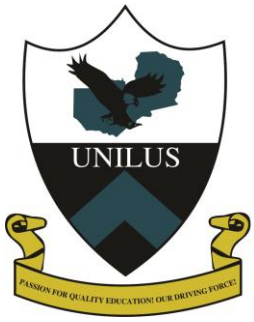

UNIVERSITY OF LUSAKA

SCHOOL OF POSTGRADUATE STUDIES

SOCIO-ECONOMIC AND DEMOGRAPHIC FACTORS INFLUENCING HEALTHCARE UTILIZATION IN ZAMBA

A DISSERTATION SUBMITTED TO THE SCHOOL OF POSTGRADUATE STUDIES, UNIVERSITY OF LUSAKA IN PARTIAL FULFILMENT OF THE AWARD OF THE MASTER OF SCIENCE IN ECONOMICS AND FINANCE

BY

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DECLARATION

I Geoffrey Siapolya declare that this dissertation is my work and has not been done by anyone else. Previously published and any other material used in this paper has been properly cited and acknowledged.

I also permit the University of Lusaka to make duplicates of the dissertation if required.

This dissertation has been conducted under the supervision of Dr. Mashekwa Maboshe

Signature: __ _ Signature: ___ M. Maboshe __

Date: ___13/01/2025____ Date: __20/01/2025___

DEDICATION

I am dedicating this dissertation to my family and fiancée for their support throughout this academic journey. I am also dedicating this dissertation to my late father and brother; may their souls continue resting in eternal peace.

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I would like to express my deepest and most heartfelt gratitude to my supervisor, **Dr. Maboshe Mashekwa**, for his unwavering support and invaluable assistance throughout this process. His tireless efforts, expert guidance, and constructive feedback have been instrumental in the successful completion of this paper. His dedication and encouragement pushed me to achieve my best, and without his supervision, it would not have been possible to produce a well-structured and thoroughly researched piece of work.

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This paper is not just a result of my effort but also a testament to the collective support, patience, and love from all those who have contributed to this journey. I am sincerely grateful to each one of you for being part of this accomplishment.

Table of Contents

List of Tables

List of Figures

List of Acronyms

CHAZ	Churches Health Association of Zambia
CPs	Cooperating Partners
CSO	Central Statistics Office
CSOs	Civil Society Organization
CPH	Census of Population Housing
CSA	Census Supervisory Area
EAs	Enumeration Areas
eLMIS	Electronic Logistic Management Information System
FBOs	Faith-based Organizations
GDHSs	Gabon Demographic Health Survey
HBM	Health Belief Model
HCF	Health Care Fund
HIV	Human Immunodeficiency Virus
HDI	Human Development Index
IDSR	Integrated Disease Surveillance Report
IFMIS	Integrated Financial Management Information System
LCMS	Living Conditions Monitoring Survey
LMICs	Low- and Middle-Income Countries
SDOH	Social Determinants of Health
STD	Sexual Transmitted Diseases
MDGs	Millennium Development Goals
MMR	Maternal Mortality Ratio
MoH	Ministry of Health

MoF	Ministry of Finance
MSL	Medical Stores Limited
NHSP	National Health Strategic Plan
NIMHD	National Institute on Minority Health and Health Disparities
OPP	Out-of-Pocket
PHC	Primary Health Care
PSH	Public Health Spending
SDGs	Sustainable Development Goals
SHIS	Social Health Insurance Scheme
SSA	Sub-Saharan Africa
TB	Tuberculosis
U5MR	Under-5 Mortality Rate
UHC	Universal Health Coverage
NDCs	Non-Communicable Diseases
NGOs	Non-Governmental Organizations
WHO	World Health Organization
ZAMMSA	Zambia Medicines and Medical Supplies Agency
ZDHS	Zambia Demographic Health Survey

Abstract

Healthcare utilization is a complex phenomenon that is influenced by socioeconomic and demographic factors. In Zambia, an interplay between socioeconomic and demographic factors play a critical role in influencing behaviour to seeking healthcare and access to healthcare services. The main objective of the study is to examine the influence of socioeconomic and demographic factors on healthcare utilization in Zambia with particular focus on rural-urban differentials, level of wealth, education and health insurance coverage.

In this study, a quantitative research methodology was adopted. The study uses 2018 Zambia Demographic Health Survey (ZDHS) a population-based survey to examine the relationship that exist between socio-economic and demographic factors, and the utilization of healthcare, and a linear logistic regression model will be employed to analyse the relationship between the dependent and independent variables.

The results showed there are higher odds of healthcare utilization for the elderly, females, urban residents, people with high income, people living near healthcare facilities, those with health insurance cover, those with high level of education and those in employment while the youth, males, those without health insurance cover, rural residents, the poor, those living distant to healthcare facilities, those with no education and the unemployed had lower odds of healthcare utilization. In addition, distance to healthcare facility and health insurance cover had p values greater than 0.05.

The results provide data driven insights for policymakers to formulate targeted interventions to improve healthcare utilization, strategically allocate limited resources and design policies that address financial barriers, improve rural infrastructure and promote health literacy among vulnerable population groups.

Keywords: Healthcare utilization, socioeconomic, demographic, healthcare access, education and Zambia

CHAPTER 1: INTRODUCTION

Healthcare utilization refers to the extent to which individuals access and use healthcare services. Utilization of healthcare services is a crucial factor in determining human development and, eventually, the rate of economic growth. Healthcare use, as defined by (Carrasquillo, 2013) is the use of medical services. Healthcare utilization is further defined as essentially the need for healthcare services, the accessibility of those services, and the financial ability to pay for such services (Watts & Crimmins, 2008). In Zambia, as in many other low- and middle-income countries (LMICs), healthcare utilization is largely affected by a complex interplay of socio-economic, demographic, cultural, and structural factors. As country become richer, the demand for healthcare increases with people's expectations for government to increase access to quality healthcare services (World Health Organizatiom, 2019). Despite significant efforts by the Zambian government and its partners to improve healthcare access, poverty levels estimated at 60% and high unemployment adversely affect people standards of living making it difficult for people to afford medical costs, education and basic needs (Ministry of Health, 2022). Zambia faces unique challenges in healthcare delivery due to its socio-economic and demographic landscape. With a population exceeding 19 million, of which a significant proportion resides in rural areas, where access to healthcare remains a critical issue (Central Statistical Office CSO, 2020). The nation's healthcare system comprises a mix of public and private providers, with public facilities serving as the primary source of care for most citizens (MOH, 2022). However, barriers such as poverty, geographical inaccessibility, and cultural norms frequently hinder the effective utilization of these services (Central Statistical Office CSO, 2020).

1.1 BACKGROUND

Zambia's healthcare system operates through a decentralized model, with the government playing a crucial role in managing and delivering healthcare services. The system is categorized into three major categories: Community Health Services, Health Centre, and Hospital (Observatory, 2018).

The Zambian health sector faces a number of challenges which have affected the delivery of quality healthcare services such as procurement and supply of essential medicines and medical supplies which has remained a major burden creating stock-outs problems for most healthcare facilities especially those operated by the government. Healthcare infrastructure, medical equipment and transport which are essential inputs in the delivery of healthcare services and lack of these input reduces and undermines the capacity to provide healthcare services. In addition, stalled projects such as maintenance, rehabilitation, upgrading, and construction of health facilities have created barrier on the extent to which healthcare services can be provided and this is mainly due to inadequate funding in the sector (Ministry of Health, 2022). The health workforce situation in Zambia is also a big challenge, with the doctor to patient ratio being 1 to 12,000 and nurse to patient ratio being 1 to 14,960. The Ministry emphasizes the need to ensure adequate, competent, and well-distributed health staff. The 2020 WHO report revealed that the doctor to patient ratio in Zambia is 1 to 12,000, compared to the ideal ratio of 1 to 5,000 and 1,400 (Ministry of Health, 2022). These challenges have not made easy for the government and other healthcare providers to operate effectively and meet the health needs of the Zambian population.

Access to healthcare services in Zambia is also another challenge due to high levels of poverty which adversely affect people's standards of living, nutrition, and capacity to meet health expenses (Ministry of Health, 2022). Income inequalities have made access to healthcare services a challenge due individual capacity to afford healthcare expenses with those that earner higher income able to access these services as a result household with higher income can easily afford while those with lower income face financial constraint and limited access. Geographic location compounds these disparities, as rural populations face significant challenges due to the scarcity of healthcare facilities, resulting in increased travel times and costs associated with seeking healthcare (Central Statistical Office CSO, 2020). Education also plays a pivotal role in healthcare access, individuals with higher levels of education generally being more health-literate and likely to seek healthcare services. Education disparities have contributed to variations in healthcare seeking behaviours, with those possessing more education being more likely to visit healthcare facilities when ill (Ministry of Health, 2022). Zambia has diverse racial, ethnic and traditional groups and while this diversity offers a great opportunity to promoting healthcare access, a risk also arises

where people are inclined to traditional belief and practices. These beliefs are likely to hinder people from accessing healthcare services (Ministry of Health, 2022).

Further, there is an increased awareness of the inequality in access to healthcare services and this has renewed the government's commitment to improve the health status of the poor (Zyaambo, et al., 2012). Approximately 30% of the population experience difficulty in accessing healthcare services, 3.41% having attained higher education and 49% being poor highlighting that the social and economic environment play a role in shaping people's behaviour in seeking healthcare services (Central Statistical Office CSO, 2020).

Government initiatives have aimed to enhance healthcare access for disadvantaged populations but have achieved mixed results. Addressing these socioeconomic and demographic determinants is essential for improving healthcare access in Zambia (Ministry of Finance, 2022). By comprehensively understanding these factors, policymakers can design targeted interventions to promote equitable access to healthcare services and achieve universal health coverage, thereby improving health outcomes across all demographic groups.

Similarly, Sub-Saharan Africa faces significant challenges in healthcare access, particularly in terms of maternal and child mortality rates. Despite progress in health indicators, many countries, including Zambia, still experience high maternal and child mortality rates due to inadequate access to quality healthcare services (WHO African Region, 2022). Access to healthcare in both public and private sectors is largely dependent on a patient's ability to meet out-of-pocket expenses at the point of care. Insurance arrangements are often non-existent in many health systems. The role of OOP payments in influencing access has been a subject of growing academic and policy interest. Since the early 2000s, several African countries have abolished user fees to reduce financial barriers to access to needed healthcare, especially for the poor. Sub-Saharan Africa's population has poor health, reflected in high death rates and short life expectancies (Masiye & Kaonga, 2016). (Makuta & O'Hare, 2015) adds that public health spending (PSH) has been considered a possible complement to economic expansion in terms of enhancing health. However, progress in SSA to improve health status has been modest, with the region falling short of the Millennium Development Goals (MDGs) goals as Sub-Saharan Africa still lack access to

healthcare services, relying on patient's ability to meet out-of-pocket expenses. To achieve the desired gains, efficient resource management is required, and quality of governance is seen as a significant factor in determining health outcomes and the effectiveness of public health investment.

Healthcare access is influenced by socioeconomic disparities globally, with high-income countries having equitable access through comprehensive insurance systems and robust public healthcare infrastructure. The service coverage index in 42 fast-growing countries rose above 66 in 2017, reflecting global trends. However, the rapid transition to government spending does not necessarily mean a fast expansion of service coverage. Health systems are increasingly complex, encompassing public and private health services, primary healthcare, acute, chronic, and aged care. Health systems are continually evolving to adapt to epidemiological, demographic, and societal shifts (Figueroa, et al., 2019). Collaborative governance, where non-health actors and health actors work together, has emerged as a response to changing expectations and priorities. Further, health systems around the world are grappling with unprecedented challenges caused by rapid ageing of populations and increasing prevalence of chronic diseases. The rising demand for hospital resources is overwhelming all over the world even for health systems of developed countries. For example, in countries like Singapore where the population is ageing four times more rapidly than other developed countries creates perpetual high bed occupancies in hospitals placing tremendous pressure on acute care resources and hospitals to discharge patients to create beds for patients waiting in the emergency rooms, and long-term care sectors are less developed when compared to the acute care services. The lack of integration between acute care, long term care, and primary care is widely acknowledged. This gap further aggravates the problem resulting in a vicious cycle of discharge and readmissions to acute care hospitals. The World Health Organization's publication "Working together for health" identified a profound shortage of human resources for health to address population health needs and hinder progress towards the Sustainable Development Goals. Human resources challenges include numerical workforce shortages, skill imbalances, geographical maldistribution, difficulty in inter-professional collaboration, inefficient use of resources, and burnout. Effective health leadership and workforce management are critical to addressing human resource

needs within health systems and strengthening capacities at regional and global levels (Low, et al., 2015).

Health systems worldwide face unprecedented challenges due to rapid population ageing and increasing prevalence of chronic diseases. The rising demand for hospital resources is overwhelming, even in developed countries (World Health Organizatiom, 2019). In lower-income countries, progress in service coverage has come from interventions for infectious diseases and reproductive, maternal, new-born, and child health services. Marginalized groups, such as the poor, women, and rural residents, consistently face greater barriers to healthcare utilization (World Bank, 2021).

1.2 STATEMENT OF THE PROBLEM

In a country where healthcare disparities are pronounced, socioeconomic status often assessed through household consumption expenditure provide valuable insights into the living conditions and financial capacities that shape health seeking behaviours. Despite government efforts and initiatives to improve healthcare service availability, key issues such lower income which determine affordability of healthcare services and lower literacy levels which determine healthcare literacy and health seeking behaviour have exposed the struggles across different population groups to navigate the healthcare system effectively due to various barriers including geographical isolation and financial constraints with rural residents experiencing greater challenges due to long distances they have to cover and inadequate transport infrastructure to reduce their travel expenses. These socioeconomic and demographic factors have contributed to inequitable access to healthcare services particularly the vulnerable populations highlighting low utilization of healthcare services across different demographics. By addressing these factors, this study provides a more comprehensive understanding of healthcare utilization patterns and offers evidence-based recommendations to improve healthcare utilization and equity in Zambia.

1.3 OBJECTIVES OF THE STUDY

1.3.1 GENERAL OBJECTIVE

To investigate the effects of socio-economic and demographic factors on healthcare utilization in Zambia.

1.3.2 SPECIFIC OBJECTIVES

i. To determine the extent to which geographical divide affect healthcare utilization in Zambia.
ii. To assess the impact of education on healthcare utilization in Zambia.
iii. To analyse the extent to which income differences affect healthcare utilization in Zambia.
iv. To determine examine relationship between health insurance coverage and healthcare utilization in Zambia.

1.4 RESEARCH QUESTIONS

i. How does the rural-urban divide influence healthcare utilization in Zambia?
ii. To what extent does education attainment Impact the likelihood of healthcare utilization in Zambia?
iii. How do income disparities among households affect healthcare utilization in Zambia?
iv. What is the relationship between health insurance coverage and healthcare utilization?

1.5 SIGNIFICANCE OF THE STUDY

This study is significant because it bridges knowledge gaps about healthcare utilization in Zambia and offers comprehensive data regarding the impact of socioeconomic and demographic factors. The study is significant for policy development because it provides data-driven insights into how socioeconomic and demographic factors impact healthcare utilization, which policymakers can utilize to shape their decisions. By examining the effects of socioeconomic and demographic factors on healthcare consumption, the government and healthcare providers may ascertain the level of demand in a particular area and allocate resources in an effective and strategic manner, making the most use of their limited resources. Building roads to facilitate easier access to surrounding medical institutions and taking other aspects into account can help establish the best location for future medical facilities. The results can also be used to inform the creation of health initiatives that aim to overcome the psychological barriers that keep people from visiting medical facilities. The significance of this study lies in its potential to inform healthcare system planning, enhance the effectiveness of resource allocation, and address health inequalities in Zambia. By examining the intricate relationships between socioeconomic and demographic factors

and healthcare utilization, the research provides critical insights that can guide policymakers in making informed decisions aimed at improving health outcomes. Healthcare system planning is fundamentally about understanding the needs of the population and ensuring that services are aligned with those needs. This study highlights how factors such as income, education, and residence influence healthcare access. For instance, individuals from lower socioeconomic backgrounds often face barriers that prevent them from seeking necessary medical care. By identifying these barriers, the study equips policymakers with the knowledge required to develop targeted interventions that can bridge gaps in healthcare access. This is particularly relevant in Zambia, where despite reforms like the removal of user fees for primary healthcare, disparities remain prevalent, especially among marginalized communities.

1.6 SCOPE OF THE STUDY

This research study is interested particularly in how socio-economic and demographic factors influence healthcare utilization in Zambia. The study will look at the healthcare service utilization differential between rural and urban areas, factors that can be prioritized to increase healthcare service and challenges faced in seeking healthcare services. The data collected and used for this study is restricted to the Zambia population.

1.7 DEFINITION OF KEY TERMS AND CONCEPTS

The variables are divided into two, which is dependent and independent variables. The dependent variable being healthcare utilization and the independent variables being age, gender, residence, education, income, distance to healthcare facility and insurance coverage.

Healthcare Utilization: Healthcare Utilization is defined as the use of healthcare services or facilities for the purpose of promoting health, preventing illnesses and maintaining a health status. Healthcare Utilization is modelled as a function of socio-economic and demographic variables, and these include;

Age: Age is defined as the current age of the respondent at the time of the survey, and it is an ordinal variable categorised into 3: 1. Youth, 2. Middle-Aged, and 3. Elderly.

Gender: Gender is defined as the state of being male or female and it is a categorical variable of either being male or female

Education Level: Education is defined as the highest level of education attained by the respondent and it will be measured as an ordinal variable where; 0. No education, 1. Primary education, 2. Secondary education and 3. Tertiary

Residence: Residence is defined as the type of area of the respondent. It is measured as a categorical variable because the respondent is either in rural urban area.

Income: Income is defined as an index of wealth and it is measured as an ordinal variable where; poor (0), Middle (1), and Rich (2).

Employment Status: this is defined as the classification of whether an individual has is in employment or not.

Distance to Healthcare Facility: Distance to healthcare facility is defined as how easily accessible a health facility is. It measured as a categorical variable, that is whether it is a big problem to access a health facility or not. Further, the dataset does not offer an alternative measure by measuring distance in terms of kilometres to the nearest or furthest healthcare facility.

Insurance Cover: This is defined as whether an individual is covered under a medical insurance policy or not.

CHAPTER 2: LITERATURE REVIEW

This chapter presents essential information relative to the study; the theoretical and empirical evidence with respect to healthcare utilization. This chapter details the theories that show a relationship that exit between healthcare utilization and socio-economic and demographic factors, and empirical evidence based on the works of other researchers. Therefore, the literature review of this study will contain both theoretical and empirical literature.

2.1 THEORETICAL LITERATURE REVIEW

THE GROSSMAN'S MODEL

A healthy life is an important component of the labour supply chain and human capital. Health is the main source of the continuous process of creating, producing, and consuming value for individuals. Every rational individual desire to invest in himself/herself in order to be healthy and increase welfare with an innate instinct/belief. Grossman considers household health demand as a consumer product that directly contributes to the benefit function as well as an investment product that affects the accumulation of human capital by increasing productive time. The purchasing power created by individuals acting on the motive of benefit maximization in terms of factor income over the expected lifetime constitutes the main constraint of the benefit function. In order to maintain their health, individuals should maximize their expected life expectancy over a certain rate of depreciation (discount) over time. In this context, each individual wants to maximize the utility index over the basket of goods he or she consumes during his or her lifetime.

$$\mathrm{U} = U(q_{11}, \dots, q_{nT}) + \lambda \sum_{t=1}^{T} (y_t - \sum_{j=1}^{n} p_{jt} q_{jt})(1 + \varepsilon_{1t})^{-1} \qquad (2.1)$$

In Equation, U refers to the utility index, ($qq11, \dots . , qqnnnn$) manufactured consumer goods, $\lambda\lambda$ common utility, which equates the rate of substitution between each pair of goods in two periods, $yytt$ income constraint that each individual provides depending on the choice between free time and working hours in active working life, $ppjjqqjj$ expenditures on manufactured consumer goods, (1 + $\varepsilon\varepsilon 1tt$)−1 discount rate defined over the depreciation, respectively. Grossman, one of the pioneers of health demand studies, assumed that individuals are born with a certain health heritage that wears down over time and that health can be replaced by investment in the health stock.

After perceiving the disease state, the person turns to healthcare providers by showing help-seeking behaviour to regain his/her health [(Kara & Kurutkan: 2018: 39)]. What individuals buy when they claim health care is actually a state of being healthier [(Grossman, 1972: 223)]. Grossman considers healthcare demand as input and health and wellness as output. In the Grossman model, health is seen as a durable good within the scope of consumer behaviour on one hand and as an element of human capital (stock investment) on the other hand. Health as a consumer good positively affects the benefit functions of individuals, and individuals do not like being unhealthy. As an investment good, health determines the time individuals can devote to market or non-market activities [(Kara & Kurutkan: 2018: 54)]. Consumers not only buy healthcare from the market but also the time they spend improving their health. According to Grossman, an increase in a person's stock of knowledge and skills affects their market and non-market productivity, increasing the accumulation of human capital; however, health stock determines the total time they can spend making money and producing goods and services [(Grossman, 1999: 2)]. According to Grossman's human capital theory, an increase in a person's human capital or knowledge increases labour productivity in sectors such as the home economy, market, and non-market sectors where the goods included in that person's utility function are produced. In order to realize potential gains in productivity, individuals have a desire to invest in formal education and on-the-job training. The cost of these investments includes the opportunity cost of the time required for individuals to recover their direct and alternative expenditures for market goods [(Grossman, 1999: 2)]. According to the model, health is an intrinsic variable and partly depends on the allocation of production resources [(Jacobson, 2000: 612)]. The model also shows the implication for inclusion of contextual variables to operationalize the model. The first implication being that environmental variables are often measured at aggregate level while some at individual level. Therefore, analytical techniques must consider the difference in levels to better specify the relationships among variables at different levels. The second implication states that components of the model must vary depending what is being studied and this approach is addressed by the use of two-part or multi-part equations. The third implication is that model is depicted with feedback loops (simultaneity, endogeneity and reciprocity) such that individual characteristics influence utilization and vice-verse. The last implication is that contextual variables often have complex relationships with other variables and indirect and direct association with utilization.

Although utilization studies often use simple regression analysis with computer generated stepwise or simultaneous entry of variables to analyse the correlates of utilization behaviour, these methods are less useful when analysing these complex relationships. When the goal is explanation rather than prediction, simple regression analysis may be less useful since it does not separate out the independent influence of variables or consider the causal ordering of variables, while methods such as path analysis and theory-driven hierarchical entry of variables may be more useful (Kara, 2024).

THE ANDERSEN'S BEHAVIOURAL MODEL OF HEALTH SERVICE UTILIZATION

One of the most popular frameworks for analysing the characteristics that are connected to patient consumption of healthcare services is the behavioural model of utilization, which was created by Andersen, Aday, and others. The behavioural model does not specify the particular variables and analytical techniques that must be employed since it is an analytical framework rather than a mathematical model. Clearly, the degree of preceding research, the research topic, the objective of the study, and data availability will all influence whether it is suitable to include environmental or provider-related factors or to utilize more complicated methodologies. In order to create policies and programs that encourage appropriate utilization, discourage inappropriate utilization, and advance cost-effective care, it is helpful to understand the factors that influence utilization. This helps to pinpoint the causes of variations in utilization, consumer satisfaction, and outcomes, [(Aday 1993)]. The model considers two main variables;

a. The Environmental variables; this variable includes;

- Healthcare delivery system characteristics are the policies, resources, organization, and financial arrangements influencing the accessibility, availability, and acceptability of medical care services (e.g., physician supply).
- External environmental factors reflect the economic climate, relative wealth, politics, level of stress and violence, and prevailing norms of the society.
- Community-level enabling variables include attributes of the community where the individual lives that enable the individual to obtain services (e.g., availability of physicians in the community).

b. The Provider-Related Variables; similar to the environmental variable discussed, the provider-related variables measure the context within which utilization occurs and these are;

- patient factors that may be influenced by providers and which enable patients to obtain services (e.g., whether individuals have a regular source of care, the convenience of obtaining care, previous use of services, and the out-of-pocket price of services); and
- provider characteristics that interact with patient to influence utilization (e.g., specialty or gender of physician)

These factors are frequently quantified at the aggregate level, for instance, the proportion of the population in an area that is urban. The setting in which an individual "lodges," such as whether they reside in an urban or rural region, allows them to also be measured at the individual level (Philip, et al., 2000).

THE SOCIAL DETERMINANTS OF HEALTH FRAMEWORK

The social determinants of health (SDH), as defined by the World Health Organization (WHO), are the non-medical elements that affect health outcomes. In addition to the larger group of factors and systems influencing the conditions of daily life, these are the circumstances in which people are born, develop, work, live, and age. These factors and systems include political systems, societal norms, social policies, economic policies and systems, and development objectives. Health inequalities, or the unjust and preventable variations in health status found within and across countries, are significantly influenced by SDH. Health and sickness follow a social gradient across nations of all income levels: the poorer one's socioeconomic standing, the worse one's health. The following list provides examples of the social determinants of health, which can influence health equity in positive and negative ways:

- Income and social protection
- Education
- Unemployment and job insecurity
- Working life conditions
- Food insecurity
- Housing, basic amenities and the environment
- Early childhood development

- Social inclusion and non-discrimination
- Structural conflict
- Access to affordable health services of decent quality

According to research, social determinants of health may have a greater impact on an individual's health than medical treatment or lifestyle decisions. For instance, a number of researches indicate that SDH may be responsible for between 30 and 55% of health outcomes. Estimates also indicate that the contribution of non-health sectors to population health outcomes is greater than the contribution of the health sector. SDH must be properly addressed in order to improve health and lessen enduring health disparities, which calls for effort from all sectors and civil society. It is crucial to remember that these well-known SDOH policy and programmatic frameworks frequently rely on broad SDOH domains, such as income, educational attainment, housing quality, access to health care, and racial/ethnic discrimination, which are conceptualized as predicting a variety of health inequity outcomes. The importance of these SDOH dimensions in influencing health outcomes and disparities along a gradient of social stratification is highlighted by a significant body of conceptual and empirical studies.14-19 For instance, socioeconomic status is frequently used as a predictor of both good and bad health outcomes.14, 19 The link between education level and general health is also known to be good.15 However, applied policy or programmatic frameworks that primarily focus on broad SDOH domains (hereinafter referred to as "domain-focused" frameworks) rarely specify the operating mechanisms of SDOH in sufficient detail to guide targeted intervention, and rigorously evaluated and successful programmatic strategies for mitigating the mechanisms of SDOH impact are still hard to come by. This is true despite the existing literature's extensive conceptual and empirical research on SDOH processes. The fundamental causes theory, the risk environment theory, the syndemic theory, the eco-social theory, as well as life-course and biological techniques for comprehending the processes of SDOH, have all become significant SDOH theories. Additionally, a variety of frameworks, including the frequently cited SDOH framework created by the World Health Organization Commission on Social Determinants of Health, the National Institute on Minority Health and Health Disparities (NIMHD) research framework, frameworks of health and health equity drivers examined by Givens and colleagues, as well as others, have collectively advanced efforts to integrate the SDOH literature for use in

research and applied work. To date, the nuances of SDOH mechanisms described in the literature are too often not reflected in the broad, SDOH domain–focused frameworks that continue to inform health policy, public health, and clinical practice, representing a research-to-practice translation gap and missed opportunity for more effective SDOH mitigation (World Health Organization, n.d.).

THE HEALTH BELIEF MODEL

The Health Belief Model (HBM), which was established by Hochbaum and Rosenstock in the 1950s, is a paradigm that has been extensively researched and is aimed at explaining and predicting health-related behaviours based on the beliefs and perceptions of individuals. Individual perceptions, modifying factors, and the likelihood of acting are the three key areas that are considered to be influential in determining a person's desire to participate in health-promoting behaviours, according to the model. Views of individuals are at the heart of the health behaviour model (HBM). These views encompass how individuals place importance on their own health, how vulnerable they believe they are to health problems, and how severe they believe those problems to be. Individuals' perspectives on potential dangers to their health are influenced by these views. As an illustration, an individual who has a perception that they are at a high risk for an illness (known as perceived susceptibility) and who considers that disease to be dangerous (known as perceived severity) is more likely to take preventative measures. Modifying variables include demographic aspects such as age, gender, and socioeconomic position, as well as larger contextual features such as perceived threats and signals to action. These perceptions are further influenced by modified variables. External stimuli that encourage individuals to act are referred to as cues to action. Examples of cues to action include reminders from healthcare practitioners or public health campaigns. Calculating the perceived advantages of a suggested health behaviour and subtracting the perceived barriers to doing that behaviour is one way to evaluate the likelihood of acting. When an individual performs this calculation, they are expressing their overall evaluation of whether the advantages of performing the advised action exceed the problems that are involved with doing so. According to the findings of research, an individual's perception of potential health risks is influenced by a number of important elements. General health values, such as a person's interest in and care for their own health, specific views about vulnerability to certain health dangers, and ideas about the repercussions of such threats are all

included in this category. (Mckellar & Sillence, 2020) found that individuals are more likely to take preventive health measures if they perceive a danger to their health, get repeated reminders to act, and feel that the benefits of acting outweigh any associated risks. Therefore, persons are more likely to take preventive health actions. By shedding light on the ways in which beliefs impact health behaviours, the Health Belief Model (HBM) has proven to be an invaluable resource for directing initiatives that aim to promote health and prevent disease. This reveals essential components that may be targeted in treatments to encourage better habits, and it makes this identification possible. As an illustration, public health campaigns may concentrate on raising knowledge about the susceptibility and severity of diseases, while at the same time addressing the obstacles that prevent people from gaining access to healthcare services. In a nutshell, the Health Belief Model is a basic framework that is utilized for the purpose of comprehending the psychological elements that govern actions that are associated with health. Public health efforts may be developed to promote favourable health outcomes across a variety of communities in a more effective manner if they consider individual perspectives and modifiable variables.

2.2 EMPIRICAL LITERATURE REVIEW

(Zyaambo, et al., 2012) did a research in Zambia where they examined the relationships between risk, enabling, and enabling variables with the use of health facilities in regions with high HIV prevalence and low levels of HIV awareness. The information comes from a 2003 population-based survey of persons who were 15 years of age or older. The current study is based on a subset of these data that only includes persons with a positive HIV test result aged 15 to 49. Their analytical method followed a modified version of the Health Behaviour Model. They report unadjusted and adjusted odds ratios and their 95% confidence intervals from logistic regression analyses. Totals of 1042 males and 1547 females in urban areas, and 822 males and 1055 females in rural areas were included in the study. Overall, 53.1% of urban and 56.8% of rural respondents utilized health facilities past 12 months. In urban areas, significantly more females than males utilized health facilities (OR=1.4 (95% CI [1.1, 1.6]). Higher educational attainment (10+ years of schooling) was associated with utilization of health facilities in both urban (OR=1.7, 95% CI [1.3, 2.1]) and rural (OR=1.4, 95% CI [1.0, 2.0]) areas compared to respondents who attained up to 7 years of schooling. Respondents who self-rated their health status as very poor/ poor/fair

were twice more likely to utilize health facilities compared to those who rated their health as good/excellent. Respondents who reported illnesses were about three times more likely to utilize health facilities compared to those who did not report the illnesses. In urban areas, respondents who had mental distress were 1.7 times more likely to utilize health facilities compare to those who had no mental distress. Compared to respondents who were HIV negative, respondents who were HIV positive were 1.3 times more likely to utilize health facilities. The study concluded by pointing up significant socio-economic disparities in the use of health services in both urban and rural locations. The factors identified in the study should be taken into consideration when designing interventions to promote access to healthcare services.

(Masiye & Kaonga, 2016) carried out similar study titled "Access to appropriate and affordable healthcare is necessary to achieve better health outcomes in Africa." Access to healthcare is still limited, especially for the poor. Despite the government's decision to abolish user fees at all public primary healthcare institutions, access is still limited in Zambia. The paper's two primary goals were to (i) study the elements that influence ill people's healthcare decisions and (ii) determine what factors influence the amount of out-of-pocket (OOP) payments linked with a visit to a healthcare provider. To model the factors that influence a person's decision on which healthcare alternatives to pursue after becoming unwell, their study used a multilevel multinomial logistic regression. A two-part generalized linear model is used in the study's analysis of the factors that influence the amount of OOP spending associated with a visit to a healthcare provider. The research was based on a 2014 nationwide representative survey of healthcare usage and spending. Their findings were that household per capita consumption expenditure is significantly associated with increased odds of seeking formal care (odds ratio [OR] = 1.12, P = .000). Living in a household in which the head has a higher level of education is associated with increased odds of seeking formal healthcare (OR = 1.54, P = .000) and (OR = 1.55, P = .01), for secondary and tertiary education, respectively. Rural residence is associated with reduced odds of seeking formal care (OR = 0.706, P = .002). The magnitude of OOP expenditure during a visit is significantly dependent on household economic well-being, distance from a health facility, among other factors. A 10% increase in per capita consumption expenditure was associated with a 0.2% increase in OOP health expenditure while every kilometre travelled was associated with a K0.51 increase in OOP health

expenditure. They concluded that access to healthcare is significantly influenced by an individual's socioeconomic position, ailment kind, and place of residency notwithstanding the abolition of user fees on public basic healthcare in Zambia. These findings also raise questions about how effectively the poorest people in Zambia and other sub-Saharan African nations receive the advantages of free public healthcare. The health care needs were the factors most strongly associated with health care seeking. After accounting for need differentials, health care seeking differed modestly by urban and rural residence, was somewhat skewed towards women, and increased substantially with socioeconomic position.

Another study was conducted on inequalities in public healthcare delivery in Zambia by (Phiri & Ataguba, 2014). They explained that access to adequate health services that is of acceptable quality is important in the move towards universal health coverage. However, previous studies have revealed inequities in health care utilization in the favour of the rich. Further, those with the greatest need for health services are not getting a fair share. In Zambia, though equity in access is extolled in government documents, there is evidence suggesting that those needing health services are not receiving their fair share. Their study therefore, sort to assess if socioeconomic related inequalities/ inequities in public health service utilization in Zambia still persist. They used the 2010 nationally representative Zambia Living Conditions and Monitoring Survey data are used. Inequality was assessed using concentration curves and concentrations indices while inequity was assessed using a horizontal equity index: an index of inequity across socioeconomic status groups, based on standardizing health service utilisation for health care need. Public health services considered included public health post visits, public clinic visits, public hospital visits and total public facility visits. Their findings were that there is evidence of pro-poor inequality in public primary health care utilisation but a pro-rich inequality in hospital visits. The concentration indices for public health post visits and public clinic visits are −0.28 and −0.09 respectively while that of public hospitals is 0.06. After controlling for need, the pro-poor distribution is maintained at primary facilities and with a pro-rich distribution at hospitals. The horizontal equity indices for health post and clinic are estimated at −0.23 and −0.04 respectively while that of public hospitals is estimated at 0.11. A pro-rich inequity is observed when all the public facilities are combined (horizontal equity index = 0.01) though statistically insignificant. They concluded that the results of the

paper point to areas of focus in ensuring equitable access to health services especially for the poor and needy. This includes strengthening primary facilities that serve the poor and reducing access barriers to ensure that health care utilisation at higher-level facilities is distributed in accordance with need for it. These initiatives may well reduce the observed inequities and accelerate the move towards universal health coverage in Zambia.

(Sanongo & Yaya, 2020) conducted another study in Gabon, finding that African nations have demonstrated their commitment to achieving the Sustainable Development Goal of universal health coverage by putting in place strategies to increase access and coverage of health care services, to which very few people have access. The establishment and availability of a suitable financial framework is necessary for the realization of universal health care. In this study, the impact of mandatory health insurance on Gabonese mothers' use of medical care was investigated. Methods. The study used the 6th round of Gabon Demographic and Health Surveys (GDHSs)—2012 data to explore three outcome measures of maternal health care utilization extracted on number of antenatal care (ANC) visits during pregnancy, place of birth delivery, and postnatal health care. The dependent variable was women with health insurance coverage against those without. Logistic regression and propensity scoring matching analysed associations of health insurance coverage on women's utilization of health care. Their results were that the mean (+/− SD) age of women respondents of reproductive age was 29 years (9.9). The proportion of at least 4 antenatal care visits was 69.2%, facility-based delivery was 84.7%, and postnatal care utilization was 67.9%. The analysis of data showed disparities in maternal health care services utilization. The GDHS showed maternal age, and geographical region was significantly associated with maternal health care service utilization. A high proportion of urban dwellers and Christian women used maternal health care services. According to the wealth index, maternal health services utilization was higher in women from wealthy households compared to lower household's wealth index (ANC (Conc. Index = 0.117;), facility-based delivery (Conc. Index = 0.069;), and postnatal care (Conc. Index = 0.075;), respectively). With regard to health care insurance coverage, women with health insurance were more likely to use ANC and facility-based delivery services than those without (concentration indices for ANC and facility-based delivery were statistically significant; ANC: z-stat = 2.69; Conc. Index:

0.125 vs. 0.096 and facility-based delivery: z-stat = 3.38; Conc. Index: 0.076 vs. 0.053, respectively). Their conclusion was that women enrolment in health insurance and improved household's financial status can improve key maternal health services utilization.

(Tilahun, et al., 2018) conducted a research study in which they want to identify the factors for healthcare utilization and to describe the effect of mutual health insurance on healthcare utilization in rural community in South Achefer, North West Ethiopia. They explained that out of pocket healthcare expenditure is one of the major problems in resource limited countries like Ethiopia. About 37% of the national healthcare expenditure in Ethiopia was covered by out of pocket payments. As a result of this direct way of expense, most patients were unable to afford the amount of financial expenditures for utilizing a given healthcare. Hence, they were enforced to take self-administered local medicines, and go to traditional healers or simply waiting the last date of their alive. However, prepayment health insurance scheme; a best solution for financial barriers of payments made at point of healthcare use; addressed healthcare financial challenges. Therefore, moving away from out of pocket charges for healthcare is an important step towards averting the financial ruin associated with medical care. A cross-sectional study was conducted. A total of 652 households consented to participate in the study (326 insured and 326 uninsured households). Propensity score matching was used to explain possible differences in the baseline variables between enrolled and un-enrolled households. Logistic regression analysis was used to identify factors for healthcare utilization. The results were that healthcare utilization among insured households was 50.5% (95% CI: 44.8%, 56.2%). Whilst among uninsured households, healthcare utilization was 29.3% (95% CI: 24.11, 34.47). In general, the overall healthcare utilization was 39.89% (95% CI: 35.7, 43.8). The overall increase in patient-attendance given illness among insured households was 25.2% higher compared with uninsured (t = 4.94, 95% CI: 0.145, 0.359). Educated (primary and above) (AOR = 1.84; 95% CI: 1.14, 2.98), chronic patient (AOR = 1.86; 95% CI: 1.13, 3.06), first choice was health facilities at the point of illness (AOR = 6.33; 95% CI: 2.97–13.51), rich (AOR = 2.1; 95%CI: 1.29, 3.43), and insured (AOR = 2.16; 95% CI: 1.45, 3.23) were independently associated with increased healthcare utilization. They concluded that enrolment to mutual health insurance increases healthcare utilization. Presence of illness in the households, household earnings,

educational status, first choice of treatment at point of illness, and membership to Mutual Health Insurance scheme should be targeted during escalating of healthcare utilization.

In Angola a similar study was conducted by (Rosário, et al., 2019), and they explained that maternal and child mortality reduction and improvements in women and children health care are priorities of the global health and international development agendas. They went on to explain that most maternal deaths are preventable as they stem from insufficient health support during pregnancy and delivery. Improvements in maternal and infant health require, although not exclusively, the provision of accessible reproductive health care and skilled attendance at delivery. The study was based on community–based longitudinal data collected by the Dande Health and Demographic Surveillance System between 2009 and 2015. Data on pregnancy outcomes (10,289 outcomes of 8,066 women) were collected for all reported pregnancies, including sociodemographic information, health services utilisation and women's reproductive history. Logistic regression was used to investigate the determinants of birth outcomes, antenatal care attendance and institutionalised delivery. Their findings were that of the 10,289 pregnancy outcomes, 98.5% resulted in live births, 96.8% attended antenatal care, and 82.5% had four or more visits. Yet, 50.7% of the women delivered outside a health facility. Antenatal care attendance was a determinant of birth outcomes (stillbirth: unadjusted OR = 0.34 95% CI = 0.16–0.70; abortion: OR = 0.07 95% CI = 0.04–0.12). Older women, with lower education, living at a greater distance of a health facility and in rural areas, were less likely to use maternal health care. Having had previous pregnancies, namely resulting in live births, also decreased the likelihood of health care utilization by pregnant women. They concluded that the current results suggest that there are difficulties in the implementation of more demanding models of access to maternal health care. Rich-poor and rural-urban gaps persist in women's access to maternal health care services. Essential improvements are needed in the country's capacity to address the determinants of maternal health and to adopt more appropriate interventions to local contexts. According to the results of our study, specific and articulated health and social policies are needed in Bengo Province, Angola, to address existing barriers to maternal health care, such as availability of proximity services, for instance increasing the number of health facilities, mainly in rural areas. Delivery facilities restricted mostly to urban areas may be

preventing women from seeking institutionalized birth, given that place of residence and distance to health facilities are strongly associated with the place of delivery. Improvements in health assistance quality are also needed: in addition to trained and available human resources, maternal health care facilities should provide routine services endowed with basic essential obstetric care, not only capable of early detection and treatment of pregnancy problems but also of managing unexpected complications. Investment should be made in hospitals where there is at present lack of equipment and/or human resources, contributing for women to perceive health units as a safer and more propitious environment for childbirth, overcoming the barriers that have been preventing them from having an institutionalized birth. Referral systems and emergency transports, like ambulances, are essential in settings as Dande, where the lack of private or public transports is a constant.

Another study conducted by (Tessema, et al., 2015), aimed at assessing the determinants of accessing healthcare among productive-age women in Sub-Saharan Africa. They indicated that healthcare access indicates the affordability, accessibility, availability and acceptability of services in order to achieve the best health outcome. Access to maternal health services is different among women due to them having less land, wealth and properties despite carrying a higher burden of labour, which has a significant role in the society. Also, in most situations, girls are less fed and educated and physically restricted in certain contexts. They used cross-sectional data sourced from recent Demographic and Health Surveys in 36 SSA countries. They employed a mixed-effect analysis to identify the determinants of accessing healthcare in SSA. OR and its 95% CI were reported for determinants associated with accessing healthcare. The outcome for this study was whether accessing healthcare was a ‘big problem’ or ‘not a big problem’. Responses to these questions were categorised as a big problem and not a big problem. A total weighted sample of 500 439 reproductive-age (15–49 years) women from each country’s recent Demographic and Health Surveys from 2006 to 2018 were included in this study. Their results were the pooled prevalence of healthcare access among reproductive-age women in SSA was 42.56% (95% CI 42.43% to 42.69%). The results of the mixed-effect analysis revealed that the determinants of accessing healthcare were urban residence (adjusted OR (AOR)=1.25, 95% CI 1.34 to 1.73), ability to read and write (AOR=1.15, 95% CI 1.22 to 1.28), primary education (AOR=1.08, 95% CI 1.07 to 1.12), secondary education

and above (AOR=1.12, 95% CI 1.10 to 1.14), husband with primary education (AOR=1.06, 95% CI 1.07 to 1.1.12), husband with secondary education and above (AOR=1.22, 95% CI 1.18 to 1.27), middle wealth index (AOR=1.43, 95% CI 1.40 to 1.47), rich wealth index (AOR=2.19, 95% CI 2.13 to 2.24) and wanted pregnancy (AOR=1.27, 95% CI 1.19 to 1.29). They concluded that healthcare access in SSA was found at 42.56%, which is very low even if Sustainable Development Goal 3.8 targeted universal health coverage for everyone so they can obtain the health services they need. The major determinants of healthcare access among reproductive-age women in SSA were urban residence, higher educational level, higher wealth index and wanted pregnancy. The findings of this study suggest and recommend strengthening and improving healthcare access for women who reside in the countryside, women with low level of education and women of low socioeconomic status.

2.1.1 CRITIQUE OF THE LITERATURE REVIEW

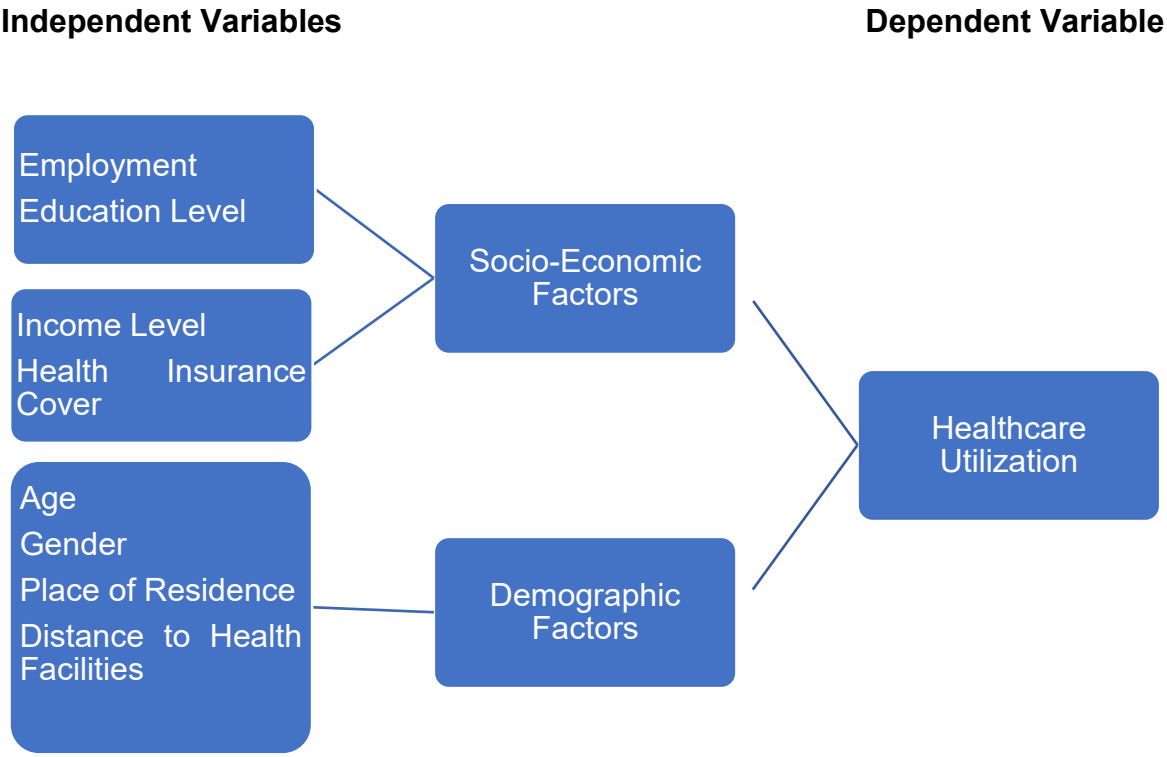
Research on healthcare consumption in Zambia reveals significant socioeconomic and demographic differences in access to health services. However, existing studies lack a comprehensive understanding of the underlying causes of healthcare utilization disparities, the impact of financial constraints on various socioeconomic categories, and the limitations of quantitative data collection methods. Additionally, self-reported assessments may introduce biases, and the lack of analysis on the broader health system environment, such as healthcare financing, resource allocation, and infrastructure, further complicates understanding. Therefore, this study uses the 2018 Zambia Demographic Health Survey in the absence of the 2024 Zambia Demographic Survey making the 2018 dataset the most recent in comparison to the data sets that were being used in previous studies which allows for analysis on more recent trends and information.

2.3 CONCEPTUAL FRAMEWORK

The conceptual framework takes into consideration that for healthcare services, the decision to use healthcare services is often perceived as one of an individual choice (Kara, 2024). A review of the literature suggests that in developing countries like Zambia, the utilization of healthcare services can be explained from a socio-economic and demographic perspective. The framework is not designed to test any formal theory

of health seeking behaviour. However, the selection of each independent variable for inclusion in the study is based on the review of literature.

Figure 1: conceptual framework indicating factors influencing the utilization of healthcare services.



CHAPTER 3: METHODOLOGY

This chapter explains the research approach that the study will employ, the research design, the study population, sample size, sampling technique employed, Data Collection, data analysis and the ethical considerations.

3.1 RSEARCH APPROACH

The research approach employed in this study is quantitative, using secondary data analyse and understand the relationship between socio-economic and demographic factors, and healthcare utilization. Using the 2018 Zambian Demographic Survey, the relationship between the dependent and independent variable will be analysed with the logit model which allows us to analyse dependent variables that binary in nature. The 2018 ZDHS dataset is being used as the recent dataset in comparison to what was used in previous studies. The study could not make use of the 2024 ZDHS data because at the time of analysis this dataset was not and it is still not available.

3.2 RESEARCH DESIGN

In this study, the research design employed is cross-sectional which involves the analysis of already collected data to examine the relationship that exist between the dependent variable and the independent variables. While time series analysis may show long run effects, it requires extensive longitudinal data and advanced statistical techniques which may not be attainable within the scope of the study.

3.3 STUDY POPULATION

The 2018 Zambia Demographic Health Survey (ZDHS), a population-based survey will used to examine the relationship that exist between socio-economic and demographic factors, and the utilization of healthcare.

The data used for analysis is secondary data from the 2018 Zambian Demographic Health Survey (ZDHS) and the sampling frame used for this survey was the Census of Population and Housing (CPH) of the Republic of Zambia, conducted in 2010 by ZamStats. Zambia is divided into 10 provinces. Each province is subdivided into districts, each district into constituencies, and each constituency into wards. In addition to these administrative units, during the 2010 CPH each ward was divided into convenient areas called census supervisory areas (CSAs), and in turn each CSA was

divided into enumeration areas (EAs). An enumeration area is a geographical area assigned to an enumerator for the purpose of conducting a census count; according to the Zambian census frame, each EA consists of an average of 110 households. The 2018 ZDHS followed a stratified two-stage sample design. The first stage involved selecting sample points (clusters) consisting of EAs. EAs were selected with a probability proportional to their size within each sampling stratum. A total of 545 clusters were selected. The second stage involved systematic sampling of households. A household listing operation was undertaken in all the selected clusters. During the listing, an average of 133 households were found in each cluster, from which a fixed number of 25 households were selected through an equal probability systematic selection process, to obtain a total sample size of 13,625 households. Results from this sample are representative at national, urban and rural, and provincial levels (Central Statistical Office, 2019).

3.4 DATA ANALYSIS

The model is specified as healthcare utilization (HU) is a function of socioeconomic factors (employment status, income, education and insurance cover) and demographic factors (age, gender, distance to health facility and Residence). From economic theory, the economic model can be stated as follows;

HU = f (age, gender, residence, income, education, distance to health facility employment status and insurance cover)

3.4.1 ECONOMETRIC MODEL

The econometric model adopted in this research in the logit model because the dependent variable is categorical. Therefore, the logit model is a suitable model for such dependent variables.

$$L_i = \ln\left(\frac{P}{1-p}\right) = Z_i = \beta_0 + \beta_1 X_{1i} \quad \text{.....(3.1)}$$

P goes from 0 to 1 (i.e., as Z varies from -∞ to +∞), the logit L goes from -∞ to +∞, that is, although the probabilities (of necessity) lie between 0 and 1, the logit is not bound, and one can add as many regressors as may be dictated by the underlying theory, $\frac{P}{1-P}$, is the odds ratio and L is called the logit. Therefore, the econometric model for this research is estimated as:

$\widehat{HU} = \widehat{\beta_0} + \widehat{\beta_1}Age + \widehat{\beta_2}Gen + \widehat{\beta_3}Edu + \widehat{\beta_4}Res + \widehat{\beta_5}Inc + \widehat{\beta_6}DistoFa + \widehat{\beta_7}InsCo + \widehat{\beta_8}Emp$ ……(3.2)

3.4.2 ANALYSIS AND DATA PROCESSING

The Zambian Demographic Health Survey data is usually weighted and the data that will be used is from 2018 ZDHS, and Central Statistical Office (CSO) is one of the institutions that do the data collection. The analysis of data will be done using STATA statistical software.

3.5 ETHICAL CONSIDERATION

The use of secondary data is a highly ethical practice as it maximizes the value of the public investment in data collection and ensures reliability of the results of the study hence leading to greater transparency of the research procedure and integrity of the research (Morrow, et al., 2014).

In order to ensure the ethical integrity and reliability of my research, I took several critical steps regarding the handling of secondary data. First and foremost, I ensured that all secondary data utilized in my study had been thoroughly de-identified prior to its release. De-identification is a crucial process that removes or obscures personal identifiers from the dataset, thereby protecting the privacy of individuals whose information is included. This step not only complies with ethical standards but also aligns with legal requirements for data protection, such as those outlined in regulations like the General Data Protection Regulation (GDPR) and local laws governing research ethics. Furthermore, I operated under the principle of presumed consent for my study subjects. Presumed consent is based on the understanding that individuals participating in research involving secondary data have given implicit approval for their information to be used, particularly when the data has been anonymized and poses no risk to their privacy. This approach is often applicable in studies utilizing large datasets where individual consent may be impractical to obtain. However, it is essential to emphasize that this presumption of consent is grounded in ethical considerations; I carefully evaluated the context in which the data was collected to ensure that participants would reasonably expect their information to be used for research purposes without compromising their confidentiality. In addition to these measures, I rigorously assessed the potential impacts of my research on participants and communities involved. It was imperative that the use of this data would not cause

any harm, distress, or negative consequences to individuals or groups represented in the dataset. To achieve this, I conducted a thorough risk assessment, considering factors such as the sensitivity of the information and the potential for misuse or misinterpretation of findings. By prioritizing ethical considerations throughout this process, I aimed to uphold the principles of respect for persons and beneficence ensuring that my research contributes positively to knowledge while safeguarding the rights and well-being of individuals. Ultimately, these steps reflect a commitment to conducting responsible and ethical research. By ensuring that all data used was de-identified, operating under presumed consent, and carefully evaluating potential risks, I aimed to create a foundation of trust and integrity in my study. This approach not only enhances the credibility of my findings but also contributes to a broader culture of ethical research practices within the academic community, reinforcing the importance of prioritizing participant welfare in all stages of research. The main resource for my research is the Zambia demographic health survey as it constitutes of all elements needed for me to carry out this research. Accessibility of the information was not difficult to come across as it is available to the public on the central statistical office (CSO) website.

CHAPTER FOUR: PRESENTATION AND ANALYSIS

4.1 DATA

The 2018 Zambia Demographic and Health Survey (ZDHS) is designed to provide data for monitoring the population and health situation in Zambia. The 2018 ZDHS is the 6th Demographic and Health Survey conducted in Zambia since 1992, and the objective of the survey is to provide reliable estimates of demographic and health indicators including fertility, marriage, sexual activity, fertility preferences, family planning methods, breastfeeding practices, nutrition, childhood and maternal mortality, maternal and child health, domestic violence, and HIV/AIDS that can be used by programme managers and policymakers to evaluate and improve existing programmes.

4.2 DESCRIPTIVE STATISTICS

Descriptive statistics of the study variables is important as we will be able to know how data is structured and its basic features.

The dependent variable used was the respondent's visit to a healthcare facility within 12 months in the given statistics in table 4.2.1

Table 4.2.1 Healthcare Utilization

Visited health facility last 12 months	Frequency	Percentage	Cumulative Frequency
No	11,667	30.35	30.35
Yes	26, 776	69.65	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

From table above, it is clear that 11, 667 indicating 30.35 percent of the respondents did not visit any healthcare facility in the last 12 months while 26, 776 indicating 69.65 percent of respondents visited a healthcare facility in the last 12 months.

Table 4.2.2 Age

Respondent's current age	Frequency	Percent	Cumulative Frequency
Youth	6, 463	16.81	16.81
Adult	15, 150	39.41	56.22
Elderly	16, 833	43.78	100
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

The table 4.2.2 above shows the variable age which was categorized in 3 groups, 16.81 percent were categorized as youths and their age was from 15 to 26 years, 39.41 were categorized as adults and their age was from 27 to 37 years, and the last group was categorized as elderly representing 43.78 percent and their age ranged from 38 to 49 years.

Table 4.2.3 Gender

Sex of Household head	Frequency	Percent	Cumulative Frequency
Male	28, 880	75.12	75.12
Female	9, 566	24.88	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

Table 4.2.3 above shows the gender variable, it indicates that 75.12 percent were headed by a male while 24.88 percent were headed by a female of the total respondents.

Table 4.2.4 Residence

Type of place of residence	Frequency	Percent	Cumulative Frequency
Rural	26, 640	69.29	69.29
Urban	11, 806	30.71	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

The table 4.2.4 above shows the respondent's place of residence. It can be 26, 640 of the respondents resided in the rural representing 69.29 percent while 11, 806 of the respondents resided in the urban representing 30.71 percent of the total respondents.

Table 4.2.5 Level of Wealth

Wealth Index Combined	Frequency	Percent	Cumulative Frequency
Poor	19, 036	49.51	49.51
Middle	8, 318	21.64	71.15
Rich	11, 092	28.85	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

Table 4.2.5 above shows the wealth index of the respondents, 49.51 percent of the respondents were fell in the poor category, 21.64 were in the middle category and 28.85 belonged to the rich category.

Table 4.2.6 Level of Education

Highest Educational Level	Frequency	Percent	Cumulative Frequency
No Education	5, 295	13.77	13.77
Primary	22, 231	57.82	71.60
Secondary	9, 608	24.99	96.59
Higher	1,312	3.41	100.00
Total	**38, 448**	**100.00**	

Source: 2018 ZDHS

Table 4.2.6 above shows the respondents level of education, and it is clear that 30 percent of the respondents did not have any level of education, 57.82 percent completed their primary education representing the highest number of respondents, 24.99 percent of the respondents completed their secondary school and lastly 3.41 percent of the respondents completed higher education representing a small number of the respondents.

Table 4.2.7 Employment Status

Employment Status	Frequency	Percent	Cumulative Frequency
Unemployed	16, 518	42.96	62.57
Employed	21, 928	57.04	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

Table 4.2.7 above shows the respondents employment status within the last 12 months. Those who were unemployed and who were employed in the past year were regarded as unemployed representing 42.96 percent. Those who were currently working and those who had a job and were on leave the last 7 days were regarded as employed representing 57.04 percent.

Table 4.2.8 Insurance Cover

Covered by Health Insurance	Frequency	Percent	Cumulative Frequency
No	37, 912	98.61	98.61
Yes	534	1.39	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

The table 4.2.8 above shows the number of respondents who have insurance cover of the respondents. The table indicates that 93.61 percent of the respondents did not have any insurance cover while 1.39 percent of the respondents had insurance cover.

Table 4.2.9 Distance to Healthcare Facility

Distance to health facility	Frequency	Percent	Cumulative Frequency
Not a big problem	24, 055	62.57	62.57
Big problem	14, 391	37.43	100.00
Total	**38, 446**	**100.00**	

Source: 2018 ZDHS

Table 4.2.9 above shows whether the distance to healthcare facility was a challenge or not. 62.57 percent of the respondents did not have a problem accessing healthcare facilities while 37.43 of the respondents had a big problem accessing healthcare facilities.

Lastly, the table 4.2.10 indicates the summary statistics of the dependent variable and the independent variables showing the variable names, minimum and maximum observations, mean and standard deviation.

Table 4.2.10 Summary Statistics

Variable Name	Observation	Mean	Standard Deviation	Min	Max
Healthcare Access	38, 446	.6965354	.4597601	0	1
Age	38, 446	1.269729	.7302061	0	2
Gender	38, 446	.7511835	.4323329	0	1
Residence	38, 446	.3070801	.4612889	0	1
Level of Wealth	38, 446	.7933725	.8607955	0	2
Level of Education	38, 446	1.180435	.7011375	0	3
Employment Status	38, 446	0.5703584	0.4950314	0	1
Insurance Cover	38, 446	.0138896	.1170344	0	1
Distance to Health Facility	38, 446	.3743172	.4839524	0	1

Source: 2018 ZDHS

4.3 ECONOMETRIC ANALYSIS

This section presents the results of an econometric analysis. A logistic model was used conducted the regression analysis because of the characteristics of the dependent variable. The logit model is most suitable as it captures the binary nature of the dependent variable that is a where a respondent utilized healthcare facilities within 12 months or otherwise. The

Table 4.3.1 Logistic Regression Results

Variable Name	**Odds Ratio**	**Standard Error**	**Z**	**P > z**	**95% Confidence Interval**	
Age	0.7611378	0.0123394	-16.84	0.000	0.7373331	0.785711
Gender	1.144974	0.0296323	5.23	0.000	1.088345	1.204551
Residence	0.8029362	0.0267854	-6.58	0.000	0.7521172	0.857189
Income	0.8934798	0.0170604	-5.90	0.000	0.8606601	0.9275511
Distance to Health Facility	0.9614314	0.0236351	-1.60	0.110	0.9162057	1.00889
Insurance	1.132534	0.1144965	1.23	0.218	0.9289595	1.38072
Education	1.160457	0.0215234	8.02	0.000	1.11903	1.203419
Employment	1.272032	0.0293114	10.44	0.000	1.21586	1.330798
Constant	2.582084	0.1075988	22.76	0.000	2.379577	2.801826

Dependent Var = Healthcare Utilization	No. of Observations = **38, 446**
Log likelihood = -23272.267	LR chi2 (8) = **649.57**
	Prob > chi2 = **0.0000**
	Pseudo R2 = **0.0138**

Source: Stata 14 Software

The objective of the study was to investigate the effects of socioeconomic and demographic factors influencing healthcare utilization in Zambia, and the following is an interpretation of regression results for the relationship between socioeconomic and demographic factors on healthcare utilization. On average, there were (OR 0.761, 95% CI 0.737 to 0.785) lower odds of healthcare utilization among the youth compared to the elderly per unit change in age. Comparing male to female, on average there (OR 1.144, 95% CI 1.088 to 1.204) higher odds of healthcare utilization in favor of females to males. For residence, on average there were (OR 0.802, 95% CI 0.752 to 0.857) lower odds of healthcare utilization in of favor of rural areas to urban areas. On average, there are (OR 0.893, 95% CI 0.861 to 0.927) lower odds of healthcare utilization among the poor compared to the rich. Comparing not a big challenge to a

big challenge, on average there (OR 0.961, 95% CI 0.916 to 1.008) lower odds of healthcare utilization in favor of those that had a big challenge to access healthcare services due to distance to those who had no challenge. However, the p value for the variable distance to healthcare facilities was found to be greater than 0.05. On average, (OR 1.132, 95% CI 0.928 to 1.381) higher odds of healthcare utilization among those that had health insurance cover compared to those that did not have insurance coverage. In addition, the p value for health insurance coverage was greater than 0.05. On average there (OR 1.160, 95% CI 1.119 to 1.203) higher odds of healthcare utilization in favor of those that had higher level education compared to those that had no education. Comparing employed to unemployed, on average there (OR 1.272, 95% CI 1.216 to 1.331) higher odds of healthcare utilization in favor of the employed to those who are unemployed.

CHAPTER FIVE: DISCUSSION OF FINDINGS

The analysis of the logistic regression results presented give insight into how various socioeconomic and demographic factors influence healthcare utilization in Zambia. The results have shown that the odds ratio of 0.761 for age suggest a positive relationship between age and healthcare utilization indicating that is as an individual becomes older, the greater their need to seek healthcare services. These results are in line with the Grossman's theory in which he says that individuals are born with a certain health heritage which deteriorates with the passage of time and this heritage can only be replenished with investment in the health stock (Kara, 2024). From the findings the likelihood for healthcare utilization among males is lower compared to females and 1.14 odds ratio indicates that females are more likely to seek healthcare services than males because they are more health conscious to heath issues which may lead to earlier detection and treatment. These findings align with the findings of (Andrew D. Kerkhoff, et al., 2022) who found that women were actually earliest to report symptoms of TB prior to diagnosis and women had a higher probability of receiving treatment in less than 2 weeks of their initial visit to healthcare facilities.

Area of residence was found to have significant influence on healthcare utilization and 0.80 odds indicate that healthcare utilization is a challenge to those who reside in rural areas compared to urban areas this so because those in rural area face a number of challenges such longer distances to healthcare facilities, low staff levels and higher level of poverty which hinder people access to the necessary healthcare services. Further, these study results are in line with Ishmael (Kalule-Sabiti, et al., 2014) who found that women who resided in urban areas visit healthcare facilities for antenatal care service 4 times more than their counterparts who resided in rural areas. These results only magnify how challenging it is to access healthcare service for people who reside in rural areas. The income odds of 0.89 indicates that being poor is associated with lower utilization of healthcare service. These findings are supported by a study that was conducted by (Kaonga, et al., 2019), where they found a strong association between income and healthcare utilization. Their findings indicated that household with high level of income did not have hardships financing their medical expenses and for poor households they faced hardships paying they are medical expenses to the extent that they would borrow or selling their property in order to cover their medical expenses. Therefore, there is a strong positive relationship between the level of

income and utilization of healthcare services indicating that as income increases, the utilization of healthcare services increases and vice versa.

Distance to healthcare facilities is a challenge that is of great effect in the rural parts of Zambia as healthcare facility are far from one another. Hence, there are 0.961 lower odds of healthcare utilization for those that faced distance challenges to get to healthcare facilities. This only indicates an inverse relationship between distance to health facilities and utilization of healthcare services that is to say the further the distance the greater the challenge and the lower the need to seek healthcare services. However, the p-value of this variable was found to be greater than 0.05 despite having the right coefficient size of value but is insignificant contrary to the findings of (Clerke-Deelder, et al., 2022) adults bypassed nearby healthcare facilities and opted for distant facilities for two reasons that is they bypassed nearby healthcare facilities with the perception that they will receive high quality care at distant higher-level facility and this was observed among high income patients are willing to pay more to receive quality healthcare services. A second possible explanation is that the hours of operation of the bypassed facilities are too limited or inconvenient, leading patients to seek care in facilities with hours that are more amenable to their schedules. Another possible explanation is that patients bypass nearby facilities due to fear of stigma from seeking care in their own communities for conditions such as HIV/AIDS. In our analysis of horizontal bypassing, we found that some patients bypassed nearby primary health centers to seek care at more distant primary health centers, while other patients bypassed nearby hospitals to seek care at more distant hospitals. The odds of healthcare utilization were high for those that had health insurance cover with regards to those that did not have any insurance cover. The results indicate a positive relationship between insurance cover and healthcare utilization. This is to say healthcare utilization increase with an increase in insurance cover. However, the p value for insurance coverage greater than 0.05, showing inconsistency with the results in a study conducted by (Tilahun, et al., 2018) who found that healthcare utilization increased among households that were enrolled to mutual health insurance than those who were not enrolled. They further highlighted that the health insurance scheme is a crucial strategy for financial protection for many households. However, in Zambia similarly to Ethiopia, insurance coverage is very low which to some extent may be attributable to an insignificant relationship between insurance cover and healthcare

utilization observed as only 1.39% of the total sampled population had insurance cover. Education has a strong positive relationship with healthcare utilization. As the results have indicated, with an odds ratio of 1.160 an increase in the level of education results in an increase in utilization of healthcare services, that is to say respondents who had higher level of education were more like to seeking healthcare service than those who did not receive any level of education. These results resonate with findings of (Tessema, et al., 2015), who found that literacy has an effect on healthcare access among women. Women who read and write were more likely to seek health services than women who could not read and write the possible reason being women who can read and write can use the information and knowledge acquired from reading for healthcare utilization. Similar to income employment status has a positive correlation with healthcare utilization that is individuals who are who are in employment are more likely to utilize healthcare services than those who are not employed. These results coincide with the results found in a study conducted by (Tessema, et al., 2015), who said women with a better wealth index status had higher odds of accessing healthcare services compared to women who a poor wealth index status. (Tilahun, et al., 2018) also found similar results that households whose wealth index was categorized as rich were more likely to use health services than households that were categorized as poor.

CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS

The findings of this research underscore the profound impact that socioeconomic and demographic factors have on healthcare utilization in Zambia. It can be concluded that enhancing these factors is not merely beneficial but essential for improving key health indicators such as life expectancy and child mortality rates. Over the past five years, Zambia has witnessed notable progress across all major health indicators, reflecting the effectiveness of various health interventions and policies. However, this progress occurs against a backdrop of rapid population growth and a persistent high disease burden, which necessitates an urgent scaling up of appropriate healthcare services.

Education emerges as a pivotal variable influencing healthcare utilization. By increasing health literacy within communities, particularly in rural areas, policymakers can foster a greater understanding of the importance of seeking medical care. Effective communication strategies tailored to local contexts such as community workshops, radio broadcasts, and mobile health initiatives which can significantly enhance awareness and encourage proactive health-seeking behaviors.

Moreover, equitable income distribution is crucial for ensuring that healthcare services are accessible to all segments of the population. Individuals with higher incomes typically have better access to medical facilities and preventive care, which contributes to overall health improvements. Therefore, policies aimed at reducing income inequality could facilitate broader access to healthcare services, enabling more individuals to maintain their health and well-being.

The Zambian government is actively working to bolster primary healthcare through increased investments in health infrastructure. The construction of general hospitals, specialty hospitals, mini-hospitals, and health posts is part of a strategic plan to enhance service delivery and accessibility across the country. These efforts align with global health goals outlined in the Sustainable Development Goals (SDGs), particularly the objective of ensuring good health and well-being for all citizens. Significant improvements have also been made in healthcare workforce ratios. The population-to-doctor ratio improved from 10,886 per doctor in 2016 to 5,900 per doctor in 2019, while the population-to-nurse ratio decreased from 1,366 to 995 during the same period. These enhancements indicate a commitment to strengthening the

healthcare workforce, which is essential for meeting the growing demands of the population.

Furthermore, interventions aimed at achieving universal health access have led to a substantial increase in the proportion of eligible individuals covered by the national health insurance scheme from just 3.9% in 2016 to 29% in 2020. This expansion is crucial for reducing financial barriers that often deter individuals from seeking necessary medical care.

Key national health indicators have shown improvement over the review period. For instance, infant mortality rates, under-five mortality rates, and maternal mortality rates have all decreased significantly. Neonatal mortality prevalence saw a reduction from 34 per 1,000 live births in 2007 to 24 per 1,000 live births in 2013/14; however, it slightly increased to 27 per 1,000 live births in 2018. This fluctuation highlights ongoing challenges that require continued attention and intervention. In terms of communicable diseases, there has been a notable decline in incidence rates. The prevalence of malaria decreased from 408 per 1,000 population in 2014 to 312 per 1,000 population in 2018. Similarly, tuberculosis incidence fell from 406 per 1,000 population during the same period. Additionally, HIV prevalence among women and men aged 15-49 years decreased from 13.3% in 2014 to 11.1% in 2018.Despite these encouraging trends regarding communicable diseases and key health indicators, it is important to recognize that many challenges remain. The ongoing disease burden necessitates sustained efforts to scale up healthcare services effectively. Addressing these challenges will require a multifaceted approach that includes strengthening healthcare infrastructure, enhancing education and awareness about health issues, promoting equitable access to services regardless of socioeconomic status, and continuing to invest in the healthcare workforce.

In conclusion, while Zambia has made significant strides in improving its health indicators over recent years, there remains a critical need for ongoing efforts to address socioeconomic disparities and ensure equitable access to healthcare services for all citizens. By focusing on education, income distribution, and infrastructure development, Zambia can continue its journey toward achieving better health outcomes and fulfilling its commitments under international health frameworks such as the SDGs.

The fact that there are limitations on the resources and competencies that are accessible means while all health care initiatives are crucial, they must be prioritized. Strengthening prevention, Primary Health Care (PHC), health promotion, public health security, and nutrition are the primary areas of emphasis. By increasing the number of healthcare facilities in rural areas and investing in mobile clinics will strengthen health infrastructure in rural areas and reduce travel costs for people in rural areas. Development of regular health education campaigns to increase awareness of available healthcare services, preventive measures and the importance of early medical intervention. This form of education is critical for reducing community and cultural barriers that hinder people from seeking healthcare services from qualified health worker. In addition, empowering youth through education and leadership opportunities further encourages active participation in health decision-making processes, thereby fostering a culture of accountability and advocacy within communities. Therefore, intensifying health care outreach and education programs especially in vulnerable populations will increase healthcare utilization.

Implement healthcare programs that address gender specific needs such as reproductive health services for women and targeted preventive care initiatives for men. Programs like these will reduce cultural and social norms that cause men to avoid seeking healthcare services.

Implement financial support programs such as subsidizing essential healthcare services to help households that face financial constraints and expanding the national health insurance scheme to ensure affordability for low income households. Further, the government collaborate with private providers to ensure expanded support in the delivery of healthcare services. The goal is to enhance the quality of healthcare services and ensure that all citizens have access to necessary medical resources. One of the critical objectives outlined in Zambia's National Health Strategic Plan (NHSP) is to increase the proportion of hospitals equipped with fully functional recommended medical equipment from 20% in 2020 to 85% by 2026. This ambitious target reflects a recognition of the essential role that adequate medical infrastructure plays in delivering quality healthcare. The government has initiated various strategies to achieve this goal, including the establishment of partnerships with organizations

such as the Biomedical Engineering Association of Zambia. These partnerships aim to facilitate the procurement, maintenance, and management of medical equipment across healthcare facilities. By focusing on improving the functionality of hospital equipment, Zambia seeks to enhance diagnostic capabilities, treatment options, and overall patient care.

Further, the introduction of digital health systems is also a pivotal initiative. These systems will allow for better tracking and management of medical supplies, ensuring that hospitals are well-stocked with necessary equipment and medications. For example, the Ministry of Health (MoH) has launched projects aimed at digitizing healthcare services, which include monitoring pharmaceutical supplies from procurement to patient use. This digitalization effort is expected to improve accountability and efficiency within the healthcare system. In tandem with improving hospital infrastructure, focusing on expanding the national health insurance scheme, aiming for universal coverage by 2026. Currently, only 25% of the population is covered by health insurance, highlighting a significant gap in access to healthcare services. The government recognizes that expanding health insurance is crucial for reducing financial barriers to care and ensuring that all citizens can access necessary health services without incurring catastrophic costs. To achieve universal coverage, the government plans to incorporate the informal sector into the national health insurance program. This inclusion is vital as a substantial portion of Zambia's workforce operates within this sector without any form of health coverage. By engaging private sector providers and leveraging national health insurance mechanisms, Zambia aims to enhance healthcare delivery across various demographics.

Additionally, efforts should be made to strengthen collaborations with private sector entities to establish centers of expertise in healthcare service delivery. These collaborations are expected to improve the quality and accessibility of care while also fostering innovation within the health sector. The successful implementation of these initiatives is anticipated to yield several positive outcomes. By achieving an 85% rate of hospitals equipped with functional medical equipment by 2026, patients will benefit from improved diagnostic and treatment capabilities. With universal health coverage targeted for 2026, more individuals will have financial protection against health-related expenses, leading to increased utilization of healthcare services. The combination of better-equipped facilities and expanded insurance coverage is expected to contribute

significantly to improved health outcomes across the population. By integrating digital health systems and enhancing supply chain management for pharmaceuticals and medical equipment, Zambia's healthcare system will become more resilient in responding to public health challenges. In conclusion, Zambia's strategic initiatives focused on enhancing hospital equipment availability and expanding national health insurance coverage represent critical steps toward building a more equitable and effective healthcare system. These efforts are essential for addressing existing disparities in healthcare access and ensuring that all Zambians can receive quality care when needed.

References

Andrew D. Kerkhoff, C. M. J. M. P. M. K. S. N. K. M. N. S. L. C. K. A. C. M. M. a. A. S. et al., 2022. A mixed methods study on men's and women's tuberculosis care journeys in Lusaka, Zambia - implications for gender-tailored tuberculosis health promotion and case finding strategies. *medRxiv.*

Bilali, H., 2024. *Zambia Launches Digital Health Systems to Improve Healthcare.* [Online] Available at: https://www.wearetech.africa/en/fils-uk/news/zambia-launches-digital-health-systems-to-improve-healthcare

Carrasquillo, O., 2013. Health Care Utilization. *Encyclopedia of Behavioral Medicine,* 27(7), pp. 909-910.

Central Statistical Office CSO, 2020. *Zambia Hemographic Health Survey 2018,* Lusaka: Central Statistical Office.

Central Statistical Office, 2019. *Zambia Demographic and Health Survey 2018: Key Indicators Report,* Lusaka: CSO.

Clerke-Deelder, E. et al., 2022. Health care seeking in modern urban LMIC settings: evidence from Lusaka, Zambia. *BMC Public Health 22.*

Figueroa, C. A., Harrison, R., Chauhan, A. & Meyer, L., 2019. BMC Health Services Research. *Priorities and Challenges for health leadership and workforce management globally: a rapid review.*

Kalule-Sabiti, I., Amoateng, A. Y. & Ngake, M., 2014. African Population Studies. *The Effect of Socio-demographic Factors on the Utilization of Maternal Health Care Services in Uganda,* 28(1), pp. 515-525.

Kaonga, O., Banda, C. & Masiye , F., 2019. *Hardship financing of out-of-pocket payments in the context of free healthcare in Zambia.*

Kara, O., 2024. İzmir İktisat Dergisi. *Grossman's Generalised Health Demand Model: An Application on Türkiye,* 39(3), pp. 806-821.

Low, L. L. et al., 2015. Effectiveness of a transitional home care program in reducing acute hospital utilization: a quasi-experimental study. *BMC Health Services Research.*

Makuta, I. & O'Hare, B., 2015. BMC Public Health. *Quality of governance, public spending on health and health status in Sub Saharan Africa: a panel data regression analysis.*

Masiye, F. & Kaonga, O., 2016. Determinants of Healthcare Utilisation and Out-of-Pocket Payments in the Context of Free Public Primary Healthcare in Zambia. *International Journal of Health Policy and Management,* 5(12), pp. 693-703.

Mckellar, K. B. M. P. & Sillence, E. B. M. P., 2020. *Teenagers, Sexual Health Information and the Digital Age.* Newcastle: Academic Press.

Ministry of Finance, 2022. *Eighth National Development Plan 2022-2026.* Lusaka: s.n.

Ministry of Health, 2022. *2022-2026 National Health Strategic Plan.* Lusaka: s.n.

Morrow, V., Boddy, J. & Lamb, R., 2014. *The ethics of secondary data analysis: Learning from experience of sharing qualitative data from young people and their families and international study of childhood poverty.* London: Institute of Education.

Observatory, S. M., 2018. *Zambia Health System.* [Online]
Available at: https://www.severemalaria.org/countries/zambie/zambia-health-system
[Accessed 15 December 2024].

Ortiz-Ospina, E. & Roser, M., 2016. *Global Health: An overview of our research on global health..* [Online]
Available at: https://ourworldindata.org/health-meta
[Accessed 19 April 2024].

Philip, K. A., Morrison, K. R., Andersen, R. & Aday, L. A., 2000. Understanding the Context of Healthcare Utilization: Assessing Environmental and Provider-Related Variables in the Behavioural Model of Utilization. *PubMed Central,* 34(6), pp. 1311-1314.

Phiri, J. & Ataguba, J. E., 2014. Inequalities in public health care delivery in Zambia. *International Journal for Equity in Health,* 13(24).

Rosário, V. N., Gomes, M. C., Brito, M. & Costa , D., 2019. PubMed Central. *Determinants of maternal health care and birth outcome in the Dande Health and Demographic Surveillance System area, Angola,* 14(18).

Sanongo, N. A. & Yaya, S., 2020. BioMed Research International. *Wealth Status, Health Insurance, and Maternal Health Care Utilization in Africa: Evidence from Gabon,* 2020(1).

Tessema, Z. T. et al., 2015. BMC Health Services Research. *Determinants of accessing healthcare in Sub-Saharan Africa: a mixed-effect analysis of recent Demographic and Health Surveys from 36 countries.*

Tilahun, H. et al., 2018. Health Economics Review. *Factors for healthcare utilization and effect of mutual health insurance on healthcare utilization in rural communities of South Achefer Woreda, North West, Ethiopia,* 8(15).

Watts, A. S. & Crimmins, E. M., 2008. Populations at Special Health Risk: The Elderly. *International Encyclopedia of Public Health,* pp. 254-260.

WHO African Region, 2022. *Africa's advances in maternal, infant mortality face setbacks: WHO report.* [Online]
Available at: https://www.afro.who.int/news/africas-advances-maternal-infant-mortality-face-setbacks-who-report
[Accessed 21 Aprl 2024].

World Bank, 2021. *Barriers to the Inclusion of Women and Marginalized Groups in Nigeria's ID System : Findings and Solutions from an In-Depth Qualitative Study ,* Washington DC: World Bank .

World Health Organizatiom, 2019. *Primary Health Care on the Road to Universal Health Coverage,* s.l.: s.n.

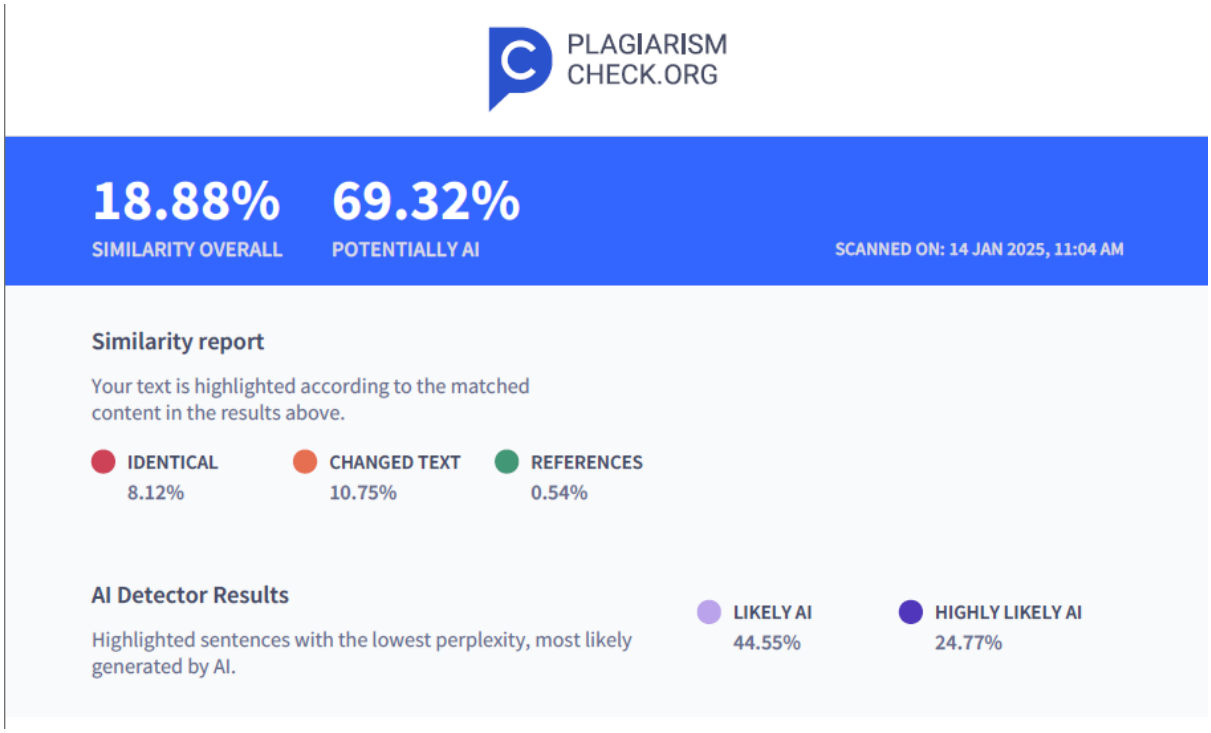
World Health Organization, 2022. *World Health Statistics 2022.* [Online]
Available at: https://www.who.int/news/item/20-05-2022-world-health-statistics-2022
[Accessed 20 April 2024].

World Health Organization, n.d. *Social determinants of health.* [Online]
Available at: https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1
[Accessed 20 April 2024].

World Health Organization, n.d. *Social determinants of health.* [Online]
Available at: https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Zyaambo, C., Siziya, S. & Fylkesnes, K., 2012. BMC Health Services Research. *Health status and socio-economic factors associated with health facility utilization in rural and urban areas in Zambia,* 12(389).

Appendix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