 397$	37
Achimota Hospital	95	$\frac{95}{810} \times 397$	46
Korle Bu Teaching Hospital	640	$\frac{640}{810} \times 397$	314
	Total = 810		Total = 397

3.4.2 Sampling Method

A proportionate allocation was done based on the total number of doctors obtained from the Human Resource department of the various facilities and the minimum sample size.

After permission from the facility heads and heads of department were obtained, the purpose of the study was explained at departmental meetings. The forum of departmental meetings was chosen due to the access it provided to a heterogeneous sample of doctors ranging from junior doctors to specialists and senior specialists working at all points within the various departments.

The contact email address of those who consented were compiled. A simple random sampling was

then employed using the list of emails as a sample frame. Electronic versions of the questionnaire were sent to the participants, and the completed ones were included in the study.

3.6 Data Collection Tools and Methods

A detailed explanation of the study was made available to participants physically in groups through avenues such as morning departmental meetings. Consent was however sought on an individual basis. Doctors who consented to the study were given pre-tested and corrected electronic questionnaires which was self-administered.

Information on demographics, whether or not one has subscribed to a form of health insurance, the type of insurance subscribed to and the cost of out-of-pocket payments for health needs in the past 12 months was asked as well as factors influencing the decision to enroll on a form of health insurance. This was to assess the prevalence and determinants of health insurance enrollment. Then, information on the likelihood of seeking certain standard healthcare when sick such as general examination, obtaining a prescription after a thorough consultation, and engaging in regular check-ups among others was investigated among the insured and uninsured. Participants were then asked to rate their perceived quality of their health-seeking behavior and whether they believe it would improve if they were enrolled on a form of health insurance.

3.6 Study Variables

3.6.1 Dependent/ Outcome Variable

Health-Seeking Behavior



The median split dichotomization of the net score obtained from the net score for both “when do you seek formal care” and “common health-seeking activities done in the past 12 months” was

used to determine the cut-off point for categorizing the doctors as having either good health-seeking behavior and poor health-seeking behavior. The Likert scale used for the first question “when do you seek formal healthcare?” was along the range of “Never = 0”, “Rarely = 1”, “Sometimes = 2”, “Often = 3” and “Always = 4” for the positive health-seeking behaviors (routine health screening or seeking formal healthcare when one perceives himself/herself to be unwell) which were the first and second options respectively. For the negative health-seeking behaviors listed subsequently (when self-medication fails, following an informal treatment with a colleague, when alternate medicine fails, only when very ill), the Likert scale was scored in the reverse as “Never = 4”, “Rarely = 3”, “Sometimes = 2”, “Often = 1” and “Always = 0”.

A point each was then given to each activity selected under the various health-seeking activities done in the past 12 months with “None of the above” being scored 0. The total score from eliciting health-seeking behavior ranged 0 to 31. The median score of 16 was used to split and dichotomize the participants into two group, i.e. (0-15 = 0; poor health-seeking behavior and 16-31 = 1; good health seeking behavior)

3.6.2 Independent/ Exposure Variable

- Socio-demographic factors and economic factors: age, sex, religion, marital status, household size, workplace, work experience, staff rank, out-of-pocket (OOP) payment relative to annual income
- Health Insurance Enrollment

Table 3.2 Study variables and definitions

Variable	Description	Measurement	Scale of Measurement
Age	Age at last birthday	Participant's age	Continuous
Sex	Sex differentials	Male or female	Binary
Religion	Religious affiliation	Christian, Islam, African Traditional Religion, Other	Categorical
Marital Status	Current marital status	Single, Married, Co-habiting, Divorced, Separated, Widowed	Categorical
Household size	Persons living in household	Less than or equal to 4, Greater than 4	Binary
Workplace	Current place of work	Legon Hospital, Achimota Hospital and Korle-Bu Teaching Hospital	Categorical
Work experience	Years of working as a doctor	Number of working years	Continuous
Staff rank	Current rank	House officer, Medical officer, Resident, Specialist, Senior specialist/ Consultant	Categorical
Health Insurance enrollment	Whether you have health insurance coverage	Insured, Uninsured	Binary
Burden of out-of-pocket payment for healthcare	Amount spent out-of-pocket for healthcare, relative to annual income of participants	No burden (0%), low burden (<5%), Significant burden (5-10%), Catastrophic health expenditure ($\geq 10\%$)	Categorical
Health-seeking behavior	Likelihood of seeking formal healthcare and health-seeking activities undertaken in the past 12 months	Good, Poor	Binary

3.6 Quality Control

The questionnaire was pre-tested in a smaller comparable group of 20 at the University of Ghana Medical Center and Lekma hospital which represented 5% of the calculated sample size. The pre-testing was to ascertain clarity of communication, the ability of the questionnaire to provide the

information being sought and to estimate time spent in answering the questionnaire. This informed modifications that were needed to improve the quality of the questionnaire. Standardized procedures were used in the process of data collection to ensure data is uniform and of high quality.

3.7 Data Processing and Analysis

Data processing and analysis was done using STATA® version 17. Health-seeking behavior was considered as the outcome or dependent variable with insurance enrollment and other demographic characteristics as the independent variables. A descriptive analysis of independent variables such as the demographics and prevalence of health insurance enrollment was conducted. This was presented as frequencies and percentages using tables, graphs and a pie chart. Measures of central tendency such as the mean and standard deviation were used to describe age. The burden of out-of-pocket payment was determined by using thresholds of 0%, 5% and 10% of annual income spent on healthcare needs by participants. Those who had comprehensive health insurance packages or institutional coverage for all healthcare expenses stated 0% as how much they spent out-of-pocket for their healthcare. This was categorized as having ‘no burden of OOP for healthcare’. For those who spent less than 5% of their annual income on healthcare, they were categorized as ‘low burden of OOP for health. Those that spent between 5% to 10% of their annual income on healthcare were said to have significant burden of OOP for health. Finally, it was classified as catastrophic health expenditure if OOP for healthcare made up $\geq 10\%$ of their annual income. A bivariate Chi-square test was used to test for association between the burden of out-of-pocket payment for healthcare and health insurance enrollment.

Differences in socio-demographic determinants of health insurance enrollment status were analyzed using univariate and multivariate logistic regression analysis. In addition, the distributions of the reasons for enrollment or non-enrollment among the insured and uninsured

respectively were presented in tables as frequencies and percentages. A p-value less than 0.05 was considered statistically significant.

Health-seeking behavior was also categorized as good or appropriate if the practitioner practiced preventive behaviors such as regular health screening or turned towards formal healthcare as a first point of call when unwell. It was described as inappropriate if formal healthcare was only sought after self-medication, informal consultation, alternative means such as herbal treatment from unlicensed practitioners or faith-based healings. Also, those that reported for formal healthcare services only when very ill. A 5-point Likert scale was used to assess the likelihood of these activities namely never, rarely, sometimes, often and always. These were scored between 0 to 4, with higher scores given to the response that indicates better health seeking behavior (HSB) practices. E.g. For positive behaviors such as regular routine screenings; Never=0, Rarely=1, Sometimes=2, Often=3, Always=4. However, for negative health seeking behavior (HSB) such as seeking formal healthcare only when disease worsens; Always=0, Often=1, Sometimes=2, Rarely=3, Never=4. Again, the number of healthcare activities carried out in the past 12 months such as buying medications from prescriptions or carrying out investigations after formal consultations were described to strengthen the impression of the HSB of the participants. A point each was scored per healthcare activity done and the total score was determined per participant which was used to dichotomize them into good and poor health-seeking behavior using the median as a threshold. Logistic regression analysis was used to assess the relationship between insurance enrollment and health-seeking behavior.

3.8 Ethical Consideration

Ethical clearance was obtained from the Institutional Review Board of the Noguchi Memorial Institute of Medical Research, Accra (NMIMR-IRB CPN 103/23-24). Permission was then sought

from the Medical Directors of the Legon Hospital and Achimota hospital, as well as the Chief Executive Officer of the Korle-Bu Teaching hospital and the Departmental heads of the same facility, prior to the study.

Confidentiality: Names of participants were not demanded in any part of the questionnaire to uphold privacy and anonymity. The collected data was only analyzed for the study, and all personal data will be handled with the highest discretion. Password-protected data from the study will be saved on an external storage device.

Informed Consent: A typed-out informed consent would be agreed to before participation in the study after a thorough explanation of the purpose of the study.

Voluntary participation and withdrawal: Participation is optional, no one will be coerced or compelled to partake in it and there are no consequences for declining to take part. Participants are allowed to opt out at any point in the study.

Risks: The study did not expose the participants to any obvious risk. However, if a participant experienced any discomfort at the time of consenting or data collection, he or she was allowed to take a break and continue later or withdraw from the study.

Benefits: Participants did not receive any direct benefits from the study. However, findings from the study will be used to make recommendations and inform policy in reducing burden of out-of-pocket payment for healthcare and enhancing health-seeking behaviors among doctors.

Compensation: There was no compensation in cash or kind to the study participants.

Cost: The study did not put any financial burden on the participants involved.

Funding: The study was financed solely by the principal investigator.

Results Dissemination: The results of the study will be published on academic platforms to allow the general populace to know the findings which can inform practice, policy formulation and implementation as well as future research.

Conflict of Interest: There were no issues of conflict of interest.



CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter contains the results of the study. Out of the 400 questionnaires distributed, there were 369 responses among which 8 had incomplete responses and were discarded. A total sample of 361 doctors was used for this study which represented a response rate of 90.0%. Findings reported include socio-demographic characteristics of the participants, description of the health insurance enrollment status and burden of out-of-pocket payment as well as the factors contributing to their health insurance enrollment status. It also describes the health-seeking behavior of doctors and shows the outcome of tests of association between the dependent and independent variables.

4.1 Sociodemographic characteristics of participants

The ages of the 361 participants ranged between 23 and 51 years with the mean age being 30 years, with a SD of 4.5. Majority were males (52.3%) [Table 4.1]. A significant proportion of participants were Christians (95.0%) and most were single (66.2%). Fewer participants (35.5%) were household heads, and only 26.9% had children. A greater proportion of the participants, approximately 74% had less than or up to 5 years' experience of practice. Most of the participants were house officers and medical officers, making up 40.2% and 50.4% respectively. Participants were sampled from Achimota (12.7%), Legon (10.0%) and Korle-Bu Teaching hospital which formed the majority (77.3%). [Table 4.2]

Table 4.1. Summary statistics of the age variable of the study participants.

Variable	observations	mean	Standard deviation	Minimum age	Maximum age
Age	361	30.1	4.5	23	51

Table 4.2. Socio-demographic characteristics of study participants.

Variable	Frequency	Proportion (%)
Sex		
Female	172	47.7
Male	189	52.3
Age		
23 - 28	157	43.49
29 - 34	153	42.38
35 – 40	41	11.36
> 40	10	2.77
Religion		
Christian	343	95.0
Islam	14	3.9
Others	4	1.1
Marital status		
Single	239	66.2
Married	111	30.8
Divorced/Separated	11	3.0
Household Size		
1 - 5	290	80.3
Greater than 5	71	19.7
Household head		
No	233	64.5
Yes	128	35.5
Do you have children		
No	264	73.1
Yes	97	26.9
Years of practice		
0-5 years	267	74.4
6-10 years	76	21.2
More than 10 years	16	4.4
Rank		
House Officer	145	40.2
Medical officer/Resident	182	50.4
Specialist/Senior Specialists	34	9.4
Facility		
Achimota Hospital	46	12.7
Legon Hospital	36	10.0
Korle Bu Teaching Hospital	279	77.3

4.2 Sources of funding for healthcare

There were various forms of funding for healthcare among the doctors interviewed. 271 of the 361 respondents (75.1%) were found to make use of personal savings as their main means of funding healthcare. This was followed by the use of health insurance one had personally enrolled into by 64 respondents (17.7%), then institutional coverage or free medical care by only 26 respondents (7.2%) [Figure 4.1]. Most participants, 227 out of the 361 (62.9%) were found to have an active health insurance, and this comprised 62.9% [Figure 4.2]. However, a majority of those with active health insurance still fund their healthcare mainly through out-of-pocket payments (66.6%) with only 33.4% having their healthcare expenditure being mainly covered by a form of health insurance, either one they have personally enrolled on (27.9%) or one through institutional coverage (5.5%).

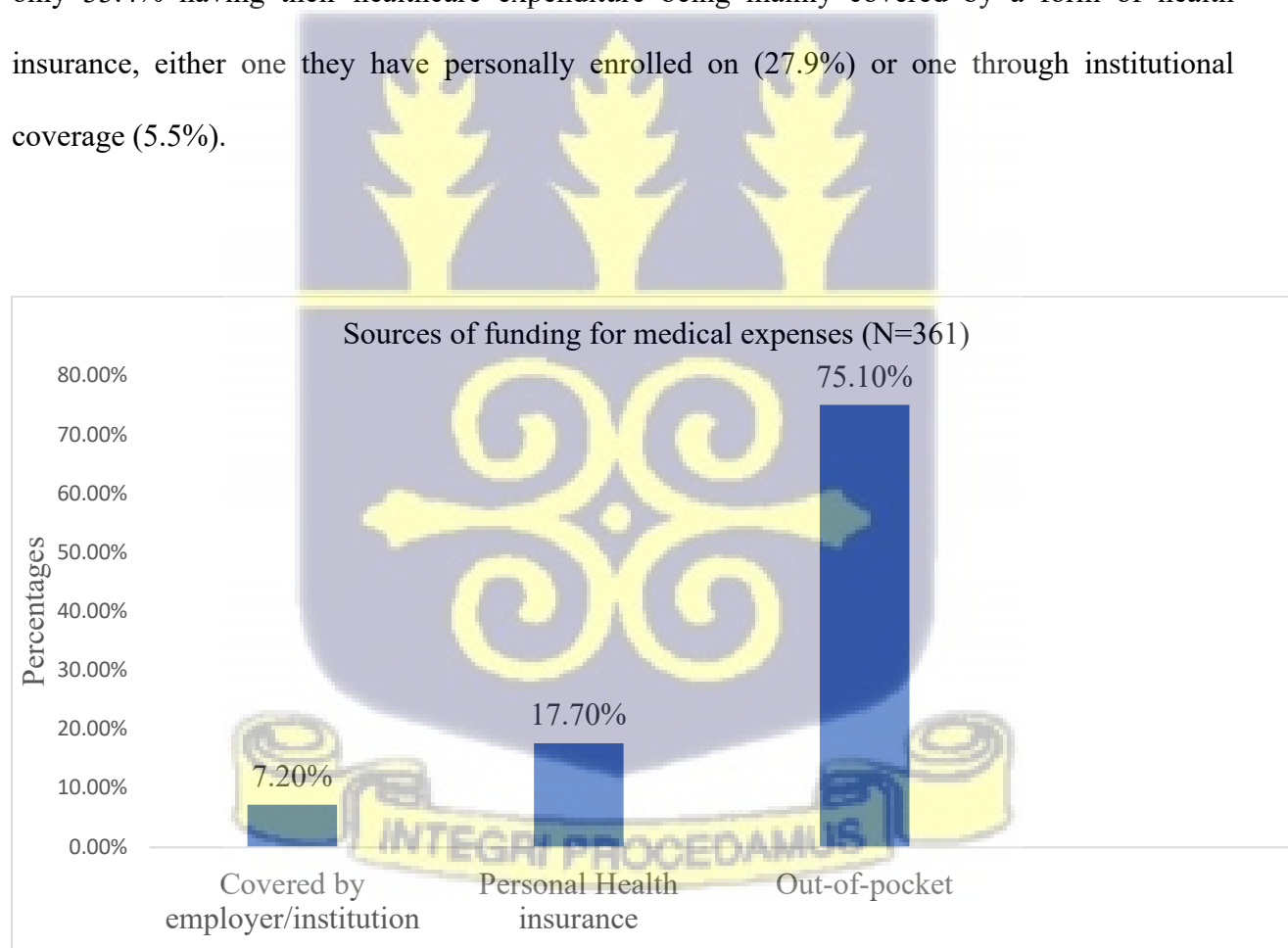


Figure 4.1. A bar graph showing the frequency distribution of the most used source of fund for medical care expenses among participants.

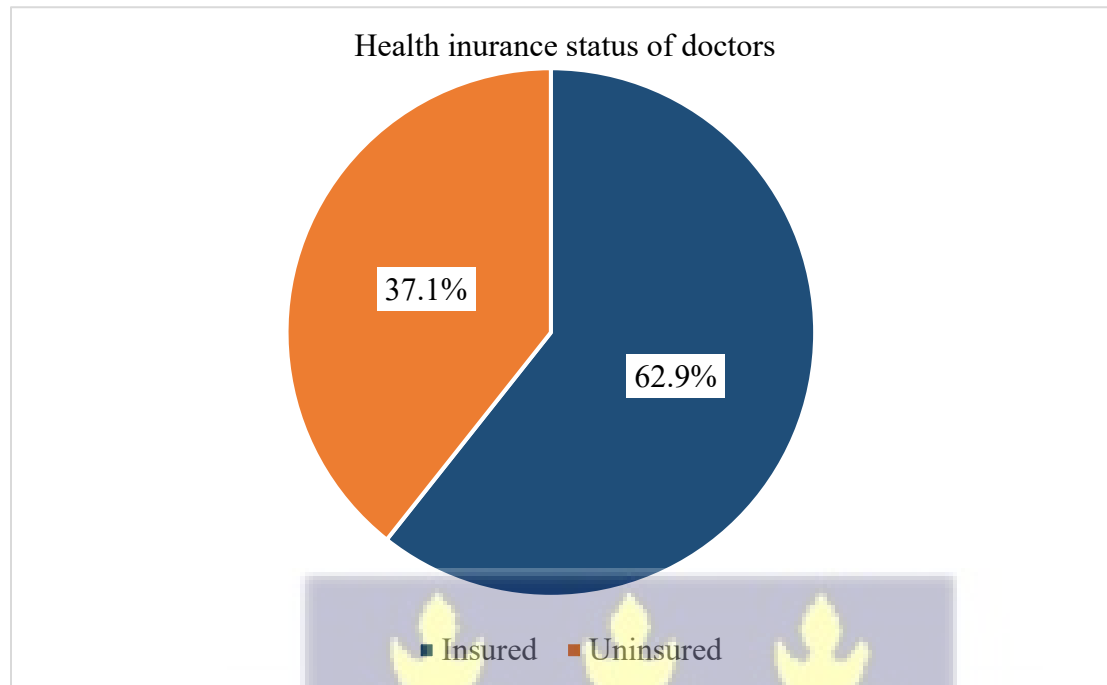


Figure 4.2. A pie chart representing the proportions of participants who are insured and those uninsured.

4.3 Burden of Out-of-pocket payment for healthcare.

Most of the doctors, 318 out of 361 respondents (88.1%), believe their work predisposes them to various health hazards. However, only 7.2% of the respondents have their medical expenses covered by their institution or employers. A greater portion of the remaining respondents, 219 out of 339, have enrolled on a personal form of health insurance. However, at least one out of every four participants (25.4%) with insurance for healthcare perceive the coverage to be very insufficient, whilst 50.2% describe it as insufficient. Only 18.0% perceive the coverage to be adequate with 5.7% of them admitting total coverage. This is further buttressed by the finding of 320 (88.6%) of the respondents paying out-of-pocket for healthcare with only 41 reporting to have spent 0% of their annual income on healthcare expenditure. Also, 268 of the 361 participants (74.2%) spent less than 5% of their annual income on healthcare whilst 36 of them (10%) spent

between 5-10% of their annual income on healthcare and 16 of the respondents (4.4%) had catastrophic health expenditure costing 10% or more of their annual income. Subjectively, only 124 (34.7%) of the respondents reported not to be bothered about the burden of out-of-pocket payment for their healthcare. Moreover, 51.5% (n=184) of study participants admitted to being sometimes burdened by it, whilst 10.1% (n=36) said they were always burdened by it. It was found that 13 respondents reported they were extremely burdened by out-of-pocket payments for healthcare needs [Table 4.3].



Table 4.3. Burden of out-of-pocket payment among study participants

Questions	Response	Frequency (percentage)
Is your work environment likely to cause health problems?	No	43 (11.9%)
	Yes	318 (88.1%)
Is your employment covering your full medical expenditure?	No	339 (92.8%)
	Yes	26 (7.2%)
How much coverage do you perceive your health insurance provides	Very insufficient	57 (25.1%)
	Insufficient	114 (50.2%)
	Adequate	39 (17.2%)
	Comprehensive (total coverage)	17 (7.5%)
Percentage spent on healthcare in relation to annual income	No burden (0.0%)	50 (13.9%)
	Low burden (<5%)	221 (61.5%)
	Significant burden (5% - 9%)	51 (14.1%)
	Catastrophic burden (10% and above)	38 (10.5%)
How burdened are you by the out-of-pocket payment	Not burdened at all	125 (35.0%)
	Sometimes burdened	184 (51.5%)
	Always burdened	36 (10.1%)
	Extremely burdened.	12 (3.4%)

4.4 Determinants of health insurance enrollment and renewal

Table 4.4 shows the factors contributing to the participants' decision to subscribe to health insurance. The majority of the participants subscribed to and renewed their health insurance to reduce out-of-pocket payments (75.0%). The next predominant factor was their knowledge of the benefits of health insurance (59.6%), followed by personal choice (37.7%), mandatory enrollment via institutional coverage (17.4%) and lastly due to burden of chronic conditions or regular need for healthcare (12.1%).

Out of the 134 persons who had no health insurance, factors stated for lack of insurance enrollment included poor coverage and services provided (51.2%). This was followed by personal choice as they did not feel the need (34.6%), then high premiums charged (30.9%), followed by the perception of no returns for investments (17.7%), presence of alternate sources such as coverage by partner's insurance among others (14.7%) and lastly shortage of disposable funds (15.4%). Also, Pearson chi-square bivariate test indicated health insurance enrollment is significantly associated with burden of OOP payment for health ($\lambda=8.579$, $p=0.035$) [Table 4.5].

Table 4.4 Factors accounting for health insurance enrollment and renewal

Variable	Responses	Frequency (percentage)
Factors contributing to decision to subscribe to health insurance	Reducing out-of-pocket payment	168 (75.0%)
	Knowledge of the benefits of health insurance	133 (59.6%)
	Chronic condition or regular need for healthcare.	27 (12.1%)
	Institutional coverage	39 (17.4%)
	Personal choice	84 (37.7%)
	Others	0 (0.0%)
Factors influencing lack of subscription or failure to renew health insurance	Did not feel the need	47 (34.6%)
	High premium	42 (30.9%)
	Poor coverage and service provided	70 (51.2%)
	No returns for investment	24 (17.7%)
	Alternate sources	20 (14.7%)
	Shortage of disposable funds	21 (15.4%)
	Others	0 (0.0%)

Table 4.5 Bivariate Chi-square test of association between Health Insurance enrollment and Burden of OOP for health

Variable	No burden of OOP	Low Burden	Significant burden of OOP	Catastrophic health expenditure	Chi-square value	p-value
Insurance Status					8.579	0.035
Uninsured	13 (9.7%)	78 (58.2%)	23 (17.2%)	20 (14.9%)		
Insured	38 (16.7%)	143 (63.0%)	28 (12.3%)	18 (7.9%)		

The crude and adjusted odds ratios (ORs) with 95% confidence intervals (CIs) for factors associated with health insurance enrollment, with a significance level set at 0.05 are described below:

Age categories showed no statistically significant associations with health insurance enrollment, with both crude and adjusted ORs indicating non-significant values across all age groups (e.g., for the 35-40 age group, adjusted OR = 1.21, 95% CI: 0.46-3.20, $p = 0.690$). Gender was also not significantly associated with health insurance enrollment, but males had 39% higher odds of enrolling on health insurance, with an adjusted OR of 1.39 (95% CI: 0.86–2.25, $p = 0.174$) compared to females. Marital status showed no significant associations with health insurance enrollment across all categories. Household headship also did not demonstrate significant associations, with adjusted OR below 1, indicating lower but non-significant odds of subscribing to a health insurance package whilst those with larger households (>5) were found to have 40% higher odds of being insured for their health, though not statistically significant. Workplace location did not significantly influence health insurance enrollment odds. Compared to those working at Achimota Hospital, participants from KBTH and Legon Hospital showed adjusted ORs of 1.29 ($p = 0.463$) and 1.01 ($p = 0.985$), respectively. Occupational grade also did not show a

significant impact, with specialists having a 1% higher likelihood of being insured for their health compared to house officers, but the effect was not statistically significant (adjusted OR = 1.01, $p = 0.990$). None of the sociodemographic characteristics showed a significant association with health insurance enrollment but there were differing odds among the various categories (Table 4.6).

Table 4.6 Logistic regression analysis between insurance status and sociodemographic features

Variable	Crude OR (95%CI)	p-value	Adjusted OR (95%CI)	p-value
Age				
23-28	1(base)		1 (base)	
29-34	0.99(0.62-1.56)	0.955	1.23(0.46-3.20)	0.484
35-40	0.84(0.41-1.72)	0.632	1.21(0.46-3.20)	0.690
>40	0.40(0.08-1.97)	0.262	0.56(0.09-3.60)	0.541
Sex				
Female	1(base)		1 (base)	
Male	1.39(0.90-2.13)	0.136	1.39(0.86-2.25)	0.174
Marital Status				
Divorced/Separated	1(base)		1(base)	
Married	0.71(0.19-2.59)	0.603	0.66(0.17-2.59)	0.551
Single	1.21(0.35-4.27)	0.760	1.06(0.26-2.85)	0.933
Household head				
No	1(base)		1(base)	
Yes	0.83(0.53-1.31)	0.424	0.84(0.49-1.45)	0.536
Household Size				
1-5	1(base)		1(base)	
>5	1.63(0.96-2.75)	0.070	1.40(0.79-2.46)	0.247
Rank				
House Officer	1(base)		1(base)	
Medical	0.83(0.53-1.31)	0.427	0.89(0.51-1.57)	0.700
Officer/Resident	0.72(0.33-1.58)	0.411	1.01(0.36-2.85)	0.990
Specialist/Senior specialist				

Workplace

Achimota hospital	1(base)		1(base)	
KBTH	1.15(0.60-2.21)	0.677	1.29(0.65-2.54)	0.463
Legon hospital	0.94(0.37-2.35)	0.891	1.01(0.39-2.59)	0.985

4.5 Health-seeking Behavior

The health-seeking behavior was reported through preventive or proactive behavior such as screening or seeking formal healthcare when one perceives he/she is unwell. These were described as having good health seeking behavior. Conversely, attitudes such as self-medication as a first resort, informal consultations with colleagues which may not be thorough, use of alternate means of seeking healthcare such as faith-based healings or herbal preparations as a first point of call when unwell as well as late reporting to a healthcare facility for a formal consultation when unwell were classified as poor health-seeking behavior. A 5-point Likert scale was used to assess the likelihood of these activities namely never, rarely, sometimes, often and always [Table 4.7]. Responses of often and always were considered as stronger indicators of practicing that behavior as their first point of call when unwell and this was reported in persons who carry out these practices. This was expressed in percentages and compared between the insured and uninsured [Table 4.8]

4.5.1 Level of Health-Seeking Behavior

The frequency of participants' healthcare-seeking behavior under various conditions, with responses categorized as "Never," "Rarely," "Sometimes," "Often," and "Always" were reported. When it comes to routine screening in the absence of symptoms, 36.3% of participants indicated they "Rarely" engage in this behavior whilst a similar proportion (34.9%) reported

that they often go for routine screenings. A majority of the participants (41.6%) reported they are "Always" likely to seek formal healthcare as a first resort when feeling unwell. However, more than a third (33.5%) report they only do so "Sometimes".

Considering self-medication as a first resort when unwell, it was found that about a third of the population (28.5%) stated they "Always" did so whilst similar proportions stated they did so "Often" (21.9%) or "Sometimes" (39.1%). Seeking informal consultations with colleagues as a first point of call when unwell was also practiced by a number of participants where about half of them admitted to doing so "Sometimes" and about a third (30.2%) reported practicing that "Often". Few participants were found to habitually seek alternate healthcare sources as a first resort when unwell as the majority of them (46.0%) stated they "Rarely" do so and 36.0% only do so "Sometimes". Seeking formal healthcare only when very ill or when disease worsens was not commonly practiced among these doctors as 38.2% stated they "Never" do so and 39.9% claimed they rarely do so. These findings suggest varying likelihoods of healthcare-seeking behavior depending on symptom severity and perceived effectiveness of previous treatments [Table 4.7].

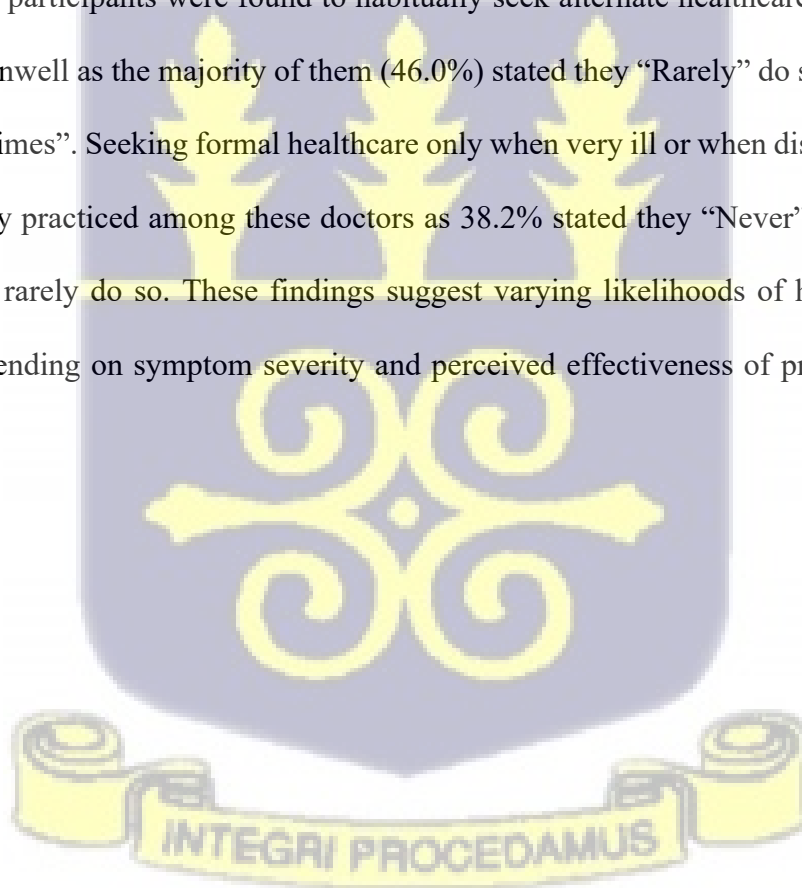


Table 4.7 Level of Health-Seeking Behavior

Variables	Never N (%)	Rarely N (%)	Sometimes N (%)	Often N (%)	Always N (%)
When I have no symptoms at all, just for routine screening (≤ 6 monthly)	56 (15.51)	131 (36.29)	33 (9.14)	126 (34.90)	15 (4.16)
When I perceive I am not well?	16 (4.43)	39 (10.80)	121 (33.52)	35 (9.70)	150 (41.55)
When I still feel symptoms despite self-medicating	13 (3.60)	25 (6.93)	141 (39.06)	79 (21.88)	103 (28.53)
When an informal treatment regimen from a colleague fails	14 (3.88)	33 (9.14)	182 (50.42)	109 (30.19)	23 (6.37)
When alternate medicines fail	16 (4.43)	166 (45.98)	130 (36.01)	30 (8.31)	19 (5.26)
When disease worsens and I am very ill	138 (38.23)	144 (39.89)	20 (5.54)	23 (6.37)	36 (9.97)

4.5.2 Health seeking behavior among participants with or without active health insurance.

Amongst those insured, majority engaged in good health-seeking behavior such as regular screening (44.1%) and seeking formal healthcare as a first point of call when unwell (56.3%).

However, in the uninsured, less than half of the respondents practiced good health-seeking behavior amongst which 30.6% engage in screening activities regularly and 41.8% seek formal healthcare as a first point of call when unwell. Amongst the insured, 47.1% reported to engage in self-medication as their first point of call when unwell, 35.3% engaged in informal consultations with colleagues, 10.1% sought care from alternate sources such as unprofessional herbalists or

faith-based healings and 12.3% only seek formal healthcare when disease worsens, and they are very ill. Among the uninsured, 47.1% of the 134 respondents self-medicate as a first point of call, 38.8% resort to informal consultations with colleagues whilst 19.4% seek alternate sources of healthcare. However, as much as 20.1% only seek formal healthcare when very ill.

Responses was also taken on the number of good health seeking behavior practices done and it was found that most respondents took medication from a prescription (68.3% among the insured and 56.7% of the uninsured), followed by routine screening (47.1% of the insured and 50.8% of the uninsured), then laboratory investigations and formal consultations (41.0% of the insured and 32.1% of the uninsured), with the least therapeutic procedures (5.3% of the insured and 5.2% of the uninsured).

Among the insured, a greater portion (41.9%) perceived their health-seeking behavior to be adequate rather than neutral or inadequate as compared to a majority (42.5%) of the uninsured stating they were neutral about their health-seeking behavior. Among the uninsured, at least one out of every two respondents admitted their health-seeking is likely to improve if they were enrolled on a form of health insurance with 33.6% of them stating they agreed and 36.6% stated they strongly agreed.

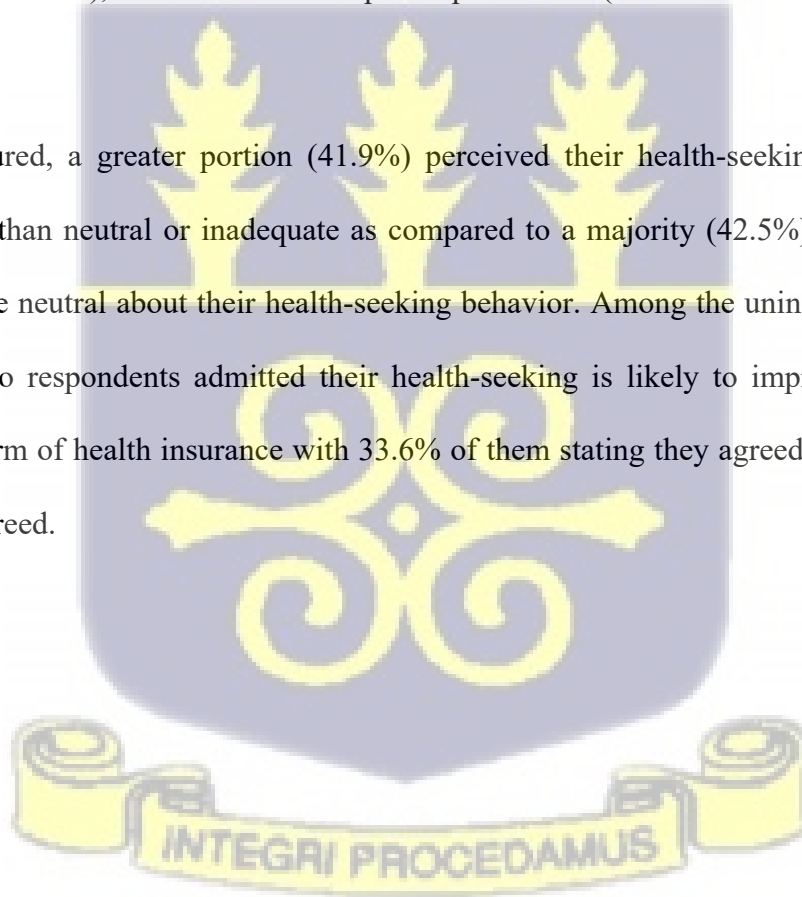


Table 4.8 Health-seeking behavior among Insured and Uninsured

Question	Responses	Frequency (percentage)	
		Participants with active insurance	Participants without active insurance
When do you seek formal healthcare?	When I have no symptoms at all for screening	100 (44.1%)	41 (30.6%)
	When I perceive I am not well	129 (56.3%)	56 (41.8%)
	When I still feel symptoms after self-medication	107 (47.1%)	75 (47.1%)
	When an informal treatment from a colleague or the internet fails	80 (35.3%)	52 (38.8%)
	When alternate medicine fails	23 (10.1%)	26 (19.4%)
	When disease worsens and I am very ill	28 (12.3%)	31 (20.1%)
Which of these activities have you done in the past 12 months	Routine health screening	107 (47.1%)	68 (50.8%)
	Taking medication from a prescription	155 (68.3%)	76 (56.7%)
	Having a formal consultation at a healthcare facility when you perceived you were unwell.	93 (41.0%)	43 (32.1%)
	Laboratory investigations requested at a formal consultation	117 (51.5%)	44 (32.8%)
	Diagnostic procedure	60 (26.4%)	24 (17.9%)
	Therapeutic procedures	12 (5.3%)	7 (5.2%)
	Follow up visits at a formal consultation at the healthcare facility after treated for an ailment.	29 (12.8%)	17 (12.7%)
What is your perception of your health-seeking behaviors	Adequate	95 (41.9%)	44 (32.8%)
	Neutral	85 (37.4%)	57 (42.5%)
	Inadequate	47 (20.7%)	33 (24.6%)
Do you think your health-seeking behavior would improve if	Strongly agree		49 (36.6%)
	Agree		45 (33.6%)
	Neutral		31 (23.1%)
	Disagree		5 (3.7%)

you subscribed to a health insurance? Strongly disagree 4 (3.0%)

4.6 Association between Health-Seeking Behavior and Insurance Enrollment

171 out of 361 participants (47.4%) of the participants were found to have good health-seeking behavior.

4.6.1 Bivariate test of association

A majority (52.6%) had poor health-seeking behavior [Figure 4.3]. The significance of the associations between the health-seeking behavior and the various sociodemographic variables, insurance enrollment and burden of OOP payment for health were assessed using the Pearson chi-square bivariate test and presented in Table 4.9. This showed that that health-seeking behavior was significantly associated with Health insurance enrollment.

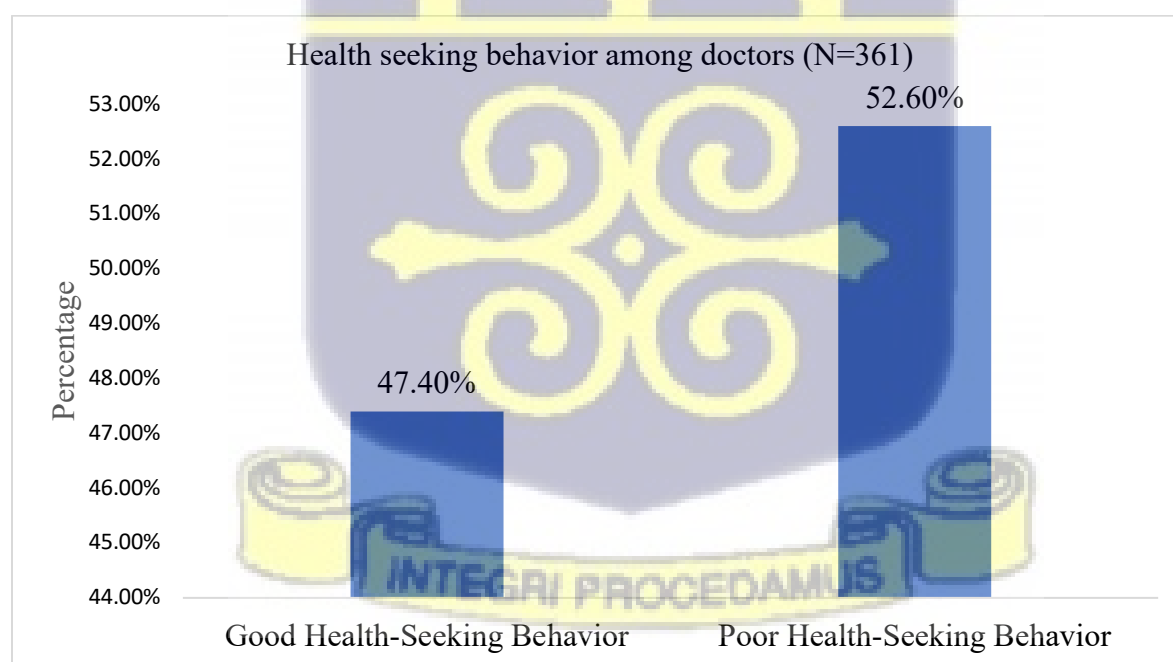


Figure 4.3 A bar graphing showing the frequency distribution of the health-seeking behavior among participants

Table 4.9 Bivariate Chi-square test of association between Health-Seeking Behavior and Health Insurance enrollment and Sociodemographic characteristics of participants

Variable	Positive health-seeking behavior	Negative health-seeking behavior	Chi-square value	p-value
Sex			0.273	0.602
Female	93 (54.1%)	79 (45.9%)		
Male	97 (51.3%)	92 (48.7%)		
Age			0.265	0.966
23 - 28	85 (54.1%)	72 (45.9%)		
29 - 34	79(51.6%)	74 (48.4%)		
35 - 40	21 (51.2%)	20 (48.4%)		
>40	5 (50%)	5 (50%)		
Marital status			1.204	0.548
Single	127 (53.1%)	112 (46.9%)		
Married	59 (53.2%)	52 (46.9%)		
Divorced/Separated	4 (42.4%)	7 (63.6%)		
Household head			0.129	0.719
No	121 (51.9%)	112 (48.1%)		
Yes	69 (53.9%)	59 (46.1%)		
Household			0.487	0.485
1-5	150 (51.7%)	140 (48.3%)		
> 5	40 (56.3%)	31 (43.7%)		
Do you have children			0.000	0.990
No	139 (52.7%)	125 (47.4%)		
Yes	55 (52.6%)	46 (47.4%)		
Years of practice			1.2411	0.538
1-5 years	137 (50.9%)	132 (49.1%)		
6-10 years	44 (57.9%)	32 (42.9%)		
More than 10 years	9 (52.6%)	7 (47.4%)		
Rank			0.672	0.715
House Officer	74 (51.0%)	71 (49.0%)		
Medical officer/Resident	96 (52.8%)	86 (47.3%)		
Specialist/Senior Specialist	20 (58.8%)	14 (41.2%)		
Facility			0.496	0.780
Achimota Hospital	25 (54.4%)	21 (45.6%)		
Legon Hospital	17 (47.2%)	19 (52.8%)		
Korle Bu Teaching Hospital	148 (53.1%)	131 (46.9%)		

Insurance Status			12.919	0.000
Yes	103 (45.4%)	124 (54.6%)		
No	87 (64.9%)	47 (35.1%)		
Burden of OOP			0.925	0.819
No burden of OOP	29 (56.9%)	22 (43.1%)		
Low Burden	115 (52.0%)	106 (48.0%)		
Significant burden of OOP	28 (54.9%)	23 (45.9%)		
Catastrophic health expenditure	18 (47.4%)	20 (52.6%)		

4.6.2 Multivariable Logistic Regression Analysis

Table 4.10 presents crude and adjusted odds ratios (ORs) with 95% confidence intervals (CIs) for factors associated with health-seeking behavior, with a significance level set at 0.05.

Age categories showed no statistically significant associations with health-seeking behavior, with both crude and adjusted ORs indicating non-significant values across all age groups (e.g., for the 35-40 age group, adjusted OR = 1.94, 95% CI: 0.74–5.12, $p = 0.176$). Gender was also not significantly associated with health-seeking behavior, with males having an adjusted OR of 1.25 (95% CI: 0.78–2.02, $p = 0.354$) compared to females. Marital status showed no significant associations with health-seeking behavior across all categories with adjusted ORs below 1. Household headship and household size also did not demonstrate significant associations, with adjusted ORs below 1, indicating lower but non-significant odds of good health-seeking behavior among heads of households and larger households. Workplace location did not significantly influence health-seeking behavior odds. Compared to those working at Achimota Hospital, participants from KBTH and Legon Hospital showed adjusted ORs of 1.18 ($p = 0.620$) and 1.39 ($p = 0.477$), respectively. Occupational grade also did not show a significant impact, with specialists having a lower likelihood of good health-seeking behavior compared to house officers,

but the effect was not statistically significant (adjusted OR = 0.72, $p = 0.587$). The number of years of working experience showed no statistically significant association across the various categories with health-seeking behavior either (e.g. Those who had worked for more than 10 years had an adjusted OR = 0.46, 95% CI: 0.10–2.17, $p = 0.326$ as compared to those who had been working for 5 years or less). Finally, Insurance status was however significantly associated with health-seeking behavior, with insured individuals showing more than twice the odds of having good health-seeking behavior compared to uninsured individuals (adjusted OR = 2.25, 95% CI: 1.43–3.55, $p < 0.001$).

Insurance status was the only variable significantly associated with health-seeking behavior of doctors, indicating that insured participants were more likely to have good health-seeking behavior compared to uninsured participants. Other factors, including age, gender, marital status, household characteristics, workplace and job grade showed non-significant associations with health-seeking behavior.

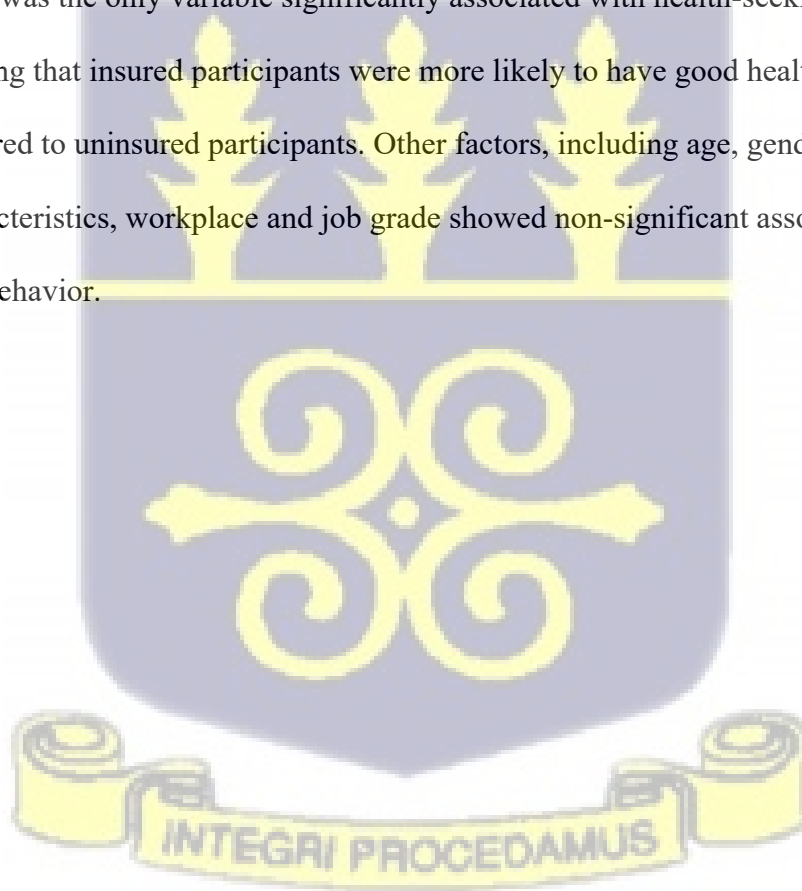


Table 4.10: Univariable and multi-variable logistic regression between Health-Seeking Behavior and Health Insurance enrollment and Sociodemographic characteristics of participants

Variables	Crude OR (95%CI)	P-Value	Adjusted OR (95%CI)	P-Value
Age				
23-28	Ref		Ref	
29-34	1.11(0.71-1.73)	0.659	1.46(0.81-2.65)	0.209
35-40	1.12(0.56-2.23)	0.739	1.95(0.74-5.13)	0.176
>40	1.18(0.33-4.24)	0.799	2.2(0.36-13.00)	0.403
Gender				
Female	Ref		Ref	
Male	1.12(0.74-1.69)	0.602	1.25(0.77-2.02)	0.354
Marital Status				
Divorced/Separated	Ref		Ref	
Married	2.53(0.64-10.02)	0.187	0.44(0.11-1.72)	0.236
Single	2.43(0.63-9.39)	0.197	0.46(0.11-1.90)	0.281
Household Head				
No	Ref		Ref	
Yes	0.92(0.60-1.42)	0.719	0.74(0.44-1.27)	0.273
Household Size				
1-5 (Smaller household)	Ref		Ref	
>5 (Larger household)	0.83(0.49-1.40)	0.486	0.81(0.46-1.45)	0.488
Workplace				
Achimota Hospital	Ref		Ref	
KBTH	1.05(0.56-1.97)	0.870	1.18(0.61-2.29)	0.620
Legon Hospital	1.33(0.55-3.19)	0.522	1.39(0.56-3.47)	0.477
Grade				
House Officer	Ref		Ref	
Medical Officer/Resident	0.93(0.60-1.44)	0.758	0.86(0.49-1.52)	0.613
Specialist/ Senior Specialist	0.73(0.34-1.55)	0.414	0.72(0.22-2.33)	0.587
Years of Working Experience				
0 - 5	Ref		Ref	
6 - 10	0.75(0.45-1.26)	0.284	0.62(0.31-1.24)	0.179
> 10	0.81(0.29-2.23)	0.680	0.46(0.10-2.17)	0.326
Insurance Status				
Uninsured	Ref		Ref	
Insured	2.23(1.43-3.46)	0.000	2.40(1.52-3.79)	0.000

CHAPTER FIVE

DISCUSSION

5.0 Introduction

This chapter discusses the results of the study comparing it to existing literature. The findings are discussed under the objectives of this study.

5.1 Summary of objectives

This study sought to ascertain the burden of out-of-pocket payment for healthcare among doctors in the Greater-Accra region of Ghana by determining the prevalence of health insurance enrollment and the role it played in funding healthcare or the lack of it. In this study, determinants of health insurance enrollment were also sought to inform recommendations for policy to improve health insurance coverage. Then, the health-seeking behavior of doctors was assessed and association between that and health insurance enrollment was tested.

5.2 Key Findings of the Study

The study shows that the prevalence of health insurance enrollment was approximately 63% but burden of OOP payment for healthcare was still high with 10.5% experiencing catastrophic health expenditure at a threshold of 10% of their total income. The burden of out-of-pocket payment was found to be significantly associated with health insurance enrollment ($\lambda=8.579$; $p\text{-value}=0.035$). Reducing out-of-pocket payments was the commonest factor (74.3% of the insured) associated with health insurance enrollment whilst poor coverage and service provided was the most cited reason (45.9% of the uninsured) for not enrolling on a health insurance. About 53% of doctors were found to have poor health-seeking behavior. Insurance enrollment was found to be strongly

associated with health-seeking behavior with a p-value <0.001 and an adjusted odds showing insured doctors were more than twice likely to have good health-seeking behavior.

5.3 Burden of Out-of-pocket Payment for Healthcare

The prevalence of health insurance enrollment was found to be 62.9% which falls within the global range found to be 20-80% (International Labor Organization News, 2014). This is much higher than the average of 8.5% reported in countries across sub-Saharan Africa (SSA) (Amu et al., 2018). It is comparable to studies done in Ghana which found enrollment rates of 62.4% and 53% (Amu et al., 2021; Anaba et al., 2022). The slight disparity with the rates found locally may be due to the differences in socio-demographic features such as socio-economic status and educational level of doctors from the general population.

Out-of-pocket payments were found to be the predominant means of funding healthcare in this study across health-insurance status with as much as 89.8% of the insured population making some out-of-pocket payment for healthcare in the past 12 months. 50 out of the 361 respondents (13.9%) made no out-of-pocket payment for health in the past 12 months. The remaining 86.1% made some form of OOP payments for healthcare which is less than the 97% seen in a study done in two regions in Ghana (Ashanti and Upper East regions), but more than the 76% reported in Ethiopia (Atalinga et al, 2024; Akalu et al., 2012). 61.5% of the population were found to spend less than 5% of their annual income on OOP payment for healthcare, 14.1% spend between 5-10% and as much as 10.5% have catastrophic health expenditure as they spend 10% or more of their annual income of healthcare needs. Majority (52.6%) of those with catastrophic health expenditure at 10% threshold were found to be uninsured. In this study, 24.6% were thus found to spend more than 5% of their annual income on OOP which is less than the 73.4% found in the Ashanti and Upper East regions of Ghana (Atalinga et al., 2024). Atalinga et al. (2024), also found that at the 10%

threshold, 32.13% of the participants were found to have made catastrophic payment which is about three times the rate (10.5%) found in this study. In like manner, the 10.5% is far less than that reported from a systematic review and meta-analysis done in Ethiopia which found the mean catastrophic health expenditure (CHE) at 10% of threshold to be 40% (95% CI: 28,52%) of the 331,537 participants (Bordeet al., 2022). At a threshold of 10% of total income, the CHE experienced by 10.5% of doctors in this study is however more than double the rate (4.52%) found in Kenya where CHE was considered as direct OOP payment in excess of 40% of their capacity to pay (CTP) for health/ non-food annual expenditure (Barasa et al., 2017).

These results show that the high burden of out-of-pocket payment for health is both a local and a global challenge and calls for all stakeholders to engage in interventions to address it. The high prevalence of CHE found despite the appreciable health insurance enrollment prevalence in this study and Ghana, may be due to the limited coverage of its' benefit package for healthcare needs. It may also be due to personal preferences for services they believe are of high quality such as consultations with highly specialized professionals and more advanced investigations or procedures that may not be covered by their health insurance package.

5.4 Determinants of Health Insurance Enrollment

5.4.1 Sociodemographic factors

In this study, the mean age of the respondents was 30.1 ± 4.5 years which shows a relatively young population among the medical doctors. The various age groups did not show significant associations with health insurance enrollment, but the age groups 29-40 showed higher odds of subscribing to a form of health insurance whilst those above 40 years showed 44% lesser odds of being insured as compared to those between the ages of 23-28. This is consistent with previous studies that reported those aged 30-34 and 35-39 years together in Ghana recording the highest

proportion of health insurance coverage (Amu et al., 2018). It is however inconsistent with other literature that reported age to be significantly associated with health insurance enrollment showing a non-linear relationship where the working class or young adults are less likely to enroll as compared to the extremities of age. This might be due to lack of perceived need with the age 40 showing the least enrollment (Adjei-Mantey & Horioka, 2023; Dake, 2018).

This study also shows that males had 39% higher odds of being insured as compared to females though not statistically significant. This is inconsistent with other local findings of higher insurance coverage among females (62.4%) as compared to 49.1% among males as well as the finding of female respondents being 2.5 times more likely to renew their insurance as compared to males in another study, both in Ghana. (Amu et al., 2018; Boateang & Awunyor-Vitor, 2013). It is however consistent with findings in Kenya, Nigeria and Tanzania where health insurance coverage was higher among males (Amu et al., 2018).

Marital status was not found to be significantly associated with insurance enrollment but the married was found to have lower odds with adjusted OR of 0.66 ($p=0.51$) as compared to those divorced/separated. Odds were also lower than the single. This is inconsistent with other literature which found an association and reported the married to be more likely to have health insurance. This was hypothesized to be due to the ability of pooling funds to meet household needs and health needs (Duku, 2018). This disparity seen in our study could be as a result of differing socio-economic status and health-seeking behavior of this target population.

Household head and household size were not found to be significantly associated with health insurance enrollment but those belonging to larger households (>5 members) were found to have 40% higher odds of being insured as compared to those from smaller households. This was inconsistent with some reports that found household size to be of significance but reported that

larger households were less likely to be insured and this was said to be attributed to an increase in household size leading to a lesser per-capita expenditure, holding income constant (Jehu-Appiah et al., 2011; Duku, 2018). The difference noted may be attributed to the ability of this target population to afford premiums of the members of the household, thus not causing the decrease in likelihood of insurance subscription.

The grade of the health professional as well as the place of work were not found to have significant associations with health insurance enrollment.

5.4.2 Reasons for health insurance enrollment.

In this study, a majority of participants (75.0%) stated the cost-benefit of a health insurance ownership to be a reason for their enrollment as it reduced out-of-pocket payment for health followed by knowledge of the benefits of health insurance (59.6%). The burden of out-of-pocket payment for healthcare was significantly associated with health insurance enrollment in this study ($p=0.035$). This was consistent with other literature which reported benefits of NHIS such as saving money from healthcare bills and avoiding debts to pay for healthcare, to increase the odds of enrolling and remaining on a health insurance scheme. It is found to have a three-fold higher predictor effect compared to perceptions about price (Jehu-Appiah et al., 2011).

About 38% of respondents reported to being insured due to personal choices and 17.4% were insured by their institution. 12.1% admitted to the presence of a chronic condition or regular need for healthcare as a reason for being insured. This is consistent with other literature where those with pre-existing health conditions, higher healthcare needs and ones with frequent bouts of illness were found to be more likely to enroll on a form of health insurance (Jehu-Appiah et al., 2011; McWilliams, 2009).

5.4.3 Reasons for non-enrollment

More than half of the uninsured (51.2%) reported poor coverage and service provided as the reason for being uninsured. This is consistent with the 58% reported for poor service quality as well as limited coverage and as reasons for non-enrollment (Boateng & Awunyor-Vitor, 2013; Kipo-Sunyehzi et al., 2019; Kusi et al., 2015). Also in this study, a significant proportion of the uninsured (34.6%) reported they did not feel the need to enroll on a health insurance as they do not fall sick. This is comparable to other studies where certain households claimed their members do not fall sick thus, they did not see the need to be insured (Acharya et al., 2023).

The next predominant reason reported for non-enrollment was high premiums by 30.9%. This is supported by literature with similar findings where respondents attributed being uninsured to the high premiums charged particularly towards certain classes of people such as the elderly (Ranabhat et al., 2020). In line with this, 17.7% also stated they believed there were no returns for investment when comparing the service delivery and coverage they received to the charges of the premiums. Similar to this is the believe of poorer quality of care on insurance schemes (Adebayo et al., 2015; Jehu-Appiah et al., 2011, Kusi et al., 2015). Also, respondents who did not think they stand to benefit from joining a health insurance scheme were unlikely to enroll (Boateang & Awunyor-Vitor, 2013). Next is shortage of disposable funds by 15.4% of the uninsured which was also noted as a factor in other studies as they reported they were unable to pay for health insurance packages (Acharya et al., 2023; Boateng & Awunyor-Vitor, 2013).

Lastly, the existence of alternate sources of healthcare or funding healthcare such as being a beneficiary of the health insurance package of a spouse by 14.7% was reported. Similar to this, taste of other sources of care was reported by 23% of respondents in another study done in Ghana. (Boateang & Awunyor-Vitor, 2013).

5.5 Association between Health Insurance Enrollment and Health-Seeking Behavior of Doctors.

5.5.1 Health-seeking Behavior of doctors

The majority of doctors (52.6%) had poor-health seeking behavior. This is consistent with the reporting that health professionals often exhibit poor health-seeking behavior practices (Adewoye et al., 2019). This finding supports other studies done indicating the health seeking behavior of doctors to be dominated by apathy for regular health-screening, delay in seeking healthcare, self-diagnosis and treatment and engaging in informal consultations with colleagues (Khadka et al., 2022; Agaba et al., 2011).

5.5.2 Health-seeking behavior among the insured and uninsured

It was found that 44.1% of the insured as compared to 30.6% of the uninsured practiced routine screening which is a preventive HSB and deemed positive. This disparity is similar to the 20.7% of the insured as compared to the 14.7% of the uninsured patients found to have gone for a general examination/check-up in the preceding 12 months (Blanchet et al., 2012). This study also found that 56.3% formal treatment when unwell as compared to 41.8% of the uninsured. Though of lower prevalence, the disparity seen among insurance status is similar to the other studies that reported 90.5% of the insured as compared to the 75.5% uninsured that sought formal healthcare when sick (Blanchet et al., 2012). Kpesese (2014), further supports the finding of this current study as he reported only 8.6% of the uninsured visited a formal health facility as first line compared to the 77.1% of the insured in a study among the elderly in New Juabeng. These findings show good HSB practices were likely among the uninsured than those paying out-of-pocket.

Considering the negative health-seeking practices, this present study found that 47.1% of both the insured and uninsured self-medicate as a first point of care when unwell. Contrary to this, it was

reported that 64.7% of the uninsured self-medicated as a first line as compared to 0% of the insured (Kpesese, 2014). This difference may be attributed to the difference in demographics and occupation of participants in these studies. The study of comparison was among the elderly with chronic illnesses whilst this study is among doctors who were mostly young with a mean age of 30. Similarly, the practice of informal consultation with colleagues was found to be almost similar across insurance status (35.3% of insured; 38.8% of uninsured). The high prevalence of self-medication and informal consultations noted with little variability across insurance status may signify the greater likelihood of these practices among doctors to be due to other factors other than insurance status such as the belief that they are aware of the diseases and their management as suggested in literature (Bana et al., 2016). This is worrisome as more than a third of doctors were seen to engage in informal consultations and about half of them in self-medication. Literature suggests that engaging in informal consultations may lead to errors in diagnoses due to the lack of a comprehensive clinical assessment thereby predisposing them to insufficient treatment and adverse health outcomes (Fawibe et al., 2017). Also, self-medication though useful in some emergency situations, may be associated with loss of objectivity and may increase the risk of drug abuse and dependency (Zheng et al., 2023).

There was however some variability found concerning the use of alternate means for healthcare such as herbal medications or faith-based healing as a first point of call when unwell. It was seen among 10.1% of the insured and 19.4% of the uninsured. Other studies found a greater disparity in the two groups with only 2.1% of the insured seeking such means as compared to 41.0% of the uninsured (Kpesese, 2014). The prevalence of delayed seeking of formal healthcare where respondents admitted to only doing so when disease worsens or they are very ill is significantly

high (12.3% among the insured and as much as 20.1% of the uninsured) considering its effect on health outcomes.

Among the seven options for health seeking activities within the past 12 months, only 24.6% had performed more than average (i.e. ≥ 4 activities) among the uninsured as compared to 26.4% of the insured. None of the uninsured as compared to 2.2% of the insured had engaged in all 7 activities. As much as 8.4% of the insured as compared to 17.2% of the uninsured had not engaged in any of these activities in the past 12 months. This is consistent with other literature that suggests more healthcare seeking activities among the insured (Blanchet et al., 2012). In support of this, 36.6% of the uninsured “strongly agreed” and 33.6% “agreed” that their HSB is likely to improve if they were insured.

5.5.3 Association between health insurance enrollment and health-seeking behavior of doctors

In this study, health insurance enrollment was seen to be significantly associated with health-seeking behavior of doctors with a p-value < 0.001 . An adjusted odds ratio considering the sociodemographic features of the participants was 2.40 indicating the insured had more than twice the likelihood of good health-seeking behavior as compared to the uninsured. This is consistent with many other studies. Abuduxike et al. (2020), reported that spending less out-of-pocket on health within the past 3 months had about twice the odds of having routine checkups. Also, Adu (2022), reports a positive relationship between NHIS status and utilization of public health facilities by those with chronic illnesses (p-value = 0.000) at 1% significance. Blanchet et al. (2012), further supports these findings by stating that the insured are significantly more likely to obtain prescriptions, have clinic visits and seek formal healthcare when unwell.

Conversely, other studies report no significant associations between health insurance status and health-seeking behavior in Vietnam and other LMICs including Ghana (Akazili et al., 2017; Nguyen & Wilson, 2017). Robyn et al. (2012), could also not reject the null hypothesis that CBI enrollment does not affect health-seeking behavior after a randomized rollout of CBI in Burkina-Faso. These differences may be due to the mismatch between the quality of care they preferred and the service or coverage provided by some insurance schemes, notably public health insurance. Nguyen (2012) noted that people would choose to seek care from high-level facilities with better infrastructure and more skilled personnel whose cost could not be fully borne by the available health insurance scheme.

5.6 Strengths and Limitations of the study

5.6.1 Strength

The study was done using doctors from varying characteristics such as grade, years of experience, workplace and nature of institutional health insurance coverage to improve heterogenicity and allow for findings to be more generalizable.

5.6.2 Limitations

The study was a cross-sectional study and thus a causal relationship of insurance enrollment status on health-seeking behavior could not be established.

The questionnaire used was not a standardized tool but adapted from extensive literature review and thus may not achieve full internal validity to assess health-seeking behavior among doctors.

The reported expenditure on health and health-seeking practices done in the past 12 months is liable to recall bias and the attempt of participants to give socially acceptable responses.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.0 Introduction

This chapter summarizes the key findings of the study and their implications. It also provides recommendations to reduce the burden of out-of-pocket payments for health and improve the health-seeking behaviors of healthcare workers, particularly medical doctors.

6.1 Conclusion

The findings of this study provide context-based and pragmatic implications for all stakeholders involved in the strive to improve health insurance coverage in line with attaining universal health coverage as well as improving health-seeking behavior particularly among healthcare workers.

In this study, about 63% of medical doctors were insured for their health. Considering the higher health risks and rates of occupational injuries or illnesses among healthcare workers including doctors, the prevalence of 62.9% might still be of concern. There is the need to ensure healthcare workers are not just insured but also covered for work-related risks and conditions.

The study shows the burden of out-of-pocket payment for healthcare is a major issue among doctors in Greater-Accra, and this was found to be significantly associated with health insurance enrollment. The finding of high burden of out-of-pocket payment with as much as 10.5% experiencing catastrophic health expenditures point to the possibility of gaps in the comprehensiveness of their insurance schemes. Considering their critical role in the healthcare system, policies should be aimed at reducing the financial burden on healthcare workers by means such as the inclusion of occupational health coverage in insurance schemes.

The high prevalence of poor health-seeking behavior found in this study is notable given that this group is expected to model good health behaviors for the society. Barriers to seeking healthcare among this population such as time constraints, workplace culture, lack of confidentiality may be contributory and must be investigated to inform policies to address them

It was also found that health insurance enrollment was strongly associated with health-seeking behavior which was found to be poor among the majority of these doctors. Thus, designing comprehensive health insurance package for this key group in our healthcare system would is likely to reduce the burden of out-of-pocket payment for health and improve health-seeking behavior. This may lead to better health in this population and help them better model healthy practices for their patients and society at large.

6.2 Recommendations

6.2.1 Recommendations for policy makers and implementers

1. Employers of healthcare institutions should ensure comprehensive health insurance packages are made available to their employees, covering both occupational -related and general health needs. The government can play a role by giving incentives or mandating that employers provide comprehensive health-insurance packages.
2. Insurance providers can also offer more affordable plans with lower deductibles and co-payment requirements to promote insurance coverage among healthcare workers regardless of their income as high premiums was stated as a reason for non-enrollment by almost a third (30.9%) of the uninsured.

3. The government and employers such as the Ministry of Health and other owners of private health facilities or Quasi facilities should develop and implement policies that are holistic, adding to basic health insurance other health benefits such as wellness programs, paid time off for health-related needs and subsidies for out-of-pocket medical expenses. The trade unions such as the Ghana Medical Association (GMA) can advocate for these considerations in labor agreements.

6.2.2 Recommendations for practice

1. Healthcare employers should invest in occupational health programs to monitor and reduce the risks health workers face such as biological, physical, chemical, ergonomic and psychosocial hazards with the help of occupational health specialists. These programs can be integrated into health insurance plans to cater for occupational hazards.

2. Employers should implement wellness programs that encourage healthcare workers to prioritize their own health such as routine health screenings, mental health support, workshops on stress management and counselling.

6.2.3 Recommendation for future research

1. Researchers should carry out qualitative or mixed method studies in this key population and other cadres of health workers with similar to ascertain the peculiar reasons for choosing to subscribe to a health insurance and their pattern of health-seeking behavior. This could help tailor interventions to this population.



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APPENDIX A: PARTICIPANT INFORMATION SHEET

Title: Assessing the relationship between enrollment into a health insurance package and health-seeking behavior among doctors in the Greater-Accra region.

Principal Investigator: Wilhemina Fiankobe Adarkwa

Address: School of Public Health, University of Ghana. Email: abbasbeloved5@gmail.com

Tel: 0547404396/ 0575703478

General Information about Research

Health insurance has been reported in many studies to have a positive significant association with health-seeking behaviors among various populations mostly the elderly or those of low socio-economic status. There is paucity of research on the association between health insurance enrollment and health-seeking behavior among those who are not classified as less privileged such as doctors though they healthcare workers have been postulated to be at risk of many occupational hazards. Some studies, however, found no significant association between these two variables. This study seeks to examine the burden of out-of-pocket payment for healthcare and health-seeking behaviors of doctors and explore if there is an association between enrolling on a health insurance and health-seeking behavior among this key group to the health system.

Nature of Research

If you agree to take part in this study, a questionnaire will be self-administered. This would require information on demographics, whether or not one is subscribed to a form of health insurance, the type of insurance subscribed to and the cost of out-of-pocket payments for health needs in the past

12 months would be sought as well as factors influencing the decision to enroll on a form of health insurance. This is to assess the prevalence and determinants of health insurance enrollment. Then, information on the likelihood of seeking certain standard healthcare when sick and its association with health insurance coverage would be elicited.

Confidentiality

Names of participants was not demanded in any part of the questionnaire to uphold privacy and anonymity. The collected data was only analyzed for the study, and all personal data will be handled with the highest discretion. Password-protected data from the study will be saved on an external storage device.

Informed Consent

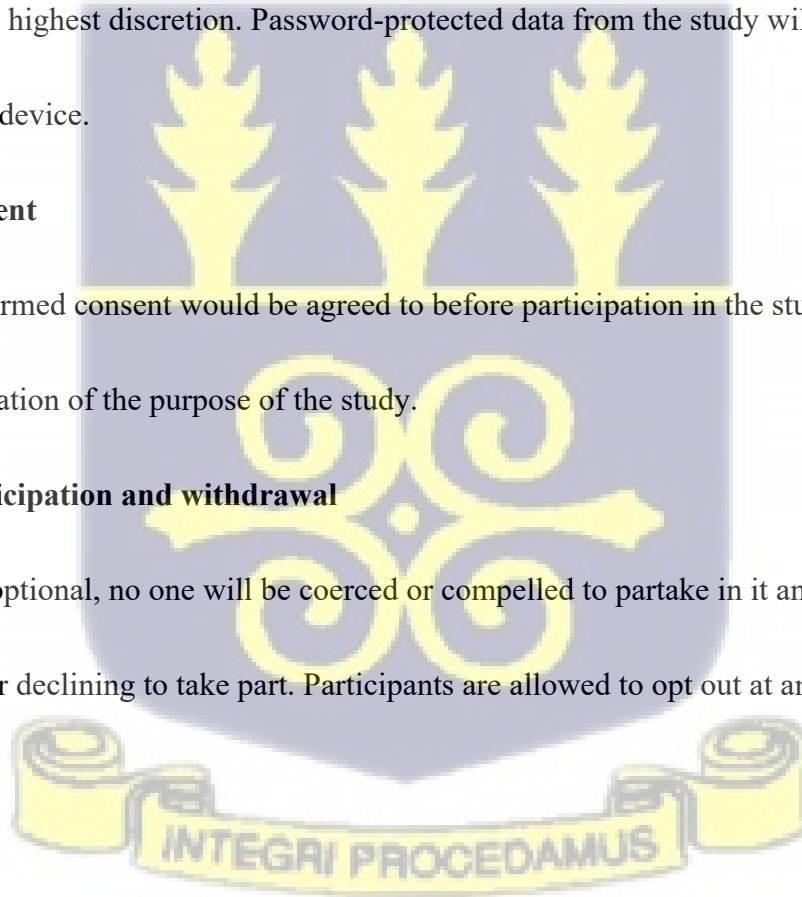
A typed-out informed consent would be agreed to before participation in the study after a thorough explanation of the purpose of the study.

Voluntary participation and withdrawal

Participation is optional, no one will be coerced or compelled to partake in it and there are no consequences for declining to take part. Participants are allowed to opt out at any point in the study.

Risks

The study did not expose the participants to any obvious risk. However, if a participant experienced any discomfort at the time of consenting or data collection, he or she was allowed to



take a break and continue later or withdraw from the study.

Benefits

Participants did not receive any direct benefits from the study. However, findings from the study will be used to make recommendations and inform policy in reducing burden of out-of-pocket payment for healthcare and enhancing health-seeking behaviors among doctors.

Compensation

There was no compensation in cash or kind to the study participants.

Cost

The study did not put any financial burden on the participants involved.

Funding

The study was financed solely by the principal investigator.

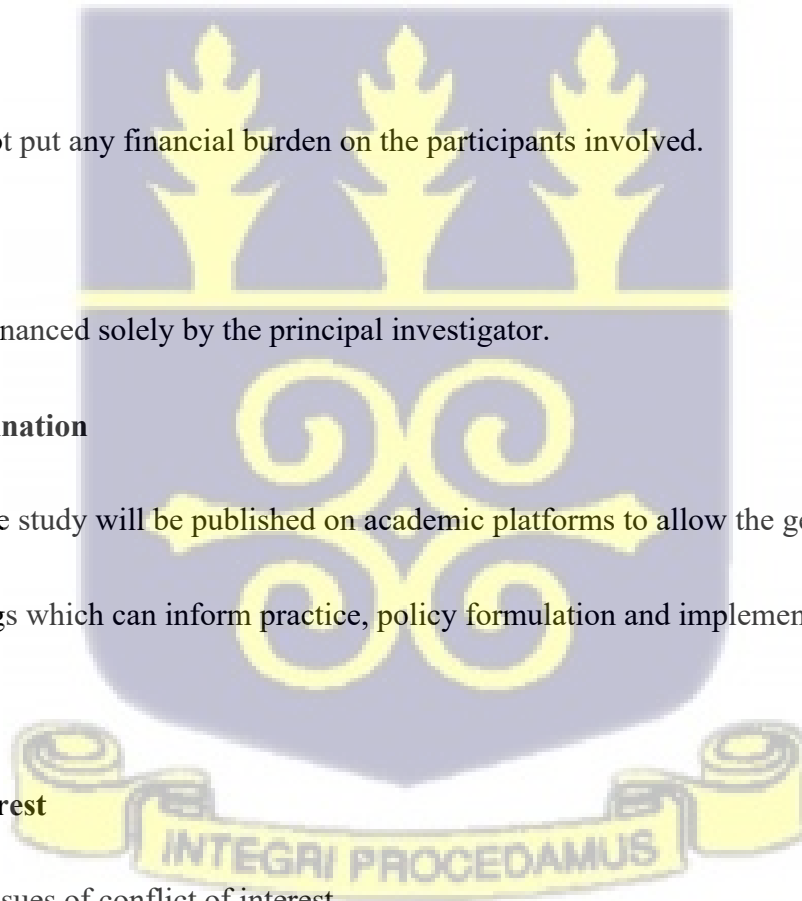
Results Dissemination

The results of the study will be published on academic platforms to allow the general populace to know the findings which can inform practice, policy formulation and implementation as well as future research.

Conflict of Interest

There were no issues of conflict of interest.

Contacts for Additional Information



You may contact me, the Principal Investigator Wilhemina Adarkwa via email

(abbasbeloved5@gmail.com) or my supervisor Dr Richmond Owusu via riowusu@ug.edu.gh if

you need further explanation of pertinent questions about this research.

Your rights as a Participant

This research has been reviewed and approved by the Institutional Review Board of the Noguchi Memorial Institute of Medical Research, Accra (NMIMR-IRB). If you have any further questions

about your rights as a research participant, you can contact the office between the hours of 8 am-

5 pm through this email addresses: nirb@noguchi.ug.edu.gh



APPENDIX B: CONSENT FORM FOR RESPONDENTS

STUDY TITLE

Assessing the relationship between enrollment into a health insurance package and health-seeking behavior among doctors in the Greater-Accra region.

PARTICIPANTS' STATEMENT

I acknowledge that I have read the purpose and contents of the Participants' Information Sheet and all questions have been satisfactorily explained to me. I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have consented.

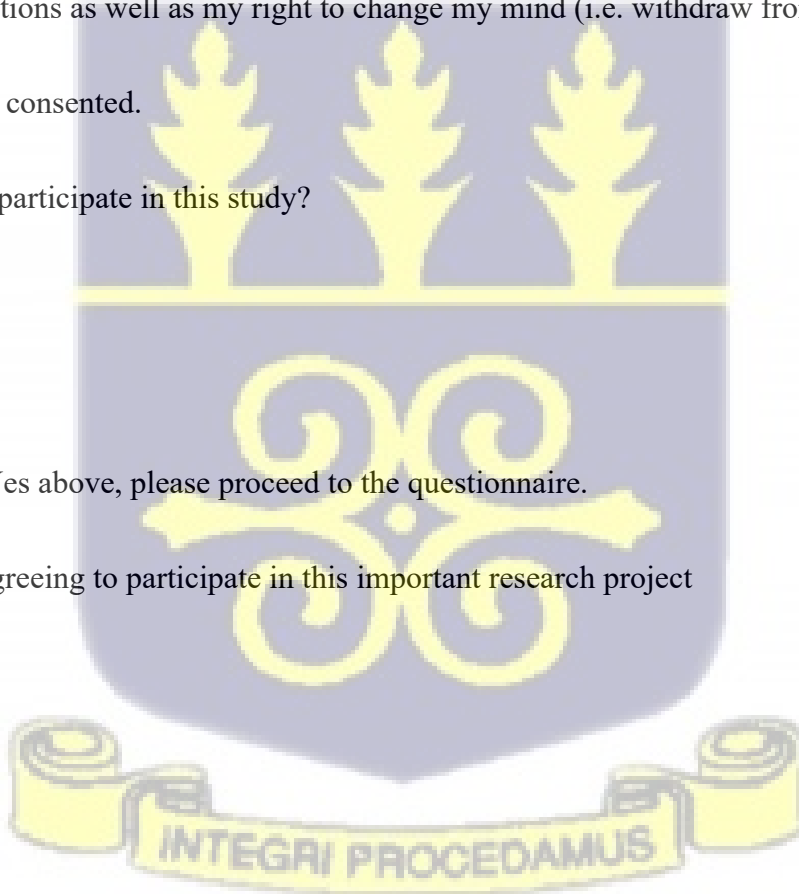
Do you agree to participate in this study?

a) Yes

b) No

If you selected Yes above, please proceed to the questionnaire.

Thank you for agreeing to participate in this important research project



APPENDIX C: QUESTIONNAIRE

SECTION A: DEMOGRAPHY

1. What was your age at your last birthday?

.....

2. Sex

a) Male

b) Female

3. Which religion do you belong to?

a) Christian

b) Islam

c) Other (specify)

4. Marital status

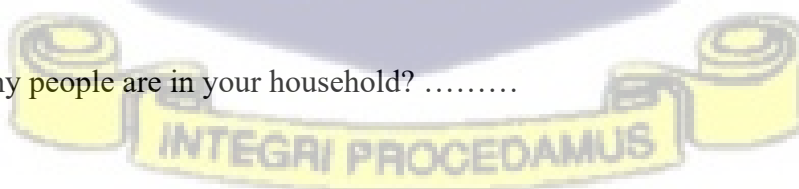
a) Single

b) Married

c) Divorced/Separated

d) Widowed

5. How many people are in your household?



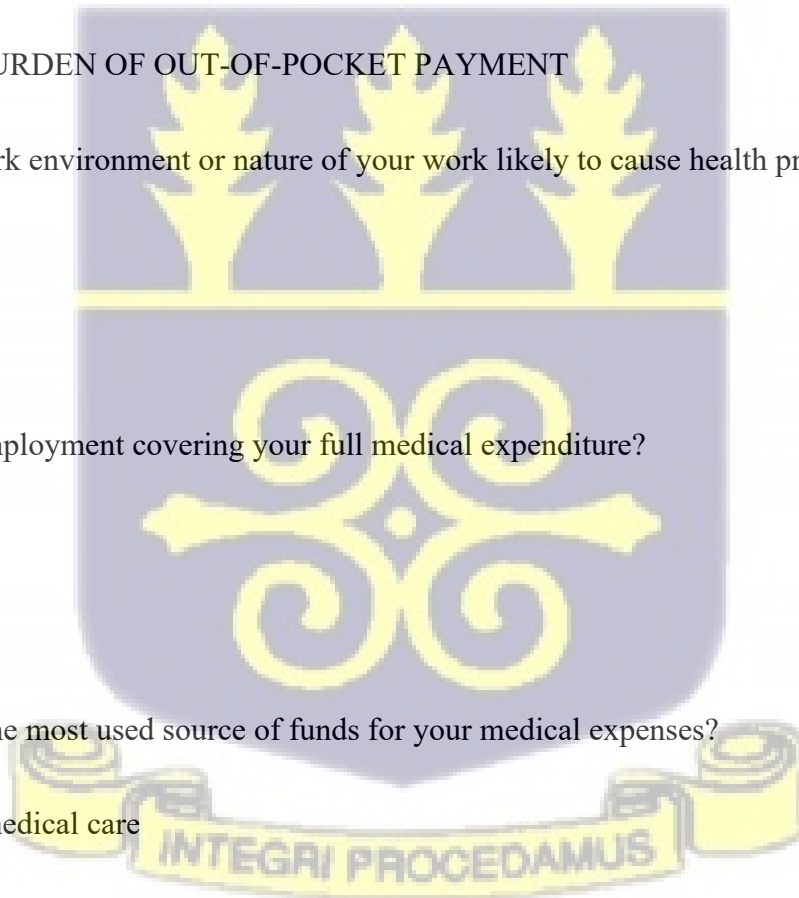
6. Are you the household head?

a) Yes

- b) No
7. Do you have any children?
- a) Yes
- b) No
8. If yes, how many?
9. How many years have you been practicing as a doctor?

SECTION B: BURDEN OF OUT-OF-POCKET PAYMENT

- 8) Is your work environment or nature of your work likely to cause health problems
- a) Yes
- b) No
- 9) Is your employment covering your full medical expenditure?
- a) Yes
- b) No
10. What is the most used source of funds for your medical expenses?
- a) Free medical care
- b) Own savings
- c) Paid by employer



d) Health insurance

e) Others (Pls specify)

If you answered health insurance above, answer questions 11 – 13, if not skip to question 14.

11. Do you currently have an active insurance package?

a) Yes

b) No

12. If yes to question 11 above, indicate the type of insurance it is.

a) Social health insurance (e.g., NHIS)

b) Private health insurance (personally enrolled)

c) Corporate health insurance

d) Community-based health insurance

13. How much coverage do you perceive your health insurance to provide?

a) Very insufficient

b) Insufficient

c) Adequate

d) Comprehensive, total coverage

14. On average, how much did you spend out-of-pocket on your personal medical care (e.g., consultations, diagnostic procedures, therapeutic procedures, medications) in the past 12 months?

15. In the past 12 months, how much have you spent on out-of-pocket payments for concerns of your personal health relative to your net annual income?

16. How burdened are you by the out-of-pocket payments?

- a) Not bothered at all
- b) Sometimes concerned
- c) Almost always bothered
- d) Extremely bothered

SECTION C: DETERMINANTS OF HEALTH INSURANCE ENROLLMENT AND RENEWAL.

17. If you have subscribed to a form of health insurance, select the factors contributing to that decision (tick as many as apply).

- a) Reducing out-of-pocket payments
- b) Knowledge of the benefits of health insurance
- c) Chronic conditions or regular need for healthcare
- d) Institutional coverage
- e) Personal choice
- f) Other, please specify

18. If you do not have an active health insurance, select the factors influencing the lack of subscription or failure to renew it (tick as many as apply),

- a) Did not feel the need

- b) High premiums charged
- c) Poor coverage and service provided
- d) No returns for investment.
- e) Alternate sources
- f) Shortage of disposable funds
- g) Other, please specify

SECTION D: HEALTH-SEEKING BEHAVIOR OF INSURED VS UNINSURED

19. When do you seek formal healthcare? (Choose likelihood of the following health-seeking behaviors according to the 5-point likert scale)

	Never	Rarely	Sometimes	Often	Always
When I have no symptoms at all, just for routine screening ≤ 6 months					
When I perceive I am not well?					
When I still feel symptoms despite self-medicating					
When an informal treatment regimen from a colleague or the internet fails					
When alternate medicines fail					

When the disease worsens and I am very ill.					
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20. How many of these activities have you done in the past 12 months? (Tick as many as apply)

- a) Routine health screening
- b) Taken a medication from a prescription
- c) Having a formal consultation at a healthcare facility when perceived to be unwell
- d) Laboratory investigations requested at a formal consultation
- e) Diagnostic procedure (e.g., X-ray) done following a formal consultation
- f) Therapeutic procedure (e.g., POP cast application, suturing of a wound) done following a formal consultation
- g) Follow-up visit at a formal consultation at the healthcare facility after being treated for an ailment.

21. What is your perception of your health-seeking behavior?

- a) Adequate
- b) Neutral
- c) Inadequate

22. What is your perception of your health-seeking behavior?

- a) Adequate

- b) Neutral
- c) Inadequate

23. Do you think your health-seeking behavior would improve if you were enrolled on a form of health insurance?

- a) Strongly agree
- b) Agree
- c) Neutral
- d) Disagree
- e) Strongly disagree



APPENDIX D: ETHICAL CLEARANCE



NOGUCHI MEMORIAL INSTITUTE
FOR MEDICAL RESEARCH (NMIMR)
COLLEGE OF HEALTH SCIENCES
INSTITUTIONAL REVIEW BOARD

8th May 2024

ETHICAL CLEARANCE

FEDERALWIDE ASSURANCE FWA 00001824

IRB 00001276

NMIMR-IRB CPN 103/23-24

IORG 0000908

On 8th May 2024, the Noguchi Memorial Institute for Medical Research (NMIMR) Institutional Review Board (IRB) conducted a full board meeting review and approved your protocol titled:

TITLE OF PROTOCOL : Assessing the relationship between enrollment on to a Health insurance package and health-seeking behavior Among doctors in the Greater-Accra region

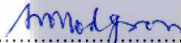
PRINCIPAL INVESTIGATOR : Adarkwa Wilhemina Fiankoba

Please note that a final review report must be submitted to the Board at the completion of the study. Your research records may be audited at any time during or after the implementation.

Any modification of this research project must be submitted to the IRB for review and approval prior to implementation.

Please report all serious adverse events related to this study to NMIMR-IRB within seven days verbally and fourteen days in writing.

This certificate is valid till 7th May 2025. You are to submit annual reports for continuing review.

Signature of Chair: 
Dr. Abraham Hodgson
(NMIMR – IRB CHAIR)



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