

DETERMINANTS OF HEALTH EXPENDITURE AMONG UGANDAN HOUSEHOLDS

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M23B34/027

**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF A DEGREE OF BACHELOR OF SCIENCE
IN ECONOMICS AND STATISTICS OF UGANDA CHRISTIAN UNIVERSITY**

May, 2026



**UGANDA CHRISTIAN
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DECLARATION

To the best of my knowledge, I **OLEYO NANCY MARK** hereby testify that this dissertation is my original work which has not been presented to any other college or institution to earn any academic qualification. The source of information has been appropriately credited in all the sources of the information utilized in this research.

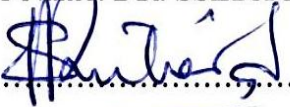
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APPROVAL

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DEDICATION

I would like to dedicate this research report to my beloved parents, **Mrs. Foni Hellen** and **Mr. Drole Geoffrey**, whose unwavering love, support, and sacrifices have been the foundation of my academic journey. Their constant encouragement, prayers, and trust in my potential have inspired me to persevere and achieve this milestone. This work is a reflection of their dedication to my education, and I will always remain grateful for their guidance and unconditional care.

ACKNOWLEDGEMENT

First and foremost, I would like to give thanks to the Almighty God for the knowledge, wisdom, life, and health He has given me throughout this period.

Secondly, I would wish to say that I have been greatly indebted to my supervisor who has provided precious advice, critical feedback and support all along the way in making this dissertation.

I also want to thank the lecturers and other employees of the School of Business who supported me with my academic work and helped me to understand the things happening in the school.

This research was made possible through the help of the Uganda Bureau of Statistics (UBOS) that released the Uganda National Household Survey data that was used in the research.

Lastly, I am also very thankful to my family and friends who have been patient and supportive in this academic journey providing moral support and encouragement to me.

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ABSTRACT

The analysis in this study focused on the determinants of household health expenditure among Ugandan households based on data obtained from the Uganda National Household Survey (UNHS) 2023/2024. This study specifically examined the impact of household income, employment and health insurance status on the health expenditure of the household. This study employed a quantitative cross sectional research design which was based on secondary data from Uganda Bureau of Statistics (UBOS). Correlation analysis, descriptive statistics and Ordinary Least Squares (OLS) regression analysis were performed between the study variables using STATA.

The results indicated that the household income is positively and significantly affecting the household health expenditure suggesting that the higher the level of income, the higher the amount of health expenditure of a household. Employment and health expenditure were positively related but not statistically significant while the negative relationship between health insurance and health expenditure was not statistically significant. The results also revealed a positive relationship between age and health expenditure while there was no statistically significant relationship between household size and health expenditure.

The study finds that household income is the most significant factor affecting household health expenditure among the Ugandan households. The study suggests that there is a need to enhance policies that reduce household food insecurity to better access food, expand access to affordable health care services and increase household health insurance coverage to lower the financial costs of accessing health care for households in Uganda.

The topics of interest are Household health expenditure, Household income, Employment status, Health insurance, and Uganda, UNHS 2023/24.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, the statement of the problem, objectives of the study, research questions, scope of the study, significance of the study, justification of the study and the conceptual framework.

1.1 Background to the Study

Health expenditure occupies a central position in both household welfare and the broader functioning of national health systems. In economic theory, health is conceptualized as a form of human capital that enhances individuals' productivity, labour supply and long-term economic participation. According to the human capital framework, investment in health enhances an individual's physical and cognitive potential, which in turn boosts his or her earning power and ability to contribute to economic development (Becker, 1964; Grossman, 1972). As such, health expenditure is not an "expenditure" in the traditional sense, but an investment with consequences for economic welfare in the future. Though this theoretical approach focuses on the productive role of investments in health, empirical evidence indicates that the cost of financing healthcare can be highly regressive, particularly in countries where the health sector is not adequately funded (Wagstaff et al., 2018; Xu et al., 2018). The significance of health investments for development and the fiscal stress put on the household has led to a growing research interest in the factors that determine health expenditure of the household.

Worldwide, health spending has grown significantly over the last few decades, due to demographic changes, medical technology and growing rates of non-communicable diseases (NCDs). International experience shows that health spending has been rising at a higher rate than economic growth in many countries, driven in part by the rising demand for new and more sophisticated medical technologies and the growth of health services (WHO, 2023; Dieleman et al., 2016). An increase in expenditure can be a proxy for better access to health services, but also raise questions about the financial sustainability and equity in health financing systems (Wagstaff & Doorslaer, 2003; Xu et al., 2018). In particular, when health financing systems rely heavily on

private household spending, increased healthcare costs may expose households to catastrophic expenditures that undermine their economic security. This has encouraged many researchers to emphasize the need to pay attention to how and why households allocate resources towards healthcare if they desire to design appropriate and equitable health financing policies.

Health financing systems have a significant impact on household health expenditure patterns. In countries with a large public health-care financing and a large health insurance coverage, a small percentage of households may be directly affected by the costs of public health-care. However, households typically have to pay most of the health system's expenditures in the health systems that depend on out-of-pocket payments (Wagstaff et al., 2018; Ekman, 2007). Research evidence indicates that high out-of-pocket spending is associated with financial hardship in households seeking health care services (Xu et al., 2018; Wagstaff & Doorslaer, 2003). The study's results have stimulated international health policy discussions around the necessity for expanding financial protection measures like health insurance schemes and publicly funded health services. Yet, while all these policy debates have taken place, many low- and middle-income countries have relied heavily on direct payment for household services to pay for health care.

In developing economies the factors of household health expenditure are intimately related to socio-economic conditions and labour market structures. According to economic theory, one of the most significant factors impacting the demand for health care is income, which influences the ability of households to afford the cost of health care services (Grossman, 1972; Newhouse, 1992). Higher income groups typically invest more in healthcare, as they are able to access services of better quality and preventive care. Other research, however, suggests that paying for health care may be even more difficult for low-income households relative to their incomes, as a larger share of their income is spent on health care costs (Wagstaff et al., 2018; Xu et al., 2018). The non-linear income–health expenditure relationship implies that inequalities in access to health care services and financial protection mechanisms are important.

Patterns of health expenditure are also influenced by the nature of work as it affects income stability and access to social protection systems. Others receive benefits from their jobs, like employer-provided health insurance and paid sick leave; this is not the case for many informal workers (Wagstaff et al., 2018; Wagstaff & Doorslaer, 2003). Employed people with informal jobs, however, often have unstable income and restricted access to institutional mechanisms of

health protection. Labour market informality is therefore argued to make households more vulnerable to healthcare costs, in that the individuals would have to depend largely on their own means to access healthcare services (Ekman, 2007; Wagstaff et al., 2018). The above dynamics underscore the need to consider household employment status in the understanding of household health expenditure patterns, especially in developing countries where the informal sector is prevalent.

An other important institutional factor affecting the spending behaviour of health services is health insurance. The basic function of health insurance is to spread the risk of health across individuals and minimize the negative economic impacts of illness (Ekman, 2007; Wagstaff et al., 2018). Empirical evidence has consistently demonstrated that health insurance coverage enhances access to health care and lowers the chances of catastrophic health care expenditures (Xu et al., 2018; Wagstaff & Doorslaer, 2003). Yet, the impact of health insurance systems is highly reliant on the degree of coverage, the institutional structure of health insurance and the capacity of governments to intervene in the health care markets. However, in many developing countries, little insurance protection and less institutional capacity exist, and households still use out-of-pocket payments as their main method of paying for health care.

Many countries in Sub-Saharan Africa face these health financing pressures, especially when trying to increase health coverage with shrinking public health budgets. Studies indicate that health systems in the region tend to be underspending by the government, have lower insurance coverage and rely heavily on household out-of-pocket payments (World Bank, 2022; Wagstaff et al., 2018). This, in turn, creates tremendous hardships for many families in accessing health care services. Poorer households might find themselves forgoing health care or postponing care because of financial barriers (Xu et al., 2018; Wagstaff & Doorslaer, 2003). The findings from these regional levels reflect the need for an understanding of such socio-economic factors in household health expenditure in the context of a nation.

Uganda has many of these overarching regional health financing issues. Though there has been an improvement in the health infrastructure, and policy reforms have sought to increase access to health services, household out-of-pocket expenditure remains high in the country and still contributes significantly to total health financing. The Uganda Bureau of Statistics (UBOS, 2024) reveals that many households face direct costs such as spending on healthcare services,

including medicines, diagnostics, and private healthcare providers. Concurrently, the Ugandan labor market has high prevalence of informal employment, thereby reducing access to regular income and formal health insurance schemes (Fox & Sohnesen, 2016; World Bank, 2022). The structural conditions indicate that socio-economic factors like household income, employment and access to health insurance could have a significant effect on patterns of health care spending in Ugandan households.

In light of these difficulties, it is important to understand the factors that determine health expenditure in households in Uganda for health policy and economic planning. Although past research has focused on healthcare access and health system performance in the country, few studies have taken a systematic approach to investigating how socio-economic characteristics affect the household allocation of healthcare resources using nationally representative data (Wagstaff et al., 2018; Xu et al., 2018). This disconnection makes it difficult for policy makers to develop effective interventions to lower financial access barriers to health care. This study aims, therefore, to look at the factors determining health expenditure among Ugandan households, specifically the contribution of income and employment status and health insurance to the pattern of health expenditure.

1.2 Statement of the Problem

It is well established that access to affordable and equitable health care is a major element of human welfare and sustainable economic development. Effective health systems should ensure that people receive the medical services they need without suffering financial adverse consequences, including through public health financing and health insurance schemes (Xu et al., 2018; Wagstaff et al., 2018). In these systems, the financial risk associated with healthcare is spread across the entire population, via government spending and insurance schemes which helps to cushion families against "catastrophic health expenditures" and enhance access to health care. In many developing countries, however, public health financing and insurance coverage is still limited and households bear a significant proportion of health expenditure out of their own pocket (Ekman, 2007; Xu et al., 2018).

Many of these challenges to health financing are echoed in Uganda. Although the government has taken steps to increase access to healthcare services in public health facilities and reformed the health sector, the contribution of out-of-pocket expenditure on healthcare has not been

negligible. The Uganda Bureau of Statistics (UBOS, 2024) shows that many households are making direct expenditures for accessing health services, especially for health products, diagnostics and accessing health services from private providers. These costs can be very expensive for families, particularly those on low incomes or with poor employment prospects, and can deter some families from accessing timely care. The literature reviewed thus far indicates that socio-economic factors like income, employment circumstances and access to health insurance have a significant impact on household healthcare expenditure patterns (Wagstaff et al. 2018; Xu et al. 2018). To address these challenges, several policy discussions and reforms have stressed the necessity to increase financial protection mechanisms and access to health services.

Despite these policy initiatives, evidence on the socio-economic determinants of household health expenditure in Uganda is still scanty. There have been few studies that have methodically analyzed the effects of income, employment and health insurance on total household health spending based on recent national data. This disparity poses a challenge for policy makers in designing effective interventions in order to diminish financial barriers to health care. Hence, this study looks at the factors that explain the variation in health expenditure of Ugandan households including income, employment, and health insurance coverage, to inform health insurance policies that seek to ensure financial protection and access to health services.

1.3 Purpose of the study

This study aims to analyze the determinants of health expenditure among households in Uganda.

1.4 Objectives of the Study

1.4.1 General Objective

To examine the determinants of health expenditure among Ugandan households.

1.4.2 Specific Objectives

- i. To examine the effect of household income on health expenditure among Ugandan households.
- ii. To analyze the influence of employment status on health expenditure among Ugandan households.

- iii. To assess the impact of health insurance coverage on health expenditure among Ugandan households.

1.5 Research Questions

- i. What is the effect of household income on health expenditure among Ugandan households?
- ii. How does employment status influence health expenditure among Ugandan households?
- iii. What is the impact of health insurance coverage on health expenditure among Ugandan households?

1.6 Research Hypotheses

- i. **H₀**: Household income does not significantly influence health expenditure among Ugandan households.
H_a: Household income significantly influences health expenditure among Ugandan households.
- ii. **H₀**: Employment status does not significantly influence health expenditure among Ugandan households.
H_a: Employment status significantly influences health expenditure among Ugandan households.
- iii. **H₀**: Health insurance coverage does not significantly influence health expenditure among Ugandan households.
H_a: Health insurance coverage significantly influences health expenditure among Ugandan households.

1.7 Scope of the Study

1.7.1 Content Scope

The study focuses on examining the determinants of health expenditure among Ugandan households. In particular, the study analyzes how socio-economic factors influence the level of healthcare spending incurred by households. The analysis concentrates on three key explanatory variables, namely household income, employment status and health insurance coverage. These variables are examined in relation to household health expenditure in order to determine the extent to which they influence the amount households spend on healthcare services.

Household income is seen as a key factor as it affects the financial position of the households to be able to access healthcare and afford healthcare services. Employment status is included as this is an indicator of income stability and also may indicate whether health benefits are available from an employer. Coverage from health insurance is also looked at as it is built to minimize out-of-pocket health care payments and also provide monetary protection from high health expenses. The study aims at explaining the variation in health expenditure between the households and explaining the socio-economic factors affecting the behaviour of the households in Uganda in spending their health expenditure.

1.7.2 Geographical Scope

The study geographically encompasses all the country of Uganda. The analysis is based on nationally representative household data across the country, in rural and urban areas. National representative data can help the study reflect different characteristics and economic and healthcare access conditions of households throughout the country.

Uganda is an important context for analysing how household health expenditure works, as the health system comprises both public and private providers and financial outlays by households are often out of pocket. Furthermore, there are large differences between the socio-economic situation in different regions, which can affect households' access to health services and their level of health spending. The study is able to use data from households all across the country to draw conclusions that are representative of the general trends in health care spending by Ugandan households.

1.7.3 Time Scope

This study uses data collected through the Uganda National Household Survey (UNHS) 2023/2024 carried out by the Uganda Bureau of Statistics. This survey offers the latest national representative data relating to socio-economic characteristics, employment status, income and expenditure patterns, specifically healthcare expenditure.

The study uses the survey data from 2023/2024, which reflects the latest situation regarding health expenditure of households in Uganda. Recent data means that the findings are relevant to the current socio-economic situation, labour market and healthcare access situation in the country.

1.8 Significance of the Study

It might be of particular interest to policy makers in the health sector planning and health sector financing. This knowledge can be helpful in designing effective health financing policies that lower financial constraints on access to health care by understanding what factors affect the health expenditure of households. The findings can offer evidence to inform policies regarding improving financial protection for households and increase in health insurance coverage, as the study can elucidate the relationship between income, employment, and health insurance coverage and healthcare spending. This type of information can also be used to inform interventions to mitigate the out-of-pocket healthcare costs of vulnerable populations.

The study could also be useful to development organizations and health sector stakeholders who seek to enhance access to health care services and health financing systems. International development agencies and non-governmental organizations may provide assistance for initiatives to enhance health care delivery and to increase financial protection for households. This study can provide valuable insights to these organizations to better understand the socio-economic factors influencing household healthcare expenditure and create programs to improve access to affordable health care services.

The study can provide input to the current body of knowledge on health economics and household welfare for researchers and academics. The study contributes to the debate on healthcare financing and financial protection in developing countries in light of the determinants of health expenditure, as analysed with nationally representative data. The results could also be used as a guide for future studies on the use of health and hygiene services, health insurance schemes and health inequalities in the access to health and hygiene services.

Lastly, the research could be of interest to students and researchers in the area of health economics. The analysis offers a realistic example of how econometric techniques can be applied to the data gathered in household surveys to examine the socio-economic factors associated with healthcare spending. The research therefore could help in understanding the relationship between household characteristics and health expenditure patterns in Uganda and thus contribute to improving the understanding.

1.9 Justification of the Study

The study is needed because health expenditure persists to remain a financial burden for many households in Uganda. Despite the introduction of a number of health sector reforms to enhance access to healthcare, many households make substantial out-of-pocket payments to access care. These payments can cause financial hardship especially to low-income households without consistent incomes or health insurance coverage. Although it is important to understand how household health expenditure is determined, empirical studies in Uganda are rather limited. It is important to note that most existing studies have tended to either broadly measure the access to health care services or the performance of health systems but not specifically consider the socio-economic characteristics of households (such as income, employment and health insurance) and their effect on health expenditure. Furthermore, some of the earlier research is based on small samples which may not be representative of the national situation.

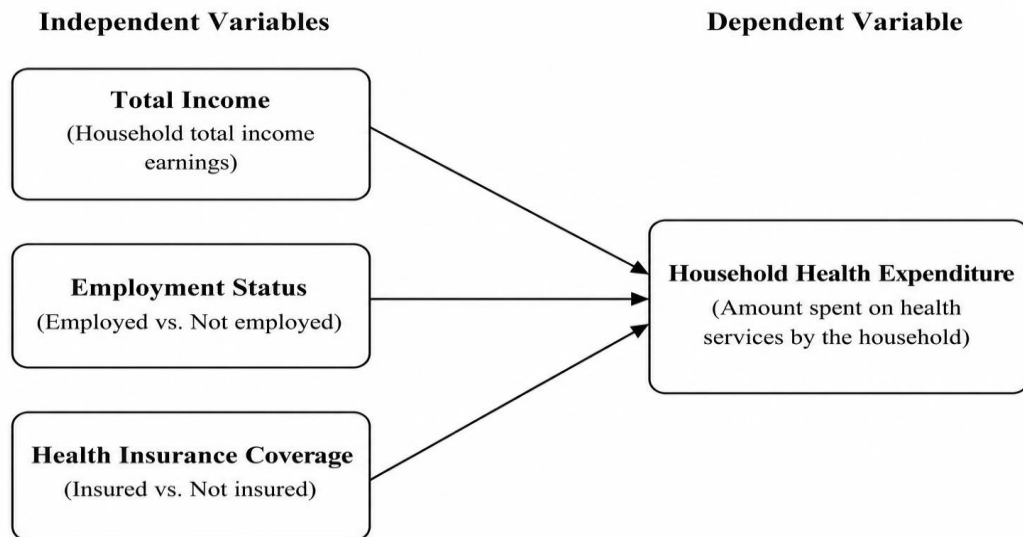
This study aims to offer more comprehensive evidence on the socio-economic determinants of health expenditure in Uganda based on nationally representative data from the Uganda National Household Survey. This evidence is crucial for informing policies to enhance the financing of health systems and strengthen financial protection mechanisms.

Without such studies, policymakers can keep making health financing policies without exact knowledge on the socio-economic factors that drive the behavior of households in the allocation of health resources. This may lead to the failure to implement policies that will be effective in reducing the financial problems of the households accessing the healthcare services. The study is therefore pertinent since the outcomes of the study will give empirical evidence for informing the health policy reform and enhance access to affordable health services in Uganda.

1.10 Conceptual Framework

The conceptual framework illustrates the relationship between the independent variables and the dependent variable in explaining health expenditure among households.

Figure 1.1: Conceptual framework



In this study, the dependent variable is household health expenditure, which refers to the amount of money spent by households on healthcare services, including consultations, medicines, diagnostic tests and hospitalization.

The independent variables include household income, employment status and health insurance coverage. Household income influences the financial capacity of households to spend on healthcare services. Employment status affects income stability and the potential availability of employment-related benefits that may support healthcare access. Health insurance coverage is expected to reduce the financial burden associated with healthcare costs by providing financial protection against medical expenses.

In addition, the relationship between these variables may also be influenced by intervening factors such as household size, geographical location, access to healthcare facilities and the availability of public health services. These factors may affect both the demand for healthcare services and the level of health expenditure incurred by households.

The conceptual framework therefore suggests that variations in household income, employment conditions and health insurance coverage play an important role in determining the level of healthcare spending among Ugandan households.

1.11 Summary of the Chapter

This chapter introduced the study by presenting the background to household health expenditure from a global perspective and narrowing it to the Ugandan context. It highlighted the importance of healthcare spending for household welfare and emphasized the role of socio-economic factors such as income, employment and health insurance in shaping health expenditure patterns.

The chapter also presented the statement of the problem, objectives of the study, research questions and research hypotheses guiding the study. In addition, the scope, significance and justification of the study were discussed, and the conceptual framework illustrating the relationship between the key variables was presented.

Overall, the chapter established the foundation for examining the determinants of health expenditure among Ugandan households. The next chapter reviews theoretical and empirical literature related to the study in order to provide deeper insights and identify existing research gaps.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter reviews theoretical and empirical literature related to household health expenditure. The purpose of the review is to examine existing knowledge on the socio-economic factors that influence healthcare spending among households. Particular attention is given to the role of income, employment and health insurance in shaping household health expenditure decisions. The literature is critically examined in order to identify key debates and research gaps that justify the present study.

2.1 Theoretical Framework

This study is guided by three major theoretical perspectives that explain healthcare demand and expenditure behaviour, namely the Grossman Health Demand Theory, the Andersen Behavioral Model of Health Services Use, and the Moral Hazard Theory of Health Insurance. These theories provide useful insights into the economic and institutional factors that influence how households allocate resources to healthcare.

The Health Demand Theory developed by Grossman (1972) views health as a form of capital that individuals invest in to improve productivity and well-being. According to this theory, individuals derive utility both directly from health and indirectly from the ability to work and earn income. Healthcare expenditure is therefore treated as an investment aimed at improving the stock of health capital. Income plays an important role in this framework because it determines the household's budget constraint and its ability to purchase healthcare services. Households with higher income levels are expected to spend more on healthcare because they have greater financial capacity to invest in preventive care and medical treatment. However, critics argue that the model assumes rational decision-making and perfect information, conditions that may not always exist in developing economies where households face liquidity constraints and limited access to healthcare information (Wagstaff et al., 2018). Despite these limitations, the Grossman model remains widely used in empirical studies examining determinants of health expenditure.

Another relevant perspective is the Andersen Behavioral Model of Health Services Use, which explains healthcare utilization through three categories of factors: predisposing factors, enabling factors and need factors (Andersen, 2014). Predisposing factors include demographic characteristics such as age and education, while enabling factors refer to the economic and institutional resources that allow individuals to access healthcare services. Income, employment and insurance are classified as enabling factors because they influence the ability of households to obtain medical care when needed. According to this model, individuals with greater economic resources and institutional access are more likely to utilize healthcare services and therefore incur higher health expenditures. However, critics argue that the model places greater emphasis on access to healthcare while paying less attention to the broader structural inequalities that shape health outcomes in developing countries (Andersen, 2014; Wagstaff et al., 2022). Nevertheless, the model provides an important framework for understanding how socio-economic characteristics influence healthcare utilization and expenditure.

The Moral Hazard Theory of Health Insurance provides further insight into how insurance affects healthcare spending. According to economic theory, insurance reduces the effective price of healthcare services faced by individuals, which may increase healthcare utilization (Einav & Finkelstein, 2018). When individuals are insured, they may consume more healthcare services because they are shielded from the full cost of treatment. This phenomenon is commonly referred to as moral hazard. While insurance can improve access to healthcare and reduce financial risk, it may also increase overall healthcare expenditure due to increased demand for medical services. However, critics argue that in many developing countries the effect of insurance on health expenditure may be limited because insurance coverage is often shallow and fragmented (Dror et al., 2020). These theoretical perspectives therefore provide a useful framework for understanding how income, employment and health insurance influence household health expenditure.

Together, these theoretical perspectives help explain the economic and institutional mechanisms through which households make decisions regarding healthcare spending. While the Grossman model emphasizes the role of income and investment in health capital, the Andersen model highlights the importance of enabling factors such as employment and insurance, and the moral hazard theory explains how insurance coverage may influence healthcare utilization. These

perspectives therefore provide a theoretical foundation for examining the determinants of household health expenditure in Uganda.

2.2 Review of Related Literature

Several empirical studies have examined the determinants of household health expenditure across different countries. Globally, research shows that household healthcare spending is influenced by a range of socio-economic and demographic factors including income, employment status, insurance coverage, education level and household size. In many developing countries where public healthcare financing is limited, households bear a significant share of healthcare costs through out-of-pocket payments (WHO, 2023).

Empirical evidence suggests that financial capacity plays an important role in determining healthcare utilization and expenditure. Households with higher income levels are generally able to afford better healthcare services and are more likely to seek medical treatment when needed (Cylus et al., 2020). Similarly, access to health insurance can reduce financial barriers to healthcare by lowering direct out-of-pocket costs (Dror et al., 2020). However, labour market conditions and employment status may also influence healthcare spending by affecting income stability and access to employment-related benefits.

In many developing countries, healthcare financing systems rely heavily on direct household payments, which can expose households to financial risk. Studies show that high out-of-pocket payments often lead to inequalities in healthcare access because poorer households may delay or avoid seeking medical care due to financial constraints (Wagstaff et al., 2022). These patterns are particularly relevant in Sub-Saharan Africa where public healthcare systems face resource constraints and insurance coverage remains limited.

Within the African context, several studies have examined how socio-economic factors influence household health expenditure. Research indicates that income disparities, labour market conditions and limited insurance coverage contribute to differences in healthcare utilization across households (Atinga et al., 2021; Kusi et al., 2021). However, empirical findings remain mixed regarding the magnitude and direction of these relationships, suggesting the need for further context-specific analysis.

In Uganda, healthcare financing continues to rely heavily on out-of-pocket payments by households. According to the World Health Organization (2022) and the Uganda Bureau of Statistics (2024), household spending represents a major component of total health expenditure in the country. While several studies have examined healthcare access and financing in Uganda, limited empirical research has specifically analyzed how income, employment and insurance jointly influence household health expenditure using nationally representative data.

2.2.1 Income and Household Health Expenditure

Income is widely recognized as one of the most important determinants of household health expenditure. Economic theory suggests that income determines the ability of households to allocate resources to healthcare services. Households with higher income levels generally have greater financial capacity to seek medical treatment, purchase medicines and access better healthcare facilities (Grossman, 1972; Wagstaff et al., 2018).

Empirical studies support the positive relationship between income and healthcare spending. Cross-country analyses indicate that as household income increases, spending on healthcare also rises, although healthcare expenditure often grows at a slower rate than income (Cylus et al., 2020; Xu et al., 2022). This suggests that healthcare behaves as a necessity rather than a luxury good. Similar findings have been reported in many developing countries where income growth increases the utilization of healthcare services.

However, some studies highlight that the relationship between income and health expenditure may be influenced by institutional factors such as public healthcare provision and insurance coverage. In systems where healthcare services are heavily subsidized, income differences may influence the quality of care accessed rather than the overall level of expenditure (Mills et al., 2020). Additionally, extremely poor households may exhibit low health expenditure not because of lower health needs but because they lack the financial resources required to seek treatment.

In Sub-Saharan Africa, where healthcare systems often rely heavily on out-of-pocket payments, income disparities tend to translate directly into inequalities in healthcare access and expenditure (Atinga et al., 2021; Kusi et al., 2021). In Uganda, the dominance of direct household payments suggests that income differences may significantly influence healthcare spending patterns.

However, empirical evidence examining this relationship using recent household data remains limited.

2.2.2 Employment and Household Health Expenditure

Employment status is another important factor that may influence household health expenditure. Employment provides a source of income and economic stability, which can enable households to afford healthcare services when needed (Bredenkamp et al., 2021). In addition, formal employment may provide access to employment-related health benefits or insurance schemes that reduce the cost of medical care.

Empirical evidence suggests that households headed by employed individuals are generally more likely to utilize healthcare services compared to those headed by unemployed individuals. Studies across several countries show that stable employment improves financial security and increases the ability of households to pay for healthcare services (Wagstaff et al., 2022).

However, the effect of employment on healthcare expenditure may depend on the structure of the labour market. In many developing economies characterized by high levels of informal employment, having a job does not necessarily guarantee stable income or access to social protection benefits (Fox & Sohnesen, 2016). As a result, employment status may not always translate into higher healthcare spending.

In Uganda, a significant proportion of the labour force operates within the informal sector according to the Uganda Bureau of Statistics (2024). Informal employment is often characterized by unstable income and limited access to employment-based benefits, which may reduce the influence of employment status on healthcare expenditure. This suggests that the relationship between employment and household health expenditure requires further empirical examination.

2.2.3 Health Insurance and Household Health Expenditure

Health insurance plays an important role in shaping household healthcare expenditure by reducing the financial burden associated with medical treatment. Insurance coverage allows individuals to access healthcare services without bearing the full cost of treatment at the point of use (Dror et al., 2020).

Empirical studies indicate that insurance coverage generally increases healthcare utilization because it lowers the effective price of medical services (Einav & Finkelstein, 2018). As a result, insured individuals are more likely to seek healthcare services when needed. In some cases, insurance may also reduce catastrophic health expenditure by protecting households from large unexpected medical costs.

However, the impact of insurance on total household health expenditure remains debated. Some studies suggest that insurance increases healthcare spending due to increased utilization of medical services, while others find that it reduces out-of-pocket payments by spreading financial risk across insured populations (Nguyen et al., 2021).

In Sub-Saharan Africa, insurance coverage remains relatively limited and fragmented. Community-based insurance schemes have improved access to healthcare in several countries, but their coverage often remains shallow and limited in scope (Mebratie et al., 2019). In Uganda, health insurance coverage is still relatively low and households continue to rely heavily on out-of-pocket payments (World Health Organization, 2022). This raises important questions about the extent to which insurance coverage influences household health expenditure in the country.

2.3 Summary of the Chapter

Chapter Two reviewed the relevant theoretical and empirical literature related to household health expenditure. The chapter discussed key theories explaining healthcare demand, including the Grossman Health Demand Theory, the Andersen Behavioral Model and the Moral Hazard Theory of Health Insurance. It also examined empirical studies on the relationship between income, employment and health insurance and household health expenditure.

The review highlighted that while previous studies have identified several socio-economic determinants of healthcare spending, empirical evidence remains mixed and context-specific. In particular, limited research has examined how income, employment and insurance jointly influence household health expenditure in Uganda using recent nationally representative data. The next chapter therefore presents the research methodology that will be used to investigate these relationships.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presented the methodology that was used to examine the determinants of health expenditure among Ugandan households. The chapter described the research design, data source, study area and population, sampling procedure, variables and their measurement, data analysis techniques, validity and reliability of the study, ethical considerations, and the limitations of the study.

3.1 Research Design

The study adopted a quantitative research design based on secondary data analysis. The design combined descriptive and analytical approaches. The descriptive approach was used to examine the socio-economic characteristics of households and patterns of health expenditure. The analytical approach was used to examine the factors influencing household health expenditure, particularly income, employment status and health insurance coverage.

This research design was appropriate because it allowed the researcher to examine relationships between variables using statistical techniques and nationally representative data. Quantitative methods also enabled objective measurement of how different socio-economic characteristics influence variations in household health expenditure.

3.2 Data Source

The study relied on secondary data obtained from the Uganda National Household Survey (UNHS) 2023/2024 conducted by the Uganda Bureau of Statistics (UBOS). The UNHS is a nationally representative survey that collects detailed information on household demographic characteristics, employment, income, health conditions, healthcare utilisation and expenditure patterns.

The survey covers households from all regions of Uganda and provides comprehensive socio-economic information that can be used for policy and academic research. The dataset contains modules on household consumption, income sources, labour force participation and health

expenditure. These modules provide relevant information that enables the researcher to analyse household spending on healthcare and examine the socio-economic factors that influence such expenditure.

Because the study combined information from multiple survey modules, some observations contained missing values for key variables. Therefore, only observations with complete information on all variables used in the analysis were included in the final dataset.

3.3 Study Area and Population

The study covered the whole of Uganda since the UNHS dataset represents households from all regions of the country including Central, Eastern, Northern and Western Uganda. The target population of the study consisted of all households included in the Uganda National Household Survey.

The household was used as the unit of analysis because health expenditure decisions in Uganda are generally made at the household level where resources are pooled and spending decisions are collectively determined. Using a national dataset ensures that the findings of the study are representative of households across the country.

3.4 Sampling Procedure

The Uganda National Household Survey (UNHS) 2023/2024 used a two-stage stratified sampling design. In the first stage, Enumeration Areas (EAs) were selected from the national sampling frame using probability proportional to size. In the second stage, households were systematically selected from each enumeration area to obtain a nationally representative sample of Ugandan households.

This study relied on secondary data extracted from different UNHS modules containing information on household health expenditure, income, employment status, health insurance coverage, and demographic characteristics. During data cleaning and merging, observations with missing information on key study variables were excluded from the analysis. Consequently, only households with complete information across all variables included in the regression model were retained in the final analytical sample.

After merging the relevant datasets and removing incomplete observations, the final sample used in the regression analysis consisted of 157 households.

3.5 Variables and Measurement

The determinants of household health expenditure was explored on the Uganda National Household Survey (UNHS) 2023/2024 data set.

The dependent variable in the study is household health expenditure which refers to the total amount of money that households spent on health service during the reference period of the survey. This comprises costs associated with consultation fees, medication, hospitalisation, transportation to health facilities and related medical costs. This was done and the variable was measured in Uganda Shillings (UGX) and remained in monetary terms for analysis.

The study has three primary independent variables that are likely to impact household health expenditure. Household income was added in as it is an indicator of the financial capacity of households to avail healthcare services. Household income was measured as the total household income received in cash and kind from various sources.

The explanatory variable of employment was also incorporated as in employment may have an impact on the capacity of households to finance healthcare expenditure. This variable was coded as a dichotomous variable with 1 indicating that there were employed members within the household and 0 indicating that there were no employed members within the household.

Coverage for health insurance was incorporated as the insurance coverage can lead to less out-of-pocket health expenditure, as it provides insurance benefits for healthcare costs. The variable was treated as a dummy variable, 1 for insured households and 0 for uninsured households.

Control variables were also included in the study for enhancing the reliability of the regression estimates, together with the main explanatory variables. These comprised age and household size. Age was defined as mean age of household members and household size was defined as the number of household members in each household.

3.6 Data Analysis Techniques

The data were analysed using statistical software such as STATA. The analysis began with descriptive statistics in order to summarise the socio-economic characteristics of the households

and patterns of health expenditure. Measures such as means, percentages and frequency distributions were used to describe the key characteristics of the study population.

To examine the determinants of household health expenditure, the study employed an Ordinary Least Squares (OLS) regression model. The OLS regression technique is appropriate because the dependent variable, household health expenditure, is a continuous variable.

The econometric model can be specified as follows:

$$HE_i = \beta_0 + \beta_1 INC_i + \beta_2 EMP_i + \beta_3 INS_i + \varepsilon_i$$

Where:

HE_i represents total household health expenditure for household i

INC_i represents household income

EMP_i represents employment status of the household head

INS_i represents health insurance coverage

β_0 represents the constant term

$\beta_1, \beta_2, \beta_3$ represent the coefficients of the explanatory variables

ε_i represents the error term

To improve the robustness of the model, additional control variables were included. The extended model is therefore specified as:

$$HE_i = \beta_0 + \beta_1 INC_i + \beta_2 EMP_i + \beta_3 INS_i + \beta_4 HHSize_i + \beta_5 Age_i + \varepsilon_i$$

Where:

$HHSize_i$ represents household size

Age_i represents the age of the head of household

Household HE was not logged, but used as financial amounts in the original currency. It was decided to do this because there were a number of expenditure values that were zero, and because it would have lost observations, or have involved arbitrary adjustments, if the data had been transformed using the log function. The household level variation of the variable was very

large, but the values of the variable were not changed so as to preserve the actual size range of the healthcare expenditures of sampled households.

The regression results indicated the direction and the statistical significance of the relationship of the income, employment, insurance and household health expenditure.

3.7 Validity and Reliability

The reliability and validity of the study was ensured by using data from the Uganda National Household Survey conducted by the Uganda Bureau of Statistics using standardised data collection procedures. The survey is conducted using the internationally accepted statistical methods and the accuracy and consistency of the results is ensured by the trained enumerators, the structured questionnaires and the digital data collection instruments.

The survey is nationally representative and has a large number of quality checks, so the data is trustworthy for empirical analysis.

3.8 Ethical Considerations

The study was conducted using secondary data and hence not involving any direct interaction with the respondents. The researcher however, ensured that the data were used responsibly and strictly for academic purposes only. The sources of the data were properly acknowledged including Uganda Bureau of Statistics. Moreover, respondents were anonymous as the data set does not include personally identifiable information.

3.9 Limitations of the Study

There were several limitations in the study. The first limitation is the use of secondary data which restricted the researcher to variables that were already in the dataset, and some factors that affect health expenditure may not be included. Second, the data used for analysis were cross-sectional data collected at a single time, which means that the study cannot draw causal conclusions between the variables. Third, some information in the survey was based on self-reported responses which may contain measurement errors. Despite these limitations, the UNHS dataset remains one of the most reliable sources of socio-economic data in Uganda and is suitable for analysing household health expenditure.

3.10 Summary of the Chapter

Chapter Three presented the methodological framework used to examine the determinants of health expenditure among Ugandan households. The chapter described the research design, data source, study area and population, and the sampling procedure based on the Uganda National Household Survey 2023/2024. It also explained the variables used in the study, the econometric model employed to analyse the determinants of household health expenditure, and the statistical techniques used in the analysis. In addition, the chapter discussed issues of validity, reliability, ethical considerations and the limitations of the study.

The next chapter will present the empirical results and analysis based on the data in order to address the research objectives of the study.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.0 Introduction

This chapter presents the analysis and findings of the study on the determinants of household health expenditure in Uganda using data extracted from the Uganda National Household Survey (UNHS) 2023/2024. The analysis was based on households with complete information on the study variables after data cleaning and merging of relevant survey modules. The chapter begins with descriptive statistics of the study variables, followed by the analysis of the relationship between household health expenditure and selected socioeconomic characteristics using correlation analysis. The chapter further presents the multiple regression results examining the effect of household income, employment status, insurance coverage, age, and household size on household health expenditure. Diagnostic tests are also conducted to assess the reliability of the regression model, particularly the presence of multicollinearity among the explanatory variables. The findings are interpreted and discussed in line with the study objectives, economic theory, and existing empirical literature.

4.1 Descriptive Statistics

Table 4.1: Descriptive Statistics of Study Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Health expenditure	157	125777.71	563068.85	0	6800000
Household income	157	11037998	24120334	0	2.534e+08
Employed	157	.803	.399	0	1
Insured	157	.032	.176	0	1
Age	157	23.691	8.414	11.2	63
Household size	157	5.452	3.321	1	18

Source: Author's computations (UNHS 2023/24)

Table 4.1 presents the descriptive statistics of the variables used in the study, including the mean, standard deviation, minimum and maximum values. The results suggest that the mean household health expenditure was UGX 125,777.71 and standard deviation was UGX 563,068.85. The high standard deviation indicates a great degree of variability in the amount of health care expenditures per household in the sample. This is in line with Grossman's Health Demand Theory which suggests that the allocation of household health expenditure is dependent on socioeconomic circumstances and health requirements.

Average household income was UGX 11,037,998 with high standard deviation showing a high degree of inequality in income distribution among the households. Consumer demand theory suggests that the more affluent households can afford to access and purchase health care services than the less affluent households.

As far as employment status is concerned, about 80.3% of the households had at least one person in employment. Employment can boost the capacity of households to contribute to their own income and the availability of health services, but was later found to be statistically insignificant in the regression analysis when it came to healthcare expenditure. This is confirmed by several studies, including the one conducted by Wagstaff (2018) that shows that employment status enhances households' capacity to fund healthcare expenditure.

The results also revealed that health insurance coverage for sampled households was very low; with only 3.2% of the households covered by health insurance. This result is similar to previous studies in developing countries, especially in Sub-Saharan Africa, which indicated that health insurance coverage is still low because the income level is low in developing countries and health insurance system is not well developed.

The mean age value of the household was about 23.7 years and the mean size of the household was about 5 members. There may be greater stress on household resources such as spending on health care when there are more people in a household. In a similar way, age is another factor that's linked to the need for healthcare – older people are more likely to need medical care.

4.2 Correlation Analysis

Table 4.2: Correlation Matrix of Study Variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) Health Expenditure	1.000					
(2) Household Income	0.205	1.000				
(3) Employment Status	0.049	0.113	1.000			
(4) Insurance Coverage	-0.019	0.158	0.090	1.000		
(5) Age	0.131	0.014	-0.092	0.027	1.000	
(6) Household Size	0.034	0.207	-0.058	-0.101	-0.170	1.000

Note: $p < 0.01$, $p < 0.05$, $p < 0.10$

Note: The above figure is based on computations made by the author from UNHS data.

The correlation matrix of the relationship between household health expenditure and selected socioeconomic characteristics are presented in Table 4.2. The results show that there is a positive and statistically significant association between household income and health expenditure ($r = 0.205$, $p < 0.05$). This suggests that households with a higher income level spend more on the provision of health services. The discovery is consistent with Grossman's Health Demand Theory that posits that the demand for healthcare is a normal good, in which increased income leads to increased demand.

Health expenditure showed a weak positive correlation with employment status ($r = 0.049$) but the correlation was not statistically significant. This implies that this one might be a little bit higher in households with active members in the workforce, but not very strong in the sampled families.

There was a weak ($r = -0.019$) negative relationship between insurance coverage and health expenditure. This could mean that insured families would have less to spend on medical care if some of the medical bills can be shifted to the insurance companies. Overall, the association was not statistically significant, however, this may be because of the small percentage of insured households in the sample.

There was a positive correlation between age and HE ($r = 0.131$), meaning that HE is a determinant of age. This is consistent with healthcare utilization theory which implies that the use of health services is higher with age because of the poor health status.

Household size had a weak positive relationship with health expenditure ($r = 0.034$), though the relationship was statistically insignificant. This implies that larger households may experience slightly higher healthcare spending because of increased healthcare needs among household members.

Overall, the findings suggest that household income is the variable most strongly associated with household health expenditure among the variables included in the study.

4.3 Regression Analysis

Table 4.3: Multiple Regression Results

Health Expenditure	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
Household income	.005	.002	2.48	.014	.001	.009
Employed	62267.029	113063.44	0.55	.583	-161123.6	285657.66
Insured	- 185865.35	257931.09	-0.72	.472	- 695485.32	323754.63
Age	9102.815	5388.117	1.69	.093	-1543.021	19748.652
Household size	1862.053	14056.182	0.13	.895	- 25910.137	29634.243
Constant	- 196940.03	196796.15	-1.00	.319	- 585769.65	191889.59
Mean dependent var	125777.707		SD dependent var		563068.855	
R-squared	0.064		Number of obs		157	
F-test	2.052		Prob > F		0.075	
Akaike crit. (AIC)	4603.947		Bayesian crit. (BIC)		4622.285	

Note: $p < 0.01$, $p < 0.05$, $p < 0.10$

Source: Author's computations from UNHS data.

Table 4.3 presents the multiple regression results on the determinants of household health expenditure. The regression model had an R-squared value of 0.064, implying that approximately 6.4% of the variation in household health expenditure was explained by the explanatory variables included in the model. Although relatively low, such results are common in cross-sectional household-level studies where household behavior is influenced by many unobserved factors.

The results further indicate that the overall model was statistically significant at the 10% significance level ($\text{Prob} > F = 0.075$), suggesting weak joint explanatory power of the independent variables on household health expenditure.

Household income was found to have a positive and statistically significant effect on health expenditure ($\beta = 0.005$, $p = 0.014$). This implies that an increase in household income significantly increases healthcare spending. The finding supports Grossman's Health Demand Theory, which argues that healthcare demand rises with income because wealthier households can better afford medical services. The result is also consistent with empirical studies such as Xu et al. (2003), which found that household income positively influences healthcare utilization and expenditure.

Employment status had a positive coefficient ($\beta = 62,267.03$), suggesting that households with employed members tend to spend more on healthcare. However, the relationship was statistically insignificant ($p = 0.583$). This may suggest that although employment can improve income-generating capacity, the effect was not statistically strong enough to significantly influence household health expenditure in the sampled households.

Insurance coverage had a negative coefficient ($\beta = -185,865.35$), implying that insured households spent less on healthcare expenditure compared to uninsured households. Although the relationship was statistically insignificant ($p = 0.472$), the negative sign supports the theoretical expectation that health insurance reduces out-of-pocket healthcare payments by shifting part of the medical burden to insurance providers. The insignificance may be attributed to the very low proportion of insured households in the sample.

Age positively influenced health expenditure ($\beta = 9,102.82$) and was statistically significant at the 10% level ($p = 0.093$). This finding supports healthcare utilization theories which suggest that healthcare needs and medical spending tend to increase with age due to declining health conditions among older individuals.

Household size had a positive but statistically insignificant effect on health expenditure ($\beta = 1,862.05$, $p = 0.895$). Although larger households may face greater healthcare demands, the effect was weak within the sampled households.

Overall, the regression findings suggest that household income is the most important determinant of household health expenditure among the variables included in the study.

4.4 Diagnostic Tests

Table 4.4: Variance Inflation Factor (VIF) Results

	VIF	1/VIF
Household size	1.109	.902
Household income	1.1	.909
Insured	1.05	.952
Age	1.045	.957
Employed	1.037	.964
Mean VIF	1.068	.

Source: Author's computations from UNHS 2023/24 data.

Table 4.4 presents the Variance Inflation Factor (VIF) results used to test for multicollinearity among the explanatory variables. The findings indicate that all VIF values were close to 1 and far below the threshold value of 10.

The mean VIF was 1.068, indicating the absence of serious multicollinearity among the explanatory variables. This suggests that the independent variables were not highly correlated

with each other, and therefore the regression estimates obtained from the model are reliable and stable.

4.5 Summary of the Chapter

This chapter presented the descriptive statistics, correlation analysis, regression results and hypothesis testing of the study. The findings showed that household income significantly influenced household health expenditure, while employment status and insurance coverage were statistically insignificant. Diagnostic tests confirmed that the regression model was reliable. The next chapter presents the discussions, conclusions and recommendations of the study.

CHAPTER FIVE

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the discussion of findings, conclusions, and recommendations of the study on the determinants of household health expenditure among Ugandan households using the Uganda National Household Survey (UNHS) 2023/24 data. The discussion interprets the findings in relation to economic theory and existing empirical literature. The chapter further presents the conclusions drawn from the study findings, policy and practice recommendations, and suggestions for future research.

5.1 Discussion

5.1.1 Household Income and Health Expenditure

The first hypothesis of the study was that household income has a significant effect on household health expenditure among Ugandan households. The findings showed that household income had a positive and statistically significant effect on health expenditure. This means that people in more affluent homes have greater expenditure on health care services than do those in less affluent homes.

This result is consistent with Grossman's Health Demand Theory that states that health is an investment in human capital and that households' health investments (or purchases of health services) rise with income (Grossman, 1972). Higher income households have greater financial resources to afford consultation fees, medicines and hospital and preventative health services.

The results are also in line with past empirical studies that showed that income is positively associated to healthcare expenditure and health care utilization (Xu et al., 2018; Cylus et al., 2020). Comparable research in developing countries suggests that income inequality is often reflected in access to healthcare services, as higher income households are able to access better quality health care and use services more often than lower income households.

In Uganda, which continues to have a high reliance on out-of-pocket payments, household income is particularly relevant in determining access to healthcare services. The results therefore

indicate that greater income access could be linked to increased access to health care and lower financial constraints in accessing health care services by Ugandan households.

5.1.2 Employment Status and Household Health Expenditure

The second hypothesis was that the second hypothesis of the study which was that employment status significantly influences the household health expenditure among Ugandan households was accepted. The results revealed that, although household health expenditure was positively affected by employment status, the relationship was not statistically significant.

The households that had an employed member had slightly higher healthcare services expenditures, but this was not a strong enough association to conclude that the employment status significantly affects healthcare expenditures. This can be attributed to the composition of Uganda's labour market where a significant percentage of the employed population are employed in low paying and informal jobs.

Previous research has found that, although employment alone does not necessarily increase the welfare of a household, the employment must be productive, stable and well paid (Fields, 2011; Fox & Sohnesen, 2016). Many developing countries suffer from widespread informal employment, which is often associated with irregular income and weak social protection and limited social benefits related to employment.

The results suggest, therefore, that employment could affect healthcare expenditure, but the type of employment and its stability may be more important factors than the presence of employment. This finding is in line with previous research that suggests that having income security, or a good job, is a greater factor influencing health expenditure than being employed.

5.1.3 Health Insurance Coverage and Household Health Expenditure

The third hypothesis of the study was that health insurance coverage significantly affects the health expenditure of Ugandan households. The results indicated that the effect of insurance coverage on household health expenditure was negative, but not statistically significant.

The negative relationship implies that the lower the insurance rate the lower the household's out-of-pocket expenses for health services, as a portion of the medical expenses is paid by the insurance companies. This discovery aligns with the Moral Hazard Theory of Health Insurance,

which states that health insurance decreases the direct monetary cost of health care services (Einav & Finkelstein, 2018).

The relationship, however, was not statistically significant due to the extremely small percentage of the households that were insured. Limited health insurance penetration was observed as fewer households reported to have health insurance coverage.

This is consistent with the studies carried out in Sub-Saharan Africa which showed that low insurance coverage reduces the effectiveness of health insurance systems in reducing household healthcare burdens (Dror et al., 2020). The findings thus indicate that increasing household access to health insurance coverage could also increase the financial protection of Ugandan households and lower the out-of-pocket health expenditure.

5.1.4 Household Characteristics and Health Expenditure

The study also revealed that age had positive effect on health expenditures of households indicating that the older the household, the higher the health expenditure. This result is in line with healthcare utilization theory indicating that older persons are more likely to use health care services due to their increased susceptibility to illness and chronic diseases.

The increase in household size was not statistically significant in improving household health expenditure. The larger households might have greater health care requirements due to the increased size of the household, but this was only marginal in the sampled households.

The overall results indicate that among the sampled households, household income had the greatest impact on household health expenditure.

5.2 Conclusion

The study had several empirical findings from which conclusions could be drawn on determinants of household health expenditure among the Ugandan households.

Household income was positively and significantly associated with household health expenditure, first. This means that the richer a family is, the more they can contribute to and afford health care services than the poorer.

Secondly, the employment status was found to have a positive - although non-significant - impact on household health expenditure. This indicates that although people with jobs tend to

spend more on health than people without, this does not apply to all people with jobs, and many in low income, informal employment may be spending less.

Third, the effects of health insurance coverage on the health expenditure of households were negative but lacked statistical significance. While insurance may lower out-of-pocket healthcare expenditures, the fact that households in Uganda have limited insurance coverage lessens the impact on healthcare spending.

Finally, being older had a positive association with health expenditure whereas household size was not significantly associated with health expenditure.

The overall findings of the study are that the most important factor among the determinants of household health expenditure in Uganda is the household income.

5.3 Policy and Practice Recommendations

The study has led to the production of a number of policy and practical recommendations to enhance access to and financial protection of households in Uganda.

The government should first step up policies to boost household income through jobs creation, poverty reduction policies, and income generation activities. Households' access to healthcare services and ability to pay for health care costs may be enhanced with higher household income.

Second, employment policies should aim to boost employment participation, but also the quality, stability and income of employment. The formalization of employment and increased access to decent jobs could improve household's financial capacity to access health services.

Thirdly, the government needs to speed up the expansion of health insurance coverage in Uganda. This can be done by strengthening national health insurance schemes, raising public awareness of health insurance and making insurance services more affordable. An increase in insurance coverage can lower the out-of-pocket spending on health by households.

Fourth, the policymakers need to consolidate public healthcare systems and improve accessibility to low-cost healthcare services particularly for vulnerable groups and low-income households.

5.4 Future Research Recommendations

The study used cross-sectional data from the Uganda National Household Survey (UNHS) 2023/24, and did not allow for the study of changes over time in household health expenditure. Future research should look into a relationship between socioeconomic factors and household health expenditure using longitudinal or panel data.

Some other influencing factors of health expenditure at the household level, including education level, accessibility of healthcare services, regional variations, chronic diseases and the quality of healthcare services, can also be explored in future studies.

More research on rural-urban differences among households and/or regional differences in the extent of household healthcare expenditures in Uganda could give greater understanding of household healthcare behavior.

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