UPTAKE OF HEALTH INSURANCE AMONG INFORMAL SECTOR WORKERS IN DAR ES SALAAM, TANZANIA

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Uptake of Health Insurance among Informal Sector Workers in Dar es Salaam, Tanzania

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other university.

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Bertha Mwinuka

This thesis has been submitted for examination with our approval as University Supervisors

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DEDICATION

I dedicate this work to my family; I have a unique feeling of gratitude to my loving father, Mr. Stelli Lucas Mwinuka; my husband, Mchunguzi Katunzi; my siblings Nyisile, Mary, Lucas, and Samuel, whose words of encouragement and push for tenacity ring in my ears.

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DEFINITION OF OPERATIONAL TERMS

Barriers to accessibility of health insurance These are the various obstacles that individuals may encounter while accessing health insurance services. These barriers can exist either on the individual's side or within the insurance scheme itself. Such barriers may include insurance premiums, information availability, regulations, availability of services, accessibility of services, health-related obstacles, bureaucratic hurdles among others.

Coping strategies for health care financing These are approaches and actions that individuals employ in order to be able to access health care services. Individuals who resort to these coping strategies are unable to pay for health care directly due to lack of insurance or by having insurance with limited services.

Formal organized group This is collection of people who are formally organized to achieve specific goals determined by the group members. These groups have defined membership, specific objectives, or purposes and may be formed for various reasons, such as social, professional interests. Examples of formal organized groups include trade unions, entrepreneurship groups, driver's associations, farmers' groups among others. These groups play a vital role of bringing individuals together and collectively working towards a common goal.

Health insurance This is a contract between an individual or a group (insuree/insured) and the insurance provider (insurer), whereby the insurer agrees to pay for the agreed medical costs incurred by the insuree/insured in return for the premium paid to the insurer by the insuree/insured as per the insurance policy.

Informal sector workers are self-employed individuals who generate income through some activities. Their activities are not integrated into governing laws and regulations, and they have no access to labour protections or social protection through work. These workers often operate in unregistered businesses. They include food vendors, drivers, small artisans, carpenters, and drivers (motorcycles, tricycles, and cars). They also provide informal transport services and engage in small-scale farming.

Uptake of health insurance It refers to percentage or number of individuals who have enrolled into a certain health insurance. The enrolment includes those who have enrolled for the first time and those who have renewed their membership. Individuals who have enrolled in the insurance scheme have an identification number/card which they use when accessing health services in accordance with the insurance policy.

ABBREVIATION AND ACRONYMS

AAR	Africa Air Rescue.
CAG	Controller Auditor General
CBHI	Community Based Health Insurance
CCHP	Comprehensive Council Health Plan
CHF	Community Health Fund
CHIS	Community Health Insurance Schemes
DHS 2	District Health Information Systems
FBO	Faith Based Organization
FGD	Focus Group Discussion
GDP	Gross Domestic Product
HI	Health Insurance
ILO	International Labor Organization
iCHF	Improved Community Health Fund
KII	Key Informant Interview
LMICs	Low- and-Middle-Income Countries
MOH	Ministry of Health
MOHSW	Ministry of Health and Social Welfare
NBS	National Bureau of Statistics

NCDs	Non-Communicable Diseases
NGO	Non-Government Organization
NHI	National Health Insurance
NHIF	National Health Insurance Fund
NHIF	National Hospital Insurance Fund
NHIS	National Health Insurance Scheme
NHRERC	National Health Research Ethics Review Committee
NIMR	National Institute of Medical Research
NSSF	National Social Security Fund
OOP	Out of Pocket Payments
OCGS	Office of Chief Government Statistician
PHI	Private Health Insurance
PI	Private Insurance
PPF	Parastatal Pensions Fund
PO-RALG	President's Office- Regional Administration and Local Government
RAS	Regional Administrative Secretary
SACCOS	Saving and Credits Cooperative Society
SHI	Social Health Insurance
SHIB	Social Health Insurance Benefit

SPSS	Statistical Package for Social Sciences
TIKA	Tiba kwa Kadi
Tshs	Tanzanian Shillings
UHC	Universal Health Coverage
US	United States
URT	United Republic of Tanzania
WHO	World Health Organization
WTP	Willingness to Pay

ABSTRACT

Health insurance is a system of financing healthcare and is designed to protect individuals from high medical costs. It provides a financial safety net by covering a portion of the expenses associated with medical care. Increased healthcare costs limit access to health care services especially to poor individuals including informal sector workers. Low- and Middle-Income Countries have relied on out-of-pocket payments. In the early 1990s, Tanzania introduced health insurance to alleviate the burden of out-of-pocket payments payments and stabilize its healthcare system. The different forms of insurance were introduced and they include National Health Insurance covers 8%, Community Health Fund covers 6% and other prepayment schemes cover less than 1%. Despite these efforts, coverage remains below the 30% national target set for 2015. The main objective of the study was to determine the uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania. This study involved 889 respondents and it used a mixed-method approach with convenience and purposive sampling techniques. Data were collected through questionnaires, Focus Group Discussions and key informant interviews. Regression analysis was used for analysis of quantitative data via SPSS software version 23 while qualitative data was subjected to content analysis. Results shows that 8.9 % of respondents had up-taken health insurance. Factors such as age ($p<0.001$, Exp (B), 95% CI, 2.009: 1.620-2.491), education ($p=0.006$; Exp (B), 1.589; 95% CI;1.143-2.208), income ($p=<0.001$; Exp(B), 1.839; 95% CI, 1.471-2.298) and membership in economic groups ($p<0.001$; Exp (B), .119; 95% CI, 0.437; 0.066-0.215) were associated with the uptake of health insurance ($p<0.05$). Health systems factors associated with uptake of health insurance were insurance policy, difficulties in accessibility of health insurance services, fragmentation of insurance schemes. The individual factors included dissatisfaction with health services and insufficient knowledge about health insurance. Qualitative results showed mistrust to insurance providers, unaffordability of insurance premiums, inaccessibility of insurance selling points as factors to accessibility of health insurance. The coping strategies reported included selling assets, support from friends and relatives and borrowing from various sources. The study conclude that the uptake level of health insurance among the informal sector workers is low and it contributes to catastrophic health expenditure due to the out-of-pocket expenditures when accessing health services. The barriers to accessibility of health insurance are multifaceted and they hinder the uptake of health insurance and they require policy interventions. The study recommend that the ministry of health and insurance providers should address the low uptake of health insurance in order to improve public health outcomes, reducing health inequities. Strengthening of public healthcare systems and establishment of comprehensive community-based health insurance schemes will ensure access to health services by lowering the reliance on coping strategies to finance healthcare services

CHAPTER ONE

INTRODUCTION

1.1 Background Information

Health insurance is a contract that requires an insurer to pay some or all of a person's healthcare costs in exchange for a premium (Centers for Medicare & Medicaid Services, 2021). However, healthcare access remains a global challenge, and the goal of achieving health for all, as outlined in the principles of universal health coverage, is still elusive in many parts of the world. The affordability of healthcare services is a significant dilemma for poor people worldwide. Lack of affordability on high medical costs have made the informal sector workers fail to get treatments (Bhoi *et al.*, 2022) and others choose to either to forego the health care or choose between not going for modern health care services and traditional services. The availability of the traditional health care system which accept indirect alternative ways of paying for health services ensures the accessibility of health services to the majority (Atupele *et al.*, 2021). More than 2 billion people live in developing countries with health systems afflicted by inefficiency, inequitable access, inadequate funding, and poor-quality services (Escobar, Griffin, & Shaw, 2010). This suggests that, health care is not as affordable as the financial protection indicators alone.

The WHO financing policy states that “for the population’s well- being, there must be a sound health system financing strategy to overcome the prevailing disease burden (World Health Organization, 2012). Lack of financial protection has led to the increase in mortality and morbidity due to the burden of diseases that make some people forgo seeking health care (Atupele *et al.*, 2021). Approximately, 1.3 million people die each year as a result of accidents (Loo & Anderson, 2020). Non-communicable diseases (NCDs) constitute a major burden of disease with a significant economic impact especially in Low- and-Middle-Income Countries (LMICs) (Damasceno, 2016). In 2016, NCDs accounted for 71% of all global deaths, and 85% of the 15 million premature deaths (deaths between ages 30 and 70) occurred in low- and middle-income countries (World Health Organization, 2020).

With this prevailing burden of disease, accessibility to health services while protecting individuals financially is vital and worthy.

The WHO estimates that approximately 100 million people are pushed into poverty each year due to OOP for health care services. This promotes alternative health care financing systems such as pre-payment schemes (Mwangi & Oluoch, 2019).

Over the last two decades, many African countries have opted to introduce health insurance schemes and exemptions for vulnerable groups, improving tax collection and allocation to health care (Clift, 2013; Fenny *et al*., 2016; Macha *et al*., 2014). This pattern supports the WHO policy of using health insurance to finance are in all countries (Mills *et al.*,2012). Health insurance guarantees individuals' utilization of equitable and quality healthcare services at affordable rates depending on their willingness and ability to pay (Macha *et al.*, 2014). The two forms of insurance that exist globally are either mandatory or voluntary. The LMICs were implemented to achieve Universal Health Coverage (UHC). The design and implementation of health insurance ensures not only an increase in accessibility to health services but also provides financial protection and improves the population's health status (Ali *et al.*, 2016; Id *et al.*, 2019).

In the 1990s, the government of Tanzania introduced a health insurance system focusing on improving access to, availability, and affordability of healthcare for socially disadvantaged populations, thus reducing the effect of healthcare expenditures (Jamie Boex, Fuller, Luke, 2015). The introduction of health insurance was a response to a health sector reform program aiming to improve the accessibility, sustainability, and efficiency of the healthcare system. The reform included several policies, guidelines, acts, and initiatives implemented over the following years and attracted local and international support (Amani *et al.*, 2021).

Two schemes under the government (the Community Health Fund (CHF) and the National Health Insurance Fund (NHIF) were implemented in 1996 and 2001, respectively. Social Health Insurance Benefit (SHIB) under the National Social Security Fund was introduced to cover employees in the private sector, and later on, other private insurance schemes were formed. The CHF started in 1996 with a pilot

scheme in the Igunga district, which was later expanded to other councils with the expectation of covering the whole country. The scheme facilitated accessibility to essential, affordable, quality healthcare services to the rural population (Ndomba & Maluka, 2019). Membership in the CHF is voluntary, and households pay premiums as stated by the council/municipal CHF board (Humba, 2011). In 1999, the NHI covered health care services for central government employees and other formal organizations, and in 2013, it was extended to include people from the informal sector workers. National health insurance is compulsory for government employees and voluntary members from the informal rs and other formal sectors. These two schemes operate in parallel within each district (Tungu *et al*., 2020). The insurance beneficiaries access health services to all accredited health facilities (public, charity, and private) depending on the coverage of the insurance and insurance policy.

As of 2018, population coverage by the largest prepayment schemes, such as Community Health Funds (CHF), encompassed 25% of households. However, this coverage varied significantly across the country's 31 regions, ranging from 4% to 78%. By October 2021, NHI covered 8% of the population, CHF had decreased to 6%, SHIB 0.01, and private insurance 0.09% (Jamuhuri ya Muungano wa Tanzania,2021). Besides the expansion of the NHI to allow voluntary membership for those informal sector workers in 2013, another option for enrolment into NHI was introduced in 2019, to which individuals join voluntarily depending on the ability to pay for the selected insurance bundle. The insurance bundles (Najali Afya, Wekeza Afya, and Timiza Afya) include informal sector workers who were the primary targets for CHF and Tiba kwa Kadi (TIKA)(Embrey *et al*., 2021). The different insurance options ensure that the majority can access health services without financial constraints when needed. However, challenges in integrating poor people from the informal sector into health insurance schemes have resulted in low insurance uptake and higher inaccessibility of health services (Vilcu *et al.*, 2016). Approximately 1.3 billion people worldwide are poor and lack access to health services because they cannot afford medical care when they fall ill (Dror & Firth, 2014). This issue is particularly significant in Tanzania, with people with low incomes comprising 75% of total employment and contributing over 80% to the country's GDP (George, 2021; NBS, 2016).

Many countries have included the neglected informal sector in health insurance. Still, it has been partly impractical and challenging due to economic hardship and fragmentation, which raises administrative procedures in recruiting, registering, and collecting regular contributions cost-effectively (Dartanto *et al.,* 2020). Some informal sector households rely on alternative risk-coping strategies to respond to health financing by selling assets, getting bank loans, and using informal borrowings to finance their health expenditures (Yilma *et al.,* 2014; Kasahun *et al.,* 2020). Informal sector workers' uptake of health insurance is well documented; however, there is a massive gap in factors associated with the uptake of health insurance, barriers to accessibility of health insurance, and coping strategies for health care financing, making a significant emphasis on this study.

1.2 Statement of the Problem

Access to quality health care is a global challenge, where approximately 1.3 billion people experience inaccessibility to health services (WHO, 2020). The rising costs of medical services have placed a significant burden on individuals and healthcare systems. Limited access to health services and increased costs have severe implications for morbidity and mortality for many people, especially the informal sector workers who are uninsured and have small and unstable incomes (Bhoi *et al*., 2022; Garfield & Orgera, 2019; ILO, 2021). Individuals without health insurance pay OOP to access health services. This payment mode has decreased health service utilization due to unaffordability and increased catastrophic health expenditures and impoverishment (Adewole *et al.*, 2017; Atupele *et al., 2*021).

The introduction of health insurance is believed to be a proper strategy for attaining UHC that protects individuals from impoverishment due to illness from out-of-pocket payments for health care, and it improves access to health services (OECD/ILO, 2019). Tanzania, like other developing countries, introduced different forms of prepayment schemes, namely: National Health Insurance (NHI) covers 8% of the Tanzanian, Community Health Fund (CHF) covers 6%, and other prepayment schemes cover less than 1% of the population (Jamuhuri ya Muungano wa Tanzania, 2021). This coverage is still below the national target of 30% that was expected by

2015 (Kigume & Maluka, 2021). Despite the efforts made by the government to include the informal sector workers in insurance schemes, uptake is still low. Some studies by Fadlallah *et al*. (2018); Kigume and Maluka (201) show that unfamiliarity of this population on health insurance, the bureaucratic process of enrolment, suspicion of insurance based on experience from the insured people and poor quality of services from the accredited health facilities hamper uptake of health insurance. Based on the evidence in place, this study sought to assess the uptake of health insurance with a significant focus on the uptake, factors associated with uptake, barriers to accessibility of health insurance, and the coping strategies for health care financing among informal sector workers in Dar es Salaam, Tanzania.

1.3 Justification of the Study

In the mid-1990s, the government of Tanzania introduced a health insurance system so as to improve and increase the access, availability, and affordability to health care to all (Macha *et al*., 2014). However, the uptake of health insurance and membership renewals thereafter remained stubbornly low (Shewamene *et al*., 2021; Fadlallah *et al*., 2018; Adebayo *et al*., 2015b).

Studies conducted in sub-Saharan African countries revealed that, membership among the informal sector workers is associated with inaccessibility to health insurance mostly to those on informal sectors (Kimani, Ettarh, Warrenand Bellows, 2014). The low enrolment rate of the informal sector into insurance has been associated with several factors including low and non-regular incomes, insecure employment, and administrative barriers/insurance scheme design features (e.g. payment modalities and lack of proper information about insurance schemes) that are not in favour of people's needs and preferences (Tran *et al*., 2017; Winkler *et al.,* 2017).

In Tanzania, the number of informal sector workers who are covered by health insurance is low despite their higher population of 75% in the country (National Bureau of Statistics, 2020). Lack of insurance to the informal sector workers make them to opt for out-of-pocket payments for accessing health care and this deters people from seeking health services (Bitran, 2014). Leaving behind this large group

on inaccessible and unaffordable health services, there is no way the morbidity and mortality will be reduced. To achieve this, there has been a need to understand uptake of health insurance among the informal sector workers so as to get along with the growing global movement towards UHC. Locating the current study in Dar es Salaam Tanzania has been important in determining the most feasible and context specific strategies to increase enrolment into health insurance schemes and improve health service accessibility among the informal sector workers.

1.4 Research Questions

i. What is the uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania?
ii. What are the factors associated with uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania?
iii. What are the barriers to accessibility of health insurance among informal sector workers in Dar es Salam, Tanzania?
iv. What are the coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania?

1.5 Objectives

1.5.1 General Objective

To assess the uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania

1.5.2 Specific Objectives

i. To determine uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania
ii. To determine the factors associated with uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania.
iii. To identify barriers to accessibility of health insurance among informal sector workers in Dar es Salam, Tanzania.

iv. To determine the coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania.

1.6 Significance of the Study

The findings from this study have significance to different groups as follows:

To the Government, the findings provide a basis on improving the available government policies, rules and regulations regarding health insurance in Tanzania by considering the available ones and how the insurer, insured and the accredited health facilities benefit.

To the informal sectors, this study helps the informal sector workers to give out their views on insurance and pinpoint the areas lagging behind with regard to product, pricing and service distribution which need the management attention. Their views may lead to product innovation and improved customers' satisfaction which help in retention of the available members as well as to attract new members to enroll into the available insurance schemes.

To Health insurance providers, the findings of this study lead to a better understanding of the informal sector workers' needs whereby it facilitates the reshaping of existing programs in order to address the actual needs for ensuring majority enrolment to the health insurance. Also, the study helps insurance providers to improve their performances in development of health systems in Tanzania for it will come up with factors associated with uptake, barrier to accessibility of health insurance so the solution to factors help to increase the uptake level to health insurance. This information helps the insurer to put appropriate strategies to ensure smooth operation of the scheme for satisfaction of both the service providers and beneficiaries.

1.7 Conceptual Framework

The overall goal of a health insurance is to ensure convenient accessibility of health services when a need arises. The focus of this study is to assess the uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania. The

accomplishment of this study based on the conceptual framework in figure 1.1 which has been developed from the research questions to be answered by the study and literature. This study considered the factors associated with uptake, barriers to accessibility of insurance and coping strategies for health care financing as the independent variables while the uptake of health insurance is the dependent variable.

The first independent variable covers the factors associated with the uptake of health insurance. It has been conceptualized as social economic, social demographic, individual and health systems factors. The second independent variable describes the barriers to accessibility of health insurance, and it denotes information, bureaucracy in purchasing the insurance and affordability of insurance premium. The third independent variable addresses the coping strategies and was conceptualized as selling of assets, borrowing of money from family and friends, support from family and friends, loans from banks and micro credits. The dependent variable is uptake of health insurance (member and non-member of health insurance) as shown in Figure 1.1.

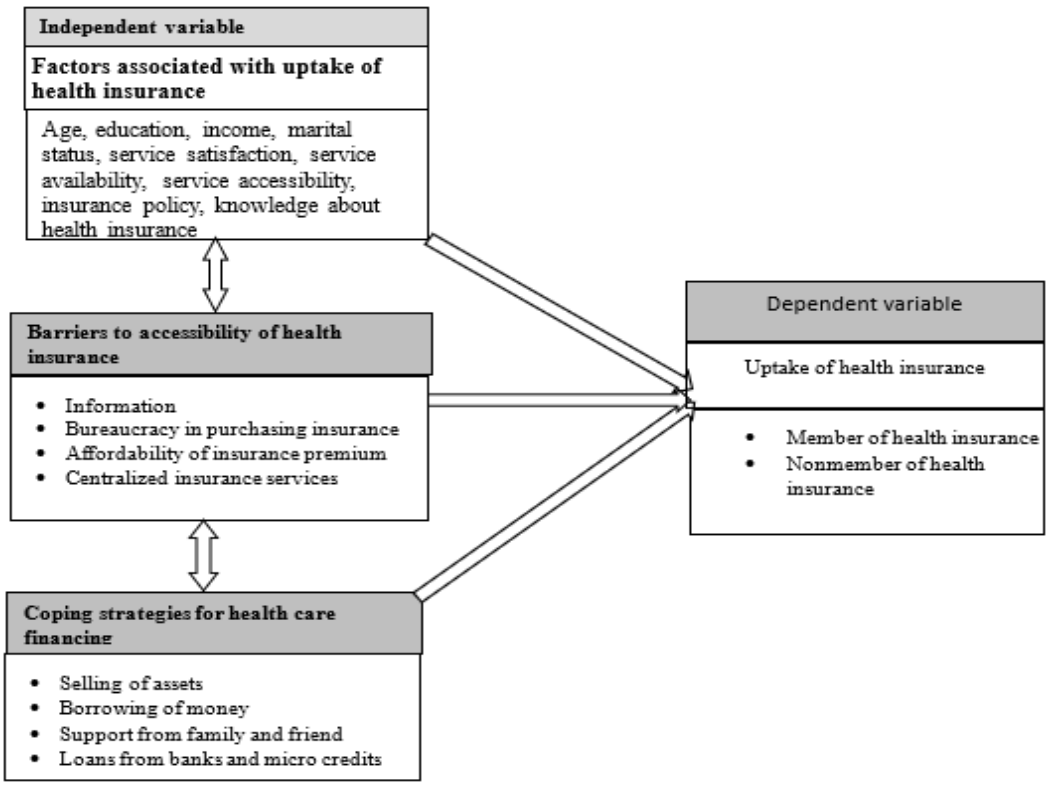

Figure 1.1: Conceptual Framework

CHAPTER TWO

LITERATURE REVIEW

2.1 Forms of Health Insurance

2.1.1 Private Health Insurance

This is the scheme which is financed by private funds which is used along with other financing systems like the return on investment of the insurance company. The basis for premiums set up is actuarial calculation by looking on the probability of the insurance beneficiaries to make a claim. The enrolment to the private insurance is often but not always voluntary (Phi *et al*., 2016). Governments may decide to turn to Private Health Insurance (PHI) in order to increase health budget while increasing the coverage of people who can easily access the health services through pool of the resources by institutions (Motaze *et al*., 2021). In Tanzania the private health insurance includes Africa Air Rescue (AAR), Strategies, Jubilee, Metropolitan Tanzania insurance company, Resolution insurance company. These insurance companies aimed at reducing OOP and increase service accessibility (Renggli *et al.,* 2019).

2.1.2 Social Health Insurance (SHI)

Social Health Insurance is a key mechanism for achieving universal health coverage by providing financial protection. It protects people from catastrophic medical costs by pooling funds to allow cross-subsidization between the rich and poor and between the healthy and the sick (Fenny, Yates, & Thompson, 2021). This scheme allows individuals to contribute to a health fund that assures them to get health services. Premiums come from deductions from employees' salaries or their employers or both. This is often on a sliding scale; with the richer people contributing more than poor people in absolute terms and the premium are paid directly into a health insurance fund. Most LMICs implement both forms in order to accelerate the achievement UHC (Tungu *et al*., 2020).

2.1.3 Community-Based Health Insurance

These are local initiatives which operate under social solidarity in order to avoid financial constraints and hence protect poor individuals from impoverishing effects of health expenditures. This scheme is voluntary and characterized by community members pooling funds to offset the cost of healthcare (World Health Organisation, 2013). Community Based Health Insurance (CBHI) follows the principles of insurance including resource pooling, prepayment and risk-sharing in the health system with the aim of improving access and quality of healthcare services (Kapologwe *et al*., 2017). It is a hybrid between informal health insurances (traditional risk sharing) and formal insurance arrangements (market based) and it was formed after introduction of fee for service in health (Alfers *et al*., 2020).

Likewise, on formal insurance, the CBHI members pay premium which is comparatively low and are agreeable across the district of domicile. Under the CBHI, there may be some subsidies from the government or donors such as matching grants and the thus the benefit package is so limited (ILO, 2013). Several LMICs have opted for numerous forms of CBHI which include mutual health organizations, medical aid societies, community health insurance and micro insurance schemes. Community Based Health Insurance is now at a turning point in its evolution where the government is working on strategies to ensure its long-term sustainability together with financial feasibility.

2.1.4 Practice of Health Insurance in Global Perspective

The WHO prioritizes UHC as one of the possible umbrella goals for health in the post 2015 development agenda (Chalkidou *et al*., 2016; Chemouni, 2018). Universal Health Coverage focus on catastrophic spending on health and impoverishing spending on health. To ensure availability of health care to the community health insurance was introduced in order to share the risks between the insurer and the insured whereby in so doing the member get the opportunity to get health services which formally might have been difficult to access. Health insurance is also known as risk pooling, whereby many people contribute to a common pool to share the risks across the group members and community at large to overcome overhead medical

costs that an individual would have incurred out of being an insurance member (Abiiro & McIntyre, 2013; Witter, 2014).

Risk-pooling is beneficial for it enables individual to get services timely without financial hardship and it allows sharing of risks between the sick and the healthy as well as the rich and the poor (Mathauer *et al.*,2019). The characteristics of the risk pooling includes: i) compulsory contributions to the risk pool (otherwise the rich and healthy will opt out) ii) the risk pool is supposed to have many people in order to spread risks appropriately among the members to be able to handle large health costs iii) pooled funds will have to be subsidized from government revenue (WHO, 2010). Risk pool of social health insurance suggests solidarity principle while the risk pool of private health insurance suggests equivalence principle.

Solidarity principle distributes problems between the rich and poor people also between rural and urban (for the wide large coverage). Contribution is according to individual income and benefits according to need, unlike the equivalence principle which distributes burden between healthy and sick people and the contribution is according to individual risk yet benefits according to individual contract (Saltman, 2015; MOHSW, 2007) as shown in the Figure 2.1.

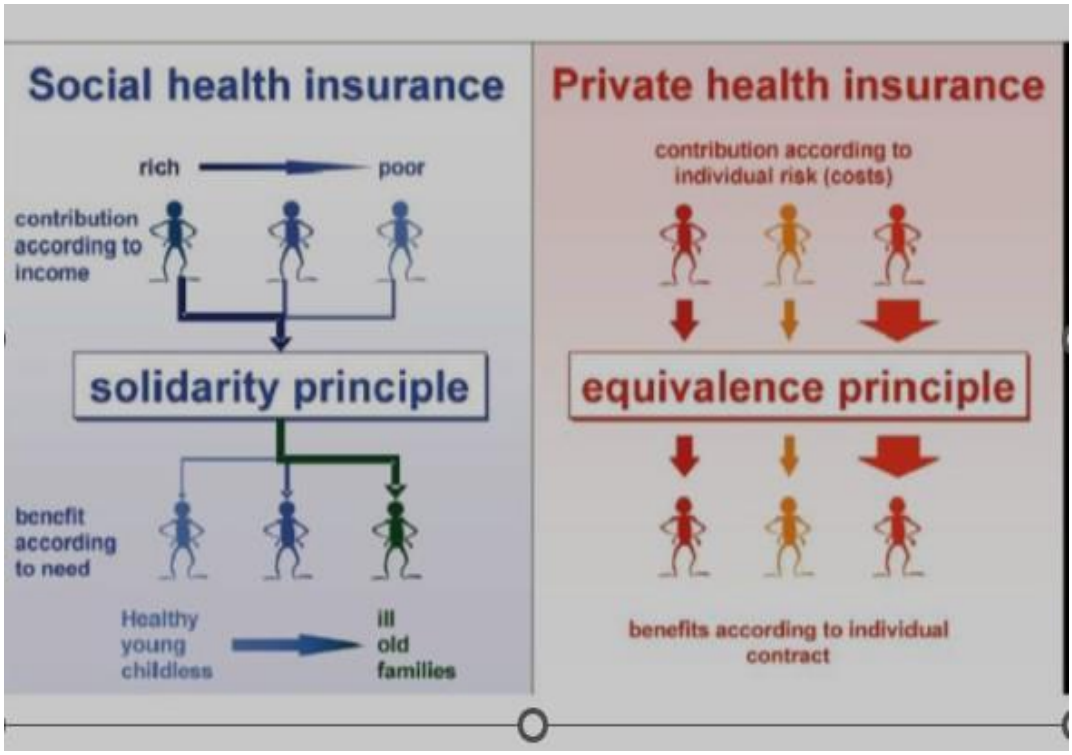

Figure 2.1: Solidarity and Equivalence Principles

Source: MoHSW-Tanzania, (2007)

2.1.5 Health Insurance in Developed Countries

In developed countries, insurance operations vary, but overall, these nations tend to have well-established healthcare systems that include comprehensive health insurance coverage. The variation in coverage percentage may stem from differences in the country's healthcare system, the design of insurance programs, and the socioeconomic status of the population. Insurance can take the form of public health insurance, private health insurance, or a combination of both, each with variations in coverage, funding, and regulations (OECD, 2013). However, despite the existence of comprehensive health insurance systems, access to affordable health insurance can still be challenging for certain populations, resulting in coverage gaps and high out-of-pocket costs for many individuals (Schoen *et al.*, 2013). In developed countries, insurance uptake is generally high due to factors such as widespread access to

insurance products, strong consumer awareness, and well-established regulatory frameworks. Recent developments have seen several developed countries, including Canada, Germany, Japan, Denmark, France, the United States of America, the United Kingdom, and Singapore, achieving Universal Health Coverage (UHC) through insurance programs, with coverage approaching nearly 100% of the population (Wang *et al*., 2017).

2.1.6 Health Insurance in Developing Countries

In developing countries, health financing systems have undergone revisions to align with the principles of Universal Health Coverage (UHC), with a focus on health insurance as the primary mechanism for UHC reforms (Abuya, Maina, & Chuma, 2015). The implementation of insurance schemes aims to facilitate risk-sharing, mitigate catastrophic health spending, and prevent impoverishment resulting from healthcare expenses. Health insurance plays a crucial role in shielding individuals from exorbitant healthcare costs while ensuring equitable access to medical services.

Social health insurance, private health insurance, and community health funds are among the common schemes employed in developing countries, with varying enrollment rates across different nations. However, the extent of health insurance coverage remains uneven, particularly in African countries, where limited resources and efforts have been allocated to health insurance initiatives (Wang *et al*., 2017). This has resulted in low coverage rates among formal sector workers, who often have greater access to insurance through employer-sponsored plans or as part of their employment benefits.

In contrast, extending health insurance to informal sector workers presents challenges, as many insurance schemes primarily target formal workers on a voluntary basis. The irregular and low incomes characteristic of the informal sector makes it difficult for individuals to afford prepayments for healthcare services, contributing to the reluctance of informal workers to participate in health insurance schemes (European Union, 2017; Okungu *et al*., 2018). The uptake of insurance in developing countries varies widely, influenced by factors such as income levels, access to insurance services, and the maturity of insurance markets. While some

developing countries have witnessed increased insurance uptake due to economic growth and regulatory improvements, others continue to struggle with expanding coverage to underserved populations.

2.1.7 Health Insurance in Tanzania

Like any other African countries, Tanzania introduced cost sharing as a way of generating funds for the service provision (Paez *et al*., 2014). Cost sharing strategies included establishment of health insurance in the country that started with community based health insurance known as CHF which was piloted in Igunga district in 1996 (Macha *et al*., 2014) before it was extended to other parts of the country. The CHF is a voluntary health insurance that targets those working in rural areas (Adomako *et al*., 2016; Kapologwe *et al.*, 2017; Ndomba & Maluka, 2019; Waelkens, Coppieters, Laokri, & Criel, 2017). This scheme was geared to redress the ever-increasing expenditures on health care for the rural population as the government could not sustain the services through taxes alone. The funds generated would enhance the availability and accessibility of not only affordable but also quality health services, ensuring equity among vulnerable groups, including informal sector workers.

Upon receiving CHF membership, each household receives a single card to be used by six household members to access the health services at the public-primary health facilities within their respective districts (Borghi *et al.,* 2013). Despite CHF being the prepayment that targeted the low income earners who are the majority in the country its coverage of 6% is below the 30% coverage that was expected by 2015 (Jamuhuri ya Muungano wa Tanzania, 2021; Kigume & Maluka, 2021).

Apart from this CHF, the NHI was established in 1999 through parliamentary Act No.8 of 1999 and began to operate in 2001. At the beginning, NHI was directed only for government employees (Mtei *et al*., 2012). This policy has been amended several times in order to allow a range of membership categories to join the scheme as shown in Table 2.1.

The amendments cover the extension on coverage to include the informal sector, but as a voluntary scheme. Those who choose to voluntarily subscribe to the NHI, pay a required premium, which is between 23.79 and 36.23 USD per year. Since its introduction, there has been increase in number of members but the pace of coverage remained slow. Between 2012/2013 and 2016/17 beneficiaries increased from 3.5 to 4.8 million in 2019, equivalent to 9% of the country's total population and by 2021 its coverage dropped to 8% (Jamuhuri ya Muungano wa Tanzania, 2021; Lee *et al*., 2018a).

Table 2.1: Categories of Membership as Per Amendments of the NHI

Year of amendment	**Membership category**
2002	Local government and other public employees
2008	Employees from private sectors, associations and NGOs
2010	Retired NHI members, askari, police, soldiers and troops of all kinds and councillors
2012	Students and private individuals
2013	Religious leaders and informal sector workers
2015	VIKOA
2016	Toto Afya card
2017	Ushirika Afya, AMCOS (Agricultural Market Cooperatives)
2019	New packages (Najali Afya, Timiza Afya and Wekeza Afya)

Source: NHIF-Tanzania, (2019)

2.1.7.1 Insurance Premium

Insurance premium is the amount of money paid by an individual or entity to an insurance company in exchange for insurance coverage. Premiums are typically paid on a regular basis, such as monthly or annually, and may vary depending on factors such as the type and level of coverage, the risk profile of the insured, and other relevant considerations (World Bank, 2019).For each health insurance, the premium paid varies according to the type of facilities that can be visited as well as the range

of services that can be enjoyed by its members. For example, the premium amount for the NSSF the premium payable 20% of the employee's monthly wages whereby the employee contributes 10% and employer contribute 10% but the employer may opt to contribute at grater rate. For CHF the premium is actuarially calculated and in Dar es Salaam its 40,000 TSHs (17.32$) per person per year or 150,000 TSHs (64.94$) per year for couples and four children and for other regions it is 30,000TSHs (12.99$) per family. The government matches this amount in order to cover costs and ensure sustainability of the scheme (Lee *et al*., 2018).

For NHI, the premium is not fixed to all categories of members. National health insurance members from the government sector whose membership is compulsory contribute 6% of their monthly wage deductions that is shared equally between employer and employee (50%/50%) (Hougaard, *et al*., 2012).

The premium for the formal organized groups of informal sector workers and other categories like private companies, students, private individuals and the informal sector workers who are not on formal organized group is based on the actuarial calculations and each category has its premium rate as per insurance policy (European Union, 2017). The premiums of the National Health Insurance for those who are not members of formal organized groups are shown in Table 2.2:

Table 2.2: National Health Insurance Premiums to Different NHI Packages

Size of the family	**Principle aged 18-35**			**Principle aged 36-59**			**Principle aged 60+**		
	Najali Afya '000	**Wekeza Afya '000**	**Timiza Afya '000**	**Najali Afya '000**	**Wekeza Afya '000**	**Timiza Afya '000**	**Najali Afya '000**	**Wekeza Afya '000**	**Timiza Afya '000**
Individual person	192	384	516	240	444	612	360	660	984
Couple	384	732	996	456	864	1,188	684	1284	1,908
Couple+1child	504	924	1,272	576	1,068	1,464			
Couple+2children	612	1,116	1,536	696	1,248	1,728			
Couple+3children	720	1,284	1,788	804	1,416	1,980			
Couple+4children	816	1,452	2,028	900	1,584	2,200			

Source: (NHIF-Tanzania, 2019)

2.1.7.2 Membership on Health Insurance

The insurance schemes have two types of membership (voluntary or compulsory). Compulsory membership is to those who are employed by public, private, non-governmental and religious organizations whereby insurance is part of the employees' benefits. Voluntary membership is for individuals as well as members from formally organized groups of people who are legally registered under organized social-economic groups (European Union, 2017). The membership of health insurance includes one principal member, spouse of the principal member and up to four children.

2.1.7.3 Accreditation of Health Facilities

Insurance providers get into contract with the health facilities (accreditation) at different levels of the health care systems so as to be able to provide services to its members. The accredited health facilities can be hospital, health centre, dispensary, clinic, medicines outlet, nursing and maternity home and diagnostic centre which can be owned either by the government, Faith Based Organization (FBO) or private. These health facilities must have been registered by the Ministry of health and there after must have been approved by the insurance provider to provide medical services to insurance members in accordance of the signed contracts.

Nevertheless, accreditation is voluntarily done by the respective accrediting body after a thorough assessment is done to certify that the facility has met the standards for provision of quality health services to the beneficiaries (Haazen Dominic, 2012).

2.1.7.4 Benefit Packages

The insurance providers are obliged to provide specified health benefits, both in quantity and quality to members as per the schemes' policy. The accredited health facilities are supposed to provider health services to the insurance beneficiaries as per accreditation contracts. The insurance providers have to stipulate all the services that are not covered by the scheme. Table 2.3 shows the summary of health insurance schemes in Tanzania.

Table 2.3: Summary of Health Insurance Schemes in Tanzania

Category	Entry Qualifications	Premium	Benefits
National Health Insurance	Open to all public and private employees, individuals and registered informal sector workers' groups. Covers principal member, spouse and 4 other dependents	Compulsory 6% of gross salary every month shared between employer and employee (those in public and formal employment in the private sectors)	Inpatient and outpatient services Accredited facilities and pharmacies
Social Health Insurance Benefit (NSSF, PPF)	Open to public and private organisations Covers principal member, and five dependents	For the employed 20% of gross salary every month shared between employer and employee. For other members some pay on monthly basis (informal sector workers) while others its lump sum	In-patient and outpatient services
Private Insurance (AAR, Strategis, Jubilee, Medex, Metropolitan Tanzania, Resolution among others	Voluntarily open to the public-individuals or companies	Premium depend on service package chosen	In-patient and outpatient services
Community Based Health Fund	Voluntarily open to open to public	Varied premium across regions	In-patient and outpatient services within region of registration

Source: Adopted from http://web.utc.ac.za/dept/heu/SHIELD/about.html

The insurance providers struggle to make sure majority enrol in health insurance. Some efforts to ensure majority enrolment into health insurance includes accreditation of many health facilities, creation of different membership categories as well as conducting sensitization meetings for awareness creation. Despite the efforts made to increase enrolment to health insurance the uptake of health insurance is still low.

2.1.8 Challenges of Health Insurance Schemes

Furthermore, availability of multiple actors has exposed the health insurance scheme to various challenges. The challenges under insurance schemes can be related to the members (beneficiaries), insurer or the accredited health facilities. Omar (2015) examined the underutilization of SHI by Kenya's informal sector populations and found out some existing challenges like high premium, enrolment procedures, penalties among others. The merits of the NHIF are recognized but the services rendered by the scheme are unsatisfactory.

Furthermore, the study by Sundays, Ngaira and Mutai, (2015) revealed that, limited information about how the NHIF works and the problem on meeting the premium is a challenge which hinders the enrolment of the informal sectors into NHIF and it needs to be seriously addressed. Lack of knowledge about the insurance significantly has caused the informal sector workers not to enrol to NHIF for the information about the scheme is disseminated in ways which are inaccessible by majority (Atafu 2018; Taddesse *et al*., 2020). This implies a need for the responsible authorities to take appropriate measures to address the available challenges on the actors to ensure that all the actors play their roles accordingly and hence beneficiaries' satisfaction in return of their premium as per insurance policy.

2.2 Factors Associated with Uptake of Health Insurance among Informal Sector Workers

Several factors have been reported to influence the decision of possible members to either enroll into health insurance or to renew their insurance membership. These factors vary in developed and developing countries due to complex interplay of economic, social, cultural, and infrastructural factors. These differences arise primarily due to disparities in economic development, healthcare infrastructure, regulatory environments, and social norms.

2.2.1 Socio Demographic and Economic Factors

Households with reliable income are capable of being able to pay for the premium. Literature on poverty also show that poor people have financial constraints which make them not to enroll into insurance (Panda *et al*., 2014). Therefore, household income has a positive association with the likelihood of enrolling into any health insurance scheme for it determines the amount of health insurance purchased (Awuku.,2013). The informal sector workers are among the vulnerable groups who have low and unreliable income and hence have limited accessibility to health services *(*Vilcu *et al.,* 2016). It is approximated that, 1.3 billion people worldwide are poor and have no access to health services because they cannot afford to pay for the medical services when they fall sick (WHO, 2020).

Furthermore, education is an important link to health because it influences behaviors, use of preventive services and general attitudes to risks. It improves individuals' knowledge, skills, reasoning, effectiveness and a broad range of other abilities which can be utilized to produce health. Those with many years of schooling therefore tend to have better health and well-being (Ayitey *et al*., 2013).

Individuals' nature of work (occupation) has a contribution to the income and insurance uptake. Those who earn lower income find it difficult to pay for the insurance premium which is fixed and has its own mode of payment. Therefore, lower earning occupation negatively affect the probability of willingness to enrol in health insurance (Bendig and Arun, 2014). Household size affects one's decision to enrol into health insurance because it serves as a possible hindrance to enrolment for it creates excess expenditure on ensuring all family members are insured (Olaniyan & Sunkanmi, 2012).

When the family size increases, it means more income is required to meet the health care needs. Moreover, marital status has impact on health insurance uptake. Once a person is married it creates a need to protect the family. Availability of children to a family implies an increased medical expenditure and hence insurance uptake is the viable way to reduce the financial burden (Cao *et al.,* 2023). Socio-economic and demographic factors have influence for someone to uptake insurance. Munene (2016)

on his study found that, higher wealth index, being married, being educated, and increase in age and awareness positively affected the uptake of health insurance.

The findings from Ndung'u, (2015) revealed that, more females (18.90%) had enrolled compared to males (14.53%) and those aged 46 years and above had a higher enrolment rate (14.2%). In addition, the married people had a higher enrolment rate too (23.0%) and the level of education had higher influence on someone's decisions to enrol into insurance.

Kumi-Kyereme & Amo-Adjei, (2013)reported that, as the individuals' age increased the probability of purchasing health insurance increased too. This indicates that the matured people are able to understand the health risks and hence use health insurance to reduce financial vulnerability on health service accessibility. Awuku *et al.*, (2013) in Ghana showed that, women aged over 40 years were more likely to purchase insurance compared to those of young age. The reasons for the differences account that, as people's age increase, they invest more on health including having health insurance. Age is related with high indirect vulnerability, higher medical consumption and possible increased stock of wealth. Pharm Access foundation (2017) in Kenya found out that, formal mechanisms protecting households against the financial consequences of shocks are largely absent and health shocks occur more frequently than other types of shocks. The study revealed that, one out of every fifty households experienced catastrophic health care expenditures in the previous year (2016) (Pharm Access, 2017).

Likely to the developing countries, the developed countries too are being affected by factors like income level, employment status, age, education level, marital status, gender, ethnicity, geographic location, and health status on uptake of health insurance.

In developed countries, income level significantly influences the ability to pay for private health insurance or the remaining costs not covered by public insurance schemes. Individuals with higher incomes are more likely to afford health insurance premiums and enroll in health insurance plans (Glied *et al*., 2020). Part-time workers

and the self-employed have less access to employer-sponsored plans and may rely on more expensive individual plans (Buchmueller & Monheit, (2009).

Furthermore, in developed countries younger individuals may remain on their parents' insurance plans until a certain age (e.g., 26 in the US) and may also feel less need for health insurance due to generally good health while older adults are more likely to enroll in health insurance due to increased health risks and the availability of government programs like Medicare (Collins *et al*., 2015).

Individuals with higher education levels are more likely to understand the benefits of health insurance and navigate the enrollment process. Those with lower education levels may lack awareness about the importance of health insurance or face difficulties in understanding how to enroll (OECD, 2019). Marital Status and Family Composition has impact on accessing health services.

Married individuals often seek health insurance to protect their families, leading to higher enrollment rates while single individuals may perceive less immediate need for health insurance, particularly if they are young and healthy (Schoen *et al*., 2010). Women may have higher health insurance uptake due to more frequent use of healthcare services and reproductive health needs. Men might have lower enrollment rates, particularly among younger men who perceive less need for regular healthcare (OECD, 2019).

2.2.2 Health Systems Factors

Health systems refer to the organization of people, institutions and resources that deliver health care services to meet the health needs of target populations. The health systems of the country have an impact on the enrolment rate of the people into insurance. It is essential for the country to have functional policies that aimed at achieving universal coverage for health care (Merson, Black, & Mills, 2012). Measures of health system effectiveness should be aligned with improvements in access to quality of care and client satisfaction (Alfers *et al*., 2020). The health systems should ensure it controls the rising expenditures for health services, mode of payment for health services, availability/shortage of health providers and the medical

supplies/drugs for all. These factors have an impact on individuals' decisions to uptake insurance. The health insurance should contribute to health system objectives for there is no health financing mechanism which is an end to itself. The health systems should aim at improving health and reducing health inequalities, be responsive to people's expectations and ensure fairness of financing (Gauld *et al*., 2012). World health organization has also committed to renewing primary health care whereby the search for universal coverage is one of the core principles (WHO, 2018).

The health systems should ensure that, health insurance becomes a means to generate additional resources for health care, allow organizational change that enhances quality and efficiency of health systems. Such changes can be easily implemented through the insurance models like purchaser-provider splits, new provider payment mechanisms and extension of financial risk protection to many people, or provide greater levels of protection to those already with insurance (e.g. replacing out-of-pocket spending with some form of prepayment, switching from private health insurance to SHI at least for a basic package of health services). By offering additional financial protection health insurance enables many people to access necessary health services without financial constrain. This progression bring us closer to the goal of achieving UHC where everyone has access to essential health care services without financial constrains (Kutzin *et al*., 2016).

2.2.3 Insurance Provider Factors

The insurance company not only collects the premium from the beneficiaries but also it registers the members, issue the identification cards and accredits the health facilities. The accredited health facilities must provide the contracted service with the insurance company. Enrolment to insurance by many people is possible only if the accredited health facilities ensure the availability of all the required services to the people as per insurance policy between the insurance company, individuals and the accredited health facilities (WHO, 2020). The health facilities should provide appropriate care and should consider clients satisfaction in order to ensure

continuous attractiveness of the care contracted between the individuals and the insurance companies (Mohammed *et al.,* 2011).

The insurance providers should provide services to the accredited health facilities and the insurance beneficiaries. Failure of the insurance providers to provide services as per insurance policy causes complains and dissatisfaction (Abiola *et al*., 2019). Providers should provide the required services as per insurance policy and assess the appropriateness of care and client's satisfaction is crucial to insurance providers so as to have continuous attractiveness the prospective beneficiaries.

2.3 Barriers to Accessibility of Health Insurance

The global agenda on UHC by WHO emphasizes the importance of ensuring access to affordable health services through protection against catastrophic health expenditures (WHO, 2010). The accessibility should be both on physical accessibility, economic accessible (affordability) and information (Evans *et al.,* 2013). Barriers to access of health insurance contribute to the current low membership into the available insurance schemes.

The barriers include inadequate information about health insurance, inaccessibility of insurance offices, difficulties in using health insurance to pay treatment cost and financial difficulties in paying health insurance cost as well as quality of health services (Tran *et al.,* 2017; Shewamene *et al*., 2021). Long queues and waiting time, perceived poor quality of drugs and negative attitude of service providers both at the healthcare facilities and the health insurance office are also the barriers to health insurance subscription (Kumi-Kyereme *et al*., 2017).

About uptake of insurance among the informal sector workers, it is expected that, the insurance companies should create awareness on insurance so that people are knowledgeable enough before they decide to enroll into insurance. The knowledge helps to increase the willingness to pay. Studies show that lack of knowledge about health insurance and difficulty in approaching insurance agents are the hindering factors to uptake of health insurance (Ndung'u, 2015).

Many people are not knowledgeable of health insurance and some of them think of being given back their contributions once they have not been sick and therefore did not seek health care services for the whole year. This implies their little knowledge on insurance and especially the basic principle of pooling and sharing of risks; that creates a barrier to further enrolment.

Munene (2016) showed a positive relation between uptake of health insurance and awareness about health insurance (Dillingh *et al.*, 2016; Bhat and Jaian, 2016) found out that, knowledge and information about insurance add up the probability of purchasing health insurance cover.

In Tanzania, a study by Chuwa (2017) found out that, the uptake was primarily affected by lack of awareness on the concept of health insurance rather than affordability of the insurance premiums. Individuals were willing to join it only when they had relevant information about the health insurance and how it operates.

With regard to barriers for access to health insurance, a study in Vietnam reported that, lack of information about health insurance is a barrier to obtain and use health insurance cards among methadone maintenance treatment patients. Participants who reported some difficulties in using health insurance or who said they had an overall lack of information about health insurance were less likely to renew their health insurance again. Patients who had been to drug rehabilitation centres were more likely to obtain health insurance than their counterparts who had not been to rehabilitation centre, but they also experience information insufficiency and have trouble accessing health insurance (Tran *et al.*, 2017).

According to the research conducted by Green *et al*., (2017) and Kapologwe *et al*., (2017), the study revealed that individuals have no right information about how health insurance works, where and how to enroll. There is a large gap between the public understanding of what is covered by health insurance and the services that it covers in practice. Low health insurance knowledge and understanding have caused frustration and limited re-enrolment to health insurance.

Furthermore, even in developed countries with advanced healthcare systems, several barriers can hinder accessibility to health insurance. These barriers may differ in nature and scale compared to those in developing countries, but they still pose significant challenges for certain population groups. The informal workers experience unaffordability of insurance services due high premiums, deductibles, and co-pays despite the availability of insurance plans (Claxton & Damico, 2018).

The other barrier in developed countries includes complex enrollment processes (Blumberg & Buettgens, 2017), lack of awareness and Information (knowledge gaps) (Gollust & Baum, (2017) together with policy and regulatory barriers (Artiga & Diaz, (2019). By addressing these specific barriers through targeted interventions, developed countries can improve health insurance accessibility for all population groups, including informal sector workers and marginalized communities.

2.4 Coping Strategies for Health Care Financing

Risks are central part of life for households and health shocks are linked to poverty. Households adopt different methods in the face of health expenditures. Formal mechanisms protection of individuals with financial consequences of shocks are largely absent, especially among the informal sector in the poor rural households (Bonfrer & Gustafsson-Wright, 2017). In the absence of formal mechanism, households adopt the alternatives (coping mechanisms) to finance health care to deal with medical costs.

It may include income from household members, savings or financial support from relatives, religious organization and other sources which are non-refundable. Selling household assets like property, livestock, jewelry and other household items may be the sources of income to cover medical expenses. Any type of borrowing could be a source to finance medical and non-medical expenses (Kasahun *et al*., 2020).

In rural areas, people finance the medical costs by selling livestock or other assets, or calling on support networks for transfers or loans. If these mechanisms fail or fall short, households may increase their labor supply, work more hours or involve more household members (women or children), or borrow from a private lender at high

rates of interest (Ranson, Jayaswal & Mills, 2012). In the absence of health insurance, individuals consider alternative ways to finance the health services. Household-level survey data in Botswana and Lesotho found that, one in four families across forty developing countries resorted to some coping strategies to afford health care services.

This suggests that, current financing strategies in low- and middle-income countries do not adequately protect many households from potential economic hardship. National studies confirm high rates of borrowing and selling as a mechanism to cope with financial shocks of medical bills in the developing world (Akinkugbe *et al*., 2011).

2.5 Research Gap

Several researches have been conducted on health insurance in general and in particular on uptake across the world. However, a significant portion of such studies focused majorly on social demographic, economic, quality of services, challenges and satisfaction issues in relation to enrolment to insurance among the formal and informal sector workers (Mwandambo**,** 2016; Chuwa, 2017; Mushi & Millanzi, 2019; Munene, 2016; Sundays *et al.*,2015). Despite the coverage of studies in place, the literature demonstrates limited information on uptake of health insurance among informal sector workers. The current study contributes on understanding of the extent to which accessibility of health care services is a major bottleneck for right to health in relation to insurance uptake among informal sector workers from urban areas. This accounts for the necessity to study informal sector workers' uptake of health insurance, the associated factors and barriers as well as coping strategies as n important aspect that health systems should aim to address. The research questions which this study seeks to answer will enlighten the uptake level, factors associated with the uptake of health insurance, the barriers on accessibility of health insurance and coping strategies on health financing among the informal sector workers.

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Site

This study was conducted in the three municipalities of Dar es Salaam namely, Ilala, Temeke and Kinondoni. Dar is the Capital and a cosmopolitan city of Tanzania and is a home to about 4 million people. This region is located along the Indian Ocean (Figure 3.1). According to the NBS, 2016), 75% of the total population are employed in informal sectors. In this region the informal sector workers encompasses a wide range of occupations and activities, this includes street vendors (small businesses), market traders, small scale artisans, farmer and herdsman, drivers (car and tricycle and motorcycle) and many others which contribute 17.02% of the national GDP (National Bureau of Statistics, 2020). Another reason for Dar es Salaam to be a relevant research area is that Dar es Salaam has many health facilities compared to any other region in the country therefore people can easily access health care services. There are 680 health facilities (hospitals, health centres and dispensaries). These facilities are owned either by government, NGOs, private, individuals or organizations **(**Comprehensive Council Health Plan (CCHP), 2018/2019). Like other regions of Tanzania, the uptake of health insurance in Dar es Salaam is also low. Therefore, this helped the study to assess the uptake of health insurance in Dar es Salaam by considering the uptake level, the factors associated with uptake of health insurance, barriers to accessibility of health insurance and the coping strategies for health care financing among the informal sector workers.

Figure 3.1: Map of Study Area: Dar es Salaam Region.

3.2 Study Design

This study applied an explanatory sequential mixed method design (figure 3.2). The narrative data is used to explain numeric findings (Creswell & Plano, 2011). First, quantitative data (from the questionnaires) was collected and results inspired the qualitative study. This design is appropriate to the study because it allowed the researcher to employ different sources of information (questionnaires, FGDs and key informant interviews) which in turn gave in depth understanding about the uptake of health insurance. The collected data provided information regarding factors associated with uptake, barriers of health insurance uptake and coping strategies for health care financing among informal sector workers in Dar es Salaam region.

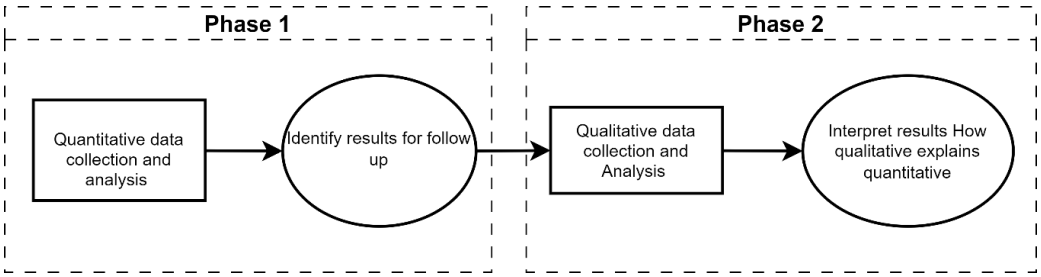

Figure 3.2: Illustration of the Sequential Mixed Method

Source**:**(Creswell, 2018).

3.3 Study Population

The study population were informal sector workers from the three municipalities of Dar es Salaam (Ilala, Temeke and Kinondoni).

3.3.1 Inclusion Criteria

The respondents were included based on the following criteria:

i. Age of 18 years and above
ii. Willingness to participate in the study
iii. Resident of Dar es Salaam for more than one year.
iv. Involvement in informal sector activities for more than a year and it included but not limited to drivers (motorcycle tricycles, car), food vendors, and small business owners.
v. Holding a leadership position at the informal sector workers' group and insurance scheme for more one year and above (qualitative respondents).

3.3.2 Exclusion Criteria

The respondents were excluded based on the following criteria:

i. Age below 18 years
ii. Unwillingness to participate in the study
iii. Resident of Dar es Salaam for less than one year.

iv. Involved in informal sector activities for less than a year,

v. Not being engaged in activities such as driving (motorcycle, tricycles, car), food vending, or small business ownership were excluded.

vi. For the qualitative study (interview), not holding a leadership position in the informal sector workers' group or insurance scheme for less than one year.

3.4 Sample Size Determination and Sampling Techniques

3.4.1 Sample Size Determination

With regard to sample size, the Yamane formula for sample size determination was used to calculate the sample size for the study. The major advantage of using this formula is that it allows calculating an ideal sample size when the population size is known (finite population). The required sample size was determined by considering a 95% confidence interval.

The Yamane formula is*:*

$$n= \frac{N}{1+Ne^2}$$

Whereby

N = Sample size,

N = Population size

E = Margin of error (MoE), e = 0.05

$$1{,}767{,}639/ (1+1{,}767{,}639*0.05^2)$$

= 399.909 ≈400 Respondents

Since the study used cluster sampling, the design effect was taken into consideration in order to correct the sampling error. The design effect is basically the ratio of the actual variance, under the sampling method used to the variance computed under the

assumption of simple random sampling. In general, for a well-designed study, the design effect ranges from 1 to 3. It is not uncommon, however, for the design effect to be much larger, up to 7 or 8, or even up to 30 (Swearingen and Swearingen, 2018). On this study, the design effect is 2. The response rate was considered, whereby the assumption was 10% might refuse to respond to questions and some questionnaire might have had inaccurate/incomplete information. Therefore, the response rate was 90%. Therefore, the total sample size for this study was as follows:

Sample size = calculated sample size x design effect x response rate

=400x 2 x 100/90

888.8889≈889

Therefore, the sample size for this study is 889 respondents.

3.4.2 Sampling Technique

Multistage sampling technique was used to select wards and street in each municipality with the help of ward executive director and street leaders. This sampling strategy was used because the population was composed of several subgroups within municipal and wards and this made the population to be divided proportionally.

The total population of Dar es Salaam region is 4,364,541; whereby 54% are the adult population (18+ years) and 75% are on informal sectors (National Bureau of Statistics, 2016).

= ((4,364,541x0.54) = 2,356,852)) and 75% of the adult populations are in informal sector

= (2,365,852x 0.75) Therefore, the informal sector population for Dar es Salaam is 1,767,639 (Table 3.1).

Table 3.1: Distribution of the Sample Size per Municipal, Dar Es Salaam, 2022

Municipal	Total population	Adult population per district (54%) of the population	Informal sector workers per district (75% of the adult population	% of the selected sample	Actual sample size per districts	Number of wards per municipal
Ilala	1,220,611	659,129	494,347	28	249	26
Kinondoni	1,775,049	958,526	718,895	41	364	34
Temeke	1,368,881	739,195	544397	31	276	30
Total	4,364,541	2,356,852	1,767,639	100	889	90

Source: (NBS, 2022)

Stage One: Selection of Wards

Firstly, through simple random sampling (Lottery method of sampling), 6 wards (two from each municipal) were selected. The researcher prepared folded pieces of paper containing the names of all wards per municipal and the piece of papers were shaken in a box before they were spread on table to select two (one at a time). This process was repeated in all the municipals.

Stage Two: Selection of Streets

Through similar technique as in stage one, twelve (12) streets were selected from the six wards (two streets per ward).

Lastly a total of 889 respondents were conveniently selected from the selected streets whereby the research assistants politely approach individuals and then briefly explain the purpose of your study and ask if they would be willing to participate in the study (Table 3.2).

Table 3.2: Number of Respondents per Streets, Dar Es Salaam, 2022

Name of ward	Name of street	Number of respondents
Kitunda	Kitunda	34
	Kayombo	18
Kariakoo	Kariakoo North	104
	Kariakoo West	95
Mabibo	Jitegemee	94
	Mabibo	59
Wazo	Wazo	113
	Salasala	80
Mbagala kuu	Makukakusini	62
	Mpakani	61
Temeke	Matumbi	88
	Temeke	81
Total		**889**

Source: Field data, 2022

In addition, purposive sampling was used to select the respondents for the key informant interviews and FGDs. According to Marvasti (2004), purposive sampling is process of determining and obtaining research respondents based on the purpose of the project and the key information these people have rather than a methodological mandate, as Lapan, (2012) calls them "information-rich sources". Purposive sampling involves an intentional selection of participants and the study areas to understand a certain situation or phenomena (Creswell, 2012). Therefore, through purposive sampling the interviewees who were the insurance providers and the informal sector group leaders were selected.

3.5 Pre-Testing of Study Instruments

The pre-testing of the data collection tools was performed in order to find out if the tools were easy to understand, relevant, controllable and effective ensure a good response rate (Saunders & Tosey, 2012). Pre testing involved 21 respondents from different streets in Dar es Salaam city. The streets and wards where pre testing were done did not form sample of the final respondents and street list. After piloting the instrument, all unnecessary ambiguities were removed to improve the flow of the questions and establish the maximum time required for completing the questionnaire. Unclear questions were corrected before going to the field for data collection.

3.6 Data Collection Methods and Tools

Qualitative and quantitative methods of data collection were employed to obtain the required information for this study. The tools included interviewer administered semi-structured questionnaire, key informant interview guide and focus group discussion guide.

3.6.1 Interviewer Administered Semi Structured Questionnaire

The interviewer administered semi structured questionnaire (appendix IIA) was used to collect data from the informal sector workers who were selected for study. The data which were collected by this method were those regarding insurance uptake, factors that may be associated with uptake of health insurance, potential barriers to accessibility of health insurance and coping strategies for health care financing among the informal sector workers.

Data were collected with the help of six trained research assistants. Apart from the aim and content of the study, research assistants were trained about data completeness, accuracy and consistence so that they practice throughout the data collection exercise. The research assistants were emphasized on ensuring confidentiality and all he research ethics as they were trained. Also, ODK (Open Data kit) was used whereby the questionnaires were set in such a way that you cannot move to the next question completing to fill the current question. The

researchers' request for informed consent from participants before starting the survey by explaining that their participation is voluntary and they ensured the confidentiality of their responses. After they have verbally consented to participate to the study, they were given a pen to sign the hard copy of the consent form to sign too. After signing the consent form the respondents were asked the questions (those who agree to participate) by making sure that their responses are accurately recorded. The process was conducted quickly and as straightforward as possible to respect participants' time. Lastly after completion of filling the questionnaires, the research assistants thanked the participants for their time and contribution to the study. The data were collected with the help of the ward/ street leaders. These data were collected in Kiswahili because Kiswahili is the formal language of communication and both the researcher and the respondents used and understand it well.

3.6.2 Key Informant Interviews (KIIs)

Qualitative data were collected using KIIs (appendix IIIA & IIIB). Interviewees were the insurance providers and informal sector group leaders. A total of 16 interviews (6 insurance providers and 10 informal sector workers group leaders) were conducted. The insurance providers who participate on this study were from National health insurance, Tigo, NSSF, AAR and Strategies and Jubilee.

From the informal sector group leaders, the interviews were done to the group leaders from different groups namely small business groups (5), farming groups (2), mining group (1), welding group (1), tailoring group (1). The interviewees were requested for an appointment at an agreed time and place for a face-to-face interview. A day before the agreed date and tome of interview, the interviewees were contacted to confirm their availability as per appointment made. All the interviews were conducted by the principal investigator at interviewees' offices or any conducive environment. The interviews lasted for approximately 45 to 60 minutes and they were audio recorded as per request before starting the interviews. Interviews enabled the researcher to get in-depth information regarding factors associated with uptake of health insurance, operation of health insurance, coping strategies for healthcare financing, barriers to accessibility of insurance services, utilization and availability

of services as well as recommendations for improvements on uptake of health insurance. Interviews ended after attaining information saturation from the respondents.

3.6.3 Focus Group Discussion

A total of seven (7) FGDs (appendix IVA&IVB) were conducted at places where the informal sector workers were based. Each FGD consisted of 8 participants and lasted for 30 and 60 minutes. The respondents who participated on FGDs were the informal sector workers who have not filled the questionnaires. The FGDs ended when the researchers felt that saturation had reached and no new information was coming up. The data that were collected by FGDs were those related to factors associated with uptake of health insurance, coping strategies for healthcare financing and barriers to accessibility of insurance services. The FGDs were conducted at different places depending on the availability, and easiness of getting the respondents. Three focus group discussions were conducted at the ward offices; two were conducted at home (at the home of one of FGD discussants) and two were conducted close to the place where the discussants were doing their activities.

The researcher identifies he study participants by considering the inclusion and exclusion criteria and then the participants are being explained about the aim of the study and what they are supposed to do and what the researcher expects from them. The researcher requests the participants to fill the consent forms before the data collection exercise. The researcher who was the facilitator informs the participants that the discussion will be recorded and notes will be taken to capture the conversation accurately and then the researcher will start to ask the questions and allowing the participants to contribute on that asked question as well as the participants can ask the researcher for clarifications. This ensures that all participants are fully informed and agree to the terms of participation.

Facilitator started to ask questions and participants were encouraged to contribute to the discussion and share their perspectives. The facilitator ensures that all participants have the opportunity to speak and that the discussion remains on topic. The participants were encouraged to ask questions and seek clarifications about the

study or the discussion topics. This interactive element helped to ensure that all participants fully understand. The facilitator managed the group dynamics to ensure a respectful and inclusive environment where all participants feel comfortable sharing their views. After covering all the questions, the facilitator summarizes the key points discussed and expresses appreciation for the participants' time and willingness to contribute to the study.

3.7 Validity and Reliability

3.7.1 Validity

Validity is defined as a way of obtaining data that is appropriate for the intended use of the measuring instruments (Whiston, 2012). It determines whether the findings are accurate from the standpoint of the researcher, the participant, or the readers of an account. Validation was achieved by using different data sources by examining evidence from the sources and using it to build a coherent justifications (Creswell & Creswell 2018). The multiple data collection tools (KIIs, FGDs and questionnaires) helped to increase the validity of results by reducing the reliance on a single source or method of data collection. The tools used for this study were modified from previously reliable and validated tools which were used to collect data regarding uptake of health insurance (Binnendijk*et al.,* 2012; Hussien & Azage, 2021). The tools were customized to address the research questions of this study.

3.7.2 Reliability

According to Sürücü (2020), reliability is an indicator of the stability of the measured values obtained in repeated measurements under the same circumstances using the same measuring instrument. Reliability is not only a feature of the measuring instrument, but also a feature of the results of the measuring instrument. To ensure reliability the researcher provided a detailed account of the focus of the study, the researchers' role, the informants' position and basis for selection and the context. The researcher pre-tested the study instruments in a small sample in order to refine the tools before main field work. The research assistants were also trained about the study and the type of data to be collected before going to the field for data collection.

3.8 Data Management

Data (quantitative data) from the ODK were exported to the excel sheet for cleaning in order to check for data completeness, accuracy, consistence as well as detection of some errors and for any detected anomaly. Correction was done with the aim of having high quality data. The cleaned data were exported to SPSS version 23 for analysis (SPSS (2021) Inc., Chicago, Illinois, USA). For the qualitative data, the collected data in form of audio files and notes, were transcribed by the researchers. The transcription was done by lowering the speed of the recorder whereby researchers could listen and write /transcribe without any problem.

Since the interviews and FGDs were conducted in Kiswahili, the researcher wrote the full transcript from all the interviews and FGDs in the same language. Then the researcher translated the transcripts in English language. The Kiswahili transcripts were sent to an expert translator who again translated to English. The translated transcripts were compared to confirm if they brought the same meaning. Thereafter, the data were organized and sorted out through reading, re-reading.

3.9 Data Analysis

3.9.1 Quantitative Data

A descriptive analysis (mean, frequencies) of the study sample was performed. Inferential analysis included Chi-square test and regression analysis was performed to test for the crude association between the dependent (uptake of health insurance) and independent variables (factors associated with uptake of health insurance, barriers to accessibility of health insurance and coping strategies for health financing among the infernal sector workers). SPSS software version 23 was used for analysis of the quantitative data to get the associations and relationship between the dependent and independent variables (SPSS (2021) Inc., Chicago, Illinois, USA). The analysis started with univariate analysis (descriptive Statistics) then the data were summarized for each variable and then bivariable analysis (Cross-tabulations) was done and the contingency tables for categorical variables were made and lastly multivariable analysis (full model) was done whereby all predictors which were

significant at bivariate analysis were included and then the variable which were significant were reported (backward fitting). On each variable, the variable which was coded with a lower number (code number) was a reference. A p value of < 0.05 was considered statistically significant. Tables were used to present categorical data. The significant factors in univariate analysis were exposed to multivariate analysis so as to establish the relationship between the variables.

3.9.2 Qualitative Data

The study employed content analysis method which involved reducing the data systematically in a flexible manner without distorting its intended original meaning (Archer, 2018; Schreier, 2012). The process of reducing data focused on retaining the meaning of the aspects that reflects and answers the research questions. Coding depending on the meaning the transcripts they conveyed was done.

The used noticed memos ideas, impressions, and potential patterns that merit further exploration and then codes were prepared and the data categorization was done according to resemblance and coherence (Wicks, 2017). Later on, the categories were reorganized and arranged into themes which were presented in a sequence that answers research questions. The data was interpreted, classified according to codes, categories and themes, and represented in a final report as proposed by Hancock (2018). Findings are described according to themes and supported by verbatim.

Table 3.3 Data Analysis per Objective

Objective	Analysis plan
To determine uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania	Descriptive analysis
To determine the factors associated with uptake of health insurance among informal sector workers in Dar es Salaam, Tanzania.	Regression and content analysis
To identify barriers to accessibility of health insurance among informal sector workers in Dar es Salam, Tanzania.	Regression and content analysis
To determine the coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania	Regression and content analysis

3.10 Ethical Considerations

The research protocol was approved by the Board of Postgraduate Studies (BPS) of Jomo Kenyatta University of Agriculture and Technology (appendix V1) together with the Tanzania's National Health Research Ethics Review Committee (NHRERC) with reference number (NIMR/HQ/R.8a/Vol.IX/3375) (7th March, 2020) Appendix VII. Permission for data collection was obtained from the Permanent Secretary President's Office-Regional Administration and Local Government (PO-RALG), Municipal Executive Directors of the respective municipals in Dar es Salaam after submission of the ethical clearance from NHRERC. The Municipal Executive Director introduced the researcher to the wards and streets bureaucrats by offering an introduction letter. The ward executive introduces the researcher to the street leaders and process of data collection starts. Verbal and written consents were obtained from all participants before the actual data collection exercise (Appendix 1A&1B). The aim of having the verbal and written consent was to reinforce the information provided verbally and ensures that there is documented proof of consent. The respondents were informed that participation in the study was voluntary and that they had a right to withdraw whenever they felt so. Participants were assured of confidentiality by not mentioning their names. They were assured that the information they provided would be carefully handled and that it would only be read and used for the research and would be presented in a manner that would preserve anonymity.

CHAPTER FOUR

RESULTS

4.1. Response Rate of the Study

The study targeted a sample size of 889 informal sector workers from 6 wards in Dar es Salaam. A total of 889 questionnaires were filled and returned corresponding to 100% response rate (Table 4.1).

Table 4.1: Study Sites and Response Rate, Dar es Salaam, 2022.

Ward	Street	Target (n)	Sampled (n)	Response rate (%)
Kitunda	Kitunda	34	34	100
	Kayombo	18	18	100
Kariakoo	Kariakoo North	104	113	100
	Kariakoo West	95	101	100
Mabibo	Jitegemee	94	105	100
	Mabibo	59	71	100
Wazo	Wazo	113	113	100
	Salasala	80	80	100
Mbagalakuu	Makukakusini	62	64	100
	Mpakani	61	61	100
Temeke	Matumbi	88	88	100
	Temeke	81	81	100
Total		889	889	

4.2 Socio-Demographic and Economic Characteristics of Informal Sector Workers

Majority, 565 (63.6%) were male and 324 (36.4%) were female. The respondents' age ranged between 18 years to 69 years with average age of 34.8 years (SD ± 10.4). Most of the respondents (574) that translates to 64.6% were married while 315 (35.4%) were not. Regarding education, 439 (50%) had primary education, 313 (35.2%) had secondary education and 40 (4.5%) had no formal education. Up to 540

respondents, which represents more than half (60.7%) were engaged in small businesses, followed by drivers (motorcycle, tricycle, vehicles) 115 (12.9%). In case of income, the study showed that majority, 426 (47.9%) had a monthly income range between 100,001 and 300,000Tsh (43.3-129.9$) (table 4.2).

Table 4.2: Socio-Demographic and Economic Characteristics of the Informal Sector Workers, Dar es Salaam, 2022

Characteristics	Attributes	Frequency	Percentage
Sex	Female	324	36.4
	Male	565	63.6
Age category	18- 20	33	3.7
	21 – 30	348	39.1
	31 – 40	258	29.0
	41 – 50	178	20.0
	51 – 60	55	6.2
	61-69	17	1.9
Marital status	Married	574	64.6
	Unmarried	315	35.4
Education	No any formal education	40	4.5
	Primary level	439	49.4
	Secondary level	313	35.2
	Tertiary level	97	10.9
Income ($)	<43.3	287	32.3
	43.3-129.9	426	47.9
(1USD ~2310Tsh)	129.9-216.5	115	12.9
	216.5-303.0	26	2.9
	303.0+	35	3.9
Economic activity	Small businesses (petty traders)	540	60.7
	Driver (car and tricycle and motorcycle	115	12.9
	Mechanical workers	106	11.9
	Food vendors	97	10.9
	Farmer and herdsman	31	3.5
Facility of preference	Government health facilities	489	55.0
	Private health facilities	350	39.4
	Over the counter medication	31	3.5
	Tradition healer	19	2.1

Source: Field data, (2022)

4.3 Uptake of Health Insurance

The study showed that 79 (8.9%) of the respondents were members of health insurance while 810 (91.1%) were not members of any health insurance. A total of 605 (74.7%) were willing to enroll into health insurance. Among the members, 60 (75.9%) had enrolled to national health insurance, 13 (16.5%) to private health insurance and 6 (7.6%) to community-based health insurance. Moreover, majority of female 297 (91.7%) were not insured. A total of 513 men (90.8%), were uninsured. Majority, 509 (88.7%) of the married respondents reported not to be enrolled in any health insurance while 65 (11.3%) that they have enrolled.

Regarding education, the results show that, 408 respondents (92.9%) with primary level of education had not enrolled into health insurance and only 1 respondent (2.5%) with no formal education had enrolled into health insurance. Most, 493 (91.3%) small businesses holders were not members of health insurance and only 6 (6.2%) of the food vendors were members of health insurance. Furthermore, majority 41 (51.9%) reported to be paying insurance for themselves while 11 (13.9%) reported to have insurance paid by their wives and only 4 (5.1%) had their insurance paid by relatives and friends (Table 4.3).

Table 4.3: Uptake of Health Insurance among Informal Sector Workers, Dar es Salaam, 2022

Characteristics	Attribute	Health insurance uptake status			
		Member of health insurance		Non-member of health insurance	
		N	%	N	%
Health insurance uptake	Uptake status	79	8.1	810	91.9
Sex	Male	52	9.2	513	90.8
	Female	27	8.3	297	91.7
Age (years)	≤ 20	3	9.1	30	90.9
	21 – 30	12	3.4	336	96.6
	31 – 40	14	5.4	245	94.6
	41 – 50	27	15.2	151	84.8
	51 – 60	17	30.9	38	69.1
	61+	6	35.3	11	64.7
Marital status	Married	65	11.3	509	88.7
	Unmarried	14	4.4	301	95.6
Education	No any formal education	1	2.5	393	97.5
	Primary level	31	7.1	408	92.9
	Secondary level	21	6.7	292	93.3
	Tertiary level	26	26.8	71	73.2
Income ($)	<43.3	10	3.5	277	96.5
	43.3-129.9	29	6.8	397	93.2
(1USD ~2310Tsh)	129.9-216.5	19	16.5	96	83.5
	216.5-303.0	5	19.2	21	80.8
	303.0+	16	45.7	19	54.3
Economic activities	Food vendors	6	6.2	91	94.1
	Driver (car and tricycle and motorcycle)	12	10.4	103	89.6
	Mechanical workers	11	0.4	95	89.6
	Farmer and herdsman	3	9.7	28	90.3
	Small business	47	8.3	568	91.7
Family size (number of people)	1 – 3	22	7.4	275	92.6
	4 – 6	41	8.5	443	91.5
	7 – 9	14	14.3	84	85.7
	10+	2	20.0	8	80.0
Membership to economic group	Food vendors group	2	66.7	1	33.3
	Drivers group	10	38.5	16	61.5
	Entrepreneurship groups	11	37.9	18	62.1
	Trade union at the marketplace	6	35.3	11	64.7
	Not a member of any economic group	50	6.1	764	93.9
Type of health insurance	National health insurance	60	6.7		
	Private health insurance	13	1.5		
	Community health insurance	6	0.7		
Who pays insurance premium	Myself	41	51.9		
	Wife	11	13.9		
	Husband	8	10.1		
	Children	7	8.9		
	Myself through our association	8	10.1		
	Relative and friends	4	5.1		

4.4 Factors Associated with Uptake of Health Insurance

The second objective sought to determine factors associated with uptake of health insurance among the informal sector workers. Respondents mentioned several factors that affecting their decision to either enroll or not enroll into insurance schemes. The researcher grouped the factors associated with uptake of health insurance among the respondents into four major categories, namely; socio-demographic, socioeconomic, individual and health systems factors. Both, quantitative and qualitative data were collected and analyzed to show the association among the variables.

4.4.1 Socio Demographic Factors

These factors relate to the characteristics of the individuals in informal sector. They include sex, age, marital status and family size. The study tested the relationship between uptake of health insurance (dependent variable) and socio-demographic factors (independent variables). The factors which were significantly associated with uptake of health insurance were age (χ2=72.791, df = 2, <0.001) and marital status (χ2 =11.889, df = 1, p <0.001). The factors which were not statistically significant were household size (χ2=5.959, df = 3, p = 0.114 and sex (χ2=0.193, df = 1, p = 0.661) as summarized in table 4.4.

Table 4.4: Association of Socio-Demographic Factors with Uptake of Health Insurance Dar es Salaam, 2022

Characteristics	Attribute	Health insurance uptake status				Statistics
Health insurance uptake	**Uptake status**	**Member of health insurance**		**Non-member of health insurance**		
		N	**%**	**N**	**%**	
		79	**8.9**	**810**	**91.1**	
Age (years)	18-20	3	9.1	30	90.9	χ2=72.791, df=1, p <0.001
	21 – 30	12	3.4	336	96.6	
	31 – 40	14	5.4	244	94.6	
	41 – 50	27	15.2	151	84.8	
	51 – 60	17	30.9	38	69.1	
	61-69	6	35.3	11	64.7	
Marital status	Married	65	11.3	509	88.7	χ2=11.889, df=1, p <0.001
	Unmarried	14	4.4	301	95.6	
Sex	Male	52	9.2	513	90.8	χ2=0.193, df = 1, p = 0.661
	Female	27	8.3	297	91.7	
Family size (number of people)	1 – 3	22	7.4	275	92.6	χ2=5.959, df=3, p=0.114
	4 – 6	41	8.5	443	91.5	
	7 – 9	14	14.3	84	85.7	
	10+	2	20.0	8	80.0	

Furthermore, the study tested the association of socio-demographic factors and uptake of health insurance. The findings showed that, only age was significant (p<0.001). This implies that as the age increases, the informal sector worker is 100.9% more likely to enroll in health insurance compared to the reference category (0.000*****, Exp (B), 95% CI, 2.009: 1.620-2.491) as shown in Table 4.5.

Table 4.5: Regression Results of Socio-Demographic with Uptake of Health Insurance Dar es Salaam, 2022

Socio-demographic factor	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Age	0.698	0.110	40.408	1	0.000	2.009	1.620	2.491
Marital status	-0.544	0.317	2.952	1	0.086	0.581	0.312	1.080
Constant	-3.936	0.603	42.530	1	0.000	0.020		

4.4.2 Socio Economic Factors

The socio-economic factors which were significantly associated ($p<0.05$) with uptake of health insurance were income ($\chi 2 = 82.964$, df = 4, $p < 0.001$), education level ($\chi 2 = 44.115$, df = 3, $p < 0.001$) and membership to economic groups (entrepreneurship group, food vendors group, drivers' group) ($\chi 2 = 92.884$, df = 4, $p < 0.001$). On the other hand, only economic activities ($\chi 2 = 1.552$, df =4, $p = 0.817$) was not significant as shown in Table 4.6.

Table 4.6: Association of Socio-Economic Factors with Uptake of Health Insurance, Dar es Salaam, 2022

Characteristics	Attribute	Health insurance uptake status				Statistics
		Member of HI		Non-member of HI		
		N	%	N	%	
Health insurance uptake	**Uptake status**	**79**	**8.1**	**810**	**91.9**	
Education	No formal education	1	2.5	393	97.5	χ2=44.115, df =3, p <0.001
	Primary level	31	7.1	408	92.9	
	Secondary level	21	6.7	292	93.3	
	Tertiary level	26	26.8	71	73.2	
Income ($)	<43.3	10	3.5	277	96.5	χ2=82.964, df =4, p <0.001
	43.3-129.9	29	6.8	397	93.2	
	129.9-216.5	19	16.5	96	83.5	
	216.5-303.0	5	19.2	21	80.8	
	303.0+	16	45.7	19	54.3	
Membership to an economic group	Food vendors group	2	66.7	1	33.3	χ2=92.884, df =4, p <0.001
	Drivers group	10	38.5	16	61.5	
	Entrepreneurship groups	11	37.9	18	62.1	
	Trade union at the marketplace	6	35.3	11	64.7	
	Not a member of any economic group	50	6.1	764	93.	
Economic activities	Food vendors	6	6.2	91	94.1	χ2=1.552, df =4, p=0.817
	Driver (car and tricycle and motorcycle)	12	10.4	103	89.6	
	Mechanical workers	11	10.4	95	89.6	
	Farmer and herdsman	3	9.7	28	90.3	
	Small business	47	8.3	56	891.7	

The findings of logistic regression show that, as the income increases, the informal sector workers are 83.9% more likely to uptake health insurance (p <0.001; Exp(B), 1.839; 95% CI, 1.471-2.298). The qualitative findings show that, the premium amount and its mode of payments make the informal sector workers fail to pay the premiums and take up health insurance. Majority of the informal sector workers were willing to enroll into health insurance but low and unreliable income make them fail to pay the premium. Also, the requirement of paying premium in lumpsum (100%) was reported to be a challenge among the informal sector workers due to their low income. Therefore, it took longer time to accumulate funds and pay for the premiums unlike the formal sectors who pay their premiums from the salary on monthly basis. This situation made the informal sector workers fail to enroll into health insurance as stated by informal sectors' group leader.

> *"...*The problem is money; we all need to have health insurance in order to access quality healthcare, but the problem is money. Thinking of my income that is not even enough for food, what about that one million which I must pay in order to obtain an insurance card? Those employed in the formal sector are more advantaged because they have monthly deductions which are much smaller, affordable and better even to those with little salary. We from the informal sector are supposed to deposit all amounts at once before we may be given access to health services*..."* (KII 2, Informal sector group leader).

In addition, the findings revealed that, as the level of education increases the informal sector worker is 58.9% more likely to enroll into health insurance (p <0.001; Exp (B), 1.589; 95% CI;1.143-2.208). As the informal sector worker become a member to an economic group, he/she was 11.9% less likely to uptake health insurance (p <0.001; Exp (B), .119; 95% CI, 0.437; 0.066-0.215) as shown in table 4.7.

Table 4.7: Regression Results on Socio-Economic Factors with Uptake of Health Insurance, Dar es Salaam, 2022

Socio economic factor	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Education level	0.463	0.168	7.600	1	0.006	1.589	1.143	2.208
Income	0.609	0.114	28.666	1	0.000	1.839	1.471	2.298
Membership to an economic group	-2.125	0.301	49.868	1	0.000	0.119	0.066	0.215
Constant	-1.104	0.706	2.447	1	0.118	0.332		

4.4.3 Health Systems Factors

The health systems factors refer to characteristics of the insurance schemes and health care delivery infrastructures. It includes availability and accessibility of insurance services and health services at the accredited health facilities. The study revealed that insufficient information about health insurance was reported by 300 informal sector workers (37.0%) as a factor for not enrolling into health insurance. Sixty-nine informal sector workers (8.5%) said the difficulties in accessibility of health insurance services were the factor for not up taking health insurance. Consequently, the association on these factors was tested.

The results showed a significant relationship regarding insufficient information about health insurance ($\chi 2=44.162$, df =1, $p<0.001$) and difficulties in accessing health insurance services ($\chi 2=7.269$, df 1, $p <0.001$) with the uptake of health insurance as shown in Table 4.8.

Table 4.8: Association of Health Systems Factors with Uptake of Health Insurance, Dar es Salaam, 2022

Health systems factors	Frequency	Percentage	Statistics
Insufficient information about health insurance	300	37.0%	χ2=44.162, df =1, p <0.001
Difficulties In accessing health insurance services	69	8.5%	χ2=7.269, df =1, p <0.001

Furthermore, despite the statistical association between difficulties in accessibility of health insurance services and uptake of health insurance, the key informant raised an issue regarding accessibility of insurance services. The fact that insurance offices were located at the regional centers and there were no subsidiary offices at the districts close to the residential areas, it made difficult for some informal sector workers to easily access health insurance as indicated by key informant.

> "…Previously, the insurance offices were in Mwenge but now they have been moved to Ubungo which is very far from many of us, and some people cannot even locate where the offices are. If the offices would have been around our places some more people would have gone there and joined…" (KII 4, Informal sector group leader)

Another respondent added that, too much bureaucratic procedures at the insurance offices hindered accessibility.

> "…You know what? Sometimes these insurance offices are scaring... Before you arrive at the reception, you meet with the security guards who will ask you a lot of questions and he will question even on how you have dressed without knowing the nature of work, by doing this I see as am being discriminated due to dressing code…" (FGD 2, Informal sector workers)

The present insurance policy with the gate keeping mechanisms were reported to be a hindering factor for the informal sector workers to uptake health insurance. The gate keeping mechanism of the beneficiaries to wait for some time before accessing some

services is a hindering factor for uptake of health insurance. The waiting time seems to be a problem because most of the informal sector workers are unaware on the operation of insurance schemes and they expect to get the services immediately after they have enrolled into the scheme. From the insurance provider it was noted that:

> "…The insurance beneficiaries need to wait for three months/one year (depending on the type of insurance) after they have paid the premium and do the registration before they can access some types of services. This is contrary to their expectations for many people enroll into health insurance while they are sick already and they need the health services, therefore when you tell them to wait for three months/ one year before they can access some services through the insurance card it becomes a burden to them. Once this experience is shared to the public, many possible members become reluctant to join the insurances…" (KII 2, insurance provider)

The study also found that non-involvement of the informal sector workers during the design of the insurance scheme contributed to low uptake. Also, initially when the insurance schemes were introduced in the country the informal sector workers were not involved and still lack representation. Failure to include the informal sector workers at the design stage of the insurance schemes has created a gap that made informal sector workers feel unwanted hence reluctancy to join health insurance. In an interview with one key informant from the group leaders, the following statements came out:

> "…Historically, informal sector workers were both unorganized and not recognized for many years; as a result, they were excluded at the design stage of health insurance schemes in Tanzania. Initially, the scheme focused only on government employees and those on formal system without any considerations of the informal sector workers. This has made the informal sector workers to think that they are not concerned with the scheme…" (KII 5, Informal sector group leader)

Fragmentation of the insurance providers contributed to low uptake of health insurance. Availability of many insurance providers have led to an increase in competition between schemes as well as the duplication of administrative costs and hence increased insurance costs. Absence of comprehensive insurance schemes makes informal sector workers fail to enroll for most of insurance providers offers different services.

From the group leader it was stated that:

> "....When we talk about insurance, to my understanding, it is a business, most of Tanzanian insurance providers are business oriented and therefore, they spend more time to see how they can get profit first rather than providing required services to its beneficiaries…" (KII 5, informal sector group leader).

4.4.4 Individual Factors

In this study, individual factors included personal beliefs, attitude, knowledge and past experience that shape the decisions the decisions regarding enrolling and remaining into a particular insurance scheme. High enrolment of people into insurance schemes requires that people have knowledge, understanding and information on the actual operation of health insurance from the process of registration to accessibility of health services. The insurance beneficiaries expected to get health services whenever they needed but in practice, they do not get some services. Dissatisfactions with insurance services caused by unavailability of services and low membership coverage contributed to low uptake of health insurance. The number of beneficiaries per single premium of the family is not in favour of the families which have many people. The informal sector workers thought of having coverage of all the children regardless of their number as stated by the discussants:

> "...The number of dependents is few, some people have six children and the insurance schemes allow only four children and; this makes two children to be segregated. Therefore, if two dependents cannot be accommodated in a single insurance its better all the people not to have insurance…" (FGD 4, informal sector workers)

From the key informant (group leader) it was mentioned that:

> "...Health insurance services are not satisfactory, and even some people complain about it. With this insurance you pay forty thousand (17.3$) and when you go to the health facility you get only panadol and you are being told there is no other medications therefore, you have to go to buy them. If medical examination recommended, only malaria and urinary tract infections (UTI) tests will be done. Then, why should I re-enroll into health insurance while I cannot get the

> services I need? I will not renew my membership again…" (KII 3- Informal sector group leader).

The responses from focus group discussion show that, shortage of health care providers delays the accessibility of health services at the accredited health facilities as stated:

> "…The services are unsatisfactory, there is a shortage of health providers at health facilities as the result we spend a lot of time to wait to get health services..." (FGD 3, informal sector workers)

Furthermore, failure to understand operation of the insurance schemes was reported to lower the value of insurance membership. Many respondents did not know the premium amount, mode of payments and service coverage. During the interview, the informant explained that, the informal sector workers do not understand the reasons for them to pay for health insurance before one gets sick.

> "…The informal sector workers say that its better they wait with their money to get sick for they can't pay for the insurance premium while they are not sick. So, once they get sick any time, they will go to the health facility and get the services. They even ask as to whether they will get their money back which they paid for the insurance and did not get sick. Therefore, a person who asks such a question implies that he/she has insufficient understanding about health insurance..." (KII 3, insurance provider)

Moreover, the informal sector workers reported that they did not consider health insurance as a priority. Therefore, they weighed out between paying for insurance and doing some other things. This implies that the act of viewing health insurance as an option among the informal sector workers makes the uptake to be low. Nevertheless, some informal sector workers reported to put less value on their health since they compared spending on health with other expenditures. Unfortunately, there is no rule that enforces their enrolment as stated by the insurance provider:

> "...We sensitize the community about health insurance schemes but in rural areas the challenges we face are some families are willing to pay for health insurance but they do not have income and they end up selling their valuable properties so as to get the premium. In town it is not only an issue of income but also priorities. After they have been

> sensitized, they weigh out between school fees, food and health insurance. Most of them end up paying school fees and buying food thus not paying for the health insurance. They do what they think is a priority to them now as per income they have..." **(**KII 1, insurance provider)

From the FGD it was argued that:

"…Why should I pay for health insurance when I am not sick? I will keep my money and only go to the hospital when I get sick…" (FGD 4, informal sector workers)

Cultural beliefs affect the demand for health insurance to the extent of affecting the population's risk aversion. The study findings showed that, some informal sector workers perceived that paying for health insurance is against their cultural belief. They believed if they pay for the insurance premium before they are sick, it would imply that they are making a covenant with the devil. One key informant shared his field experience in relation to cultural belief and uptake of health insurance that:

> "...When we go to the field for sensitization programmes to make people subscribe to health insurance, we are also dealing with cultural belief of individuals. The people in some places do not want to join health insurance because of the belief that when you join health insurance, you are making covenants with the devil that you will get sick. Other people wonder that, why should one pay for the sickness which has not yet happened?..." (KII, 5 insurance providers)

4.5 Barriers to Accessibility of Health Insurance

Quantitative and qualitative data were collected and analyzed. Firstly, the informal sector workers were asked as whether they were aware of where to get the enrolment forms. The results showed that, majority, 732 (82.3%) were not aware of where to get enrolment forms while 157(17.8%) were aware. The respondents who were aware, 76 (48.4%) mentioned that the enrolment forms are found at the insurance offices. Regarding the awareness with the enrolment procedures, the study showed that, majority 745 (83.8%) reported to be not aware of the enrolment procedures while 144 (16.2%) reported to be aware.

Furthermore, the informal sector workers were asked to respond as to whether they disagree, undecided, or agree on the seven (7) statements about accessibility of

insurance services by writing 1, 2 or 3 respectively in the response table. The results showed that long queues and long waiting time at the insurance offices 616 (69.3%), dissatisfaction with services at insurance offices 600 (67.5%), unaffordability of health insurance premium 597 (67.2%), difficulties in accessibility of the insurance selling points 506 (56.9%), poor quality of services 382 (43.0%) and inadequate information about health insurance 453 (51.0%) were reported as barriers to accessing health insurance (Table 4.9).

Table 4.9: Barriers to Accessibility of Health Insurance, Dar es Salaam, 2022

Barriers to accessibility of health insurance	**Responses**		
	Agree	**Undecided**	**Disagree**
Long queues and waiting time at the insurance offices	616(69.3%)	114(12.8%)	59(17.9%)
Dissatisfaction with services at insurance offices	600(67.5%)	111(12.5%)	178(20.0%)
Unaffordability of insurance premiums	597(67.2%)	92(10.3%)	200(22.5%)
Difficulties in accessing health insurance selling points	479(53.6%))	169(19.0%)	241(27.1%)
Inadequate of information about health insurance	453(51.0%)	142(16.0%)	294(33.1%)
Mistrust to insurance providers	445(50.1%)	18(2.0%)	426(47.9%)
Poor quality of services at the insurance selling points	382(43.0%)	171(19.2%)	336(37.8%)

Quantitatively, the association between the barriers to accessibility of health insurance and uptake of health insurance was tested. A positive association was found between inadequate information about health insurance (χ2=22.520, df =2, p<0.001), unaffordability of insurance premiums (χ2=29.480, df =2, p p<0.001), mistrust to insurance providers (χ2=11.780, df =2, p=0.003), difficulties in accessing health insurance selling pointsχ2=9.668, df =2, p=0.008) and poor quality of services at the health insurance selling points (χ2=11.889, df =2, p=0.003) while Long queues and waiting time at the insurance offices was not significant (χ2=2.585, df =2, p=0.275) (Table 4.10).

Table 4.10: Association of Barriers to Accessibility of Health Insurance with Uptake of Health Insurance, Dar es Salaam, 2022

Barriers to accessibility of health insurance	Status	Non-Member of health insurance	Member of health insurance	Statistics
Inadequate information about health insurance	Disagree	250(85.3%)	44(14.7%)	χ2=22.520, df =2, p<0.001
	Undecided	129(90.8%)	13(9.2%)	
	Agree	431(94.9%)	22(5.1%)	
Unaffordability of insurance premiums	Disagree	163(81.8%)	37(18.5%)	χ2=29.480, df =2, p<0.001
	Undecided	86(93.5%)	6(6.5%)	
	Agree	561(94%)	36(6.0%)	
Mistrust to insurance providers	Disagree	395(88.8%)	50(11.2%)	χ2=11.780, df =2, p=0.003
	Undecided	14(77.8%)	4(22.2%)	
	Agree	401(93.3%)	25(6.07%)	
Difficulties in accessing health insurance selling points	Disagree	209(86.7%)	32(13.3%)	χ2=9.668, df =2, p=0.008
	Undecided	161(95.3%)	8(4.7%)	
	Agree	440(91.9%)	39(8.1%)	
Poor quality of services at the insurance selling points	Disagree	292(86.9%)	44(13.1%)	χ2=11.889, df =2, p=0.003
	Undecided	161(94.2%)	10(5.8%)	
	Agree	357(93.5%)	25(6.5%)	
Long queues and waiting time at the insurance offices	Disagree	140(88.1%)	19(11.9%)	χ2=2.585, df =2, p=0.275
	Undecided	103(90.4%)	11(9.6%)	
	Agree	567(92.0%)	49(8.0%)	
	Agree	550(91.7%)	50(8.3%)	

The findings showed that out of the five barriers that were statistically significant with uptake of health insurance (Table 4.10), four barriers (mistrust to insurance providers, unaffordability of insurance premiums, inadequate of information about health insurance and difficulties in accessing health insurance selling points) had significant associations with uptake of health insurance.

Again, regarding trust to insurance schemes, the study found that the informal sector workers who had no trust to insurance providers were 30.7% less likely to access insurance services (p=0.004*****; Exp (B), 0.693; CI, 95%; 0.538-0.892) while the respondents who were unable to pay for insurance premiums were 53.4% less likely to access the insurance services (p<0.001**;** Exp (B); .466; 95% CI; 0.329 - 0.662).

The informal sector workers who had difficulties in accessing health insurance selling points were 43.6% less likely to access health insurance (p = 0.046**;** Exp (B); 1.446; 95% CI; 1.006 - 2.078) and the respondents with inadequate information about health insurance were 55.4% less likely to access health insurance (p = 0.004**;** Exp (B); 0.564; 95% CI; 0.382-0.882). The summary of details is shown in Table 4.11.

Table 4.11: Regression Results on Barriers to Accessibility of Health Insurance with Uptake of Health Insurance, Dar es Salaam, 2022

Barriers to access of health insurance	**B**	**S.E.**	**Wald**	**Df**	**Sig.**	**Exp(B)**	**95% C.I. for EXP(B)**	
							Lower	**Upper**
Mistrust to insurance providers	-0.367	0.129	8.071	1	.004	0.693	0.538	0.892
Unaffordability of insurance premiums	-0.763	0.179	18.221	1	.000	0.466	0.329	0.662
Inadequate of information about health insurance	-0.573	0.198	8.344	1	.004	0.564	0.382	0.832
Difficulties in accessing health insurance selling points	-0.369	0.185	3.971	1	0.046	1.446	1.006	2.078
Poor quality of services at the insurance selling points	0.030	0.198	0.022	1	0.881	1.030	0.699	1.518
Constant	0.329	0.455	0.523	1	0.470	1.390		

To explain the quantitative findings, a qualitative analysis on the collected data was done. The qualitative results obtained from interviews and FGDs revealed that, the informal sector workers experienced inaccessibility of insurance on the aspect of information, income, and physical accessibility. Accessibility of insurance services was reported to be problematic to individuals who live away from towns due to the fact that most insurance services are centralized (offices are based in towns/regions). Therefore, due to absence of insurance services at the local level where many people lived, the possibility of enrolment among informal sector workers was reduced. The discussants sought on the need of improving accessibility in order for many people to enroll into insurance schemes.

> "...In order to improve the accessibility to insurance services, the insurance providers should bring the services to the local level rather than placing the offices at the regional levels where few people can hardly reach. The offices at the local level will make it easy for the community members to inquire and get the services from the offices. That will increase the number of people who can enroll in health insurance..." (FGD 1, informal sector workers)

One key informant shared her experience once she wanted to pay for the insurance premium as follows:

> "...The offices are in the government building; personally when I went to pay for the insurance, I faced difficulties to know where the offices are. I had to ask some people to show me. There is a need to give enough information to people since what happened to me shows that there are inadequacy of information about health insurance…" (FGD 4, informal sector workers)

Also, the study revealed further that, information about health insurance were not easily accessible. Though insurance providers used different strategies to promote their services but not all the people had access to such information especially those who did not live in towns. This has made some fail to get accurate information regarding the general operation of the insurance and thus this affected the uptake rate. The FGD participant stated that:

> "...Insurance providers should be like the mobile companies which go around all places to sell sim cards and give information about their products. On this street, there is neither insurance company nor insurance agents who have ever come to tell us about insurance and inspire us to join…"(FGD 5, informal sector workers)

The key informant stated that:

> "...To my understanding, in order for people to get information, the insurance providers should come to the community and visit different groups of people and tell them what they are doing, how to join them

> and the amount that someone has to pay in order to be an insurance member….” (KII 3, Informal sector group leader)

Also, the premium amount and the mode of payment for the informal sector workers was reported as a barrier to accessibility of health insurance. The informal sector workers were required to pay the whole amount of premium (100%) and as per insurance policy. They also do not get any contribution from the employer/government like how it is done to the formal sector workers who pay their premium on monthly basis (instillments) through their salary and the employer contribute to their premium (50%). The unreliable and low incomes of the informal sector workers make them fail to adhere with the insurance policy on timely payments of premium and hence fail to enroll.

> “...What I see on my side is low income to most of us. No one does not want to have health insurance. We all need it so that when we become sick, we go to good hospitals and get the treatment. Income constraint is the big challenge to us who belong to informal sectors. Our fellows on formal sectors pay premiums on monthly basis (instalments). We are this way because we suffer a lot of diseases and at the end some people even die earlier because they lack treatment...” (KII 1- informal sector workers group leader)

The findings revealed that some existing insurance schemes during promotion and sensitization meetings advertise many services that in practice they are not offered. The online enrolment has many challenges and some providers take some money from the prospect members during registration but at the end, they do not provide any service to the people. The FGD discussants stated that

> “...Some providers tend to call you for giving you more instructions/clarification about insurance but after you have paid the required premiums, some disappears while others will tell you different information about the service accessibility…some insurance providers are scams that’s why we do not join any insurance…” (FGD 4, Informal sector workers)

4.6 Coping Strategies for Health Care Financing

Majority, 810 (91.1%) had no health insurance and most, 809 (91.0%) had no budget for healthcare. The findings further showed that, for those who had the budget, 37 (46.3%) it was less than 50,000Tsh (21.6$). On further analysis, a total of seven (7) attributes were used to determine the coping strategies for healthcare financing among informal sector workers. The attributes are measured in a 3-point Likert scale. The informal sector workers were asked to indicate as to whether they disagree, undecided or agree on the attributes by writing numbers 1, 2, and 3 respectively.

The findings showed that, majority, 812 (91.3%) of the respondents agreed that they paid cash for health services. On exemption at the health facility, 747 (84.0%) agreed that they requested for it. A total of 661 respondents (74.4%) agreed that, they asked for support from friends and relatives. More than half of the respondents, 563 (63.3%) admitted that they sold assets to finance their health care services. Respondents who agreed with the use of traditional medicines and prayers as coping strategies for healthcare financing were 514 (57.8%) and 462 (52.0%) respectively. Most, of the respondents, 570 (64.1%) disagreed that that they borrowed some money from friends, relatives, banks and micro finances to finance their health care (as shown in Table 4.12).

Table 4.12: Coping Strategies for Healthcare Financing, Dar es Salaam, 2022

Coping strategy	**Responses**		
	Agree	**Undecided**	**Disagree**
Out of pocket payments	812(91.3%)	28(3.1%)	49(5.5%)
Request for exemption at the health facility	747(84.0%)	31(3.5%)	111(12.5%)
Request for a support from friends and relatives	661(74.4%)	31(3.5%)	197(22.2%)
I sell my assets	563(63.3%)	27(3.0)	299(33.5%)
Traditional medicine	514(57.8%)	98(11.0%)	277(31.2%)
Prayers	462(52.0%)	76(8.5%)	351(39.5%)
Borrowing from friends, relatives, banks and micro finances	290(32.7%)	29(3.3%)	570(64.1%)

A further analysis was conducted to test the association between coping strategies for health care financing and uptake of health insurance. The results showed that, request

for exemption at the health facility (x^2=35.274, df =2, p<0.001), out of pocket payments (x^2=141.670, df =2, p<0.001), request for a support from friends and relatives (x^2=13.931, df =2, p=0.001), borrowing from friends, relatives, banks and micro finances (x^2=35.210.948, df =2, p=0.004), and selling assets (x^2=19.454, df =2, p<0.001) were statistically significant among the coping strategies as shown in Table 4.13.

Table 4.13: Association of the Coping Strategies for Health Care Financing with Uptake of Health Insurance, Dar es Salaam, 2022.

Coping strategies	Response	Non- Member of HI	Member of HI	Statistics
Request for exemption at the health facility	Disagree	86(77.5%)	25(22.5%)	x^2=35.274, df =2, p=0.000
	Undecided	25(80.7%)	6(19.4%)	
	Agree	699(93.6%)	48(6.4%)	
Sell assets	Disagree	256(85.6%)	43(14.4%)	x^2=17.775, df =2, p=0.000
	Undecided	23(85.2%)	4(14.8%)	
	Agree	531(94.3%)	32(5.7%)	
Out of pocket payments	Disagree	22(44.9%)	27(55.1%)	x^2=141.670, df =2, p=0.000
	Undecided	23(82.1%)	5(17.9%)	
	Agree	765(94.2%)	47(5.8%)	
Request for a support from friends and relatives	Disagree	167(84.8%)	30(15.2%)	x^2=13.931, df =2, p=0.001
	Undecided	27(87.1%)	4(12.9%)	
	Agree	616(93.2%)	45(6.8%)	
Borrowing from friends, relatives, banks and micro finances	Disagree	506(88.8%)	64(11.2%)	χ2=10.948, df =2, p=0.004
	Undecided	27(93.1%)	2(6.9%)	
	Agree	277(95.5%)	13(4.5%)	
Traditional medicine	Disagree	252(91.0%)	25(9.0%)	χ2=4.795 df =2, p=0.091
	Undecided	95(96.9%)	3(3.1%)	
	Agree	463(90.1%)	51(9.9%)	
Prayers	Disagree	315(89.7%)	36(10.3%)	χ2=2.159, df =2, p=0.340
	Undecided	72(94.7%)	4(5.3%)	
	Agree	423(91.6%)	39(8.4%)	

Furthermore, a multivariate analysis on uptake of health insurance and coping strategies for healthcare financing was conducted. The results showed that, workers

in the informal sector were 3.8% less likely to take health insurance for medical services due to their ability to pay cash for medical service (P=0.000*; Exp (B), 0.297; 95% CI, 0.195 – 0.452). The informal sector workers were 42.2% less likely to take health insurance due to their ability to access opportunities of borrowing money from friends, relatives, banks and micro finances (P=0.001*; Exp (B), 0.578; 95% CI, 0.412 - 0.811). Workers in the informal sector were 32.8% less likely to take health insurance due to possession of assets that could be sold as a coping strategy for healthcare financing (P=0.006; Exp (B)= 0.672; 95% CI, 0.570-891). The summary of findings is shown in Table 4.14.

Table 4.14: Regression Results on Coping Strategies for Health Care Financing with Uptake of Health Insurance, Dar es Salaam, 2022

Coping strategy	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Request for exemption at the health facility	-0.039	0.199	0.038	1	0.845	0.962	0.651	1.422
Out of pocket payments	-1.216	0.215	31.998	1	0.000	0.297	0.195	.452
Request for a support from friends and relatives	-0.184	0.147	1.574	1	0.210	0.832	0.623	1.109
Borrowing from friends, relatives, banks and micro finances	-0.548	0.173	10.075	1	0.002	0.578	0.412	.811
Selling assets	-0.397	0.144	7.620	1	0.006	0.672	0.507	.891
Constant	3.178	0.610	27.107	1	0.000	23.994		

Moreover, the informal sector workers reported varied coping strategies about how they ensured access to health care services. Despite the perceived cost of insurance premium, the presence of different coping strategies for financing health services was reported to have made some informal sector workers not to consider enrolling in insurance schemes. For instance, those who were in groups reported to have

collaborated with the family of their fellow member to facilitate access payments for health services.

> "...Although our capacity is still low, we contribute some money to each other in case one wants to make payments for medical services bills depending on the type of sickness a group member has. If someone is not very sick, we contribute 40,000Tsh to 50,000Tsh (17.3$ to 21.6$) for medical services…." (FGD 4, informal sector workers)

Also, other discussants added that

> "...Sickness is communal, if someone gets sick and she/he does not have enough money to cover the medical services costs, relatives will normally contribute so that the individual only tops up. The guarantee of getting contributions for sickness support made some people not to enroll into health insurance. If there had not been any contribution when someone falls sick, everyone would have seriously considered having health insurance…" (FGD 1, informal sector workers)

In addition, some informal sector workers reported that they had some money that made them opt for self-medication once they fell sick. They were sure to pay cash for medical services and buy some medication from the pharmacies whenever they got sick. This had made some not to seek for medical services at the health facilities unless their sickness persisted and required further management from the health facilities. From insurance providers it was noted that:

> "...It is important for people to be well informed about health insurance for there are some people who say that why should I pay for the premium while I have never been sick the whole year and when I get sick like headache, I can buy panadol and take them and I become better. We should not get tired to give education to the uninsured so as to get many people who understand about health insurance and enroll for easy accessibility of health services…"(KII 3, Insurance provider)

Moreover, the findings from the FGD revealed that, there was a waiver programme for those who could not afford medical bills after treatment. The FGD discussants narrated that:

"…For the big hospital/national hospitals, after getting the treatment bill if you have troubles on paying it, you can write a letter to the social welfare officer of the hospital and ask for a waiver on treatment costs or reduction on the costs…" (FGD 3, informal sector workers)

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussion

This chapter documents a discussion of the results of this study and they are based on the objectives of the study as well as other relevant literatures on uptake of health insurance. The discussion is divided into various sections including; the Socio demographic and economic characteristics of respondents, uptake of health insurance, factors associated with uptake of health insurance, barriers to accessibility of health insurance and coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania

5.1.1 Socio Demographic and Economic Characteristics of Respondents

The study showed that majority of the study respondents were male. This is consistent with the study by the World Bank, (2011) that informal sector jobs can be precarious and lack social protections, and studies suggest that men are more likely to take such risky employment due to social expectations and perceived resilience. Chen, 2012 showed that men often have higher labor force participation rates and greater mobility, enabling them to seek employment in the informal sector. This increased economic necessity and mobility can lead to a higher representation of men in informal sector employment. The overrepresentation of men in informal sector work can be explained by a combination of traditional gender roles, higher mobility and economic necessity. These factors collectively contribute to the higher percentage of male respondents in studies of informal sector workers.

The age of most of the participants of this study was 21- 40 years. Similar to our findings, a study by Fieds, 2011 showed that many individuals enter the labor market in their early twenties after completing their education or training. This transition period often involves taking up informal sector jobs, either as a stepping stone to formal employment or due to the lack of opportunities in the formal sector. In 2018 the ILO reported that the age group 21- 40 years represents the prime working age

when individuals are most active in the labor market. People in this age range are typically at their most productive and physically capable, making them more likely to be engaged in various types of work, including informal sector jobs (ILO, 2018). This age group dominates studies of informal sector workers due to being in their prime working age, entering the labour market after education, bearing family and financial responsibilities, being flexible and adaptable, and often migrating to urban areas where informal work is more prevalent. These factors collectively contribute to the higher representation of this age group in the informal sector.

Similar to our result that most of the informal sector workers had a primary level of education, ILO reported that in many developing countries, individuals with only primary education often have limited access to formal employment opportunities. The informal sector is characterized by low entry barriers and minimal formal education requirements, becomes a viable alternative for those with lower educational attainment (ILO, 2018). This is consistent with the report by UNESCO that economic constraints often limit educational attainment, as families may not afford to send their children beyond primary school. Consequently, individuals with primary education or less are more likely to enter the labor market early and find employment in the informal sector. The predominance of participants with primary education in informal sector studies can be explained by limited access to higher education, economic constraints, lack of vocational training, urban-rural educational disparities, and the low entry barriers characteristic of the informal sector. These factors result in a higher representation of individuals with primary education in informal employment.

The study showed that most of the study respondents were doing small business. This is consistent with Chen, (2012) who showed that engaging in small businesses within the informal sector may be a pragmatic choice for workers with lower levels of education and skills. Starting a small business in the informal sector typically requires minimal capital, making it accessible to individuals with limited resources.

Participation in small businesses within the informal sector among workers is driven by a combination of economic necessity, lack of formal employment opportunities,

entrepreneurial aspirations, and educational constraints. These factors highlight the complex interplay between individual choices and structural constraints in shaping informal sector entrepreneurship.

5.1.2 Uptake Level of Health Insurance

The study showed that majority of the informal sector workers were not members of health insurance. Similar findings were reported by Lee, Tarimo, and Dutta (2018), who found that the uptake of health insurance in developing countries has generally been very low. Several other studies have documented the low enrolment to health insurance among the informal sector workers where in 2021, a study by Kigume and Maluka showed that the uptake level is lower than the national target of 30% that was expected in 2015 (Kigume & Maluka, 2021). Perhaps this is due to the fact that the informal sector workers have low knowledge and understanding about health insurance as well as enrolment in health insurance is voluntary among the informal sector workers and there is no any law in place that enforces them to enroll to insurance schemes compared to their counterparts in formal sectors. This could also be attributed to the fact that majority of informal sectors are characterized by low and unreliable income, low level of education thus getting restricted access to funding services, markets and being excluded from the social security systems. The implication of low enrolment increased OOP that led to catastrophic health care expenditure together with delayed or foregone medical care that contribute to increased morbidity and mortality. These findings suggest that policymakers should consider implementing targeted interventions to increase health insurance uptake among informal sector workers.

5.1.3 Factors Associated with Uptake of Health Insurance

The results showed that age, income, level of education, membership to economic groups were the significant factors associated with uptake of health insurance. Majority of the insurance members were the elderly; this shows that the age of an individual has an influence on one's decision to enroll with health insurance. Studies of Alesane and Anang, 2018; Lukhale *et al*., 2017 and Muttaqien *et al*., 2021)

support this findings. In the previous cited studies, as age increased the likelihood of being insured increased.

Similar effect of age on uptake of health insurance was found by Awuku *et al.* (2013) in Ghana, whereby the authors reported that women aged over 40 years were found to be more likely to purchase insurance services compared to young aged women. This is perhaps due to the idea that elderly people are more likely to suffer several health ailments and that the possession of health insurance will enable easy and timely access to health care services. Thus, investment on health including having health insurance becomes the best option. Therefore, age acts as an important determinant of the propensity to insure because it is related to high indirect vulnerability, higher medical consumption and possible increased stock of wealth.

The findings indicated that, the informal sector workers had varied income ranges and this brought the difference on enrolment rate. Informal sector workers with the highest income were more likely to be enrolled in health insurance compared to those with low income. This implies that, the informal sector workers with higher income have greater possibility of purchasing health insurance unlike those with lower income. Thus, income increases ability to pay for insurance premiums. Similar findings were reported by Mushi and Millanzi, (2019); Lutinah, (2020); Bodhisane and Pongpanich, (2019); Hussien and Azage, (2021). The authors reported that households with higher income are more likely to uptake and renew their insurance compared to those with lower income. Adebayo *et al.* (2015) and Dror *et al.* (2016) revealed that household income has a positive association with the likelihood of enrolling into health insurance scheme because it determines the amount of health insurance purchased. However, these findings are contrary to the study by Chuwa, (2017) who reported that the uptake of health insurance was primarily affected by lack of awareness on the concept of health insurance rather than affordability of the insurance premiums. Awareness on insurance is very important because once individuals understand the importance on having health insurance it will be easy to pay for premium. Paying for insurance that you are unaware with from the little income is difficult.

There was a significant association between the level of education and uptake of health insurance. This is consistent with Khuwaja *et al*., (2021), Barasa *et al*., (2021), Mwaura *et al.*, (2021) and Wasike *et al.*, (2017) that higher level education is associated with enrolment in health insurance.

Level of education determines acquired skills, knowledge and income. This is an important indicator for uptake of the insurance scheme since it depicts knowledge and understanding of health risk and need for insuring health. Higher education levels enhance the health seeking behaviour of individuals and has implications on the ability of people to access higher incomes and employment that would ideally enable them to afford the insurance premiums. Policy makers and health organizations should develop and implement educational campaigns that focus on increasing awareness and understanding of health insurance, particularly targeting populations with lower educational levels together with educating the public about the importance of health insurance can lead to higher enrollment rates.

Furthermore, the results revealed that membership into economic groups has a negative association with uptake of health insurance. This finding is contrary to that of (Mladovsky *et al*., (2014); Oraro & Wyss, (2018) who found that membership to economic groups/association had positive associations with uptake of health insurance.

However, Wasike *et al*., (2017) found that non-members in a local informal social welfare group (merry go round (locally called "chama'') were less likely to take up insurance compared to members who were in the welfare. This is perhaps due to the fact that, the size of the group set by some insurance schemes are very big (e.g NHI requires 100 members per group), such that it becomes difficult to get such number of people with similar perspective that they need health insurance for ensuring accessibility of health services. If the number of people per group was reasonable for instance 20 members per group it would have been easy for the informal sector workers to access some funds that would help them to get some money to pay premiums but also the possibility to get 20 members with similar interest is higher compared to 100 people. Improvement of memberships to economic groups and

associations can facilitate uptake of health insurance among the informal sector workers.

The presence of insurance regulations was reported to have negative association with the uptake of health insurance among the informal sector workers. This is attributed to the low understanding of the informal sector workers on the operation of health insurance. The gate keeping mechanisms of waiting for sometimes before an individual start to access the services make it difficult for the informal sector workers to pay the insurance premiums.

Most informal sector workers enroll in health insurance at the point of sickness and when they need to access health services immediately without considering the regulations of the scheme. In Kenya, similar findings were reported confirming that some policies made large proportion of people to lose interest with health insurance program and those who had enrolled left the program. The NHIF faces a lot of criticism on its regulation of penalty of up to five times the premium to the contributors who do not make their payments on time (Okungu *et al*., 2018).

Fragmentation of insurance providers contributed to low uptake of health insurance among the informal sector workers. The presence of many insurance providers makes the choices to be difficult. Similar findings ILO (2021); European Union (2017); Afriyie *et al*., (2021) reported that, many countries still face a high degree of fragmentation within their social protection systems and lack of integration among their social protection institutions. This has created gaps in coverage, comprehensiveness and adequacy, inefficiencies and, this in turn led to distorted incentive structures. Tanzania has been investing in several health insurance schemes which do not have more coverage thus leading to fragmented health financing system and low enrolment numbers to insurance schemes (Lambrecht, 2017; Signé, 2020). This tendency has been reported in countries such as Japan, where fragmentation of health insurance is a source of inefficiency in the system and inequity in premiums and hence low uptake (Sakamoto *et al.*, 2018). The presence of many insurance schemes creates competition rather than improvement on service delivery. The introduction of universal health insurance that will be comprehensive and affordable

will contribute to improved uptake of health insurance and hence accessibility of health services to majority.

Insufficient knowledge about health insurance is the hindering factor for uptake of health insurance. This finding is similar to those of Atafu and Kwon (2018) and Taddesse *et al.*. (2020) who reported that lack of basic knowledge and understanding about health insurance were the barriers to enrolment in health insurance. Studies by Kotoh and Geest (2016), Mebratie *et al*., (2015) and Taddesse *et al*., (2020) documented that, limited knowledge about role of insurance in terms of risk sharing and resource redistribution are likely to reduce enrolment and renewal into health insurance. This could probably relate to the notion that the insurance providers think that they have done enough sensitization to create awareness about the operation of the health insurance and the communities are knowledgeable enough about health insurance and how they operate. On the ground, most of the community members have very limited knowledge as indicated in this study as shown in the findings that individuals are thinking of getting back the premium because he/she has not got sick throughout the year and has not used the insurance card.

Dissatisfaction with the health services at the accredited health facilities seemed to demotivate the informal sector workers to enroll into health insurance. This finding is supported by several studies like that of Ranabhat, Subediand Karn, 2020; Id, Tefera and Gutema, 2020; Fadlallah *et al*., 2018 who reported that clients with lower satisfaction with health services at the accredited facilities were less likely to enroll into health insurance schemes. Uzochukwu *et al.,* (2015) found that low levels of enrolment and failure of membership renewal were often due to people's dissatisfaction and lack of attraction with the service of registered health care facilities. This could be attributed to the unmet expectations of the insurance beneficiaries during service accessibility. The beneficiaries expect that they will get all the services accordingly since they have paid (premium) prior to utilization therefore the health facility will have the medicine and diagnostics services among others.

Cultural beliefs have made some informal sector workers not to uptake health insurance. Some informal sector workers believe that, having insurance implies that they make a covenant with the devil that one gets sick because enrolment to health insurance invites illness. They further argue that that God will heal them once they get sick. This result is similar to studies by Mukangendo *et al*., (2018) and Waelkens *et al*., (2017) which reported that cultural norms such as beliefs that enrolment into health insurance invites illness hindered uptake to CBHI scheme. Gitau, (2015) pointed out that, historically, many religious people believe that a reliance on insurance results from distrust of God protecting care. This is attributed to the fact some of the informal sector workers are not knowledgeable enough on insurance schemes and how they operate (risk pooling) hence they think paying for health insurance is against their belief. Generally, for the informal sector workers to be able to enroll into health insurance of other pre-payment schemes, the premium amount consideration and the mode of payments (flexibility) is key for their affordability.

5.1.4 Barriers to Accessibility of Health Insurance

The current study showed that inadequate information about health insurance was a barrier to accessibility of health insurance. Informed customers are more likely to participate in health insurance plan compared to uninformed consumers. Similar study findings were made by Alfers, (2020); Green *et al*., (2017); Kapologwe *et al*. (2017), who pointed out that there is a large gap between the public understanding of what is covered by health insurance and the services covered in practice. Low knowledge and understanding about health insurance may lead to frustration and limit access to health insurance. The respondents in the current study did not have the right information about how health insurance works, where and how to enroll. This is attributed to the point that during sensitization the insurance providers in collaboration with politicians conveyed some inaccurate information to the public with the aim of getting majority to enroll in health insurance thus mislead the subjects.

Inability to afford insurance premiums is a barrier for access to health insurance. Informal sector workers fail to access health insurance due to inability to pay

premium rates which seemed to be higher. Perhaps this is due to nature of their low and inconsistent income. Meanwhile, the insurance schemes require them to pay the whole premium (100%) at once. Similar outcome as these emerged from the findings by Hitimana *et al*., (2018) and Lutinah (2020) who outlined that unaffordability of premium among low income population is a reason not to adhere to health insurance schemes. Unaffordability of insurance premium contributes to increased financial vulnerability, reduced access to healthcare, heightened health inequities and economic strain on public health systems. Addressing these issues requires targeted policy interventions to make health insurance more affordable and accessible, thereby improving health outcomes and economic stability.

Mistrust for insurance providers is a barrier for accessibility of health insurance found in this study. This can be linked to lack of accurate information about the operation of health insurance from both insurance providers and the health facilities. Once it happens that the insurance beneficiaries do not get the services which are covered by the scheme, they tend to assume that the scheme does not offer the promised services and this leads to low subscription and renewal rate.

Similar results were reported by Ranabhat *et al*., (2020) and Abdilwohab *et al*., (2021) that, transparency about the benefit packages and lack of trust of the community on the commitment of CBHI administrators on the health insurance created mistrust on health insurance among the beneficiaries. Also, Nsiah-Boateng *et al*., (2019), Shewamene *et al*., (2021), and Osei *et al*., (2021) reported that, failure to keep promises in terms of providing the health benefit packages by the insurer is also reported as a barrier to accessibility of insurance. Some participants explained that some policymakers such as politicians were conveying inaccurate information to the public that consequently creates mistrust on insurance schemes among community members (Hussien and Azage, 2021). Mistrust in insurance providers leads to low enrollment rates in health insurance schemes. Insurance companies and policymakers need to build trust through transparency, consistent communication, and reliable service delivery. This can include clear explanations of policy terms, regular updates about the financial health and reliability of insurance providers.

This study found that difficulties in accessing health insurance office was a reported barrier to accessibility of health insurance. This finding are in line with that of Alfers, (2020) which showed that, chaotic administration of the district schemes was a barrier while Nsiah-Boateng *et al*., (2019) found that longer waiting time at the scheme office was a barrier to accessibility of health insurance. Perhaps this is attributed by the fact that the insurance offices are available on regions only and not all the people know where those offices are. Also, availability of one office on whole region makes services accessibility be difficult and for those who are living in rural areas going to regional offices for insurances services implies extra cost in terms of money and time. Physical and logistical difficulties in accessing insurance offices lead to lower enrollment rates in health insurance schemes. Decentralized enrollment process by setting up more accessible and user-friendly enrollment point like mobile units, community-based enrollment centers, and partnerships with local organizations that can assist with the enrollment process will ensure easy accessibility to health insurance. The barriers experienced by the informal sector workers in accessing the insurance services are basic and practical and they require policy intervention because they affect uptake and renewal of health insurance among the informal sector workers.

5.1.5 Coping Strategies for Health Care Financing

The findings showed that selling assets, out of pocket payments, money borrowing from friends, relatives, banks and micro finances together with request for supports from friends and family members as common coping strategies for health care financing among the informal sector workers. Households sell assets as one of the strategies to mobilize finances for managing medical cost among the informal sector workers. This is consistent with other studies like Tahsina *et al*., (2018), Kabir*et al*.,(2019), Akazili *et al*., (2018) who reported that households without cash and savings to pay for treatment tend to mobilize financial resources by selling or mortgaging assets. This enables them to gather cash to cover health related costs. Quintussi *et al.*, (2015) show that, the practices of selling productive assets in developing countries represents one of the most corrosive coping strategies because it compromises the ability to generate income in the future. This could be attributed

to the nature of having inconsistent and low income as well as being uninsured. Therefore, getting money by selling assets is considered as a viable way to cover the medical costs in order to save for those who values there life more than assets.

Out of pocket payment (OOP) for medical costs was mentioned by the informal sector workers as a coping strategy for health care financing. The findings of this study are consistent with several studies which reported OOP as a coping strategy for health care financing. Studies by Id *et al*., (2020); Adewole *et al.*, 2017 and WHO (2017) reported that, many people use out of pocket method to pay for health care services. Dror *et al*., (2016) report that, healthcare expenditures in developing countries are borne through out of pocket spending payable by healthcare-seekers at the time and place of treatment. India is one of the world's highest out-of-pocket spending rates, with a cost making up about 62.6% of total health expenses (Bhoi *et al.,* 2022). In Tanzania, OOP expenditures account for 33% (Tanzania Health Financing Profile, 2016). Lao People's Democratic Republic's OOP expenditure covers 48% (WHO, 2018). This is attributed to the fact that many households do not have adequate financial protection and OOP expenditure provides the main source of health financing. The use of OOP may be a reason for worsening poverty for individuals and their families.

Borrowing money from extended family, friends, neighbours, financial institution or even money lenders to cover the medical bills was reported as one of the coping strategies of healthcare financing among the informal sector workers. This finding is contrary to the study conducted by Obembe., (2020), who reported that borrowing to some extent has discouraged people from getting treatment. The fact that borrowing some money may be accompanied with interest rates some people may opt not to access health services due to the fear of failing to repay the borrowed money. The inaccessibility to health services combined with the existing burden of diseases, morbidity and mortality, particularly among low-income earners increases the morbidity and mortality particularly among low-income earners. These people often face catastrophic health expenditures when they do seek care, leading to financial hardship and further impoverishment. This financial burden can prevent them from seeking further medical care, leading to worsened health conditions.

Furthermore, the presence of exemptions programme for those who cannot afford payments of medical bills after treatment has made some informal sector workers not uptake health insurance. This finding are consistent with that of Hamel *et al.,* (2016) who found that many hospitals have exemption programs for people who have trouble in paying for the medical costs. The fact that health facility will not deny health services to the client at the health facility on the course of implementing the waiver and exemption policy and the government Systems that compensate facilities for the revenue forgone from granting exemptions and waiver, some people have taken advantage on that and do not subscribe to insurance scheme. While exemption programs provide immediate relief, they do not address the broader issue of sustainable healthcare financing and equitable access to comprehensive health services. Reliance on exemption programs can perpetuate inequities, as these programs might be limited in scope and unable to cover all necessary treatments or services comprehensively. Design exemption programs to complement health insurance schemes rather than replace them. For instance, exemption programs can cover the cost of insurance premiums for the poorest individuals rather than covering medical bills after the fact.

5.2 Conclusions

The conclusions of this study are based on the findings and discussions on uptake of health insurance among the informal sector workers in Dar es Salaam, Tanzania.

1. The uptake level of health insurance among the informal sector workers is low and it contributes to catastrophic health expenditure due to the out-of-pocket expenditures when accessing health services. The low uptake of health insurance facilitates inaccessibility of health services that in return increases morbidity and mortality in the country.
2. The available factors (income, inaccessibility of insurance selling points, lack of information, insurance policy) which are associated with uptake of health insurance hinders the informal sector to uptake health insurance. Policy intervention on these factors which contributes to delay and forego accessibility of health services requires policy intervention.

3. Barriers to accessibility of health insurance contributes to significant disparities in health outcomes, financial strain, and systemic challenges within the healthcare system. Individuals without insurance often delay seeking medical care, resulting in poorer health and more severe conditions that require costlier treatments. This lack of access also contributes to financial hardship due to high out-of-pocket expenses and potential medical debt. Furthermore, the healthcare system faces increased strain from uncompensated care and overcrowded emergency services, while public health suffers from lower vaccination rates and untreated contagious diseases

4. The reliance on coping strategies for healthcare financing among informal sector workers poses significant challenges to their health and economic stability. These strategies often lead to delayed medical treatment, exacerbating health issues and increasing financial strain and hence impoverishment.

5.3 Recommendations from the Study

The following recommendations are based on findings, discussions and conclusions of the study.

1. The Ministry of Health and insurance providers should addressing the low uptake of health insurance among informal sector workers in order to improving public health outcomes, reducing health inequities, and ensuring a healthier, more productive workforce by subsidizing health insurance premiums to informal sectors workers by considering the economic status and flexibility on payment modes. This can be achieved though ensuring sustainable source of fund to support this group. This will attract and increase enrolment of health insurance uptake among the informal sector workers.

2. Tailored interventions that consider the unique circumstances of informal workers, such as their irregular income streams and informal employment

arrangements, are essential. Collaborative initiatives like involving government agencies, private sector entities, and community organizations on development and implementation of strategies to promote health insurance uptake among informal workers. Targeted educational campaigns aimed at increasing awareness and knowledge about the benefits of insurance and addressing misconceptions are crucial. Innovative and inclusive approaches, policymakers and stakeholders can work towards ensuring that informal workers have equitable access to essential health coverage.

3. Accessing insurance schemes for informal workers is hindered by fundamental and practical barriers. Leverage existing microfinance institutions and cooperatives to offer health insurance products will facilitate uptake of health insurance because these organizations often have established relationships with informal sector workers and can facilitate the provision and uptake of insurance.
4. The Ministry of Health should strengthen public healthcare systems and establish comprehensive community-based health insurance schemes that are managed locally and tailored to the needs of informal sector workers. These measures will ensure access to health services by lowering the reliance on coping strategies to finance healthcare services, thereby reducing the risk of catastrophic healthcare expenditures.

5.4 Recommendations for Further Research

This study made important observation and noted some gaps that require further research:

1. A study be conducted to evaluate the promotion of health insurance awareness programs to the community. Evaluation of the programs will make it easy to understand the proper ways of sharing information about health insurance and the acquisition of knowledge on general operation of the health insurance from the registration process to accessibility of health services by insurance cards.

2. A study be conducted to find out the influence of a health insurance covers on accessibility of health care services. This will clarify the services left out for the insured persons to finance by using out of pocket source. It is taken into account that, the more comprehensive the coverage, the increase in the propensity to join.
3. Further, research to assess the willingness and ability of the informal sector workers to pay for health insurance. Such studies should find out the estimated amount that the informal sector workers are capable of paying and the insurance providers may design a coverage as per ability to pay
4. Research on effeteness of coping strategies on financing health care services as well as the use of coping strategies for health care financing on payment of health insurance premiums.

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APPENDICES

Appendix I: Consent Form

Appendix I A: English Version of the Consent Form

Uptake of Health Insurance among Informal Sector Workers in Dar es Salaam, Tanzania

Dear participant

My name is Bertha Mwinuka, a PhD student at Jomo Kenyatta University of Agriculture and Technology Kenya**.** I am kindly inviting you to take part in this research study which I am conducting on **Uptake of Health Insurance among Informal Sector Workers in Dar es Salaam, Tanzania.** I am requesting you to read this consent form. The purpose of this consent form is to give you the information you will need to help you decide whether or not to participate in the study. Please read the form carefully. You may ask questions about the purpose of the research, the possible risks and benefits, your rights as a volunteer, and anything else about the research that is not clear. This consent form may contain some words that are unfamiliar to you. Please ask me to explain anything you may not understand.

Being in the study is voluntary

Your participation in this study is entirely voluntary you can decide if you want to participate in the study or not. Once you understand the study, and you agree to take part, you will be asked to make your mark on this form in the presence of a witness. This process is called 'informed consent'. You may decide to withdraw from the study at any time or not to answer questions. If you leave the study, please tell the interviewer why you are leaving so that this information can be used to improve our work and provide more support if possible. **Procedures**

If you agree to participate in this study by signing at the end of this form, you will participate in the following activities. You will be asked questions about your personal life related to this study such as level of education, age etc.

Possible Risks/Discomfort

There are no invasive procedures that will be carried out on you.

Data security and Confidentiality

All the information gathered by the research team will be in confidence for the sole purpose of this research only. Any records relating to your identity will remain confidential. Your name will not be divulged in any of the forms, and you will receive a copy of this consent form. No one will have access to the interviews except the investigators. Strict data management procedures are intended to ensure confidentiality of the study subjects.

Benefits and costs to you

There are no direct benefits to you for participating in the study. However, the results of the study will inform the health authorities about uptake of health insurance among the informal sector workers.

Contact person

If you ever have questions or concerns about this study, you should contact: Bertha Mwinuka Principal Investigator; Mobile No: +255 717 791 855.

Your rights as a Participant

This research has been reviewed and approved by the National Health Research Ethics Review Committee, National Institute of Medical Research (NIMR), if you have any questions about your rights as a research participant you may contact the following; Organization administrator/ contact person: Ms. Joyce Ikingura +255-22-2121400, Fax +255-22-2121360. email ethics@nimr.or.tz/jikingura@nimri.or.tz:

Postal address, National Institute of Medical Research P.o Box 9653 Dar es Salaam, Tanzania.

Your statement of consent and signature

If you have read the informed consent and you have understood the information and you voluntarily agree to join this study, please carefully read the statements below and think about your choice before signing your name or making your mark below. No matter what you decide, it will not affect your rights in anyway:

- I have read and understood the risks and benefits involved in this study.
- I have been given the chance to ask any questions I may have and I am content with the answers to all of my questions.
- I know that my records will be kept confidential and that I may leave this study at any time
- The name, phone number and address of whom to contact in case of any concern has been provided to me in writing.
- I agree to take part in this study and will be given a copy of this informed consent form to keep.

Participant`s initials…… Signature of Participant ……Date: ……

Name of researcher getting the consent ……..

Signature of researcher getting the consent …….

Date: …….

Appendix I A: Kiswahili Version of the Consent Form

Fomu ya ridhaa kwa mtoa taarifa kwenye utafiti wa ujiungaji wa Bima ya Afya kwa watu walio katika sekta zisizo rasmi mkoa wa Dar es Salaam, Tanzania.

Ndugu mshiriki,

Ninaitwa Bertha Mwinuka, ni mwanafunzi wa Shahada ya Uzamivu katika Chuo Kikuu cha Kilimo na Teknolojia cha Jomo Kenyatta. Ninafanya utafiti kuhusu **Ujiungaji wa Bima ya Afya kwa watu walio katika sekta zisizo rasmi Dar es Salaam, Tanzania.** Ninaomba usome fomu hii ya ridhaa. Lengo la fomu hii ni kukupa taarifa zitakazokuwezesha kufanya maamuzi ya kushiriki au kutoshiriki katika utafiti huu. Soma fomu hii kwa umakini. Unaweza kuuliza maswali juu ya malengo, hatari na faida za kushiriki katika utafiti huu, haki zako unaposhiriki na kitu chochote usichokielewa kuhusiana na ushiriki wako katika utafiti huu. Fomu hii ya ridhaa inaweza kuwa na maneno ambayo hauyafahamu, tafadhali uliza kitu chochote usichokielewa na utajibiwa.

Uhiari wa kushiriki katika utafiti huu

Ushiriki wako katika utafiti huu ni wa hiarina unaweza kuamua kushiriki au kutoshikiri katika utafiti huu. Baada ya kuwa umeelewa utafiti huu na kuhiari kushiriki utaombwa kuweka sahihi katika fomu hii mbele ya shahidi. Unaweza kujitoa katika kushiriki katika utafiti huu muda wowote pia unaweza usijibu swali lolote. Kama utaacha kushiki katia utafiti huu, tafadhali mjulishe mtafiti sababu za wewe kutoka katika utafiti huu ili kuweza kupata taarifa za kuboresha utafiti huu na kutoa ushirikiano utakapohitajika .

Utaratibu

Kama unaamua kushiriki katika utafiti huu weka sahihi mwisho wa karatasi hii. Utaulizwa maswali kuhusiana maisha binafsi ikiwa ni pamoja na umri, elimu nakadharika

Hatari au madhara

Hakutakua na hatari au madhara yoyote utapata kwa kushiriki utafiti huu

Usalama na usiri

Taarifa zote zitakazokusanywa na timu ya utafiti zitakua ni siri na zitatumika kwa ajili ya utafiti tu. Taarifa zozote zitakazokusanywa zitabakia kuwa siri. Jina lako halitajulikana kwa namna yoyote na utapewa nakala ya fomu hii ya ushiriki wa hiari. Hakuna atakayeweza kuwa majibu ya utafiti toka kwako isipokuwa watafiti tu peke yao. Taratibu kali za usimamizi wa data zitatumika kuhakikisha usiri wa washiriki katika utafiti huu. utafiti.

Faida na gharama kwako

Hakuna gharama ya moja kwa moja ya kushiriki kwako katika utafiti huu. Majibu ya utafiti huu yatazijulisha mamlaka za afya juu ya ujiungaji wa Bima ya Afya kwa watu walio katika sekta zisizo rasmi mkoa wa Dar es Salaam, Tanzania

Mawasiliano.

Kama utakuwa unataka mawasiliano yoyote wasiliana na mtafiti mkuu: Bertha Mwinuka namba ya simu: +255 717 791 855.

Haki yako kama mshiriki

Utafiti huu umekakikiwa na kuthibitishwa na **Mwenyekiti wa Kamati ya Taifa ya Maadili Utafitiwa Afya,** kama utakuwa na maswali kuhusu haki ya usiriki wako wasiliana na **Mtawala wa taasisi/mtu wa Mawasiliano ya ofisi: Ms. Joyce Ikingura**: +255-22-2121400: Fax +255-22-2121360: baruapepe: ethics@nimr.or.tz/ jikingura@nimri.or.tz: Sanduku la posta, P.o Box 9653 Dar es Salaam, Tanzania.

Kauli yako ya ushiriki na sahihi

Kama umesoma fomu hii ya ridhaa na umeelewa na kuhiari kushiriki katika utafiti huu, tafadhali soma kwa makini sentesi hizi hapa chini na angalia chaguo husika

kabla ya kuweka sahihi kwa jina lako au kuweka alama hapa chini. Kwa namna yoyote ile utakavyoamua haitaathiri haki yako kwa namna yoyote :

- Nimesoma na kuelewa hatari na faida zinazohusiana na utafiti huu.
- Nimepewa nafasi ya kuuliza maswali yoyote niliyonayo na nimeridhika na majibu ya maswali yangu yote.
- Najua kwamba kumbukumbu zangu zitahifadhiwa kwa usiri na kwamba ninaweza kujiondoa katika utafiti huu wakati wowote.
- Jina, nambari ya simu na anuani ya mtu wa kuwasiliana naye endapo nina wasiwasi wowote vimetolewa kwangu kwa maandishi
- Ninakubali kushiriki katika utafiti huu na nitapewa nakala ya fomu hii ya idhini kwa ajili ya kuhifadhi.

- Majina ya mshiriki: …… Saini ya Mshiriki: …...… Tarehe: ……
- Jina la mtafiti anayepokea idhini: ……..
- Saini ya mtafiti anayepokea idhini: …….
- Tarehe: …….

Appendix IIA: English Version of the Questionnaire to the Informal Sector Workers

Informal sector workers' uptake of health insurance among the informal sector workers in Dar es salaam, Tanzania

Interviewees' municipal of residence ……		Place of interview (ward)	Street……..
Date ……Time Start …….. Time end ……			Questionnaire No…….
No	**Part A: Socio economic and demographic information**		
A1	Age (in years)	Record number……	
A2	Sex	1. Male 2. Female	
A3.	Marital status	1. Married 2. Unmarried	
A4	Level of education	1. No formal education 2. Primary level 3. Secondary level 4. Tertiary level	
A5.	What is the number of people in your household?	Record number……	
A6	Occupation	1. Small businesses 2. Food vendors 3. Driver (Car, motorcycle and tricycle) 4. Mechanical workers 5. Farmer and herdsman 6. Other(specify).....	
A7	Are you a member of any economic group?	1. Yes 2. No	
A8	Which of the following economic groups are you affiliated with?	1. Food vendors 2. Drivers union 3. Entrepreneurship groups 4. Small business union 5. Not a member of any economic group 6. Other (specify).....	
A9	What is your estimated monthly income? (Tsh)	Please mention……	
A10	Facility of preference	1.Government health facilities 2.Private health facilities 3.Over the counter 4.Traditional healer	
	Part B: Uptake and factors associated with uptake of health insurance		

B1	Are you covered by any health insurance	1. Yes 2. No If No, go to question number B4
B2	What type of health insurance are you covered by?	1. National Health Insurance 2. Private health insurance 3. Community based health insurance 4. Others …….(mention)
B3	Who pays your insurance premium	1. Myself 2. Myself through our association 3. My children 4. Relative and friends 5. No health insurance 6. My husband 7. My wife 8. Other (specify).....
B4	Why are you not a member of insurance	Please give reasons……
B5	Are you willing to join the HI?	1. Yes 2. No

Part C: Barriers to accessibility of health insurance

C1	Do you know where you can get the application forms for joining health insurance?	1. Yes 2. No If yes please mention the places……
C2	Do you know the procedures for enrolment into health insurance?	1. Yes 2. No If yes please explain……
C3	For each of the sentences provided on **barriers to accessibility of health insurance** indicate whether you disagree, undecided, or agree by writing the number, 1, 2 or 3 respectively as indicated in the response table	

	Barriers to accessibility of health insurance include the following:	**Responses**		
		Disagree	**Undecided**	**Agree**
1	Inadequate of information about health insurance			
2	Unaffordability of insurance premiums			
3	Mistrust to insurance providers			
4	Poor quality of services at the insurance selling points			
5	Difficulties in accessing health insurance selling points			
6	Dissatisfaction with services at insurance offices			
7	Long queues and waiting time at the insurance offices			

Part D: Coping strategies to health care financing

D1	Do you have a specific budget for health services for yourself/family?	1 Yes 2 No If the answer is Yes, go to question **D2**
D2	How much is the approximate budget per year?	Mention the amount (Tsh)……
D3	For each of the sentences on **coping strategies to health care financing** provided, indicate whether you disagree, undecided, or agree by writing the number, 1, 2 or 3 respectively as	

	indicated in the response table with regards to **coping strategiesto health care financing**			
	Coping strategies to health care financing include the following	1	2	3
1	Request for exemption at the health facility			
2	I sell my assets			
3	Out of pocket payments			
4	Request for a support from friends and relatives			
5	Borrowing from friends, relatives, banks and micro finances			
	i. Traditional medicine			
	ii. Prayers			

THANK YOU VERY MUCH

Appendix II B: Kiswahili Version of the Questionnaire to the Informal Sector Workers

Dododoso kwa ajili ya wafanyakazi wa sekta zisizo rasmi

	Jina la Manispaa……...	**Mahali pa kutolea taarifa (Kata).....**	**Mtaa…….....**
	Tarehe……. Muda wakuanza……. Muda wakumaliza…….....		**Namba yadodoso ……..**
Na.	**Sehemu A: Taarifa za kijamii na kiuchumi**		
A1	Umri wa mtoa taarifa (miaka)	Jaza kwanamba…….	
A2	Jinsi ya mtoa taarifa	**1.** Ya kiume **2.** Ya kike	
A3	Hali y andoa	**1.** Umeoa/umeolewa **2.** Sijolewa (nimeachika, mjane, mgane,tumetengana,tumeachana)	
	Elimu uliyoishia	**1.** Sijapata elimu rasmi **2.** Elimu ya msingi **3.** Elimu ya sekondari 4. Elimu ya juu	
A5	Katika kaya yako mnaishi watu wangapi?	Jaza namba……	
A6	Unafanya shughuli gani za kiuchumi?	**1.** Biashara ndogo ndogo **2.** Mama /baba lishe **3.** Dereva (gari, bajaji, pikipiki) **4.** Fundi wamakenika **5.** Mkulima na mfugaji 6. Nyingine (taja)……..	
A7	Je, umejiunga na kikundi chochote cha kiuchumi	1. Ndiyo 2. Hapaana	
A8	Umejiunga na kikundi gani cha kiuchumi?	**1.** Kikundi cha mama/baba lishe **2.** Kikundi cha madereva **3.** Kikundi cha kijasiri**i**amali **4.** kikundi cha wafanyabiashara **5.** Sijajiunganakikundichochote	

		6. Vingine (taja)……		
A18	Kwa makadirio, kipato chako ni shilingi ngapi kwa mwezi?	Jaza kiasi (Tsh)……..		
	SEHEMU B: Ujiungaji na sababu zinazohusiana na kujiunga na bima ya Afya			
B1	Je, wewe ni mwanachama wa Bima ya Afya?	1. Ndiyo 2. Hapana Kama jibuni Hapana nenda namba **B4**		
B2	Aina gani ya bima umejiunga?	**1.** Bima ya Afya ya Taifa **2.** Bima ya Afya ya Binafsi **3.** Mifuko ya afya ya jamii (CHF, TIKA) **4.** Nyinginezo……. (taja)		
B3	Ni nani analipia hiyo bima?	1. Mimi mwenyewe 2. Mimi mwenyewe kupitia umoja wetu 3. Watoto wangu 4. Ndugu na marafiki 5. Sina bima 6. Mume wangu 7. Mke wangu 8. Wengine (taja).....		
B4	Kwanini wewe sio mwanachama wa bima ya afya?	Toa sababu …….		
B5	Je upo tayari kujiunga na bima ya afya?	1. Ndiyo 2. Hapana		
	Part C: Vikwazo vya Ufikiwaji wa huduma za bima ya afya			
C1	Je unajua sehemu unayoweza kupata fomu za kujiunga na bima ya afya?	Ndiyo Hapana Kama jibu ni ndiyo, tajasehemuhizo.....		
C2	Je unazijua taratibu za kujiunga na bima?	Ndiyo Hapana Kama jibu ni ndiyo, elezea taratibu hizo.....		
C3	Kwa sentensi zifuatazo kuhusiana na **vikwazo vya upatikanaji wa bima ya afya**, onesha kama unakubaliana,hunauhakika au haukubaliani, kwa kuandika namba 1,2,3,4,5 mtawaliwakamainavyooneshakwenyejedwali			
	Vikwazo vya upatikanaji wa bima ya afya	Sikubaliani	Sina uhakika	Nakubaliana
		1	2	3
1	Kukosekana kwa taarifa kuhusu bima ya afya			
2	Kushindwa kumudu ada ya uanachama			

3	Kutokuwaamini watoa huduma za bima			
4	Huduma katika ofisi za bima hazina ubora			
5	Kuona ugumu kufikia sehemu unaweza kujiunga bima			
6	Kutoridhika na huduma katika ofisi za bima			
7	Kuwepo kwa foleni kubwa na kusubiri muda mrefu kupata huduma unapotumia bima ya afya			

Sehemu D: Mikakati ya kukabiliana na gharama za huduma za afya				
D1	Je, una bajeti maalumu kwa ajili ya huduma zako/familia kwa ajili ya huduma za afya?	1. Ndiyo 2. Hapana Kama jibu ni Ndiyo, nenda swali D2		
D2	Bajeti iliyopo ni kiasi gani kwa mwaka?	Taja kiasi (SHT)……..		
	Kwa sentensi zifuatazo kuhusiana na **Mikakati ya kukabiliana na gharama za huduma za afya**, onesha kama , unakubaliana , sinahakika, sikubaliani kwa kuandika namba 1,2,3 tawaliwa kama inavyoonesha kwenye jedwali			
D3	**Mikakati ya kukabiliana na gharama za huduma za afya**	Nakubalina	Sina uhakika	Sikubaliani
		1	2	3
1	Ninaomba msaada kituo cha tiba			
2	Ninauza mali zangu			
3	Ninalipia pesa taslimu			
4	Ninaomba msaada kwa ndugu/marafiki			
5	Ninaazima/ninakopa kwa ndugu/marafiki/benki			
6	Dawa za kienyeji			
7	Maombi			

AHSANTE SANA

Appendix III A: English Version of the Key Informant Interview Guide to the Insurance Providers

1. Most of informal sector workers have no health insurance despite the different strategies which the insurance providers and the government have. What do you think contributes to this situation?

   Probe: reasons from individual, health facilities, Insurance providers and the insurance itself.

2. What do you think are the barriers to accessibility of health insurance among informal sector workers in Dar es Salam, Tanzania?

   Probe: Information, enrolment procedures, premium affordability, customer relation among others.

3. The informal sector workers who have no health insurance claim that they fail to join/enrol into HI due to different reasons like inadequate information, inaccessibility of the insurance offices, long queue and waiting time when health insurance by using health insurance, low services cove rage of insurance services, negative attitude from the health providers at the accredited health facilities, poor quality of services at the accredited health facilities.
4. Do you have any strategies to overcome these challenges?

Probe: Is there any strategy to ensure the informal sector workers get information about health insurance? How do you reach them?

- Do you have strategies to ensure that informal sector workers get information? How?
- Do you have strategies to ensure that services for enrolling into health insurance are closer to the community members?
- Strategies to improve the quality of health services?
- Health providers to be responsive when delivering services to the insurance beneficiaries?
- Any other strategies?

5. Do you have any recommendation in relation to improvement on enrolment among the informal sector workers

Probe: Recommendations to the policy makers, informal sector workers, government, insurance providers.

Appendix III B: Kiswahili Version of the Key Informant Interview Guide to the Insurance Providers

Muongozo wa maswali ya usaili kwa watoa huduma za bima

Imebainika kwamba watu wengi walio katika sekta zisizo rasmi hawana bima za afya richa ya kwamba nyie kama taasisi ya bima ya afya mna mikakati mbalimbali ya kuwawezesha kujiunga. Je ni nini kinachangia hali hiyo?

Dodosa: Sababu binafsi, sababu kutoka vituo vya tiba, sababu kutokana na ofisi za bima na bima yenyewe nk.

1. Unadhani ni nini kinasababisha watu walio katika sekta rasmi wanashindwa kujiunga na bima ya afya

   Dododsa: upatikanaji wa taarifa, taratibu za kujiunga na bima, kumudu kwa ada ya bima, mahusiano na wateja nk
2. Watu walio katika sekta zisizo rasmia mbao hawana bima wanadai kuwa wanashindwa kujiunga na bima kutoka na sababu mbalimbali ikiwa ni pamoja na kukosa taarifa, ugumu wa kufika ofisi za bima, foleni kubwa wakati wakupata huduma kwa kutumia bima, ufinyu wa huduma za bima, Mtazamo hasi kwa watoa huduma katika vituo vya tiba na huduma mbovu katika vituo vya tiba. Je mna mikakati katika kutatua changamoto hizi?

Dodosa

- Je kuna mikakati yoyote kuhusu kuwapa taarifa? Mnawafikiaje na kwa namna gani?
- Kuna mikakati gani kusogeza karibu na wananch huduma za kujiunga na bima?
- Kuboresha huduma katika vituo vya tiba
- Watoa huduma kuwajibika wakati wa kutoa huduma kwa wateja wa bima

3. Je una mapendekezo/ushauri gani ili kuboresha ujiungaji wa bima ya afya kwa watu walio katika sekta zisizo rasmi?

Dodosa: mikakati ya kisera ili kuboresha,

Ushauri kwa serikali, watu walio katika sekta zisizo rasmi na taasisi za bima

Appendix IVA: English Version of the Interview Guide to the Informal Sector Group Leaders

1. Most of informal sector workers have no health insurance despite the different strategies which he insurance providers are have. What do you think are the contributing factors to this situation?

   Probe: Reasons from individual, health facilities, insurance providers and the insurance itself
2. Informal sector workers mention different reasons like lack of information about health insurance, inaccessibility of health insurance, poor quality of services as the hindering factors for enrolment to health insurance schemes. As a leader what do you think has to be done so as to ensure the informal sector workers enrol to health insurance?

   Probe: As a leader, which steps did you take so as to health the people you are leading to enrol into health insurance.

3. Insurance schemes allow informal sector workers who are on registered economic group to enroll into health insurance, have you ever tried to seize that opportunity?

   Probe: is there any sensitization to ensure that informal sector workers get to understand that? What do people do not enroll through the groups? Why do people join the unregistered groups?

4. On your opinion, how do the informal sector workers manage (coping strategies) the health service costs when they become sick now that have low income and have no health insurance?

   Probe: Requesting for exemption at the health facilities, increasing manpower at their activities, doing different activities at the same time, borrowing of money, selling of assets among others
5. Do you have any recommendations for improvement on uptake of NHI among the informal sector workers?

   Probe: Expansion on the coverage, benefit package, premium amount, enrolment procedure policy formulation/modifications?

Appendix IVB: Kiswahili Version of the Interview Guide to the Informal Sector Group Leaders

Muongozo wa maswali ya usaili kwa viongozi wa vikundi vya watu wanaofanya kazi katika sekta zisizo rasmi

1. Imebainika kwamba watu wengi walio katika sekta zisizo rasmi ambao wapo chini ya uongozi wako hawana bima za afya richa ya kwamba kampuni za bima na serikali wana mikakati mbalimbali ya kuwawezesha kujiunga na bima. Je unadhani ni kwanini?
   Dodosa: Sababu binafsi, sababu kutoka vituo vya tiba, sababu kutokana na ofisi za bima na bima yenyewe nk.
2. Watu walio katika sekta zisizo rasmi ambao hawana bima wanasema kama wanashindwa kujiunga na bima kutokana na sababu mbalimbali ikiwa ni pamoja na kukosa taarifa, ugumu kufikia ofisi za bima.
   Dodosa: Kama viongozi, mumechukua hatua gani kuwasaidia watu walio chini yenu kuweza kupata bima?

3. Bima za afya zinatoa nafasi kwa watu walio katika sekta zisizo rasmi kujiunga na bima kwa kutumia vikundi vya kiuchumi vilivyo sajiriwa ila inaonekana kama watu wengi hawajajiunga na vikundi vya kiuchumi,
   Dodosa: Je kumekuwa na elimu/uhamasishaji wowote ili kujenga uelewa kwa watu wote? Ni kwanini watu hawajajuinga auwana vikundi ambavyo havijasajiriwa?

4. Kwa mtazamowako, kwa watu walio katika sekta zisizo rasmi inapotokea wameugua na hawana pesa wala bima kwa ajili ya matibabu, wanafanyeje?
   Je una mapendekezo/ushauri gani ili kuboresha ujiungaji wa bima ya afya kwa watu walio katika sekta zisizo rasmi?
   Dodosa: Ushauri kwa serikali (sera) watu walio katika sekta zisizo rasmi na taasisi za bima.

Appendix VA: English Version of the Focus Group Discussion Guide to the Informal Sector Workers

1. Most of informal sector workers no health insurance despite the different strategies which he insurance providers are have. What do you think are the contributing factors to this situation?

   Probe: Reasons from individual, health facilities, insurance providers and the insurance itself
2. What do you think are the barriers to accessibility of HI among informal sector workers in Dar es Salam, Tanzania?

   Probe: Barriers related to information, enrolment procedures, premium amount, and responsiveness of insurance employees.
3. Informal sector workers mention different reasons like as lack of information about health insurance, inaccessibility of health insurance, poor quality of services as the hindering factors for enrolment to health insurance schemes. What do you think has to be done so as to overcome those challenges?
4. Insurance schemes have different opportunities like allowing informal sector workers who are on registered economic group to enroll into health insurance, have you ever tried to seize that opportunity

   Probe: Is there any sensitization to ensure that informal sector workers get to understand that? What do people do not enroll through the groups? Why do people join the unregistered groups?

5. On your opinion, what do you think are the coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania?

   Probe: Requesting for exemption at the health facilities, increasing manpower at their activities, doing different activities at the same time, borrowing of money, selling of assets among others
6. Do you have any recommendations for improvement on uptake of NHI among the informal sector workers?

   Probe: Expansion on the coverage, benefit package, premium amount, enrolment procedure policy formulation/modifications?

Appendix VB: Kiswahili Version of the Focus Group Discussion Guide to the Informal Sector Workers

Muongozo wa masuala ya majadiliano kwa watu walio katika sektazisizo rasmi

1. Imebainika kwamba watu wengi walio katika sekta zisizo rasmi hawana bima za afya richa ya kwamba kampuni za bima wana mikakati mbalimbali ya kuwawezesha kujiunga na bima. Je mnadhani ni kwanini?

   Dodosa: Sababu binafsi, sababu kutoka vituo vya tiba, sababu kutokana na ofisi za bima na bima yenyewe nk.

2. Je unadhani ni vitu gani vinawafanya watu walio katika sekta zisizo rasmi washidwe kupata huduma za bima?
   Dododsa: Vipi kuhusu upatikanaji wa taarifa za bima, ugumu kufika ofisi za bima, na huduma mbovu katika vituo vya tiba,
3. Barriers related to information, enrolment procedures, premium amount, and responsiveness of insurance employees
4. Bima za afya zinatoa nafasi kwa watu walio katika sekta zisizo rasmi kujiunga na bima kwa kutumia vikundi vya kiuchumi vilivyo sajiliwa ila inaoneka na kama watu wengi hawajajiunga na vikundi vya kiuchumi/wapo kwenye vikundi ambavyo havijasajiriwa.
   Dodosa: Je kumekuwa na elimu/uhamasishaji wowote ili kujenga uelewa kwa watu wote? Ni kwanini watu hawajajuinga au wanavikundi ambavyo havijasajiriwa?

5. Kwa mtazamowako, kwa watu walio katika sekta zisizo rasmi inapotokea wameugua na hawana pesa wala bima kwa ajili ya matibabu, je wanamudu vipi gharama za matibabu?
6. Je una mapendekezo/ushauri gani ili kuboresha ujiungaji wa bima ya afya kwa watu walio katika sekta zisizo rasmi?

Dodosa: Ushauri kwa serikali, watu walio katika sekta zisizo rasmi na taasisi za bima

Appendix VI: Research Approval by JKUAT

JOMO KENYATTA UNIVERSITY
OF
AGRICULTURE AND TECHNOLOGY

DIRECTOR, BOARD OF POSTGRADUATE STUDIES

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REF JKU/2/11/HSH411-0182/2018 7TH SEPTEMBER, 2020

BERTHA STELLI MWINUKA
C/o SOPH
JKUAT

Dear Ms. Mwinuka

RE:- APPROVAL OF Ph.D. RESEARCH PROPOSAL AND SUPERVISORS

Kindly note that your PhD. research proposal entitled: "*Informal sector Workers' determining factors on accessibility of National Health Insurance in Dar es Salaam, Tanzania.*" has been approved. The following are your approved supervisors:-

1. Dr. Elizabeth Echoka - CPHR-KEMRI
2. Dr. Jackline Nyaberi - JKUAT

PROF. LOSENGE TUROOP
DIRECTOR, BOARD OF POSTGRADUATE STUDIES

Copy to: Dean, SOPH

JKUAT is ISO 9001:2015 and ISO 14001:2015 Certified
Setting Trends in Higher Education, Research, Innovation and Entrepreneurship

Appendix VII: Ethical clearance

THE UNITED REPUBLIC
OF TANZANIA

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NIMR/HQ/R.8a/Vol. IX/3375

17th March, 2020

Bertha Mwinuka
Assistant Lecturer
Mzumbe University
P. O. Box 2
Morogoro

RE: ETHICAL CLEARANCE CERTIFICATE FOR CONDUCTING MEDICAL RESEARCH IN TANZANIA

This is to certify that the research entitled: Informal sector workers determining factors on accessibility of national health insurance in Dar es Salaam, Tanzania (Mwinuka B. et al), has been granted ethical clearance to be conducted in Tanzania.

The Principal Investigator of the study must ensure that the following conditions are fulfilled:

1. Progress report is submitted to the Ministry of Health, Community Development, Gender, Elderly & Children and the National Institute for Medical Research, Regional and District Medical Officers after every six months.
2. Permission to publish the results is obtained from National Institute for Medical Research.
3. Copies of final publications are made available to the Ministry of Health, Community Development, Gender, Elderly & Children and the National Institute for Medical Research.
4. Any researcher, who contravenes or fails to comply with these conditions, shall be guilty of an offence and shall be liable on conviction to a fine as per NIMR Act No. 23 of 1979, PART III Section 10(2).
5. Sites: Dar es Salaam.

Approval is valid for one year: 17th March 2020 to 16th March 2021.

Name: Prof. Yunus Daud Mgaya

Signature
CHAIRPERSON
MEDICAL RESEARCH
COORDINATING COMMITTEE

Name: Prof. Muhammad Bakari Kambi

Signature
CHIEF MEDICAL OFFICER
MINISTRY OF HEALTH, COMMUNITY
DEVELOPMENT, GENDER, ELDERLY & CHILDREN

CC: Director, Health Services-TAMISEMI, Dodoma
RMO of Dar es Salaam region
DMO/ DED of respective districts.

Appendix VIII: Publications

ZIBELINE INTERNATIONAL™ PUBLISHING

ISSN: 2705-0291 (Online)
CODEN: JHDCAZ

Journal of Healthcare in Developing Countries (JHCDC)

DOI: https://doi.org/10.26480/jhcdc.01.2022.20.25

RESEARCH ARTICLE

UPTAKE OF HEALTH INSURANCE AND ITS ASSOCIATED FACTORS AMONG INFORMAL SECTOR WORKERS IN DAR ES SALAAM, TANZANIA

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ABSTRACT

Health insurance is a viable strategy to facilitate accessibility of health care but it favors the formal sector workers while leaving behind the informal sector workers who are the majority. This mixed methods study involved 889 informal sector workers from Dar es Salaam, Tanzania. Income, membership to economic groups, education, age, insurance regulations, fragmentation of insurance providers, cultural beliefs and low priority on health insurance were significantly associated with uptake of health insurance. Low uptake of health insurance increases inaccessibility of health care. Subsidising the premium and using innovative strategies to increase understanding will improve health service accessibility.

KEYWORDS

Health Insurance, Uptake, Informal Sector Workers, Tanzania

1. INTRODUCTION

Promoting well-being by ensuring healthy lives is the key agendas in the Sustainable Development Goals (SDG) adopted by the United Nation (UN) member states in 2015. The main targets on this front is to Universal Health Coverage (UHC) including financial risk protection, access to quality essential health-care services and safe, effective and affordable essential medicines and vaccines for all (United Nations 2018; OECD 2019). Increased cost for healthcare has made its accessibility to be still a major problem which attests to the elusive health for all principles. Affordability of the health service is a significant indicator of healthcare access. Inability of households with limited income to afford health care due to increased costs force them to forgo seeking health care (Id et al.,2021).

Social health insurance (SHI) has been introduced as a key mechanism for achieving universal healthcare by preventing catastrophic healthcare expenditure costs by pooling funds to allow cross-subsidization between the rich and poor and between the healthy and the sick (Atake, 2018; Security and House, 2018). Health insurance operates differently with the aim of ensuring majority accessibility to health services without financial constraints. The World Social Protection Report 2017/19 showed that only 45 per cent of the global population is effectively covered by at least one social benefit while the remaining 55 per cent– 4 billion people – are left unprotected (Goals, 2017).

At present, in European countries there are few countries which have already achieved universal health insurance (Dror et al., 2016; OECD 2019). In these industrialized nations, universal health care is mainly financed through government tax systems. Individuals on formal sectors benefit from the social protections and other compensation shared between the employer and the employees while the informal sectors have to dig deep into their pockets in order to access the health services (Chirwise and Ocran, 2020). The major challenge on SHI is to integrate the poor and the people from the informal sector who have low and irregular incomes which make them incapable to pay the insurance premium on time (Kimani et al. 2012).

Regardless the level of socio-economic development, informal sector workers exist in all countries, although it is more prevalent in developing countries. About 61% of the world's working population are actively engaged in the informal sectors and it contributes significantly to the global gross domestic product. In Sub-Saharan Africa (SSA), informal employment accounts for more than 90% of total employment and informal output for as much as 62% of official GDP, in Tanzania it is 75% and they are largely self-employed persons (ILO, 2018a; Tanzania Demographic Health Survey (TDHS), 2016). The informal sectors have income insecurity and lack access to social protection in many parts of the world and have been largely absent from social assistance (non-contributory social protection) discussions (ILO, 2021; Allers et al., 2020). Many countries have included the neglected informal sector into health insurance but it has been partly impractical and difficult due to economic hardship and fragmentation which raises challenges on premium collection (Adebayo et al., 2015; Kimani et al., 2012).

Like any other health systems in the world, Tanzania experiences the challenge of integrating the informal sector workers into insurance system and this has led into delaying access to medical services which result to further injuries or death (Garfield and Ozgera, 2019). Several efforts have been made including amendment of the insurance policy to provide a wider room for enrolment of the informal sector workers still the uptake is low. Although several studies have been done regarding health insurance issues in Tanzania and other countries, but the uptake is still low (Kiganne and Mahaka, 2021; Tran et al., 2017). Little is known on status for uptake and factors associated with uptake of health insurance among the informal sector in Dar es salaam, Tanzania. Consequently, this study assessed uptake of healthcare insurance and its associated factors among informal sector workers in Dar es Salaam, Tanzania. Further, the present study contributes to an important issue within the health insurance

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Accessibility of Health Insurance among Informal Sector Workers in Dar es Salaam Tanzania: What Are the Barriers?

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Abstract

Background: World Health Organization's agenda on Universal Health Coverage (UHC) calls for a protected accessibility to health services. Globally, 1.3 billion people lack access to health services and around 61% are on informal employment. The informal employment exposes individuals to more risks that increase the demand for access to health care services. Health insurance enables households to access health services while being protected against catastrophic health care expenditures. Challenges in accessing health insurance hampered the uptake to health insurance and this has led to an increased morbidity, mortality and catastrophic health care expenditures. **Objective:** This study examines the barriers to accessibility of health insurance among the informal sector workers. **Methods:** A cross-sectional study was performed from September to December 2020 to 889 informal sector workers. Data was collected by using questionnaire, multi-stage sampling technique was used and the respondents were randomly selected from 12 streets. Chi-square test and multivariate logistic regression were used for analysis through the use of Statistical Package for Social Sciences (SPSS) version 23. **Results:** Most of the respondents were uninsured (91.1%), more than half (63.6%) were male and the mean age of most respondents was 34.8 years (SD ± 10.4). The barriers to accessibility of health insurance are mistrust of insurance schemes, inadequate information about health insurance, and inaccessibility of health insurance offices and unaffordability of insurance premiums. **Conclusion:** Barriers to accessibility of health insurance are practical and they require policy intervention. Subsidized insurance programmes and improvement of mobile based insurance and improved strategies on information dissemination on insurance information will facilitate access and hence improve uptake.

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Original Research Article

Coping strategies for health care financing among informal sector workers in Dar es Salam, Tanzania

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ABSTRACT

Background: In low- and middle-income countries (LMICs) health financing systems has been dependent on out-of-pocket payments (OOP). This type of payment is thought to increase income to finance health care but it's unaffordable to economically disadvantaged persons. Health insurance was introduced in order to reduce catastrophic health expenditure caused by OOP but its implementation to informal sector workers is a challenge. Therefore, this study examines the coping strategies for managing health care costs among informal sector workers in Dar es Salaam, Tanzania.

Methods: This cross-sectional descriptive study was conducted between September and December 2020 to 889 informal sector workers. The study respondents were randomly selected and questionnaire was used to collect data. Chi-square test and multivariate logistic regression were used to analyze data through the use of Statistical Package for Social Sciences (SPSS) version 23.

Results: The findings showed that the mean age of the respondents was 34.8 years (SD±10.4) and majority, (90.1%) of the respondents were uninsured. The methods to carter for medical expenditures were cash payments (p=0.297; 95%CI=0.195-0.452), selling assets (p=0.672, 95%CI=0.507-0.891) and borrowing money (p=0.578, 95%CI=0.412-0.811).

Conclusions: The health care financing methods that the informal sector workers use in order to access health services are effective in reducing short run problems of health care accessibility but it contributes to impoverishment. Designing an affordable insurance scheme with consideration of the social economic aspects of individuals will improve uptake to insurance schemes and hence achievement of the Sustainable Development Goals (SDGs).

Keywords: Health insurance, Coping methods, Health care financing, Accessibility, Informal sector workers

INTRODUCTION

Health care access is still a global problem which attests to elusive health for all principles. The means of financing health care expenditure for any country are important in ensuring the health status of the country. Approximately, 1.3 billion people lack access to health services due to financial problems associated with affordability, availability and knowledge gap on social health insurance.[1] In LMICs many people experience inaccessibility to quality health care services and are unprotected against financial risks.[2,3] Out-of-pocket spending on health push people to extreme poverty each year.[4] Lack of financial protection made some people when they are sick to either forgo or delay seeking health care and hence increase on burden of diseases.[5-7] In 2010 the World Health Organization (WHO) report showed that in many sub-Saharan African countries individuals