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WESTERN CAPE**

**Department of Statistics and Population Studies  
Faculty of Natural Science**

**DETERMINANTS OF ACCESS AND UTILIZATION OF HEALTH CARE  
FACILITIES AMONG WOMEN IN SOUTH AFRICA: THE CASE OF THE  
EASTERN CAPE PROVINCE**

By

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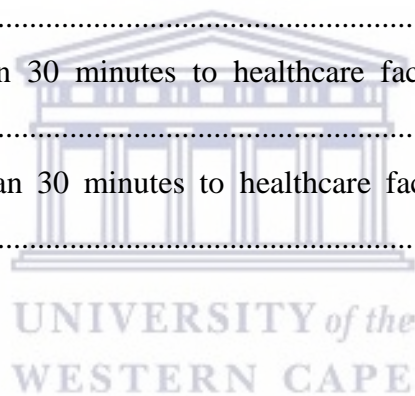
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## Declaration

I hereby declare that *Determinants of access and utilization of health care facilities among women in South Africa: the case of Eastern Cape province* is my own work, that it has never been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

Robynne Danielle Abrams

Signed: .....

Date: November 2022

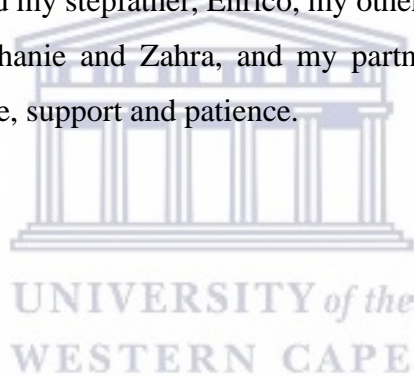


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## Dedication

I dedicate this thesis to my maternal grandmother, *Ma*. Your unwavering love and support has strengthened me, and your spirit has never left me.



## Abstract

Access to healthcare is a requirement for human well-being. However, women who seek medical care when needed are still confronted with significant access barriers. This study aimed to identify the factors influencing the access and utilization of healthcare facilities among female household heads in South Africa, particularly in the Eastern Cape Province. The study used socio-economic and socio-demographic characteristics such as age, level of education, monthly household income, area of residence, employment status and medical aid membership to measure the relationship between the types of healthcare facilities women utilize, the travelling time to healthcare facilities and the means of transport they use to access healthcare facilities in the Eastern Cape Province. Metropolitan and non-metropolitan areas of the Eastern Cape were applied for comparison purposes.

This study used the 2018 General Household Survey secondary data derived from the University of Cape Town's DataFirst website. Univariate analysis was used to describe the characteristics of women in this study. In addition, bivariate analysis through cross-tabulation was conducted to measure the relationship between women's characteristics, types of healthcare, travel time and means of transport. The Chi-square test was conducted to measure the association between women's characteristics and healthcare access and utilization. Logistic regression was performed to identify the factors influencing healthcare access and utilization. SPSS software version 29 and excel were utilized to analyse the data.

The study found that women with low monthly household income, low education, and medical aid non-membership influenced the type of healthcare facility utilized, the means of transport and travel time to healthcare facilities. Furthermore, women living in rural areas of the Eastern Cape were more likely to utilize public healthcare facilities and walk longer than 15 minutes to access healthcare facilities. This study concluded that the barriers to accessing and utilizing healthcare facilities are slightly more pronounced in non-metropolitan areas than in metropolitan areas. Therefore, poverty alleviation, outreach programs, more community health workers and subsidized transportation are needed to curb health consequences such as morbidity and mortality from treatable conditions resulting from failing to seek medical healthcare.

**Keywords:** Socio-economic status, area of residence, inequality, South Africa, medical aid, healthcare services

# CHAPTER 1: INTRODUCTION

## 1.1 Background of the study

This study examines the factors associated with the access and utilisation of healthcare facilities among women in the Eastern Cape Province. According to The Universal Declaration of Human Rights (Act 25 of 1984) and the South African Constitution (Section 21 (1) (a)), access to healthcare in general, and among women in particular, is a basic human right. Dominic, Ogundipe and Ogundipe (2019) emphasise that access to healthcare facilities is essential to human welfare and fundamental to socio-economic development. However, women in Sub-Saharan Africa are constantly faced with limited to poor healthcare access leading to pain and suffering among the population. An effective healthcare system should suffice for a healthy and economically stable community. Hence access to healthcare facilities eliminates deadly diseases in communities (Ewing et al., 2020).

There are substantial differences in the access and utilisation of healthcare facilities and services across socio-economic groups and vulnerable populations. Despite ill health being the most significant burden among the lowest socio-economic population groups, health care facilities and services utilisation are the lowest among the poorest, especially women (McIntyre and Ataguba, 2017). The barriers to accessing and utilising healthcare facilities among women include lack of financial resources to pay for health care services, high costs of healthcare services, long distances to healthcare facilities and long waiting hours, shortage of healthcare providers, lack of transportation, physical inaccessibility and limited knowledge about available healthcare services.

The South African healthcare system is two-tiered in structure, consisting of high-quality private facilities that are limited to medical aid beneficiaries and; underfunded and overcrowded public facilities that are available to and, within limits, free to all (Morudu and Kollamparambil, 2020). According to the report published by the Republic of South Africa (2018), the South African health care sector consists of 813 hospitals, with the public sector accounting for 404 hospitals and the private sector comprising 409 hospitals. However, most healthcare resources are distributed and utilised in urban areas, despite many women being based in rural areas. In these rural areas, women are less likely to access healthcare facilities to meet their reproductive healthcare needs such as Obstetrics and Gynaecological (OBGYN) visits, antenatal and postnatal care, continuous supply of contraceptives and timely medical

treatment, and other health issues such as HIV/AIDS, and Tuberculosis (TB) (Gribble and Haffey, 2008; Lince-Deroche et al., 2019).

Despite significant improvements in the healthcare sector since the abolition of apartheid, studies show that the healthcare and the health of the African population remain below the global average (Audibert and Mathonnat, 2013; Deaton and Tortora, 2015). According to Peters et al. (2008) and Christian (2014), access to healthcare facilities is understood in terms of affordability; availability, and acceptability and are determined by factors such as age, gender, education, income, geographic location and health insurance coverage (Goebel, Dodson and Hill, 2010; Obuaku-Igwe, 2015). Correspondingly, Dawkins et al. (2021) highlight that low income or the lack of money influences access to health care services and facilities, as out-of-pocket payments result in families enduring hardships when seeking medical care. Furthermore, despite removing user fees since 1996 for all seeking primary public health care, co-payments remain a barrier to accessing healthcare facilities (Gordon, Booysen and Mbonigaba, 2020).

In the South African society, female-headed households are among the poorest households which experience significant barriers when accessing and utilising healthcare facilities due to the lack of enough financial resources to afford the costs associated with healthcare utilisation. This is supported by a study by Dominic, Ogundipe and Ogundipe (2019), which found women who head households to be financially vulnerable as primary grant recipients. Additionally, geographic and environmental barriers impede healthcare utilisation as distance limits access to healthcare facilities. Access is often further hindered by additional travelling costs, poor terrain and inadequate road infrastructure. Similarly, Tsawe and Appuni (2014) and Ewing, Reid and Morris-Paxton (2020) found that, in the Eastern Cape, the distance and travelling time significantly influences access to healthcare facilities and is a prominent issue in rural regions where female household heads are more likely to reside and where healthcare facilities are not close to communities. Furthermore, Dawkins et al. (2021) highlight other access-related barriers, which include service and sociocultural factors. The unavailability of healthcare services presents challenges in accessing adequate healthcare facilities. Appropriate healthcare services are less likely to be available in rural communities; hence the absence of standard referral systems creates barriers to accessing already sparse healthcare facilities. This significantly influences the ability of female household heads to access healthcare facilities as

the appropriate services they require when they are sick and seeking medical treatment are not readily and promptly available.

In South Africa, the socioeconomically disadvantaged and vulnerable populations are more likely to experience poor health and less likely to access and utilise health care services. In the polarised South African health care system, the most disadvantaged individuals primarily depend on the under-resourced public healthcare sector, while the affluent utilise private healthcare facilities and services (Gordon, Booysen and Mbonigaba, 2020). Nkosi (2020) argues that, although resources are split 50:50 between the public and private sectors, the public healthcare sector remains underfunded and overburdened as it provides healthcare to approximately 42 million individuals without medical care insurance. According to the General Household Survey 2018, only 16% of South Africans are members of medical aid schemes, of which the minority are women (Statistics South Africa, 2020). The survey further revealed that Eastern Cape was the second province with the lowest percentage of members with medical aid schemes at (10%), slightly lower than that of the Nelson Mandela Bay Metropolitan Municipality, which stood at (20.6%). Generally, medical aid membership varies significantly among population groups. The General Household Survey 2018 revealed that medical aid schemes cover only 9.9% of Black Africans compared to the 72.9% of white individuals who are medical aid members.

Gender significantly shapes all aspects of health. "Socially and culturally constructed gender norms determine roles and opportunities for all people" (Kennedy et al., 2020, p. 1473) and influence the social and structural determinants of health and access to healthcare services and facilities. Consequently, gender norms and values result in inequalities in accessing healthcare services and facilities (Kennedy et al., 2020). Research shows that, globally, women are unequally affected by economic and social vulnerability, have access to fewer educational and employment opportunities and face high barriers in accessing healthcare as compared to men (Buor, 2004; Azad et al., 2020; Yoosefi Lebni et al., 2020). Women are subjected to disproportionate access and utilisation of healthcare resources and services and have unequal opportunities for the protection, promotion and maintenance of their health (van Wijk, van Vliet and Kolk, 1996, p. 707; Azad et al., 2020). During their reproductive years, women require access to and utilise healthcare services and facilities more frequently than men of their age, regardless of whether they have children. However, women's health is affected by gender

inequalities and bias within healthcare systems and through inadequate healthcare services and facilities.

In accessing healthcare facilities, the rural nature of the Eastern Cape Province and the broad dispersion of facilities prevents women of rural regions from accessing healthcare facilities as frequently as women residing in urban areas. This is in part due to the unequal distribution of resources and facilities between rural and urban regions, the distance to facilities, the costs associated with travelling and seeking alternative childcare, the availability of services and adequate and appropriate facilities (van Wijk, van Vliet and Klok, 1996; Willie, 2011; Goebel, Dodson and Hill, 2010; Azad et al., 2020).

Earlier research on determinants of access to healthcare facilities has failed to include women's voices and the barriers they encounter in accessing healthcare facilities and have adopted a generalised approach to addressing access-related issues regarding healthcare facilities. Hence, the types of healthcare facilities that women residing in the Eastern Cape utilise when they are sick is still unknown in the existing body of literature. Against this background, this study aims to assess the factors associated with accessing healthcare facilities among females in the Eastern Cape Province. In identifying the determinants of access and utilisation of healthcare facilities, this study will inform relevant stakeholders and policymakers of the access-related issues that need to be addressed.

## **1.2 Research questions**

The South African government has made improvements and provisions for all individuals' access to primary healthcare facilities. However, households headed by women are still confronted with access-related issues. The focus of this study is to determine what factors and to which magnitude women in the Eastern Cape Province experience challenges accessing healthcare facilities through clear and focused questions.

The following research questions guide this study:

- Is there a difference between age groups in terms of the types of healthcare facilities women who reside in Eastern Cape use to consult when they are sick?
- Is there any difference between population groups in terms of the types of healthcare facilities that women use in the Eastern Cape?



- Does the level of education determine health care utilization in the Eastern Cape Province?
- Does socio-economic factors such as employment and income influence the types of health care facilities women residing in Eastern Cape Province utilize?
- Do women have to travel a long distance to access healthcare facilities?
- Do women who hold medical aid consult private healthcare facilities more than public healthcare facilities?
- What are the factors which influence women's access and utilization of healthcare facilities in Eastern Cape?
- Is there a difference between metropolitan and non-metropolitan areas in terms of access and utilization of healthcare facilities?

### **1.3 Problem statement**

The notion of free healthcare for all encompasses the social environment, economics, national politics and policies that drive the health user and provider practices (Ewing, Reid and Morris-Paxton, 2020). Women are often perceived as more vulnerable than men due to their higher poverty and unemployment rates (Buor, 2004; Davidson et al., 2011; Republic of South Africa, 2015). Women retain more responsibilities compared to men, such as child-rearing, caring for others, household responsibilities, and seeking employment, affecting their access and utilisation of healthcare facilities. In addition, women are often concentrated in part-time, low-income, low-status and informal occupations (Addati and Cassirer, 2008; Moussie, 2016) resulting in poverty and poor socio-economic status, with less or no access to medical aid scheme and all this affects their ability to access healthcare facilities when they are sick.

Rural areas in the Eastern Cape are disproportionately affected by poverty. Rural women are ignorantly more vulnerable to poverty than women who reside in urban areas and even men, which affects their healthcare-seeking behaviour. Notably, health and socio-economic status are directly proportional. That is, access to healthcare facilities is determined by socio-economic factors. South Africa's policies that are focused on the affordability of health care have eliminated healthcare utilisation fees and implemented programmes to ensure access to healthcare facilities for vulnerable groups, including women (Burger and Christian, 2020). However, even if healthcare is free, the area of residence and travelling costs affect access to

healthcare facilities (Domonic, Ogundipe and Ogundipe, 2019; Ewing, Reid and Morris-Paxton, 2020).

In the Eastern Cape, over 60% of the population, including women, reside in rural areas (Department of Health, 2003; Willie, 2011), resulting in difficulties in accessing non-mobile healthcare facilities which can assist them in travelling to the nearest healthcare facilities (Ewing, Reid and Morris-Paxton, 2020). Education, employment and medical aid coverage are essential factors in accessing healthcare facilities (Srivastava and McGuire, 2016). An individual's level of education enables them to understand how healthcare facilities operate. Subsequently, employment and medical aid coverage determine which facilities individuals can access and under what circumstances services may be utilised (Republic of South Africa, 2015, Schatz, Madhavan and Williams, 2011).

However, little is known about the type of healthcare facilities women residing in the Eastern Cape are more likely to utilise, and the factors influencing their choice to use public or private sector healthcare services. Women's travel time to access healthcare facilities and the time it takes to reach them is still under-researched. Moreover, the individual characteristics (age, population group, level of education), social economic characteristics (employment status and income level), and location characteristics (area of residence) which affect women's type of health facility they utilise, the time it takes the women to travel to the healthcare facilities, and the means of transport, are still underexamined in the body of knowledge.

Therefore, this study seeks to investigate the profile of women who access and utilise health facilities in Eastern Cape Province and the challenges they face. The magnitude of women who possess medical aid and how it affects their access and utilisation of healthcare facilities will be examined in this study. Given that Eastern Cape is predominantly rural, this research will determine the approximate travelling time to the nearest health facility and the distance to the closest health facility. The reason for not using the nearest health facility will be investigated. For those who seek medical help when they are sick, this study will unpack whether women seek medical care more in the private or public sector. In this regard, service satisfaction will be examined in this study. Hence, the socio-demographic and socio-economic characteristics influencing health-seeking behaviour among women in the Eastern Cape Province of South Africa will be investigated.

## 1.4 Objectives of the study

The general objective of this study is to identify the profile of women who access health care and to investigate the socio-demographic and socio-economic factors determining women's access to healthcare facilities in the Eastern Cape of South Africa.

The specific objectives of the study are as follows:

- To investigate why women do not consult the nearest health care facilities.
- To assess whether women must travel long distances to access healthcare facilities.
- To investigate whether women who hold medical aid consult private healthcare more than public healthcare facilities.
- To measure whether the type of healthcare facilities women utilise in Eastern Cape is influenced by their socio-economic characteristics such as employment and income level across metropolitan and non-metropolitan areas.
- To assess whether travel time to the healthcare facility in Eastern Cape is affected by socio-demographic characteristics such as age, level of education, and population group.
- To see if there are differentials in healthcare facility utilisation among women in metropolitan and non-metropolitan areas.
- To investigate whether the means of transport women use to access healthcare facilities in Eastern Cape is influenced by their socio-demographic and socio-economic characteristics such as population group, employment status, income, and level of education across metropolitan and non-metropolitan areas.
- To identify the factors influencing the type of healthcare facilities that women who reside in the Eastern Cape are more likely to visit when they are sick by comparing metropolitan and non-metropolitan areas.

## 1.5 Significance of the study

Women are subjected to different health issues than men, based on their position in the society, from that of men. This, in turn, leads to different responsibilities and health outcomes. Women assume multiple positions and retain various responsibilities, leaving them to become more vulnerable than men (van Wijk, van Vliet and Kolk, 1996; Wickrama and Keith, 1990; Republic of South Africa, 2015; Buvinic, 1997; Ferrant et al., 2014) – equally, in terms of

socio-economic status and health status – greatly affecting their access to healthcare facilities (van Wijk, van Vliet and Kolk, 1996; Seedat and Rondon, 2021). Women contribute to most individuals seeking medical care and utilising healthcare facilities (Bertakis et al., 2000; Williams et al., 2017). Therefore, there is a clear need to examine the access and utilisation patterns of healthcare facilities among women and the challenges they encounter when seeking medical treatment. This study on the access and utilisation of healthcare facilities among women is needed to examine the existing theories on healthcare access and utilisation and to assess their relevance to healthcare utilisation in the Eastern Cape Province of South Africa. The methods used by previous scholars are extended to this study and provide a greater understanding of the factors influencing women's decisions to seek healthcare and utilise healthcare facilities in South Africa. This study is relevant to female household heads as this group of women constitutes the most vulnerable proportion of the population and the ones with the most healthcare needs.

Therefore, this study aims to identify the factors determining access to healthcare facilities in the Eastern Cape Province of South Africa among women. The primary focus of this investigation is on women who head households in both metropolitan and non-metropolitan regions to compare the differences in healthcare utilisation. The factors influencing access to health care stem from the unequal distribution of health resources and socio-economic factors. This study will contribute to the growing body of literature regarding healthcare access, as research on healthcare access in the Eastern Cape is very limited. This study is vital in South Africa as it will examine and determine the differentials in healthcare utilisation and assess the magnitude of women's challenges in seeking medical treatment when they are sick. Consequently, the study will inform the policymakers and the government of where more resources and infrastructures should be improved in South Africa, particularly in the Eastern Cape.

## **1.6 Hypotheses**

In this study, the following hypotheses were tested:

- Women residing in the Eastern Cape differ by socio-demographic and socio-economic characteristics such as age, population group, level of education, just to name a few.

- Women's individual characteristics, such as age, level of education, and population group influence the type of health care facility utilised in the Eastern Cape province of South Africa.
- Socioeconomic characteristics such as employment and income of women residing in Eastern Cape influence the travel time and means of transport they are more likely to use to Access healthcare facilities. For an example, women with no income are more likely to walk to the healthcare facilities.
- Women who are medical aid holders consult private healthcare facilities more than public healthcare facilities in Eastern Cape Province.
- Medical aid coverage, area of residence, level of income, and education level determine the type of healthcare facilities, travel time, and means of transport of women seeking healthcare services in the Eastern Cape province.

## 1.7 Limitations of the study

The study is focused on women's access and utilisation of healthcare facilities, which include households in both metropolitan and non-metro regions. Females 12 years and above were included in this study. However, the study is limited to the Eastern Cape Province and does not cover all nine provinces of South Africa.

## 1.8 Definitions of major terms

**Healthcare Facilities:** Healthcare facilities are institutions that provide medical care. This includes clinics, hospitals, and specialised treatment centres (Department of Health KwaZulu Natal, 2001).

**Socio-economic Status:** Socio-economic status is an individual or group's social standing or class. It is often measured as a combination of education, income and occupation.

**General Household Survey (GHS):** The General Household Survey is an annual household survey measuring South African households' living circumstances. The General Household Survey collects data on education, health, social development, housing, access to services and facilities, food security, and agriculture (GHS, 2020).

**Metropolitan Municipality:** Municipality that has municipal executive and legislative authority in an area that includes more than one Municipality, and which is described in section 155(1) of the Constitution as a category A municipality (Statistics South Africa, 2007).

**Non-metropolitan Municipality:** In South Africa, non-metropolitan municipalities consist of the district and local councils. District municipalities (councils) are primarily responsible for capacity building and comprehensive district planning and are comprised of several local municipalities which report to one district municipality (Republic of South Africa, 1998).

**Household:** A household is a group of persons who live together and provide themselves jointly with food and other essentials for living, or a single person who lives alone (Statistics South Africa, 2007).

**Household income:** All money received from salary, wages or own business; plus, money benefits from employer, such as contributions to medical aid and pension funds; plus, all money from other sources, such as additional work activities, remittances from family members living elsewhere, state pension or grant, other pensions or grants, income from investments, etc.

**Household head:** The main decision-maker, or the person who owns or rents the dwelling, or the person who is the main breadwinner, as chosen by the household. The head can be either male or female. If two people are equal decision-makers, or in a household of totally unrelated persons, the older or oldest can be named as the household head (Statistics South Africa, 2007).

**South Africa:** South Africa is divided into nine Provinces: Eastern Cape, Free State, Gauteng, KwaZulu Natal, Limpopo, Mpumalanga, Northern Cape, North West, and the Western Cape. Each of these Provinces has its own Legislature, Premier and Executive Council.

## **1.9 Thesis outline**

This study on the access and utilisation of healthcare facilities among women who head households consists of six chapters. Chapter one outlines the motivation of the investigation, highlights the questions that will guide the investigation and propose the hypotheses that will be tested. The significance of the study, the limitations and the definitions of interest are also provided. Chapter two presents a body of literature which is divided into two main categories – theoretical and empirical frameworks. The first section reviews existing theories related to the access and utilisation of healthcare facilities that are relevant to this study. In the second

section of the literature, empirical considerations of healthcare utilisation are reviewed and explored. The policy framework relevant to healthcare is reviewed towards the end of chapter two. Chapter three will detail the methodology that will be employed in this study. This chapter outlines the study's research design and data collection methods. The methods employed to analyse the data are provided along with a description of the variables.

The data analysis and results are presented in Chapter four. It outlines the univariate and bivariate analysis together with the test statistic used in the analysis, which is concluded with an overview of the multivariate analysis. Chapter five critically discusses the findings obtained in chapter four. Chapter six concludes the study and provides recommendations for future policy and research.



## **CHAPTER 2: LITERATURE REVIEW**

This chapter reviews the literature regarding access to and utilisation of health care facilities and aims to understand the determining factors. Further, it will cover the theoretical framework of access to healthcare and give a detailed analysis of the empirical evidence. Lastly, the chapter will feature a review of healthcare policies in South Africa.

### **2.1 Theoretical framework**

The primary objective of this study is to establish the determinants of access to healthcare facilities among women. In light of this, three theories were reviewed that address factors that influence and impede access to healthcare. The frameworks analysed included that of Penchansky and Thomas (1981), Peters et al. (2008) and the Conceptual Framework of Access to Healthcare by Levesque et al. (2013).

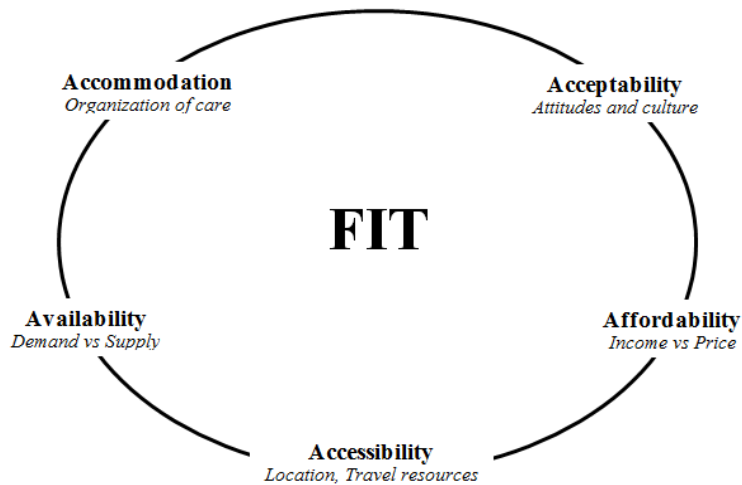
#### **2.1.1 Penchansky and Thomas framework**

The Penchansky and Thomas (1981) framework, as depicted in Figure 1, suggest that access to healthcare is based on a set of specific dimensions which summarise the ‘fit’ between the healthcare user's needs and the capability of the healthcare system to address these needs. This model's dimensions of access include availability, accessibility, accommodation, affordability and acceptability. These dimensions of access encompass the volume of physicians and other healthcare services, the geographical relationship between the healthcare providers and the healthcare users, which includes the travel time, distance and associated costs, and the organisational structure of the healthcare system. Furthermore, access depends on one's financial ability to receive healthcare services without financial strain and how healthcare professionals perceive patients and their attitudes towards different cultural beliefs, practices and traditions.

Kabongo (2015) states that there is an advantage to Penchansky and Thomas' conceptualisation of access to health care, which details how the framework is related to both utilisation of services as well as identifying the various aspects of the healthcare user-healthcare provider relationship.



**Figure 1: Penchansky and Thomas Framework**



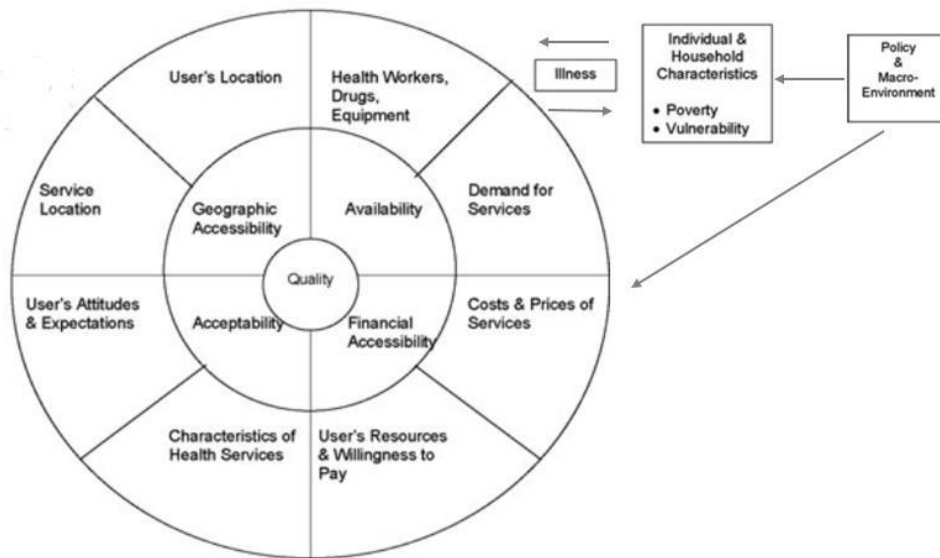
*Source: adapted by Kabongo (2015) from Ricketts and Goldsmith (2006)*

### **2.1.2 Peter-Garg-Bloom-Walker-Brieger-Rahman framework**

Peters et al. (2008) developed a conceptual framework for assessing access to healthcare services which addresses both the supply and demand aspects of access to healthcare. The conceptual framework is formulated on established descriptions of access to healthcare services that include actual use (Ricketts and Goldsmith, 2005; Peters et al., 2008; Kabongo, 2015). Within this framework, Peters et al. (2008) propose four main dimensions of access (Figure 2), where each dimension comprises a supply and demand characteristic that surrounds quality. The dimensions include (1) geographic accessibility, which refers to the physical distance or travel time from the healthcare service delivery location (supply) to the healthcare user's location (demand); (2) availability, which shows the correct type of services available (supply) to healthcare users that need it (demand) and being offered by the appropriate healthcare provider; (3) financial accessibility, referring to the relationship between healthcare costs and the inclination and ability of healthcare users to pay for healthcare services while remaining protected from the economic consequences associated costs (demand); and (4) acceptability, that is, how receptive healthcare providers are (supply) to the social and cultural expectations of healthcare users (demand).

Peters et al.'s (2008) framework, as displayed in Figure 2, placed quality at the centre of the four dimensions of healthcare access, signifying its value as a component of each dimension (Ricketts and Goldsmith, 2005; Kabongo, 2015).

**Figure 2: Peter-Garg-Bloom-Walker-Brieger-Rahman framework**



Source: Peters et al. (2008)

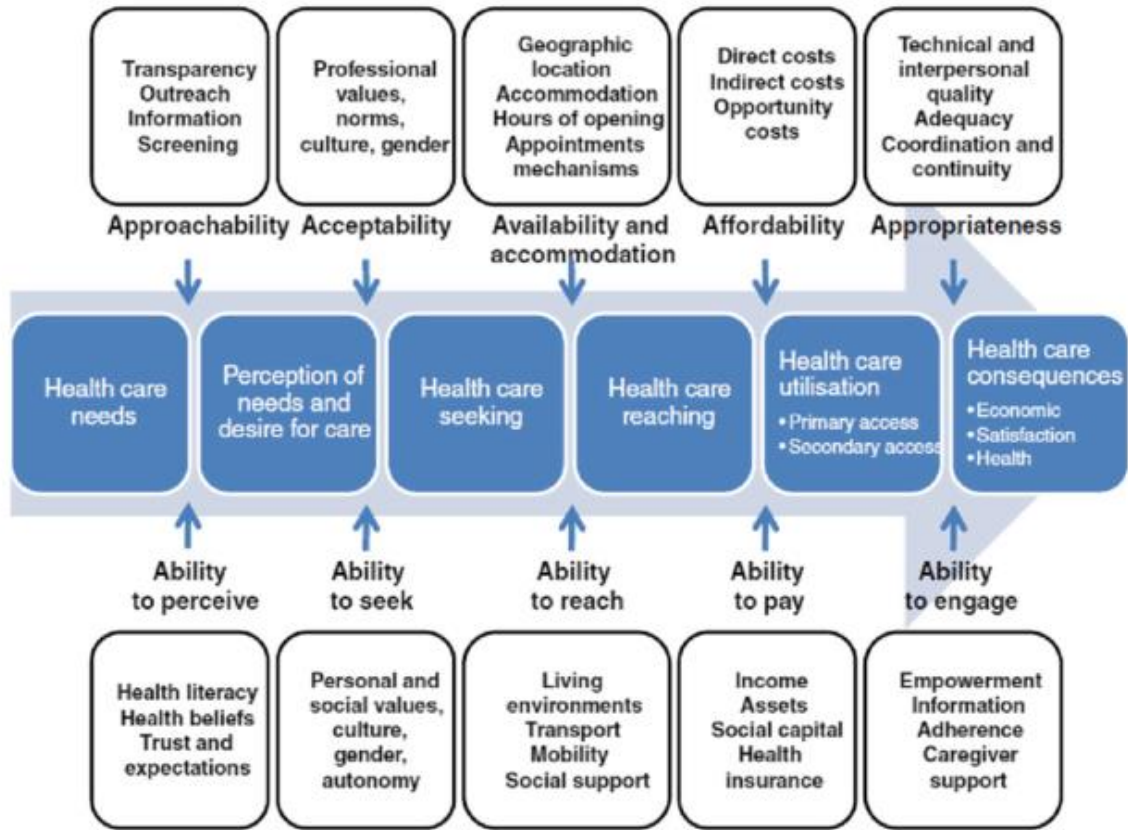
### 2.1.3 The conceptual framework of access to healthcare by Levesque et al.

The Conceptual Framework of Access to Healthcare by Levesque et al. (2013) suggests a multidimensional view of healthcare access regarding health systems, including the following dimensions (Figure 3): approachability, acceptability, availability and accommodation, affordability and appropriateness. The framework considers the socio-economic determinants of health and incorporates five corresponding abilities: to perceive, seek, reach, pay, and engage in healthcare (Cu et al., 2021, p. 2; Levesque, Harris and Russell, 2013).

Approachability and acceptability are interpreted as relating to the fact that people can identify their needs and the existence of healthcare facility services which encompass their social and cultural aspects. Complimentary to this is the ability to perceive health literacy and knowledge about healthcare, seek assistance relating to personal autonomy, and understand healthcare options. Levesque et al. (2013) highlight how females and ethnic minorities face discrimination, negligence and abuse that discourage them from seeking healthcare. Additionally, they address that healthcare services and practices should be suitable and appropriate for the needs of different cultural, socioeconomically disadvantaged and vulnerable populations. Availability and accommodation refer to the reachability of healthcare services physically and promptly. Ability to reach refers to personal mobility, transportation options and availability, and occupational flexibility. Affordability refers to the financial capacity of individuals to pay for healthcare services and related expenses and encompasses the ability to

pay. Lastly, appropriateness describes the fit between services and client's needs (Levesque, Harris and Russell, 2013).

**Figure 3: The conceptual framework of access to healthcare by Levesque et al.**



Source: Levesque et al. (2013)

### 2.1.4 Gap in the theory

Arguably, Penchansky and Thomas' (1981) present a framework that demonstrates the fit between the healthcare user's needs and the capability of the healthcare system to address these needs. In contrast, Peters et al. (2008) provide a framework for assessing access barriers through four dimensions. On the other hand, Levesque et al. (2013) provide a framework that describes the broad dimensions and determinants that integrate demand and supply-side factors and enables the operationalisation of access to health care. The three frameworks overlap in addressing accessibility, availability and acceptability. However, the Penchansky and Thomas, and Peters et al. frameworks do not address all the issues that impede access to health care facilities, especially among women. In addressing the barriers to access, the Levesque et al.

framework considers the needs and challenges of women, the socioeconomically disadvantaged, vulnerable and culturally/ ethnically different populations.

Additionally, Levesque et al. (2013) address factors that impede access to health care facilities and services among the elderly and individuals that are chronically ill or require chronic medication. Although all three frameworks are not entirely applicable to healthcare in South Africa, especially in the Eastern Cape Province, Levesque et al. (2013) provide a comprehensive framework for understanding the determinants of access to healthcare facilities and services. Therefore, while the Levesque et al. (2013) framework is the best fit for the current study as it encompasses all independent variables, while the Penchansky and Thomas and Peters et al. frameworks fall short in addressing all relevant factors and variables.

## **2.2 Empirical literature**

This section discusses the available literature on the determinants of access to health care facilities among women. The section focuses on the main determinants, which include gender, race, age, level of education, employment, income, area of residence, and medical aid coverage.

### **2.2.1 Access to healthcare across Africa**

Globally, 50% of people cannot access essential healthcare services, according to the World Bank and the World Health Organisation review of 2017 (Tessema et al., 2022). The healthcare systems in Africa suffer from neglect and underfunding. Most African countries cannot meet basic requirements for effective and operational healthcare systems. Poor governance and human resource challenges are linked to ineffective integration of services in under-resourced and resource-limited nations (Oleribe et al., 2019). Additional healthcare system problems in Africa include financial barriers to accessing healthcare services, facilities with high rates of out-of-pocket expenditure and inadequate service integration. A study conducted on 36 Sub-Saharan African countries found that in these regions, accessing healthcare is influenced by different infrastructures, including roads, distance to health facilities, transport service availability, additional to education, economic limitations and the influence of socio-cultural behaviours (Tessama et al., 2022). This study highlighted that healthcare access in Sub-Saharan Africa was found to be 42.56% of the population, with the highest rate of healthcare access in the southern region of Africa and the lowest in the central region.

One of the challenges faced in accessing healthcare services in South Africa is inadequate human resources. Statistics reports show that, in Africa, there is less than one healthcare worker per 1000 population (Fonn, Ray and Blaauw, 2011, as cited in Maphumulo and Bhengu, 2019). Access to facilities is further restricted by unequal financing and distribution of human resources between the private and public sectors, coupled with unequal distribution of healthcare professionals between provinces. Furthermore, access is constrained by long waiting times, poor-quality healthcare delivery, ill-maintained infrastructure and overcrowding (Maphumulo and Bhengu, 2019).

### **2.2.1.1 Access to healthcare during apartheid in South Africa**

The history of access to healthcare services in South Africa is characterised by discrimination, segregation and injustice (Surender, 2014; Kon and Lackan, 2008; Brauns, 2016). During apartheid, the National Party enforced racial and ethnic segregation through legislation and national policy. To implement these policies, four races were defined by the apartheid state, namely Bantu (Black/African), Coloured, White and Asian (Surender, 2014; Katuu, 2018). The country was organised through class divisions, which resulted in the country being divided into the mainland to accommodate the minority Whites, constituting four provinces, and ten homelands to accommodate the majority Blacks. The State was governed at the provincial level by the four provinces, four homelands were governed at the local level, and six homelands were self-governing territories (Brauns, 2016; Surender, 2004). Racial and ethnic discrimination was further demonstrated in all dimensions of health through rigid segregation of health facilities (Brauns, 2016). There was an unequal allocation of funds for healthcare between Whites and Blacks where Whites received first-rate healthcare while Blacks were turned away and directed to over-crowded areas, inadequate and dirty facilities and health policies that disregarded healthcare issues affecting non-whites (Brauns, 2016).

The healthcare sector during the apartheid era consisted of 14 separately operated health departments (Coovadia et al., 2009; Katuu, 2018), resulting in an inequitable, racially fragmented healthcare delivery system (Surender, 2014, p. 2; Katuu, 2018). According to Surender (2014, Katuu, 2017), the system's fragmentation reinforced unequal funding across health departments and inadequate service delivery, where access to healthcare was now characterised by inadequate, geographically isolated, understaffed administrations. During the apartheid state, healthcare was significantly disproportionately distributed. The bulk of healthcare professionals was congregated in areas where affluent people lived. De Beer (1984,

as cited in Brauns, 2016) highlighted that the doctor-patient ratio was 1:330 for white people, 1:730 for Indian people, 1:12000 for coloured people and 1:91000 for African people. Brauns (2016) emphasised that, although 60% of the population was located in rural regions, only 5% of doctors were available to these residents. Racial inequalities plagued the healthcare system during this era. Healthcare services were disproportionately distributed between the four population groups, and access to healthcare was severely restricted due to racial segregation of services resulting in limited health professionals and healthcare facilities.

### **2.2.1.2 Access to healthcare in post-apartheid South Africa**

The health policy priority of the post-apartheid government was to implement a new healthcare system that was aimed at reducing inequalities in healthcare services, access, utilisation and provision, as well as to implement available, affordable and quality healthcare to all (surrender, 2014). The post-apartheid healthcare system consists of two parallel public and private systems (Winchester and King, 2018). The new healthcare system consists of 813 hospitals which accommodate 133387 beds (Government of the Republic of South Africa, 2018). The public healthcare sector accounts for 49.7% of hospitals compared to the private sector, which accounts for 50.3% of hospitals and 31% of the overall bed allocation (Ngobeni, Breitenbach and Aye, 2020). The significant disparities between public and private healthcare perpetuate inequality. Mayosi and Benatar (2014, p. 1346) and Government of the Republic of South Africa (2018) state that public hospitals are in a dire state as a result of inadequate infrastructure due to underfunding and negligence which is evident in the Eastern Cape Province.

According to the Competition Commission (2019, as cited in Ngobeni, Breitenbach and Aye, 2020), the under-resourced, underfunded and neglected public health facilities accommodate an estimated 83% of the population who cannot afford medical aid coverage. The private healthcare sector accommodates 17 per cent of the population, of which medical aid schemes cover the majority. Although there is an absence of racial inequalities, inequalities of access and utilisation still exist between the rich and the poor (Winchester and King, 2018). There remains a significant contrast in the distribution and allocation of resources between the two healthcare sectors, where more than half of resources and healthcare professionals are allocated within the private sector.

**Figure 4: The map of South Africa**



*Source:* <https://www.southafricanmi.com/provincial-gdp-11mar2019.html>

### **2.2.1.3 The Eastern Cape Province and the health sector**

The Eastern Cape Province has a population of over 6.5 million inhabitants with an estimated 1 685 000 households, which constitutes 13.8% of the total area of South Africa (Figure 5), making it the fourth largest Province, and covers a land area of 168 966 square kilometres (GHS, 2018; DOH, 2018). The Eastern Cape Province consists of two metropolitan municipalities, Buffalo City and Nelson Mandela metropolitan municipalities, and six district municipalities; Alfred Nzo, Amathole, Chris Hani, Joe Gqabi, OR Tambo and Sarah Baartman.

The Eastern Cape has a more significant proportion of women (52.9%) than men (47.1). The median age in the Province is between 20-24 years. A large portion of the total population is of working age; however, a significant portion of the working age population are women who are not in formal employment. The Province comprises predominantly Black African people who constitute 86.3% of the population (Statistics South Africa, 2014). The population distribution between rural and urban areas is 61.2% and 38.8%, respectively (Statistics South Africa, 2001). In contrast, the Province was ranked the fourth largest economy in South Africa, with an unemployment rate of 35.1% in the 4<sup>th</sup> quarter of 2017 and the highest poverty rate. Despite the Province's population being concentrated in the rural regions, the economic activities of the Eastern Cape are still concentrated in the urban areas.

In the Eastern Cape Province, an estimated 88% of the population is serviced by the public sector. Generally, only 10% of the population is covered by medical aid schemes (GHS, 2018).

The public sector is under-resourced and over-used, with poor-quality service delivery compared to private health care facilities. The Province has an estimated 90 hospitals, 28 community centres and 711 clinics (Department of Health, 2003; Government of the Republic of South Africa, 2018). Despite this, most of the population in rural areas are constrained by a lack of medical facilities. The primary healthcare facilities, including the community health centres, make up 739 healthcare facilities which serve an average of 9600 individuals. Where public hospitals are concerned, there are only 3.26 beds per 1000 people (Department of Health, 2003; Willie, 2011).

A Rapid Assessment of Service Delivery and Socio-economic survey (2006, as cited in Willie, 2011) was conducted in the Eastern Cape, which revealed that only 45.5% of households within the Province had access to hospitals. The highest levels of access to these healthcare facilities were in metropolitan municipalities, and 65% of the survey respondents noted that they had no access to primary healthcare facilities (Willie, 2011).

#### **2.2.1.4 Healthcare provision across municipalities in the Eastern Cape Province**

##### **2.2.1.4.1 Metropolitan municipalities in Eastern Cape**

In the Eastern Cape province, as depicted in Figure 5, the areas of residence are divided into metropolitan and non-metropolitan areas. Metropolitan municipalities refer to urban, large, and developed regions with developed industries and infrastructure. In the Eastern Cape, there are two metropolitan municipalities, namely Buffalo City and Nelson Mandela Bay. These metropolitan areas accommodate 32.9% of the population. On the other hand, non-metropolitan areas are regions outside the boundaries of metropolitan areas and constitute both local and district municipalities. Within the Eastern Cape, 67.1% of residents are located in non-metropolitan municipalities. The distribution of resources are not in proportion to the distribution of the population between metropolitan and non-metropolitan areas. In metropolitan and urban areas, healthcare facilities are concentrated around city centres and specialized healthcare is widely accessible. Whereas in rural and non-metropolitan areas, women face extreme barriers in accessing basic healthcare services or utilizing public healthcare facilities.



#### **2.2.1.4.1.1 Buffalo City Metropolitan Municipality**

Buffalo City Metro has a population of 893 157 people and houses 1.5% of South Africa's population. The Buffalo City Metropolitan area has 113 healthcare facilities, including 82 clinics, community health facilities, 6 hospitals and 18 mobile clinics. Within the East London area, we have 30 fixed community health clinics, 2 community health centres, 9 mobile clinics, 2 specialised hospitals and 1 tertiary hospital. Despite the area appearing to have good clinics, this is not the case due to the geographical nature of the catchment area. Many clinics are concentrated in urban areas due to inward migration. The implications for service delivery in this area are that the clinics are overcrowded and overburdened. The Mdantsane area is comprised of 17 fixed community health clinics, 1 community health centre, 3 mobile clinics, 2 health posts and 1 Specialised TB Hospital. The rural areas access services through a mobile clinic and PHC outreach teams (Cooperative Governance and Traditional Affairs, 2022).

#### **2.2.1.4.1.2 Nelson Mandela Bay Metropolitan Municipality**

With a population of 1.26 million, the Nelson Mandela Bay Metropolitan Municipality housed 2.3% of South Africa's total population in 2018. The Nelson Mandela Bay District, as depicted in figure 5, has the following healthcare facilities and service delivery platforms: 2 tertiary hospitals, 1 regional hospital, 4 specialised hospitals, 1 district hospital, 5 community health centres and 39 fixed clinics (Cooperative Governance and Traditional Affairs, 2022).

#### **2.2.1.4.2 Non-metropolitan municipalities in Eastern Cape**

The following are the district municipalities falling under non-metropolitan areas in Eastern Cape province. These are the areas that fall outside metropolitan municipalities.

##### **2.2.1.4.2.1 Alfred Nzo District Municipality**

The Alfred Nzo District accounts for a total population of 878 635, 12.1% of the total population in the Eastern Cape Province. The district has 72 clinics, 8 hospitals and 2 community health centres. It is recorded to have the most improvised health facilities with problems such as severe staff shortages, lax security measures, leaking roofs, 'unreliable' ablution facilities, dilapidated infrastructure, poor filing system and inconsistent delivery of medication, among others (Cooperative Governance and Traditional Affairs, 2022).

#### **2.2.1.4.2.2 Amatole District Municipality**

Amathole District has a total population of 885,102, which accounts for 12% of the total population of the Eastern Cape Province. The district has 162 Health Facilities, including 143 clinics, 5 Community Health Centres (CHC), and 14 Hospitals (Cooperative Governance and Traditional Affairs, 2022).

#### **2.2.1.4.2.3 Chris Hani District Municipality**

The Chris Hani district has a total population of 873 362 people, 12% of the provincial population. According to the report by the Cooperative Governance and Traditional Affairs (2022), this district has a total of 177 Health Facilities, which include 152 Primary Health Care (PHC) facilities, 7 Community Health Centres (CHC), 14 District Hospitals, 1 regional hospital and 3 other hospitals.

#### **2.2.1.4.2.4 Joe Gqabi District Municipality**

Joe Gqabi District has a total population of 387 149. The health district has 52 clinics, serving 352 957 (95%) uninsured population and 11 district hospitals. It, therefore, means that there is a 6 787 population to a clinic which meets the World Health Organisation (WHO) guidelines that require a population of 10 000 per clinic. There is, however, a need for more health posts as the district has small villages which cannot access health services as they are geographically located in areas that are far from health facilities, are inaccessible by mobile clinics, and in terms of their population, do not meet the norms and standards to qualify for a clinic (Cooperative Governance and Traditional Affairs, 2022).

#### **2.2.1.4.2.5 OR Tambo District Municipality**

The OR Tambo District had a population of 1,514,306 as of 2019 and is the second most populous, accounting for 26.20% of the Provincial population. The OR Tambo District has a total of 163 Health Facilities, which include 137 clinics, 10 Community Health Centres (CHC), and 16 Hospitals (Cooperative Governance and Traditional Affairs, 2022).

### 2.2.1.4.2.6 Sarah Baartman District Municipality

The Sarah Baartman district has a population of 520 480. It has 61 primary healthcare (PHC) clinics, 28 mobile clinics, 10 hospitals, 4 TB hospitals and 1 psychiatric district hospital (Cooperative Governance and Traditional Affairs, 2022).

**Figure 5: Map of district and metropolitan municipalities in the Eastern Cape**



Source: <https://municipalities.co.za/provinces/view/1/eastern-cape>

### 2.2.1.5 HIV prevalence and its impact on the access to health care in South Africa

South Africa has the biggest and most high-profile HIV (human immunodeficiency virus) epidemic in the world, with an estimated 7.7 million people living with HIV in 2018 (Allinder, 2020). The country accounts for a third of all new HIV infections in Southern Africa (Allinder, 2020). In 2018 there was an estimated 240,000 new HIV infections and 71,000 South Africans died from AIDS (acquired immunodeficiency syndrome) related illnesses (Allinder, 2020). HIV prevalence remains high, with 20.4% of people (one in five) living with HIV. However, prevalence varies remarkably between regions, ranging from 12.6% in Western Cape to 27% in KwaZulu-Natal. The 2017 National HIV Prevalence Survey found that the Eastern Cape Province has the third highest burden of HIV (25.5%) and has seen the highest rise in HIV prevalence in the country over the preceding five years. In 2012, the HIV prevalence was 19.9%

(Simbayi et al., 2019; Hansoti et al., 2019). Bello et al. (2020), in the Global Aids Monitoring Report, stated that HIV prevalence is lower in urban areas than in rural areas. This is partly due to the disproportionate distribution of healthcare services and facilities between the two regions.

HIV health services are critical in sub-Saharan Africa as the burden of the HIV pandemic is devastating. Existing studies suggest that HIV-infected individuals from marginalised populations who know their status do not seek health services because they are unaware of the available treatment and care options, may not understand how to access services, or have poor access to and utilisation of health care services (Luseno et al., 2010; Hansoti et al., 2019). The Eastern Cape Province has a disproportionately high burden of HIV relative to the resources allocated for this region (Hansoti et al., 2019). Access to health care and HIV service delivery, in the Eastern Cape, in particular, is faced with the challenges of limited resources, lack of standardised training, and competing for clinical care priorities (Hansoti et al., 2019, p. 15). Consequently, overcrowding and clinics that are too small to service the growing number of patients are a clear testament of the problems surrounding accessing healthcare facilities in the Eastern Cape. In rural and remote areas, the challenges of improving road access, access to general amenities, and retaining nurses and doctors with adequate knowledge of HIV and treatment continue to hinder access.

In accessing healthcare, people with HIV often have to choose between public and private healthcare facilities for treatment. Anti-retroviral treatment remains expensive, and most people living with HIV are not likely to afford treatment or access appropriate healthcare facilities (Visser and Booyesen, 2004; Johnson et al., 2015). Previous research done by Luseno et al., (2009) and Johnson et al. (2015) shows that women who belong to marginalised and underserved groups such as poor women with low levels of education, substance abusers and/or those who engage in sex work to support themselves and their families generally face greater limitations in access to appropriate health care services. In South Africa, the prevalence of HIV among female sex workers in 2020 was 63.8% (Bello et al., 2020). These women experience rights violations concerning their sexual and reproductive health in healthcare settings. They go through mistreatment, abuse of human rights and negligence, and as a result, they are confronted with significant challenges in accessing and utilising safe and appropriate healthcare facilities and services (UN Women, 2017).

Moreover, Nudelman (2013), in a study conducted in association with UNAID on gender-related barriers to healthcare services among women living with HIV, highlights that the lack of comprehensive HIV knowledge, cultural perceptions and beliefs regarding HIV and gender roles were significant deterrents to access healthcare facilities and services. Unequal gender norms and women's socio-economic dependency were found to limit their decision-making power regarding accessing HIV-related services, creating access barriers. Additionally, Lunseno et al. (2009) and Johnson et al. (2019) stress that financial assistance, housing, transportation, food and substance abuse treatment are subsequent access barriers to utilising healthcare.

## **2.2.2 Women's characteristics and access to health care facilities**

### **2.2.2.1 Access to healthcare and gender**

Women have fewer opportunities than men for work and living conditions conducive to good health (WHO, 1999, cited in Ajwang, 2013; Azad et al., 2020). Females often face discrimination and specific obstacles when accessing and utilising healthcare facilities and services. The status of women within the household affects the healthcare needs and access for all individuals within the household. Gender plays a significant role in the access and utilisation of healthcare facilities, although health and gender are biological factors, as they are socially constructed as well (Ajwang, 2013; Azad et al., 2020).

Studies on healthcare have shown that women utilised more healthcare services than men (Bertakis et al., 2000; Abongile, 2010; Ajwang, 2013; Williams et al., 2017). Women experience different health problems resulting from pregnancy, menstruation, and contraceptives compared to men. According to Minyihun and Tessema (2020), women utilise and need healthcare services more during their reproductive years than men. Furthermore, the socio-economic position of men differs from that of women, influencing their well-being and contributing to health problems. Women are less likely to have access to opportunities of employment resulting in less income and are more likely to be less educated. This results in women being more exposed to health risks than men (Buor, 2004; O'Neil et al., 2020). Therefore, women utilise healthcare facilities more frequently than men (van Wijk, van Vliet and Klok, 1996; Bertakins et al., 2000; Williams et al., 2017). Mhlanga (2021) highlighted that there is a relationship between gender and the utilisation of healthcare facilities, stating that being a female increase the likelihood of healthcare utilisation compared to being a male.

Mhlanga further states that South African women utilise healthcare facilities such as public clinics and hospitals more often than males.

### **2.2.2.2 Women's access to healthcare facilities by medical coverage**

South Africa remains an unequal society, where the quality and type of services people receive tend to be influenced significantly by their socio-economic status and ability to access services, regardless of the level of need for care. Most people in South Africa depend on public healthcare facilities to access their right to healthcare services. A small number of people can afford private medical care. In its 2016 General Household Survey, Statistics South Africa reported that only 17 of every 100 South Africans have medical insurance. As many as 45 million, or 82 out of every 100 South Africans, fall outside the medical aid net and primarily depend on public health care. The number of people who depend on the public health system in South Africa is likely to be much higher, as undocumented people also rely primarily on the public health system to access health care (South African Human Rights Commission, 2017).

In the absence of medical aid, rural and vulnerable people cannot afford healthcare, which restricts access to healthcare facilities (Titus, Adebisola and Adeniji, 2015). Ataguba and Goudge (2012, p. 634) refer to medical aid (health insurance) as an alternative to improve access to health care and remove potential financial barriers. The General Household Survey of 2018 highlights that only 16.4% of individuals within South Africa have medical coverage, and this is primarily observed in metropolitan and urban areas. Women fall within the category of the vulnerable population and experience financial barriers due to low-income jobs (van Wijk, van Vliet and Kolk, 1996; Buor, 2004; Yoosefi Lebni et al., 2020; Dawkins et al., 2021). Mead et al. (2001, as cited in Buor, 2004) and Burger and Christian (2020) noted that women who are living in poverty are less likely than their affluent counterparts to have medical coverage and are more likely to encounter access barriers to healthcare facilities and services. Buor (2004) and Chauluka, Uzochukwu and Chinkhumba (2022) similarly stated that women residing in urban regions are more likely to have health insurance than those in rural areas, as women in rural regions do not have formal employment or education.

Medical insurance remains a barrier to seeking medical care in accessing healthcare facilities. The utilisation of healthcare services and facilities is linked to access to medical aid (Kabongo, 2015). Women are less likely to have access to medical aid and are, therefore, less likely to access healthcare facilities (Buor, 2004; Chauluka, Uzochukwu and Chinkhumba, 2022) due

to financial vulnerability and lack of funds (Kabongo, 2015). Therefore, the absence of medical aid restricts access to healthcare facilities. Although public healthcare facilities do not require medical aid coverage, access to certain healthcare facilities that are dedicated to specific medical treatments are not available and accessible to individuals that do not have medical aid coverage.

### **2.2.2.3 Women's access to healthcare facilities by area of residence**

Access to health care is salient in areas where policies have previously privileged certain groups above others, resulting in significant health status gaps that are yet to be considered in current policies. These gaps depend on "a complex set of linkages among demographic factors, spatial components and institutional constraints" (McLaruen, Ardington and Liebbrandt, 2013, p. 2).

The World Health Report of 2010 declares that universal health coverage applies to all people, and everyone has the inherent right to adequate healthcare, regardless of their area of residence (Ewing, Reid and Morris-Paxton, 2020). Despite the rise of urbanisation in South Africa, Ewing, Reid and Morris-Paxton (2020) state that 38% of the population still resides in rural regions of the country. Professional healthcare services are centralised in urban areas, resulting in a significantly unequal distribution of services and facilities between urban and rural regions (Ewing, Reid and Morris-Paxton, 2020). Tsawe and Appuni (2014), in a study conducted on access and use of maternal healthcare services within the Eastern Cape, noted that the rural context of South Africa poses significant challenges as households are widely dispersed. Women in rural areas tend to utilise healthcare services less frequently than those in urban areas due to healthcare resources such as facilities and services being unequally distributed between rural and urban regions (Tsawe and Appuni, 2014, p. 2). Similarly, Kabongo (2015) highlights that urban areas in Africa render better healthcare services to residents than rural areas due to the absence of appropriate infrastructure and healthcare personnel. Additionally, the disproportionate access to health care across Africa causes residents of under-resourced communities to seek unconventional and traditional healthcare services, resulting in inequality in accessing modern healthcare services.

According to the Department of Health (2003), over 60% of the population in the Eastern Cape reside in rural areas. The General Household Survey of 2018 indicates that women headed 37.9% of households. Notably, female-headed households are most common in provinces with

large rural areas like the Eastern Cape, where women head 46.9% of households. This indicates that most women within the Eastern Cape are concentrated in rural regions. In order to access healthcare facilities, these women face multiple constraints compared to those in urban settlements. Accessing healthcare facilities by women who reside in urban and metropolitan areas is not challenging as they are less likely to experience distance and transport-related barriers. In rural and non-metropolitan areas, healthcare facilities are sparsely distributed, leading to barriers to access.

Additionally, the typography of rural areas is not always suitable for infrastructure and transportation. If transportation is available, the travel time and associated costs impede access to healthcare facilities. Therefore, rural areas remain underdeveloped, resulting in women being unable to access healthcare facilities.

#### **2.2.2.4 Women's access to healthcare facilities by educational level**

Education plays a significant role in utilising and accessing healthcare facilities (Titus, Abedisola and Adeniji, 2015). Women have historically been disadvantaged in terms of access to education (Republic of South Africa, 2015), thus resulting in lower educational attainment than their male counterparts. According to the General Household Survey (2018), the functional illiteracy rate among individuals aged 20 years and older in South Africa is 13%. Females recorded a higher functional illiteracy rate than men across all ages; that is, a higher number of females have no formal education than men. The functional illiteracy rate refers to the number of individuals who have either received no schooling or have not completed grade 7 (General Household survey, 2018).

Wickrama and Keith (1990, p. 4) state that women who have received formal education can understand and interpret health-related information, educate themselves regarding health matters, eliminate barriers to accessing healthcare facilities, and understand health practices (Bour, 2004). In a study conducted by Ahinkorah et al. (2021), it was found that a strong relationship exists between education and health care utilisation. This means that increased healthcare utilisation was linked to higher educational attainment. This signifies that educational attainment increases women's ability to understand when health-related issues arise and when to seek the necessary treatment. Similar studies regarding access and utilisation of healthcare facilities noted that the use of healthcare facilities and access increases with higher educational attainment (Mekonnen and Mekonnen, 2002; Awoyemi, Obayelu and Opaluwa,



2011; Titus, Adebisola and Adenjini, 2015; Raghupathi and Raghupathi, 2020). When women are less educated, they cannot comprehend health-related information or seek healthcare services. This inability to make decisions, communicate effectively and comprehend healthcare matters restricts their access to healthcare facilities (Agyemang and Asibey, 2018; Dominic, Ogundipe and Ogundipe, 2019; Raghupathi and Raghupathi, 2020).

### **2.2.2.5 Women's access to healthcare facilities by income**

Buvinic (1997) states that "women account for a growing proportion of those we are considered poor based on income". Women in African countries are marginalised and more vulnerable (; Wickrama and Keith, 1990; Dungumaro, 2008; Scheffler, Visagie and Schneider, 2015; Yoosefi Lebni et al., 2020). A report on the status of women in the South African Economy (Republic of South Africa, 2015, p. 21) highlighted that the triple challenge of unemployment, poverty and inequality continues to impact women in particular. Women are more likely to be unemployed than men, with the unemployment rate recorded at 28.7 percent in 2015, which rose to 34.0 percent in 2021 (Republic of South Africa, 2015; Statistics South Africa, 2020). The statistics demonstrate that women are continuously exposed to the lack of opportunities for employment and income generation (Kehler, 2001; Bue et al., 2022).

Women retain multiple responsibilities within the household and spend more time in unpaid tasks related to caregiving for others, childcare and housework whilst still earning a meagre income (Addati and Cassirer, 2008). As a result, women are often saturated in informal and low-income employment (Wickrama and Keith, 1990; Addati and Cassirer, 2008). Additionally, Ahinkorah et al. (2021, p.7), in a study conducted on the utilisation of healthcare services among childbearing women, stated that priority is often given to basic daily needs instead of healthcare expenses due to inadequate income and financial resources. Affluent women do not face financial barriers as they have the financial resources to access and utilise healthcare facilities and services while still taking care of other financial obligations, which could impede access for low-income women (Ahinkorah et al., 2021). Christian (2014, p. 13) states that an ongoing and significant relationship exists between socio-economic status and healthcare access. When healthcare is available at no cost, income remains salient in accessing healthcare facilities (Wickrama and Keith, 1990; Ewing, Reid, Morris-Paxton, 2020). Additionally, transportation costs, out-of-pocket payments for treatment and medication, and the limited availability of affordable healthcare services result in limited access to healthcare facilities (Ewing, Reid, Morris-Paxton, 2020).

The South African government has implemented a social grant system to combat poverty amongst vulnerable populations. In rural areas, for women that depend on low income and remittances, these social grants act as a form of income to aid in household security and food security. The Fin Mark Trust and the United Nations Development Programme (2020) conducted a study on grant beneficiaries in South Africa, highlighting that women comprised 80.4% of the social grant recipient population. In accessing health care, women often face income-related barriers. Restricted access to health care facilities is due to a lack of financial means, as women are often vulnerable and poor or in boarding poverty and depend on government financial support (Kabongo, 2015).

Healthcare policies focused on free healthcare have been implemented, and priority programmes have been introduced to improve access to healthcare facilities and services by the most vulnerable South Africans. However, fee removal alone does not increase women's access to and use of health care facilities when they are burdened with additional expenses and scarce financial resources (Christian, 2014, p. 13). Furthermore, the inability to access healthcare services highlight the extent to which lack of income impedes access to healthcare (Kabongo, 2015).

#### **2.2.2.6 Women's access to healthcare by employment status**

Women face significant barriers to accessing healthcare services and healthcare facilities when access is dependent on their employment status. This is a result of increased employment insecurity among women and additional unpaid responsibilities that women retain. Women in South Africa encounter challenges that hinder them from accessing employment. According to the Quarterly Labour Force Survey of 2021, the South African labour market is more favourable to men than it is to women. Women are more likely to be doing unpaid work, less likely to be employed, less likely to participate in the labour market and have a higher unemployment rate than men. The Quarterly Labour Force Survey highlighted that 36.8% of women were unemployed during 2021Q2. According to Vijayasingham et al. (2020), women's higher unpaid care work, low-status employment and income, and in certain instances, their often-limited decision-making power concerning household resources and healthcare, merge to create significant barriers in accessing healthcare. Furthermore, these dynamics are exacerbated when access and financing are linked to employment, as women experience disproportionate and unequal participation in formal employment. Healthcare access based on

employment can translate gender disparities into unequal healthcare access, further disadvantaging women (Vijayasingham et al., 2020, p. 1).

### **2.2.2.7 Main reasons for not seeking medical health and treatment when women are ill**

The underutilisation of healthcare services is a result of a plethora of factors (Mhlanga, 2021). In a study conducted by Gilson and McIntyre (2007), it was observed that most individuals who are ill or injured do not seek medical treatment. On the other hand, women who are regarded as a vulnerable group in Africa have limited access to healthcare facilities due to significant financial barriers (Buor, 2004; Dominic, Ogundipe and Ogundipe, 2019). Women are often concentrated in low-status, underpaid jobs (Yoosefi Lebni et al., 2020). In households where women are heads, the households are dependent on grants and remittances (Schatz, Madhavan and Williams, 2011). Thus, women are more likely to be living in poverty (Ewing, Reid and Morris-Paxton, 2020). Consequently, income influences whether women seek medical treatment when they are ill. As they are less likely to have medical coverage, they are expected to make more healthcare payments (Srivastava and McGuire, 2016). Additionally, factors such as time and travelling costs induce further expenses.

The availability of healthcare plays a significant role in the utilisation of healthcare facilities. However, the availability of healthcare professionals is also limited. According to Kabongo (2015), only 2.6 healthcare physicians are available in Africa for every 10 000 individuals. However, when facilities and services are available, the General Household Survey of 2018 states that only 53.8% of individuals that utilised public healthcare were delighted with the services provided. Additionally, Christian (2014) and, Burger and Christian (2020) stated that acceptability was a significant factor in seeking medical treatment by the ill. In their respective studies, they highlighted that bad staff attitudes were the reason why patients did not seek medical treatment.

The physical accessibility of healthcare facilities influences the utilisation of healthcare services. When women reside in rural areas, healthcare facilities and services are not immediately available due to unequal distribution between rural and urban areas (Ewing, Reid, Morris-Paxton, 2020). Physical accessibility includes distance to healthcare facilities, the availability of transportation and the state of transportation infrastructure, and the associated costs of accessing a healthcare facility. Women may choose not to use healthcare facilities

when ill; as a result, travel distances are great, and access to alternative modes of transport are less prevalent. Additionally, when transportation is available, it may induce significant financial strain on households. (Mattson, 2011, Zhou, 2019). Furthermore, long waiting times and opening and operating hours of healthcare facilities present barriers to access when women seek medical care when they are sick. Long waiting hours adversely affect the willingness of patients to return to healthcare facilities and may impact and even reduce the utilisation of healthcare facilities (Biya et al., 2022).

Many factors influence women's decision whether to seek medical treatment when they are ill. Financial barrier is the primary factor determining whether or not medical treatment is sought. Additionally, the distance to facilities, availability of services, facilities and healthcare professionals, waiting times, level of service satisfaction and the attitudes of healthcare professionals influence the willingness to seek medical care.

#### **2.2.2.8 Women's accessibility to healthcare facilities**

In developing countries, such as South Africa, healthcare services are under-utilised due to many factors, including inadequate supply of healthcare services (Mhlanga, 2021) and limited availability of healthcare facilities. Although there are situations where healthcare services are available, the use of healthcare services has not been a frequent occurrence due to various constraints such as travelling costs, in addition to distance and travelling times (McLauren et al., 2013; Kabongo, 2014; Brauns, 2016; Ewing et al., 2020; Mhlanga, 2021). The South African history of apartheid produced significant disparities in access to health care facilities and services despite implementing post-apartheid health legislation and policies to increase the number of health facilities, even in remote areas (McLauren et al., 2013; Katuu, 2018). Ewing et al. (2020, p 2) state that access to health care in South Africa is unequal, that the disparity in access accentuates poverty and inequality in the country, and that the population in urban areas face different health challenges compared to rural populations (Christian, 2014; Burger and Christian, 2020). Distance to healthcare facilities presents significant challenges in healthcare utilisation, primarily in rural regions within South Africa where healthcare facilities and services are situated further away from communities (Christian, 2014; Tsawe and Appuni, 2014; Ewing, Reid and Morris-Paxton, 2020). Even when free healthcare is available, transportation costs and travelling time prevent timely treatment and effective utilisation of healthcare facilities (Ewing et al., 2020; McLauren et al., 2013; Titus et al., 2015; Tsawe and Appuni, 2014; Winchester, 2018).

### **2.2.2.9 Issues of transportation and time taken to healthcare facilities**

Transportation and health are interlinked on many levels, directly and indirectly influencing health. Transportation is an important barrier to accessing healthcare facilities among women, especially in rural areas, as transportation facilitates the timely delivery of primary healthcare services (Ekpenyong et al., 2022). Women are often more disadvantaged due to their low socioeconomic status and vulnerability to poverty in their transportation needs (Mashiri et al., 2008; Williams and Tremblay, 2019). The World Bank (2004, as cited in Mashiri et al., 2008) addressed transportation's role in reducing child and maternal mortality, which was the fourth millennial development goal and is now highlighted under Sustainable Development Goal number 3. The World Bank concluded that women and their families spend a substantial amount of time trying to access and wait for transportation and travelling to healthcare facilities (Mashiri et al., 2008; Williams and Tremblay, 2019). Williams and Tremblay (2019) argue that disadvantaged transportation patients may face increased constraints accessing healthcare facilities. Individuals who lack access to transportation may delay or miss appointments, struggle to adhere to medication regimens requiring medication collection at pharmacies and may neglect health conditions when the lack of transportation becomes too much of a challenge. Mattson (2011) and Zhou (2019) observed that the trip to healthcare facilities is often costlier than the medical consultation.

Winchester (2018) additionally notes that the distance to healthcare facilities changes and is dependent on seasonal variations, which alter the physical terrain of areas and subsequently limit the availability of transportation. Ewing et al. (2020) further assent that, based on a case study they conducted in South Africa, weathering and the inadequate state of rural coastal roads present barriers to access fixed health care facilities and services. Due to the lack of a railway line and public and private transportation, residents have to resort to walking or using donkey carts. McLauren et al. (2013) and Ewing et al. (2020), in their respective studies, found that the average distance to the nearest clinic is 7km, and the average walking distance is 9km which renders healthcare facilities inaccessible due to the distance and associated barriers. Furthermore, Williams and Tremblay (2019) state that for individuals who live in rural areas underserved by public transportation, distance and the time required to access healthcare facilities become barriers to healthcare. For example, they highlight that if a woman must commute for two hours via various means of transportation and multiple transportation routes

to access healthcare facilities, it might cost her half a day or more of work. Therefore, women may forgo medical treatment to provide for their household.

### **2.2.2.10 The types of healthcare facilities in South Africa**

Accessing healthcare facilities is greatly influenced by the type of facilities sought and their availability. The two-tiered nature of the healthcare system is categorised into public and private healthcare facilities. Public healthcare sector is divided into primary, secondary and tertiary healthcare services provided through various healthcare facilities (Malakoane et al., 2020). Primary care services include clinics, mobile clinics and district hospitals. Secondary and tertiary healthcare facilities include sub-specialized and specialized care (Department of Health Kwa-Zulu Natal, 2001; Government of the Republic of South Africa, 2018). The private sector comprises of private general practitioners and doctors, specialists and private hospitals. These healthcare facilities and services are usually paid for through medical aid or out-of-pocket payments.

The South African Government announced in the Presidential Health Summit Report of 2018 that many existing healthcare infrastructures are in poor condition, and roughly 20% of these infrastructures require replacement (Government of the Republic of South Africa, 2018). Where communities are underserved in terms of providing adequate healthcare facilities and effective service delivery, women are likely to be the most significant bearers of this burden. Primary healthcare facilities are more accessible than hospitals for most people and are widely distributed and cheaper. However, these facilities are usually staffed by midwives and nurses who provide primary maternity care. The distribution of facilities that provide obstetric, reproductive, and sexual healthcare, such as family planning and safe abortions, is less likely to be located in rural and poorer locations (Gerein, Green and Pearson, 2006; Galappaththi-Arachchique et al., 2018).

## **2.3 Conceptual framework**

The South African Constitution considers health care access a fundamental human right. Despite this, inequalities in health care persist. Women's access to health care facilities is determined by the social demographic, socioeconomic and cultural context of their lives, including their biology (van Wijk, van Vliet and Kolk, 1996; Azad et al., 2020).

### **2.3.1 Age and access to health care facilities**

Age is an important variable that influences access to health care when a woman is sick. *It is hypothesised that women make more demands on healthcare facilities throughout each stage of their lives compared to men of the same age.* Women, in their reproductive ages (15-49 years), utilise healthcare facilities more frequently than men within the same age group. They experience different health problems compared to their male counterparts due to pregnancy, menstruation and contraception (van Wijk, van Vliet and Kolk, 1996). They, therefore, consult healthcare professionals and facilities more frequently. Mothers and pregnant women utilise healthcare facilities more frequently due to prenatal and postnatal care and regular check-ups for children. Additionally, women consult healthcare facilities frequently during their old age as women have on average a higher life expectancy and are more vulnerable to communicable and non-communicable diseases such as HIV/AIDS, TB and major depressive disorders, therefore they may require more treatment and care during old age (World Health Organization, 2016).

### **2.3.2 Income level and access to health care facilities**

*It is assumed that women with high incomes are more likely to seek health care than women with less or no income.* The literature shows that income remains salient in accessing healthcare facilities. Despite primary health care services being offered free of charge (Tsawe and Appuni, 2014; McLauren, Ardington and Liebbrandt, 2014) and the removal of fees for pregnant and lactating women within the primary sector (Kirigia et al., 2005), there exists the assumption that higher income equals increased access to healthcare facilities among women. Women face financial barriers when accessing healthcare due to low income and limited employment opportunities, resulting in women saturating the informal labour market (Wickrama and Keith, 1990; Minyihun and Tessema, 2020). Buor (2004, p. 90) states that income opportunities are better in urban regions than in rural regions; therefore, "women in urban regions are more likely to have access to higher income than women in rural areas where the economy is collapsing". Furthermore, Buor (2004) highlights that in metropolitan areas where commercial and industrial activities are prominent, women are more likely to find employment and access income that lessens financial barriers to accessing healthcare facilities. Dawkins (2021) stipulates that the lack of access to money, low income, and dependence on social grants (Schatz, Madhavan and Williams, 2011) significantly impede access to healthcare facilities. Out-of-pocket payments and indirect costs of accessing healthcare create additional obstacles.

The costs associated with time and travel to healthcare facilities (McLauren, Ardington and Liebbrandt, 2013 and 2014), the cost of childcare for mothers seeking medical treatment (Moussie, 2016) and the cost of medication (Kabongo, 2015), further constrain women in accessing healthcare facilities, especially those with lower levels of income. The more a woman is employed, the greater her chances of earning income, which then facilitates accessing and utilising health care facilities.

### **2.3.3 Level of education and access to health care facilities**

*It is assumed that a high education level increases access to healthcare facilities among women heading households.* Education is vital in creating awareness about health issues and impacts the utilisation of healthcare facilities. Formal education is associated with better knowledge, understanding, and communication with healthcare providers (Agyemang and Asibey, 2018). Wong et al. (1994, as cited in Buor, 2004) highlight a correlation between educated women and increased healthcare utilisation. Similarly, Robinson and Wharrad (2000, as cited in Buor, 2004) found that female literacy influences access to healthcare services and facilities. Dawkins et al. (2021) identified factors influencing the decision to seek medical care, highlighting the lack of education. They found that the lack of education limited access to healthcare facilities as it is often associated with a lack of knowledge. Furthermore, Awoyemi, Obayelu and Opaluwa (2011) added that women with lower educational attainment are less likely to access healthcare facilities than women with higher educational attainment and literacy rates. This is because women with a lower level of education are often unable to understand healthcare matters, treatment options and instructions. Therefore, the higher the educational level, the more chances of accessing health facilities.

### **2.3.4 Area of residence and access to health care facilities**

*There is an assumption that women residing in urban areas are more likely to seek medical help than women living in rural areas when sick.* Area of residence and distance to healthcare facilities disproportionately affect access to healthcare among women. Several studies have assessed the difference in health care access and utilisation between urban and rural areas. These studies found that in utilising healthcare facilities, women in urban areas were able to access these services and facilities more frequently than women in rural areas (van Wijk, van Vliet and Kolk, 1990; Buor, 2004; Titus, McLauren, Ardington and Liebbrandt 2013 and 2014; Kabongo, 2015; Adebisola and Adenji, 2015; Dominic, Ogudipe and Ogundipe, 2019). Zere



and McIntyre (2003, as cited in Obuaku-Igwe, 2015) identified that residents of poor, non-urban and rural provinces, such as the Eastern Cape, are more likely to be in poor health and experience health inequalities as compared to residents that reside in urban regions and provinces. The accessibility of healthcare facilities and services generally declines with the decline in population density and the increase in geographical isolation (Chinyakata, Roman and Msiza, 2021). This implies that rural and remote areas that are less populated often lack health care resources, hospitals and specialised care (Chinyakata, Roman and Msiza, 2021). In Sub-Saharan Africa, the vast rural areas, such as the Eastern Cape Province, are underserved or unserved due to zero dilapidated or limited healthcare facilities and services.

Furthermore, Obuaku-Igwe (2015) highlights that individuals that reside in rural areas and former homelands in South Africa face access barriers such as long distances and lack of transportation when seeking medical care. Additionally, Dawkins (2021) identified geographical factors that influence access to healthcare facilities, which include transportation difficulties and inadequate terrain. Among women, access to healthcare facilities is disproportionate in urban and rural areas. In rural areas, healthcare facilities are sparse, whereas in urban areas, healthcare facilities are in closer approximation and more accessible (Tsawe and Appuni, 2014; Obuaku-Igwe, 2015; Ewing, Reid and Morris-Paxton, 2020). Therefore, living in rural areas decreases the chances of accessing health care facilities.

### **2.3.5 Medical aid and access to health care facilities**

*It is assumed that medical aid holders consult healthcare facilities more frequently than non-medical aid holders. In addition, medical aid holders tend to consult the private sector, while non-medical aid holder tends to consult the public sector.* The lack of medical aid coverage is a significant barrier in accessing health care services and facilities. Vulnerable populations are particularly at risk for lack of medical aid coverage, and low-income individuals are often uninsured. Tsawe and Appuni (2014) found that women who have medical insurance access maternal healthcare services more frequently than women who are not medical insurance members. Additionally, women who do not have medical insurance consult healthcare facilities less frequently due to the constraints of out-of-pocket payments (Ataguba and Goudge, 2012). Therefore, the greater the chance of a woman possessing medical aid, the greater her chances are of accessing health care for medical treatment.

## 2.4 The policy on health care access and use in South Africa

The United Nations Sustainable Development Goal 3.8 advocates for and strives towards safe, effective, quality and affordable medical care and healthcare services for all and universal health coverage. Similarly, the Declaration of Alma-Ata 1978 strongly affirms that health is a fundamental human right and that attaining the highest possible level of health is the most significant worldwide social goal. The World Health Organization declares that the right to healthcare encompasses discrimination-free access to health services, goods and facilities. Furthermore, all services, goods and facilities must be of good quality, available, accessible, and acceptable to all. South Africa's National Development Plan echoes this in its aim to provide equitable and universal healthcare coverage and access to quality and equal healthcare standards, despite financial status.

The right to access health care services is a fundamental human right guaranteed under the South African Constitution. The Constitution provides the right to healthcare services in three significant sections. Universal access is provided for in Section 27(1)(a), and states that everyone has the right to access healthcare services, including reproductive health care services. Section 27(1)(b) provides for the state to "take reasonable legislative and other measures, within its available resources to achieve the progressive realisation of the right". Section 27(1)(3) states that no one can be denied emergency medical treatment (South African Human Rights Commission, 2003 and 2017).

In 1994, a wide-ranging healthcare policy was introduced, including free access to health care for young children and the elderly and pregnant and nursing mothers. Subsequently, in 1996, free access to primary health care was extended to everyone. This policy was strongly influenced by the Declaration of Alma-Ata, 1978 (Koch, 2012). The Uniform Patient Fee Schedule (UPFS) implemented across provinces in 2001/2 was introduced in all public sector hospitals to charge patients according to the level of the hospital providing the treatment, the category of the medical staff providing the treatment and the income of the patient. Full-paying patients refer to private patients with health insurance, high-income levels, or are non-South Africans. The patient who receives social pensions or who are formally employed may receive some hospital health services free of charge, while other patients are partially subsidised depending on their income levels. This policy implementation was to regulate patient billings. Where patients could not pay for health care services, full subsidisation of services is provided for these patients, aiding in access and utilisation of healthcare services and facilities.

The National Drug Policy (NDP) 1996 aimed to increase access to safe and affordable medicines for all South Africans. The objective of the NDP was to promote the availability of safe and effective drugs at the lowest possible cost (Department of Health, 2019). Bigdeli et al. (2013) highlight that the average availability of medicine is higher in the private sector than in public healthcare facilities, although prices are often unaffordable in the former. Medicines account for a high proportion of health spending, which result in out-of-pocket payments. This inequitable mode of financing results in a significant financial burden for vulnerable populations and creates barriers to accessing healthcare. Thus, the NDP aims to provide all drugs at the primary care level free of charge. At the secondary and tertiary care levels, a fixed, affordable co-payment for drugs supplied by the State is levied. A system of exemption is established for patients without the resources to meet such payments to ensure they are not deprived of treatment (National Planning Commission, 2013).

The Constitution and the National Health Act 61 of 2003 (as amended) envisage a single health system for South Africa. However, in addition to public healthcare, several private healthcare service providers exist in the country. The right to access health care includes pregnant or lactating women and pregnant women eligible for termination of pregnancy services by choice of Termination of Pregnancy Act 92 of 1996 (Human Rights Commission, 2017). In addition, all children are entitled to access primary health care, a right reinforced by the special protections for children's rights entrenched in Section 28 of the Constitution. The right to health care can, however, be limited in certain instances, depending on the availability of resources. However, the right cannot be denied ultimately.

## **CHAPTER 3: METHODOLOGY**

This chapter discusses the data and the methodology which guided this study on the access and utilisation of healthcare facilities in the Eastern Cape Province. It highlights the research perspective and the reason why the methodology was used. The context of the study is discussed to provide an idea of the focus area of the study, as well as the participants, the methods of sampling and the data collection that Statistics South Africa conducted. The instrument used is the 2018 General Household Survey data that was retrieved from the University of Cape Town's DataFirst Website. This data was analysed in SPSS through suitable statistical tests.

### **3.1 Research perspective**

For this study, a quantitative research method was implemented. Quantitative research systematically investigates an identified problem based on testing a theory by gathering quantifiable data and using statistical techniques. Lartey (2018) states that the goal of quantitative methods is to determine whether the predictive generalisations of a theory hold. According to Holton and Berret (2005) and Apuke (2017), quantitative methods are particularly effective in attaining a deep and detailed understanding of a specific group or sample.

Hence, the study will employ a correlational research approach. A correlational research approach seeks to determine and then measure relationships between two variables (Holton and Berret, 2005; Apuke, 2017). This is in line with the aim of the study, which is to determine whether there are correlations between the independent (age, level of education, employment, income, area of residence and medical aid membership/access) and dependant (type of medical facility setting, means of transport, and travel time) variables of the study.

### **3.2 The context of the study**

The study is focused on identifying the determinants of access to healthcare facilities among women residing in the Eastern Cape Province. The Eastern Cape Province covers 13.8% of the total area of South Africa and accommodates over 11% of the total population (General Household Survey, 2018). Despite its accommodation of a relatively large population, access to essential services such as healthcare is scarce, inadequate and unable to accommodate all individuals seeking medical care. The Eastern Cape Province is predominantly rural and burdened by unemployment, poverty and disease. The province's infectious and chronic

diseases, coupled with malnutrition, is higher than the national average. In addition, immunisation and healthcare service delivery coverage are at its lowest (Ewing, Reid, Morris-Paxton, 2020). Due to its rural nature, healthcare facilities in the Eastern Cape Province are disproportionately distributed between metropolitan and non-metropolitan areas. This results in a varied degree of access among residents of the two areas. Therefore, the study was motivated by the limited amount of research conducted in the Eastern Cape Province regarding the factors that impede access to healthcare facilities among women.

### **3.3 The participants in the study**

The sample of the study included women who are heading households from the age of 12 years old and above residing in the Eastern Cape. Women comprise of 52.9% of the total population in the Eastern Cape Province (Statistics South Africa, 2014). They hold many roles in society and have to attend to employment responsibilities, household responsibilities, child rearing and often caregiving of others. This presents multiple factors that would restrict access to healthcare facilities among women, as women in their reproductive age and old age require frequent use and access to healthcare facilities. Thus, the sample included women in the Eastern Cape Province of all population groups, in both metropolitan, and non-metropolitan areas, to determine how numerous factors affect access to healthcare facilities among these women.

### **3.4 Data sources and methods**

This study used the 2018 General Household Survey (GHS) data conducted by Statistics South Africa. The General Household survey is a nationally representative survey that is conducted annually. The survey covers all household members in the nine provinces of South Africa, including workers in hostels. The data combines individual and household level demographic and socioeconomic characteristics, including household, education, well-being and healthcare characteristics. The General Household Survey was this study's primary, secondary data source. It is a reliable data source because it is conducted through government organisations with expertise in censuses, surveys and other data collection and analysis procedures. Additionally, secondary data sources such as government briefs released to the public, journal and peer-reviewed articles, reports and relevant surveys were consulted.

In regard to the data collection methods associated with the 2018 General Household Survey, data was collected by Statistics South Africa. The General Household Survey questionnaire was the primary instrument used to collect data. This consists of a household questionnaire and

a questionnaire administered to a household member to provide information regarding household members (General Household Survey, 2018). The questionnaire collected data on education, health, and social development through social assistance programmes (old age, disability, child support, foster care and care dependency grants), housing, access to services and facilities, food security and agriculture. The 2018 Survey's sample design was based on the 2013 master sample. The sampling procedure for the General Household Survey is based on a "stratified two-stage design with probability proportional to size sampling of primary sampling units in the first stage, and sampling of dwelling units with systematic sampling in the second stage" (General Household Survey, 2018, p.4). The sample is designed to be representative at the provincial level and at metropolitan and non-metropolitan areas and is further stratified by geography and population attributes using the 2011 Census Data. Enumerators were employed to conduct interviews and collect data from 3234 primary sampling units within the master sample, consisting of approximately 33000 dwelling units (Statistics South Africa, 2018).

### **3.5 Data analysis**

This study uses the General Household Survey 2018 data collected by Statistics South Africa. Since the data collected through Statistics South Africa is extensive, the data was analysed using SPSS version 28. The data was analysed through univariate, bivariate and multivariate analysis.

#### **3.5.1 Univariate analysis**

Univariate analysis is the method where the data being analysed contains only a single variable. Since only one variable is being analysed, it does not deal with causes or relationships. The univariate analysis describes the participants and determines the patterns of the percentages that exist within the dataset, and they are displayed through frequency tables and graphs.

#### **3.5.2 Bivariate analysis**

The bivariate analysis refers to the analysis of two variables to determine the relationships between them. The bivariate analysis was conducted to determine whether a statistical association exists between the independent (age, population group, level of education, employment, and income) and dependant variables (types of health facilities, travel time to the healthcare facilities, and means of transport to healthcare facilities) of women residing in

Eastern Cape. By employing cross-tabulation, the bivariate analysis results are displayed in a two-way table highlighting the patterns of percentages in the data.

Furthermore, the Chi-square test was used to determine whether there is an association between women's sociodemographic, socioeconomic and healthcare-related variables. This is done by comparing two variables in a contingency table. The level of significance is determined as a p-value between 0 and 1. If the p-value is less than 0.05, the test statistic is statistically significant; that is, a relationship exists between the two variables. If the p-value is greater than 0.05, it is not statistically significant; therefore, there is no relationship between the two variables.

In this study, Chi-square test statistics were appropriate because the variables were categorical and used to determine the association between women's characteristics and healthcare facilities-related variables. Phi and Cramer's V were additionally used to measure the strength of the relationship between women's characteristics and health facility-related variables.

The Chi-square test statistic formula:  $\chi^2 = \sum_{i=1}^k \frac{(O_i - E_i)^2}{E_i}$

### **3.5.3 Multivariate analysis**

Since the last objective of this study is to identify the factors determining access to healthcare facilities among women in Eastern Cape, the bivariate analysis was followed by multivariate analysis through binary logistic regression. Multivariate analysis is concerned with the relationships between two or more variables. Hence, multivariate analysis was conducted on the dataset through logistic regression. Logistic regression was the appropriate form of analysis due to the categorical nature of the variables.

#### **3.5.3.1 Logistic regression**

The determinants of access to healthcare were analysed using logistic regression analysis. Logistic regression is a statistical technique that analyses a dependent variable's relationship to one or more independent variables when the dependent variables are dichotomous. Logistic regression is a popular multivariable method in health-related research and health science (Park, 2013; Tsawe, 2019). This study's dependent variables included the type of medical facility setting, means of transport and travel time. The variables which consisted of more than two categories were dichotomised. Thus, logistic regression modelling is the appropriate method to measure the relationships between the dependent variables and the covariates.

$$\ln\left(\frac{P}{1-P}\right) = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \dots + \beta_ix_i$$

For this study, there are five dependent variables. The dependent variables are represented in the equation by (p/ 1-p). The regression coefficient ( $\beta_i$ ) is the increase in the logged odds of the outcome for one unit increase in the independent variable ( $x_i$ ). It measures the association between the independent variable and the logged odds (Park, 2013; Tsawe, 2019).

### **3.6 Description of variables**

#### **3.6.1 Dependant variables**

Three dependent variables were used in the analysis for this study: type of medical facility setting, means of transport, and travel time.

#### **3.6.2 Independent variables**

Seven independent variables were used in the analysis of this study to determine their influence on access to healthcare facilities among women residing in the Eastern Cape. The independent variables are age, population group, level of education, employment, income, area of residence and access to medical aid.

##### **3.6.2.1 Age group**

Age is important in understanding what factors influence women's access to healthcare facilities. According to the Children's Act 2005 (Act 38 of 2005), a child may independently consult and consent to his or her medical treatment if the child is over the age of 12 years old. For this study, females aged 12 years old were included. This question is asked to determine the ages and dates of birth of members of the sample. The respondents were asked, "What is (name)'s date of birth and age in completed years?" The question was categorised into sixteen categories. However, for this study, fourteen categories representing women at the legal age of consent, women during their reproductive years, and elderly women were used. The categories were (1) = 12- 14 years; (2) = 15–19 years; (3) = 20–24 years; (4) = 25–29 years; (5) = 30–34 years; (6) = 35–39 years; (7) = 40–44 years; (8) = 45–49 years; (9) = 50-54 years; (10) = 55-59 years; (11) = 60-64 years; (12) = 65-69 years; (13) 70-74 years; (14) = 75+ years.



### **3.6.2.2 Population group**

This variable was used to determine the population group of all members of the households. In order to determine the population group of household members, the respondents were asked “What population group does (name) belong to?” This variable was important because it reflects the composition of women in the Eastern Cape, which is the focus of this study. This variable additionally explores the differentials in access to healthcare among women of different ethnic groups. This question was categorised into four categories, (1) = African/Black; (2) = Coloured; (3) = Indian/Asian; and (4) = White.

### **3.6.2.3 Level of education**

The study assumes that women who are educated tend to seek healthcare treatment more often than women who are not educated. Thus, to determine the level of education of members of the household sampled, the question asked was, "What is the highest level of education that (name) has completed?" Only qualifications that were already obtained were entered. That means the current level, whereby a person is still busy with studies, is not applicable. This question was recoded into four categories (1) no education, (2) Primary education, (3) Secondary education, and (4) Tertiary education.

### **3.6.2.4 Area of residence**

This question was asked to determine the geographical type of the area of residence and the municipality type. As the geographic location of households plays an important role in accessing basic resources, this variable, therefore, explores the differentials in healthcare access between different geographical regions. The final coding for this question was: (1) = Urban; (2)= Traditional and Farms

### **3.6.2.5 Access to medical aid**

The study assumes that women who have access to medical aid coverage tend to consult healthcare facilities more often than women who do not have medical aid coverage. In addition, there is an assumption that women with medical aid tend to use private healthcare facilities rather than public healthcare facilities. Since healthcare beyond primary healthcare services is not free, this variable explores the differentials in access to healthcare facilities by way of access to medical aid coverage. This question was asked regarding medical aid schemes currently operational, which cover either partially or fully medical expenses. The 'Yes' category

includes everyone covered by the medical scheme. That means a person is not obliged to be the principal member of the scheme to qualify. The question had dichotomous categories :( 1) = Yes; (2) = No.

### **3.6.2.6 Monthly household income**

The study assumes that women in high-income households are more likely to consult healthcare facilities than those in low-income households. This question aimed to determine the total monthly salary of households. The final coding was: (1) No income (R 0); (2) Low income (R 1 to R 6000); (3) Middle income (R 6001 to R 15000) and (4) High income (R 15000+).

### **3.6.2.7 Types of medical facility setting**

This question aims to determine the place of consultation and whether public or private sector facilities were used. The public sector includes government, provincial and community institutions, while private sector facilities include private clinics and hospitals, surgeons and sangomas. The final coding was: within the public sector (01) = Hospital; (02) = Clinic; (03) = Other in the public sector and within the private sector; (04) = Hospital; (05) = Clinic; (06) = Private doctor/specialist; (07) = Traditional healer; (08) = Spiritual healer's workplace/church; (09) = Pharmacy/chemist; (10) = Health facility provided by employer; (11) = Alternative medicine; and (12) = Other in private sector. In this study, the data were recoded into two categories: (1) = Public sector and (2) = Private sector.

### **3.6.2.8 Means of transport**

This question was asked to all sample respondents regarding the usual means of transport they use to get to the health facilities. When accessing healthcare facilities, the means of access plays an important role. For this study, this variable is important in determining how women get to healthcare facilities. This is especially significant in the Eastern Cape, where the population is disproportionately divided between urban and rural/ traditional regions. The question is categorised into seven categories: (1) = Walking; (2) = Minibus taxi/sedan taxi/bakkie taxi; (3) = Bus; (4) = Train; (5) = Own transport; (6) = Bicycle/motorcycle; and (7) = other.

### **3.6.2.9 Time it takes to travel to a healthcare facility**

The question aims to assess the distance travelled by women to reach the nearest health facility. The options in the question are in terms of minutes since it is easier for people to estimate the time used to travel than the distance they travel. The question had four categories: (1) = Less than 15 minutes; (2) = 15–29 minutes; (3) = 30–89 minutes; and (4) = 90 minutes and more.

### **3.6.2.10 Reason for not using the nearest facility**

This question is asked to try and determine why some respondents prefer not to use the closest available medical facility. The question is categorised into ten groups: (01) = Facilities not clean; (02) = Long waiting time; (03) = Opening times not convenient; (04) = Too expensive; (05) = Drugs that were needed, not available; (06) = Staff rude or uncaring or turned patient away; (07) = Incorrect diagnosis; (08) = Not on medical aid scheme list of facilities; (09) = Prefer to use a state/provincial health institution; and(10) = Prefer to use a private health institution.

## **3.7 Chapter summary**

This chapter described the data and the methods used to analyse the study. It indicated that GHS 2018 secondary data was utilised to analyse women's access to healthcare facilities in the Eastern Cape Province. This chapter aimed to highlight the data analysis methods used to fulfil the purpose of this study, which is to identify the determinants of access to healthcare facilities among women in the Eastern Cape Province.

## **CHAPTER 4: RESULTS**

This chapter focuses on the data analysis of the determinants of access and utilization of healthcare facilities among women in the Eastern Cape Province. This study aims to determine the relationship between women's personal and socio-economic characteristics and their access and utilization of healthcare facilities. The study compares and describes the determinants of access and utilization of healthcare facilities between metropolitan and non-metropolitan areas. The analysis begins with a univariate analysis of the variables to assess the determinants of access and utilization of healthcare facilities. Using the Chi-square test statistic, a bivariate analysis was conducted to describe the association between the independent and dependent variables. The independent variables include age, population group, level of education, employment status, monthly household income, area of residence and access to medical aid. The dependent variables include medical facility setting, means of transport, and travel time.

### **4.1 The characteristics of the participants of the study**

The study focuses on the access and utilization of healthcare facilities among women. It involves women who reside in the Eastern Cape. The survey results of the characteristics of women surveyed in the Eastern Cape are summarized in Table 1 in Appendix 1. The results revealed that the total number of women aged 12 -75+ years enumerated in 2018 for the General Household Survey in the Eastern Cape was 3867. Most women (86.9%) in the Eastern Cape are African/ Black, followed by Coloureds, who account for 9.3% of women, and Whites, who account for 3.7% of women. There is, however, a small percentage of Indian/Asian women in the Eastern Cape, accounting for 0.1% of the enumerated population. A high percentage of women were between the ages of 25 and 44 years, at 31.1%. This was closely followed by women between the ages of 45-64 years (27.7%), 15-24 years (20.1%), and 65 years and older (12.5%). The smallest percentage of women fell within the under 15 age group, at 8.6%. Regarding marital status, the results indicate that 53.5% of women are single and have never been married, 22.2% of women are legally married and 15.5% of women are widowed.

The study found that 51.6% of women lived in the Eastern Cape's rural regions, compared to 48.4% of women residing in urban regions. This dispersion pattern was similarly observed among women in metropolitan and non-metropolitan areas, where 67.1% of women accounted for non-metropolitan residents, compared to the 32.9% of women in metropolitan areas.

Regarding educational attainment, the study found that most women in the Eastern Cape have attained secondary education or the equivalent (59.2%), and a small percentage of women are educated up to the tertiary level (8.8%). Women with primary education constitute 25.5% of the total survey population. However, some women have no schooling, but they only account for 6% of the total women surveyed. Considering women's income, the study analyzed the monthly household income of 3534 women between the legal working age of 15 in South Africa and 65 years. The study found that most of these women indicated that they had a monthly household income of zero Rands (28.4%). This is followed by women with a middle monthly household income, constituting 27.3% of the study sample.

With regard to income sources, the majority of women indicated that the primary source of income for their household was salaries, wages or commission (59.4%), this was followed by 20.7% of women indicating that grants were their main source of household income. A small percentage of women indicated that their household income was derived from business-related income (8.1%) and remittances (7.8%). Additionally, pensions constituted 2% of the primary income source among the household. The results indicated that among women 15 years and older, 61.3% of them were not economically active. 29.1% of women were employed compared to 9.6% of women who were not employed. The above statistics align with Kehler's findings (2001), indicating that most black women continue to live under poor conditions and in rural areas. These areas are characterized by a lack of socio-economic development and lack of employment and income generation opportunities (Perrot, 2017). Furthermore, the data corresponds with the findings of Dubihlela and Dubihlela (2004) and Nishimwe-Niyimbanira,, Ngwenya and Niyimbanira (2021) and that indicate that female-headed households are found to be the major grant recipients, yet they continue to be regarded as the poorest households, and women remain the most vulnerable population.

In terms of healthcare, the study found that only 10% of the women surveyed, aged 12 years, were members of medical aid schemes. As a result, when seeking medical help, most women (67.4%) sought care at clinics within the public sector, followed by 6% seeking healthcare treatment at public hospitals. As compared to the private sector, the majority of women (21.9%) sought care from a private doctor/ specialist, followed by private hospitals (1.5%) and private clinics (1.5%). A small percentage of women (0.8%) sought care from traditional healers or sangomas. In accessing healthcare facilities, the study found that most women (48.4%) walked to healthcare facilities. This was closely followed by those using a minibus taxi to get to health facilities, with 28.7% of the surveyed population using other means of transport. A significant

portion of women (21.8%) used their transport to access healthcare facilities, and a small percentage of women (0.2%) used bicycles/motorcycles to access healthcare facilities. The findings indicated that 43.7% of women took less than 15 minutes to access healthcare services, and 40.9% indicated that it took them between 15-29 minutes to reach health facilities. A smaller percentage (14%) of women indicated that it took them 30-89 minutes to access healthcare facilities. According to Bosanac et al. (1974, as cited in Pakoz and Yuzer, 2014), the maximum accepted travel time to access a non-emergency healthcare facility or service is 30 minutes worldwide. However, the World Health Organization recommends a two-hour threshold for defining access to emergency obstetric and surgical care, respectively.

Regarding accessing non-emergency health services, a small (1.4%) but significant number of women significantly surpass the acceptable 30-minute threshold. With regards to service satisfaction at healthcare facilities, the majority of women (60%) stated that they were delighted with the services they received, compared to 3.5% of women who stated that they were very dissatisfied. Of the respondents, 8.7% indicated they were neither satisfied nor dissatisfied. In accessing medical help, 5.6% (219) of females indicated that the health facility they sought treatment at was not the nearest healthcare facility to their dwelling. Regarding the reasons for not using the nearest facility, 53.9% of these women indicated they preferred a private health institution. This was closely followed by long waiting times (14.6%) and the required drugs not being available (8.2%).

## **4.2 The relationship between healthcare access and utilization and women's characteristics across areas of residence**

After the description of women living in Eastern Cape, the study carried out crosstabulation to assess the pattern of the percentages, which followed by Chi-square test statistic to measure the association between the variables.

### **4.2.1.1 Healthcare facility utilization by age**

The distribution between age and healthcare facility utilization in metropolitan areas is depicted in Table 2. The study discovered that women between the ages of 25 and 44 (35.8%) were the most common users of private healthcare facilities. This was followed by women between the ages of 45-64 (24.8%) and 15-24 (21.1%). Women younger than 15 and over 65 were among the minority of users of private healthcare facilities (6.9% and 11.5%, respectively). Furthermore, women between the ages of 25-44 constitute the majority of women who consulted public healthcare facilities. The second highest prevalence was recorded among women between the ages of 45-64 years and 15-24 years (29.5% and 17.9%, respectively) that utilized public healthcare facilities. Low utilization of public healthcare facilities was indicated among women younger than 15 years.

The relationship between the type of healthcare facility utilized and age in metropolitan areas was tested using Chi-square. A statistically non-significant relationship between the two variables was revealed through Chi-square ( $p=0.304>0.05$ ).

Furthermore, the distribution between healthcare facility utilization and age in non-metropolitan areas is depicted in Table 2. The study's findings reveal that women between the ages of 15-24 years, 25-44 years and 45-64 years displayed minimal differences in private healthcare utilization (23.2%, 26.6% and 23.7%, respectively). Additionally, these women constituted the majority of private healthcare users. The high incidence of private healthcare utilization among women may be due to events in their reproductive life, such as pregnancy, childbirth, infertility and menopause. These may result in them consulting private healthcare facilities more for better quality care and availability of obstetric care (Van Wijk et al., 1996; Maseko and Harris, 2018). Among women younger than 15 years, utilization of private healthcare facilities was the lowest (10.4%). Furthermore, the findings reveal a high prevalence of women between the ages of 25 and 44 years consulting public healthcare facilities (29.2%).

This was followed by women between the ages of 45-64 (28.8%) and 15-24 (19.8%). Women younger than 15 years and older than 65 were among the minority public healthcare users.

In addition to cross-tabulation, Chi-square and Cramer's V statistical tests were conducted to measure the relationship between healthcare facility utilization and age in non-metropolitan areas. The findings reveal a statistically significant relationship between the two variables ( $p=0.012<0.05$ ). Cramer's V indicates that a weak association (Cramer's V = 0.070) exists between age and healthcare facility utilization

**Table 2: Distribution of healthcare facility by age group across municipalities**

Metropolitan Areas						
Healthcare facilities	Age categories					
	Under 15 years	15 - 24 years	25 - 44 years	45 - 64 years	65+ years	Total
Private	28 6.9%	86 21.1%	146 35.8%	101 24.8%	47 11.5%	408 100.0%
Public	58 6.7%	155 17.9%	314 36.3%	255 29.5%	82 9.5%	864 100.0%
Total	86 6.8%	241 18.9%	460 36.2%	356 28.0%	129 10.1%	1272 100.0%
Non-metropolitan Areas						
Healthcare facility	Age categories					
	Under 15 years	15 - 24 years	25 - 44 years	45 - 64 years	65+ years	Total
Private	65 10.4%	145 23.2%	166 26.6%	148 23.7%	101 16.2%	625 100.0%
Public	182 9.2%	390 19.8%	576 29.2%	568 28.8%	254 12.9%	1970 100.0%
Total	247 9.5%	535 20.6%	742 28.6%	716 27.6%	355 13.7%	2595 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.1.2 Healthcare facility utilization by population group

Until recently, more than four times as much money was spent on healthcare for whites than for blacks in South Africa (Brauns, 2016). The distribution between healthcare facility utilization and population group is illustrated in Figure 6. The study's findings demonstrated that Black/African women were the majority of women who utilized healthcare facilities. The high prevalence of black women utilizing healthcare facilities is due to the history of South Africa, where the Eastern Cape is home to a predominantly Black population due to its history of being part of the homelands. The data shows that black women (71.6%) constituted the



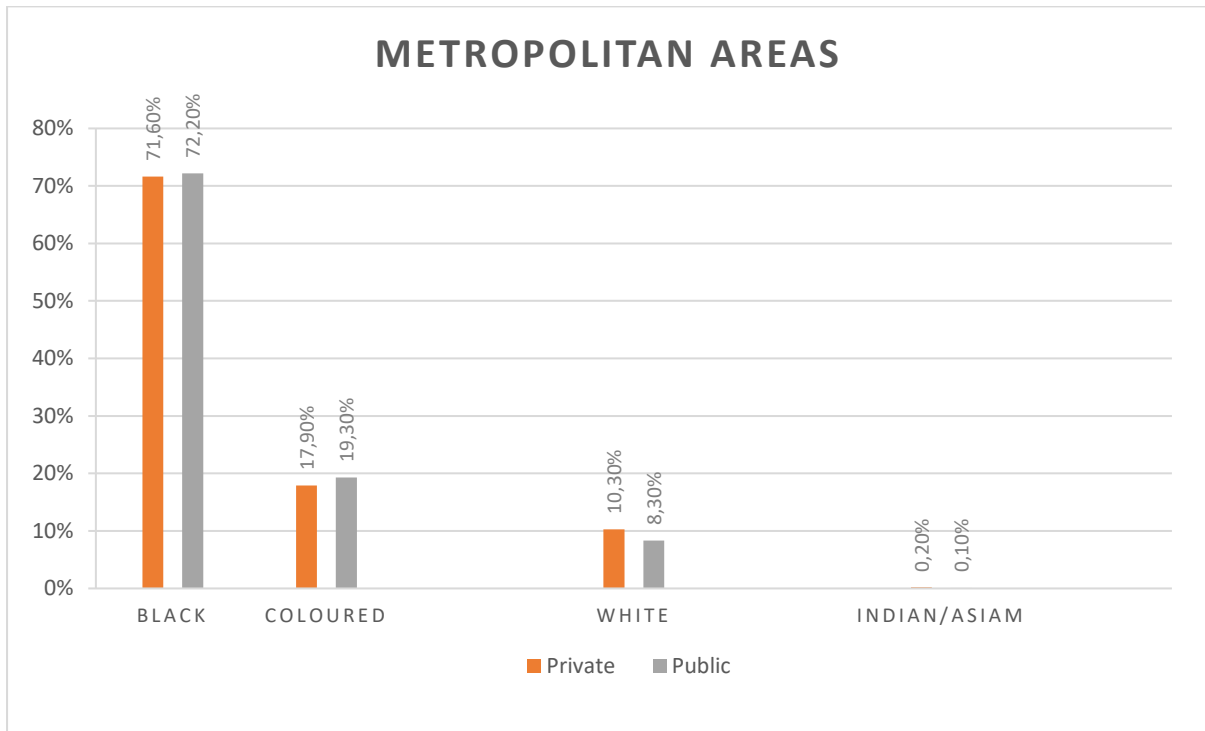
majority of women that utilized private healthcare facilities, followed by coloured women (17.9%) and white women (10.3%). A similar pattern was observed among women who utilized private healthcare facilities, where 72.2% were black women, 19.3% were coloured women, and 8.3% were white women. The findings indicated low utilization among Indian/Asian women that utilized private (0.2%) and public (0.1%) health facilities.

The Chi-square test statistic was used to measure the relationship between healthcare facility utilization and population group in metropolitan areas. The results indicate no statistically significant relationship between the two variables ( $p=0.614>0.05$ ).

Furthermore, looking at the distribution between healthcare facility utilization and population group in non-metropolitan areas as depicted in Figure 7, the study revealed that black women constituted the majority of women that utilized private healthcare facilities (97.4%). This was followed by coloured and white women that constituted less than 3% of women who utilized private facilities (2.1% and 0.5% respectively). Furthermore, a large proportion of black women (93.2%) utilized public healthcare facilities as compared to coloured (5.4%) and white (1.4%) women. The study's findings indicated that no Indian/Asian women were residents of non-metropolitan areas, therefore, did not utilize healthcare facilities in these districts.

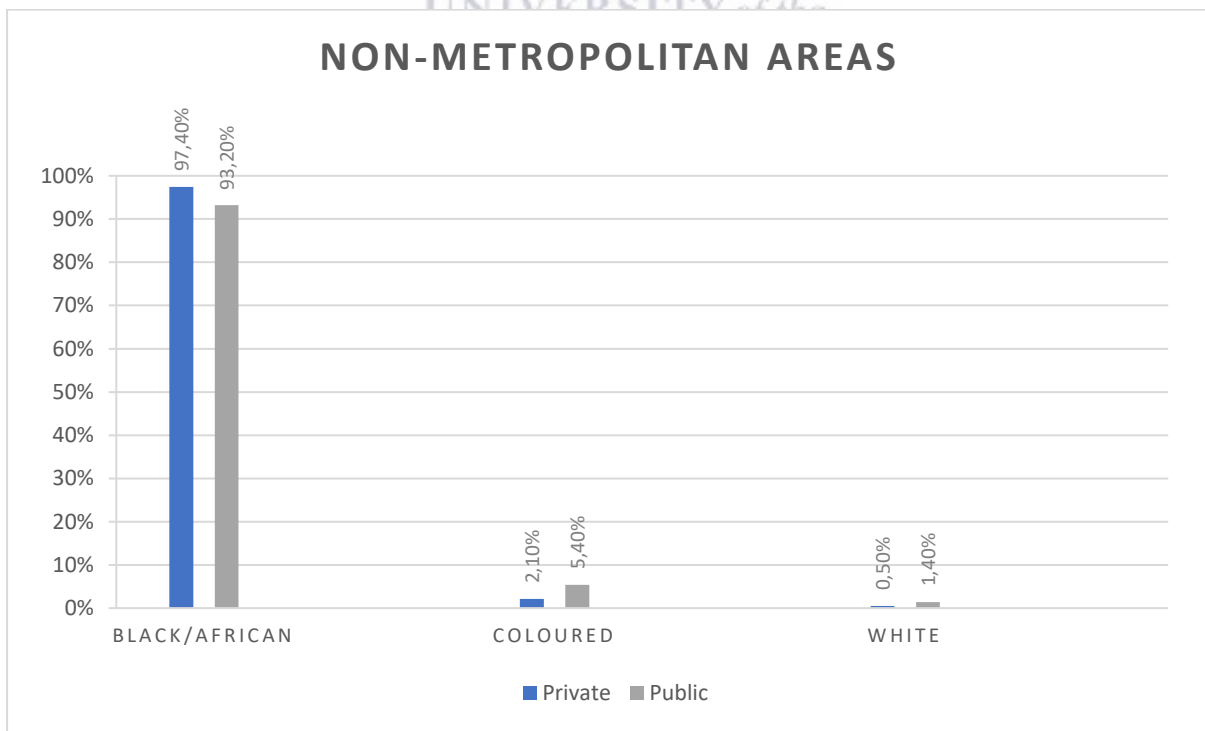
The Chi-square test statistic was used to test the relationship between healthcare facility utilization and population group in non-metropolitan areas. The findings indicate that, there is a significant relationship between population group and healthcare facility utilization where  $p=0.000<0.05$ . This implies that race is an important variable in accessing healthcare facilities. However, when Cramer's V was used to measure the strength of the association, a negligible association between the two variables was identified (Cramer's V = 0.078).

**Figure 6: Distribution of healthcare facility utilization by population group in metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

**Figure 7: Distribution of healthcare facility utilization by population group in non-metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

#### 4.2.1.3 Healthcare facility utilization by level of education

Table 3 depicts the distribution between healthcare facility utilization and level of education. The findings of the study revealed that women who are educated up until secondary level (80.9%) constitute the majority of women who utilized private healthcare facilities. Leonard (2000, as cited in Bour, 2004) and Agyemang and Asibey (2018) found that education relates strongly to the choice of the service provider. Patients at well-equipped private and mission facilities tend to be better educated than the population in general. This is followed by women with primary education (15.5%) and women without schooling (3%). Women who completed secondary education accounted for 80.9% of women who utilized public healthcare facilities, followed by women who completed their primary education (17.1%) and women who had no schooling (1.8%). Women who are educated up to the tertiary level constitute the least number of women that utilize private and public healthcare facilities (0.6% and 0.3%, respectively). This indicates that few women have tertiary education residing in metropolitan areas in Eastern Cape Province.

Further analysis was conducted using Chi-square to measure the relationship between healthcare facility utilization and level of education in metropolitan areas. The results indicate no significant relationship between the variables ( $p=0.238>0.05$ ).

With regards to the distribution between healthcare facility utilization and level of education in non-metropolitan areas, as depicted in Table 3. The findings of the study indicate that women with secondary education (59.2%) constituted the majority of women that utilized private healthcare facilities. This was closely followed by women with primary school education (31%). Low utilization was observed among women with no schooling (9.5%) and women with tertiary education (0.3%). Furthermore, 56.5% of women with secondary education utilized public healthcare facilities, followed by 34% with primary education and 9.1% with no schooling. A small proportion of women with tertiary education utilized public healthcare facilities (0.4%).

Statistical tests were conducted to determine whether there is a significance and an association between the type of healthcare facility utilized and the level of education by way of Chi-square. The results indicated no significance between the two variables as the p-value was greater than the cut-off value ( $p=0.499>0.05$ ).

**Table 3: Distribution of type of healthcare facility utilization by level of education across municipalities**

<b>Metropolitan Areas</b>					
Healthcare facilities	Education				
	No School	Primary	Secondary	Tertiary	Total
Private	11 3.0%	56 15.5%	293 80.9%	2 0.6%	362 100.0%
Public	13 1.8%	126 17.1%	596 80.9%	2 0.3%	737 100.0%
Total	24 2.2%	182 16.6%	889 80.9%	4 0.4%	1099 100.0%
<b>Non-metropolitan areas</b>					
Healthcare facilities	Education				
	No School	Primary	Secondary	Tertiary	Total
Private	56 9.5%	183 31.0%	349 59.2%	2 0.3%	590 100.0%
Public	167 9.1%	623 34.0%	1035 56.5%	7 0.4%	1832 100.0%
Total	223 9.2%	806 33.3%	1384 57.1%	9 0.4%	2422 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### **4.2.1.4 Healthcare facility utilization by employment status**

The distribution between healthcare facility utilization and employment status is illustrated in Table 4. The findings of the study reveal that economically inactive women constituted the majority of women that utilized private healthcare facilities (55%), followed by employed women (35.5%). A high prevalence of economically inactive women indicated utilizing public healthcare facilities, followed by employed women (36.8%). Low utilization was revealed among unemployed women when utilizing private (9.5%) and public (13.4%) healthcare facilities.

Further analysis was conducted using Chi-square to measure the significance and the strength of the relationship between healthcare facility utilization and employment status among women in metropolitan areas. The results revealed a non-statistically significant relationship between the two variables ( $p=0.091>0.05$ ).

Furthermore, the distribution between healthcare facility utilization and employment status in non-metropolitan areas is depicted in Table 4. The findings of the study indicate that there is a high prevalence of economically inactive women that utilize both private and public healthcare

facilities. Economically inactive women comprise the majority of women who utilize private healthcare facilities (68.4%). This is followed by employed women (24.6%) and unemployed women (7%). Economically inactive women may participate in unpaid work such as maintaining the household, child rearing and looking after relatives. Although this is unpaid work, they may receive an income from grants, pensions and remittances that enable them to seek care at private institutions or be taken care of by their loved ones such as children, parents or spouses. The findings reveal that economically inactive women account for most public healthcare users, compared to employed and unemployed women (25.7% and 8.7%, respectively). Out-of-pocket payments associated with utilizing healthcare facilities contribute to why economically inactive women opt to use public healthcare facilities. When accessing healthcare facilities, Jalali, Bikineh and Delaveri (2021) indicated that out-of-pocket payments are not an efficient way of financing health care and may negatively affect healthcare access, utilization and equity.

To ascertain the relationship between healthcare facility utilization and employment status in non-metropolitan areas, the Chi-square test statistic was used to measure the association. A non-significant relationship between the two variables was observed ( $p=0.333>0.05$ ).

**Table 4: Distribution of type of healthcare facility utilization by employment status across municipalities**

<b>Metropolitan Areas</b>				
Healthcare facility	Employment status			Total
	Employed	Unemployed	Not economically active	
Private	135 35.5%	36 9.5%	209 55.0%	380 100.0%
Public	297 36.8%	108 13.4%	401 49.8%	806 100.0%
Total	432 36.4%	144 12.1%	610 51.4%	1186 100.0%
<b>Non-metropolitan areas</b>				
Healthcare facility	Employment status			Total
	Employed	Unemployed	Not economically active	
Private	138 24.6%	39 7.0%	383 68.4%	560 100.0%
Public	460 25.7%	155 8.7%	1173 65.6%	1788 100.0%
Total	598 25.5%	194 8.3%	1556 66.3%	2348 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.1.5 Healthcare facility utilization by medical aid coverage

In South Africa, private health insurance schemes (referred to as medical aid schemes) exist. The majority of healthcare utilization in South Africa occurs in the public sector, both for outpatient services and for inpatient care. The main determinants of use of private healthcare services are having a membership of a medical scheme. This is particularly the case for inpatient care, where private hospitals are almost exclusively being used by medical scheme members (Ataguba and Goudge, 2012; McIntyre and Ataguba, 2017). The findings of the study, as depicted in Table 5, indicate that women utilize public healthcare facilities (67.9%) more as compared to women that utilize private healthcare facilities (32%). In the Eastern Cape, the medical aid coverage is only 10%, therefore the majority of women are expected to be without medical aid coverage. The findings indicate that among women who utilize private healthcare facilities, 83% are uninsured as compared to 17% of women that are medical aid members. The utilization of private healthcare facilities among non-scheme members is mainly to consult a private doctor/ specialist or general practitioner or to visit a pharmacy (McIntyre and Ataguba, 2017). With regards to utilizing public healthcare facilities, 80% of uninsured and 20% of insured women utilized these services. The high prevalence of non-medical aid members utilizing public healthcare facilities may be because public facilities such as clinics are easier to access as they might not require transport and are nearer to the community; and public healthcare facilities are free.

Furthermore, Chi-square test statistic was performed to determine the relationship between medical aid coverage and healthcare facility utilized in metropolitan areas. The findings of the study indicate that no statistical relationship existed between the independent and dependent variables, as the p-value ( $p=0.20$ ) was greater than the cut-off point of  $p=0.05$ .

Looking at the distribution between healthcare facility utilized and medical aid in non-metropolitan areas. The findings of the study indicate that medical aid non-membership is prevalent throughout non-metropolitan areas. This is as a result of the high prevalence of households who have limited financial resources, and who are not being able to afford the cost of medical aid coverage in addition to indirect healthcare expenditure. The study revealed that women without medical aid constituted the majority of women that utilized private healthcare facilities (95.7%) as compared to women who had medical aid (4.3%). Although this may be an unexpected result, women may be in the position to access and utilize private healthcare facilities when needed but may not be able to bare the monthly costs associated with

medical aid membership. Furthermore, medical aid non-members account for the majority of women that utilize public healthcare facilities (94%). A small proportion of medical aid members consult public healthcare facilities. Ataguba and Goudge (2012) and Thomson, Cylus and Evetovits (2019) explain that the co-payments and choice of low-cost options can create financial burdens for medical scheme members. With public sector services being available to a larger segment of the population, as compared to private healthcare facilities, scheme members may be inclined to utilize public healthcare facilities at a fraction of the cost.

Moreover, the study did not find any statistically significant relationship between healthcare facility utilization and medical aid coverage when conducting Chi-square statistical test ( $p=0.109>0.05$ ).

**Table 5: Distribution of type of healthcare facilities by medical aid coverage across municipalities**

<b>Metropolitan Areas</b>			
Healthcare facility	Medical aid coverage		
	Yes	No	Total
Private	69 17.0%	338 83.0%	407 100.0%
Public	172 20.0%	689 80.0%	861 100.0%
Total	241 19.0%	1027 81.0%	1268 100.0%
<b>Non-metropolitan areas</b>			
Healthcare facility	Medical aid coverage		
	Yes	No	Total
Private	27 4.3%	595 95.7%	622 100.0%
Public	118 6.0%	1835 94.0%	1953 100.0%
Total	145 5.6%	2430 94.4%	2575 100.0%

*Source: Author's own calculations from 2018 General Household Survey*

#### **4.2.1.6 Health facility utilization by monthly household income**

In numerous societies, there are individuals and groups placed in prominent economic status categories which have better privileges and opportunities to access better healthcare services than their low-income counterparts (Archibong et al., 2020). Table 6 depicts the distribution between healthcare facility utilization and monthly household income. In the private sector, the

healthcare facility and service utilization are highly tied to monetary terms and services are only rendered to those who patronize them (Archibong et al., 2020). Furthermore, Buor (2004) noted that the use of higher-level government and private healthcare services increased substantially with increasing income. The findings of the study indicated that women in high income households (52.9%) constituted the majority of women who utilized private healthcare facilities. This was followed by middle income households (17.9%) and no income households (17.6%). Women from low-income households accounted for most of those that utilized public healthcare facilities (40.7%). This was followed by no income households (26.2%). A small proportion of high-income households (10.3%) utilized public healthcare facilities. McIntyre and Ataguba (2017) indicated that the high socio-economic quintile tends to use public sector services the least, largely due to majority of medical scheme members being in this group. Furthermore, the findings of the study are supported by McIntyre and Ataguba (2017), who state that services at public sector healthcare facilities and district hospitals are most widely used by lower income and socio-economic groups.

Beyond cross-tabulation, Chi-square test was used to test the relationship between healthcare facility utilization and monthly household income in metropolitan areas. The results from Chi-square test show a statistically significant relationship between the dependent and independent variables ( $p=0.001<0.05$ ). Moreover, when Cramer's V was used to measure the strength of the association, the findings showed a relatively strong relationship (Cramer's  $V= 0.483$ ) between the two variables.

With regards to non-metropolitan areas, the findings of the study, depicted in Table 6, revealed that women in high income households (46.8%) constituted majority that utilized private healthcare facilities. This was followed by middle income households (24.1%), and no income households (15.9%). Govender et al. (2020) indicated that, among no and low-income patients i.e. workless patients, despite the greater expense of private healthcare facilities, a relatively high proportion of TB, HIV and chronically ill patients are treated in the private sector due to the need for specialized care. Additionally, preference for a private healthcare facility was associated with the quality of care received (Govender et al.,2020). The findings indicate that women in low income (37%) and no income (35.7%) households accounted for the majority of women that utilized public healthcare facilities in non-metropolitan areas. The study revealed low utilization of public healthcare facilities among women in middle income (18.1%) and high income (9.3%) households. Winchester and King (2018) indicated that in rural areas,



residents can access private physicians and healthcare at a fee, but in general rely on local clinics and regional hospitals to receive basic health services.

Furthermore, Chi-square test statistic was used to test the relationship between healthcare facility utilization and monthly household income, the findings indicated a statistically significant relationship between these two variables ( $p=0.000<0.05$ ). Further analysis was conducted to assess the strength of the relationship. Cramer's V analysis indicated a relatively strong association between the variables (Cramer's  $V=0.446$ ).

**Table 6: Distribution of type of healthcare facility utilization by monthly household income across municipalities**

<b>Metropolitan Areas</b>					
Healthcare facility	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Private	201 52.9%	44 11.6%	68 17.9%	67 17.6%	380 100.0%
Public	83 10.3%	328 40.7%	184 22.8%	211 26.2%	806 100.0%
Total	284 23.9%	372 31.4%	252 21.2%	278 23.4%	1186 100.0%
<b>Non-metropolitan areas</b>					
Healthcare facility	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Private	262 46.8%	74 13.2%	135 24.1%	89 15.9%	560 100.0%
Public	166 9.3%	661 37.0%	323 18.1%	638 35.7%	1788 100.0%
Total	428 18.2%	735 31.3%	458 19.5%	727 31.0%	2348 100.0%

*Source: Author's own calculations from 2018 General Household Survey*

#### **4.2.1.7 Healthcare facility utilization by residential area**

In accessing healthcare facilities, the range of services that are provided constitute a key element. Access to health care facilities that provide specialized healthcare services, such as termination of pregnancy and anti-retroviral treatment are a contributing factor which determine access patterns. Furthermore, previous studies show that healthcare facilities and personnel are concentrated in the urban areas (Fosu, 1989; Kabongo, 2015). The distribution between healthcare facility utilization and residential area is illustrated in Table 7. The findings

of the study show that urban residents (88.5%) utilized private healthcare facilities more often than rural residents (11.5%). Urban residents (91%) additionally constituted the majority of women that utilized public healthcare facilities, with a small portion of rural residents (9%) utilizing public healthcare facilities in metropolitan areas. Urban residents constituted the majority of healthcare facility users, as this is a result of a higher number of urban neighborhoods in metropolitan areas in the Eastern Cape. The prevalence of rural residents' utilization of healthcare facilities in metropolitan areas may be as a result of the large proportion of women who reside in peri-urban and rural settlements, which are located along the urban fringe. These women travel to urban areas to access quality care and timely treatment as rural facilities are often dilapidated, under resourced and inadequate.

The statistical relationship between health care facility utilization and area of residence was examined using Chi-square. The results showed no statistically significant relationship exists between the two variables ( $p=0.163>0.05$ ).

Furthermore, the distribution between healthcare facility utilization and residential area in non-metropolitan areas is additionally depicted in Table 7. The study revealed that a larger proportion of rural residents utilized private healthcare facilities (69.8%), as compared to urban residents (30.2%). Furthermore, women that reside in rural areas constitute the majority of women that utilize public healthcare facilities (68%), whereas urban residents constitute a small proportion (32%).

The relationship between the type of healthcare facility utilized and residential area was tested using Chi-square. A statistically non-significant relationship between the two variables was revealed through Chi-square ( $p=0.421>0.05$ ).

**Table 7: Differentials of type of healthcare facility utilization by area of residence across municipalities**

<b>Metropolitan Areas</b>			
Healthcare facility	Area of residence		
	Rural	Urban	Total
Private	47 11.5%	361 88.5%	408 100.0%
Public	78 9.0%	786 91.0%	864 100.0%
Total	125 9.8%	1147 90.2%	1272 100.0%
<b>Non-metropolitan Areas</b>			
Healthcare facility	Area of residence		
	Rural	Urban	Total
Private	391 69.8%	169 30.2%	560 100.0%
Public	1216 68.0%	572 32.0%	1788 100.0%
Total	1607 68.4%	741 31.6%	2348 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### **4.2.2 Means of transport to healthcare facilities**

A comparison between the means of transport to healthcare facilities and women's characteristics was carried out by crosstabulation, followed by Chi-square to measure the strength of the association.

##### **4.2.2.1 Means of transport to healthcare facilities by age**

Figure 8 indicates the distribution between means of transport and age among women living in metropolitan areas. The study found that women between the ages of 25-44 years (36.7%) constituted the majority of women that walked to healthcare facilities. This was followed by women who were between the ages of 45-64 years (30%) and 15-24 years (18.3%). Subsequently, women between the ages of 25-44 years (35.8%) and 45-64 years (27.5%) were the most common utilizers of minibus taxis. Low utilization of minibus taxis was indicated among women younger than 15 years (5.6%) and older than 65 years (10.7%). In addition, women between the ages of 45-64 made up majority of those who utilized buses to access healthcare facilities. The findings of the study indicate that women between the ages of 25-44 years (36%) and 45-64 years (25.8%) constituted the majority of women who used their own

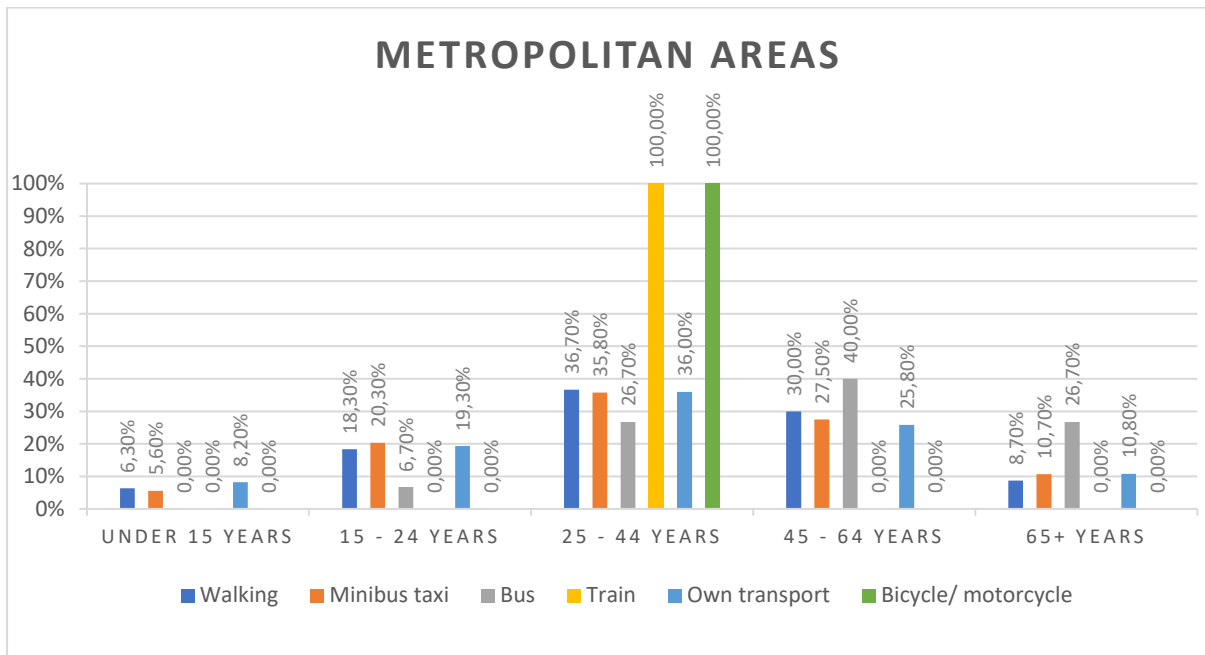
transport to access healthcare facilities. However, those between the ages of 25-64 years are in the prime of their careers or have established themselves in their careers, therefore they are able to afford their own transport. Lower utilization of own transport is indicated among women younger than 15 years (8.2%), between the ages of 15-24 years (19.3%) and older than 65 years (10.8%). Women that fall within these age categories might utilize their own means of transport through being passengers in the vehicles of family or friends (Mattson, 2011), as they are too old or too young to drive themselves.

Further statistical tests were carried out to assess the relationship between age and means of transport in metropolitan areas. Chi-square revealed a non-significant relationship between age and transport means ( $p=0.485>0.05$ ).

Looking at the distribution between means of transport and age among women living in non-metropolitan areas, as illustrated in Figure 9, the study revealed that a high proportion of women walked to healthcare facilities. Among these women, 29% accounted for women between the ages of 25-44; 27.4% accounted for women between the ages of 45-64 and 20.2% accounted for women between the ages of 15-24. Women between the ages of 45-64 added up to majority of women that utilized minibus taxis when seeking medical treatment. This was followed by women between the ages of 25-44 (29.3%) and 15-24 (18.7%). When accessing healthcare facilities, women between 25-44 years accounted for the majority that utilized their own means of transport at 25.8%. This was followed by women between 15-24 years (24.4%) and 45-64 years (24.2%). The study revealed an overall low utilization of trains and bicycles/motorcycles among women.

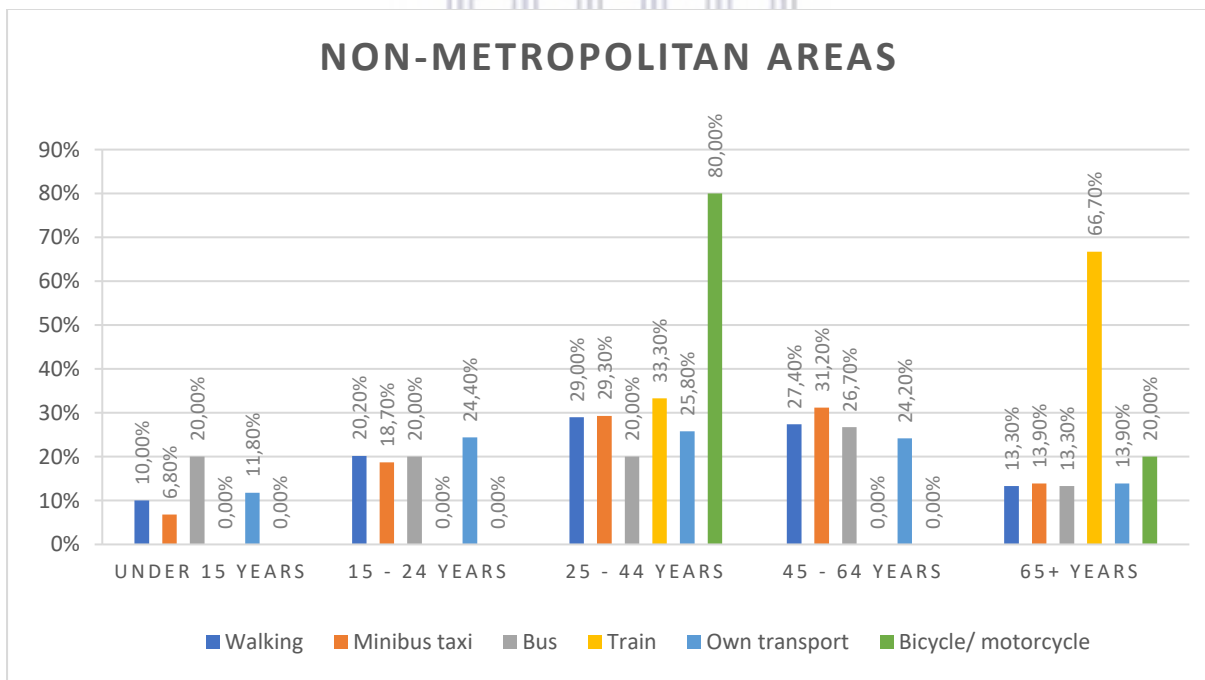
Statistical analysis was conducted using Chi-square and Cramer's V to measure the relationship between age and means of transport in non-metropolitan areas. The results indicate a statistically significant relationship between the two variables as the p-value is less than the cutoff point ( $p=0.009<0.05$ ). Cramer's V revealed that there is a very weak association between the dependent and independent variables (Cramer's V = 0.061).

**Figure 8: Distribution of means of transport by age group in metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

**Figure 9: Distribution of means of transport by age group in non-metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

#### **4.2.2.2 Means of transport to healthcare facilities by population group**

Table 8 indicates the distribution between means of transport and population group in metropolitan areas. The findings of this study show that black women (74.6%) accounted for the majority of women that walked to healthcare facilities. This was followed by coloured women (17.9%) and white women (7.5%). Black women (69%) constituted majority of women that utilized minibus taxis, followed by coloured women (21.1%) and white women (9.4%). Low utilization was realized among Indian/Asian women (0.5%). The findings showed that a large portion of black women used their own transport (70.5%) as compared to coloured (19%) and white women (10.5%). There was no use of personal transport indicated among Indian/Asian women. Furthermore, the findings indicate an overall low utilization of trains and bicycle/motorcycles.

To test the significance between means of transport and population group in metropolitan areas, Chi-square statistical test was conducted. The results demonstrated a statistically non-significant relationship between means of transport and population group ( $p=0.285>0.05$ ).

Additionally, the results of the cross-tabulation between means of transport and population group in non-metropolitan areas are depicted in Table 8. The study shows that black women accounted for the most of women that walked to healthcare facilities (94.5%). A small proportion of Coloured and white women walked to healthcare facilities (4.7% and 0.7% respectively). Among black women, the study showed a high utilization of minibus taxis (92.1%), as compared to Coloured (5.9%) and white women (2.1%). The study also revealed that among Coloured and white women there was low to zero utilization of buses, trains and bicycle/motorcycles. The utilization of own transport was found to be prevalent among black women (96.2%). Low utilization of own transportation was displayed among Coloured (2.9%) and white women (0.8%).

Further analysis was conducted using Chi-square test statistic to measure the significance between means of transport and population group in non-metropolitan areas. The results indicate a non-significant relationship between the variables ( $p=0.154>0.05$ ).

**Table 8: Distribution of means of transport by population group across municipalities**

<b>Metropolitan Areas</b>					
Healthcare facility	Race				
	Black/ African	Coloured	Indian/ Asian	White	Total
Walking	376 74.6%	90 17.9%	0 0.0%	38 7.5%	504 100.0%
Minibus taxi	258 69.0%	79 21.1%	2 0.5%	35 9.4%	374 100.0%
Bus	15 100.0%	0 0.0%	0 0.0%	0 0.0%	15 100.0%
Train	1 50.0%	1 50.0%	0 0.0%	0 0.0%	2 100.0%
Own transport	249 70.5%	67 19.0%	0 0.0%	37 10.5%	353 100.0%
Bicycle/ motorcycle	1 50.0%	1 50.0%	0 0.0%	0 0.0%	2 100.0%
Total	900 72.0%	238 19.0%	2 0.2%	110 8.8%	1250 100.0%
<b>Non-metropolitan Areas</b>					
Healthcare facility	Race				
	Black/African	Coloured	White	Total	
Walking	1263 94.5%	63 4.7%	10 0.7%	1336 100.0%	
Minibus taxi	660 92.1%	42 5.9%	15 2.1%	717 100.0%	
Bus	14 93.3%	1 6.7%	0 0.0%	15 100.0%	
Train	3 100.0%	0 0.0%	0 0.0%	3 100.0%	
Own transport	458 96.2%	14 2.9%	4 0.8%	476 100.0%	
Bicycle/ motorcycle	5 100.0%	0 0.0%	0 0.0%	5 100.0%	
Total	2403 94.2%	120 4.7%	29 1.1%	2552 100.0%	

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.2.3 Means of transport to healthcare facilities by level of education

According to the study, results show that women with secondary education constituted the majority of women who walked to healthcare facilities (80.7%). This was followed by women with primary education (17.4%) and women without schooling (1.6%). Women with tertiary education constituted the minority who walked to healthcare facilities (0.2%). However, the

study showed that those with secondary education (83.5%) were more likely to utilize minibus taxis as compared to women with primary education (14.6%) and no schooling (1.9%). The study also revealed low utilization of buses among women across all levels of education. Women with secondary education (58.3%) constituted the majority of bus users, followed by women with primary education (25%). Women without schooling and tertiary education utilized buses the least (8.3% and 8.3%, respectively). Women with secondary education accounted for the majority of women that utilized their own form of transport (80.1%), followed by women with primary education (16.3%) and women with no education (2.9%). The distribution between means of transport and level of education in metropolitan areas is displayed in Table 9.

In order to measure the relationship between means of transport and level of education in metropolitan areas, the Chi-square test statistic was utilized. This study indicated a statistically significant relationship between the dependent and independent variables ( $p=0.039<0.05$ ). Cramer's V revealed that there is a very weak association between the dependent and independent variables (Cramer's  $V = 0.080$ ).

Furthermore, Table 9 depicts the distribution between means of transport and level of education in non-metropolitan areas. Women with secondary education (55.2%) were more likely to walk to healthcare facilities as compared to women with no education (9.1%), primary education (35.4%) and tertiary education (0.3%). Those women who have received secondary education constituted the majority of women that utilized minibus taxis (59.9%). This was followed by women with primary education (30.1%) and no education (9.2%). The study revealed a low utilization of buses. Women with secondary education accounted for 40% of women that utilized buses, followed by women with primary education (33.3%) and no education (26.7%). Women with secondary education constituted the majority of women that utilized their transport when accessing healthcare facilities, followed by women with primary education (33.5%) and women with no education (8.1%). The study further indicated that less than 0.5% of women utilized trains, bicycles/motorcycles to access healthcare facilities.

Further analysis was conducted using the Chi-square test statistic to measure the significance and the strength of the relationship between means of transport and level of education among women. The results revealed no statistically significant relationship between the two variables ( $p=0.408>0.05$ ).



**Table 9: Distribution of means of transport by level of education across municipalities**

<b>Metropolitan Areas</b>					
Means of transport	Education				
	No School	Primary	Secondary	Tertiary	Total
Walking	7 1.6%	75 17.4%	347 80.7%	1 0.2%	430 100.0%
Minibus taxi	6 1.9%	47 14.6%	268 83.5%	0 0.0%	321 100.0%
Bus	1 8.3%	3 25.0%	7 58.3%	1 8.3%	12 100.0%
Train	0 0.00%	0 0.00%	1 100.00%	0 0.00%	1 100.0%
Own transport	9 2.9%	51 16.3%	250 80.1%	2 0.6%	312 100.0%
Bicycle/ motorcycle	0 0.0%	0 0.0%	2 100.0%	0 0.0%	2 100.0%
Total	23 2.1%	176 16.3%	875 81.2%	4 0.4%	1078 100.0%
<b>Non-metropolitan Areas</b>					
Means of transport	Education				
	No School	Primary	Secondary	Tertiary	Total
Walking	114 9.1%	441 35.4%	688 55.2%	4 0.3%	1247 100.0%
Minibus taxi	62 9.2%	202 30.1%	402 59.9%	5 0.7%	671 100.0%
Bus	4 26.7%	5 33.3%	6 40.0%	0 0.0%	15 100.0%
Train	0 0.0%	1 33.3%	2 66.7%	0 0.0%	3 100.0%
Own transport	36 8.1%	148 33.5%	258 58.4%	0 0.0%	442 100.0%
Bicycle/ motorcycle	1 25.0%	1 25.0%	2 50.0%	0 0.0%	4 100.0%
Total	217 9.1%	798 33.5%	1358 57.0%	9 0.4%	2382 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.2.4 Means of transport to healthcare facilities by employment status

The study's findings indicated in Table 10 show that most women in metropolitan areas who walked to healthcare facilities were not economically active (51.7%), followed by women who are employed (36%). Walking was also indicated as the most common means of transport to healthcare facilities. This is because the Eastern Cape is predominantly rural. Therefore, weathering and the lack of repairs on coastal roads account for poor public transportation

options for fixed community health services (Ewing, Reid and Morris-Paxton, 2020). Utilizing a minibus taxi was the second most common form of transport, with 49.9% of economically inactive women utilizing this form of transport, followed by 36.5% of those women. The study indicated a low utilization of buses among employed (20%) and unemployed women (13.3%), whilst the use of bus services was relatively common among economically inactive women (66.7%). Trains and bicycles/motorcycles were women's least utilized means of transport. Ewing, Reid and Morris-Paxton (2020) state that this low utilization is due to the absence of railway lines, roads and weather conditions that are not conducive to using motorcycles or bicycles.

The study found that many women used their transport when accessing healthcare facilities. Among these women, 52.8% were economically inactive, followed by 37.7% who were employed. The high prevalence of own transport utilization among economically inactive women is twofold. Firstly, predominantly older people take care of children (Ewing, Reid and Morris-Paxton, 2020); thus, they depend on family and friends to provide transportation to healthcare facilities (Mattson, 2011; Wolfe et al., 2020). The median age in the Eastern Cape is 18 years (Simelane, 2002). Thus, younger women depend on their parents to transport them to healthcare facilities. A small percentage of unemployed women (9.6%) utilized their means of transport.

To evaluate the statistical relationship between means of transport and employment status in metropolitan areas, the Chi-square statistical test indicated a non-significant relationship between the dependent and independent variables due to a high p-value ( $p=0.338>0.05$ ).

According to the World Bank (1994), it is reported that in developing countries, lack of transport and inadequate roads create significant barriers for women to reach relatively nearby healthcare facilities. Thus, walking is a primary mode of transport, especially for rural women who live on the urban peripheries and lack adequate means of transportation (Buor, 2004; Kaiser and Barstow, 2022). Looking at non-metropolitan area's findings, as depicted in Table 10, it is evident that economically inactive women accounted for most women walking to healthcare facilities. This was followed by employed women (24.8%) and unemployed women (7.4%). Walking remains women's most prevalent means of transport, irrespective of employment status. Economically inactive women utilize minibus taxis more as compared to unemployed women (64.4% and 9.6% respectively). The study revealed an overall low utilization of buses, trains and bicycles/motorcycles, with a proportion of less than 1% of

women utilizing these means. Economically inactive women constituted 65.7% of women that utilized their own transport, followed by employed women (25.7%) and unemployed women (8.6%).

To evaluate the statistical relationship between means of transport and employment status in non-metropolitan areas. The Chi-square test statistic showed a non-significant relationship between the dependent and independent variables due to a high p-value ( $p=0.826>0.05$ ).

**Table 10: Distribution of means of transport by employment status across municipalities**

<b>Metropolitan Areas</b>				
Means of transport	Employment status			Total
	Employed	Unemployed	Not economically active	
Walking	170 36.0%	58 12.3%	244 51.7%	472 100.0%
Minibus taxi	129 36.5%	48 13.6%	176 49.9%	353 100.0%
Bus	3 20.0%	2 13.3%	10 66.7%	15 100.0%
Train	2 100.0%	0 0.0%	0 0.0%	2 100.0%
Own transport	122 37.7%	31 9.6%	171 52.8%	324 100.0%
Bicycle/ motorcycle	0 0.0%	1 50.0%	1 50.0%	2 100.0%
Total	426 36.5%	140 12.0%	602 51.5%	1168 100.0%
<b>Non-metropolitan Areas</b>				
Means of transport	Employment status			Total
	Employed	Unemployed	Not economically active	
Walking	298 24.8%	89 7.4%	815 67.8%	1202 100.0%
Minibus taxi	174 26.0%	64 9.6%	430 64.4%	668 100.0%
Bus	4 33.3%	0 0.0%	8 66.7%	12 100.0%
Train	1 33.3%	0 0.0%	2 66.7%	3 100.0%
Own transport	108 25.7%	36 8.6%	276 65.7%	420 100.0%
Bicycle/ motorcycle	1 20.0%	0 0.0%	4 80.0%	5 100.0%
Total	586 25.4%	189 8.2%	1535 66.5%	2310 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.2.5 Means of transport to healthcare facilities by medical aid coverage

The distribution between transportation means and medical aid coverage in metropolitan areas is depicted in Table 11. The study's findings indicate that uninsured women had a significantly higher chance of walking to healthcare facilities than insured women (81.3% compared to 18.7%). Regarding women that utilized a minibus taxi to access healthcare facilities, 80.4% of women were non-medical aid members compared to 19.6% of medical aid members. The findings depict that the majority of women that utilized their own transport were non-medical aid members (80.7%). The high prevalence of minibus taxis and own transport utilization among non-medical aid members is due to the high expenditure on accessing healthcare facilities. When accessing healthcare facilities, vulnerable groups such as female-household heads and the elderly have to decide whether financial resources will be put towards healthcare facilities or medical aid coverage. Further findings from this study showed a low utilization of trains and bicycles/motorcycles among uninsured women, whereas women who had medical aid did not utilize these means of transport.

The findings of this study indicated that the relationship between medical aid coverage and means of transport were statistically non-significant when the Chi-square statistical test was employed ( $p=0.955>0.05$ ).

Additionally, in Table 11 the distribution between means of transport and medical aid coverage in non-metropolitan areas is depicted. The study discovered that medical aid non-members were likelier to walk to healthcare facilities (94.6%) than medical aid holders (5.4%). Medical aid non-members constituted the majority of women that utilized minibus taxis when accessing healthcare facilities (94.2%). Low utilization of buses was indicated among medical aid holders (7.1%) compared to non-medical aid members (92.9%). Medical aid non-members constitute the majority of women that utilized their own transport when accessing healthcare facilities (94.1%), whereas medical aid members accounted for a small proportion (5.9%).

The Chi-square test statistic was used to test the relationship between medical aid coverage and means of transport in non-metropolitan areas. The results from the Chi-square test show a statistically non-significant relationship between the independent and dependent variables ( $p=0.977>0.05$ ).

**Table 11: Distribution of means of transport by medical aid coverage across municipalities**

<b>Metropolitan Areas</b>			
Means of transport	Medical aid coverage		
	Yes	No	Total
Walking	94 18.7%	409 81.3%	503 100.0%
Minibus taxi	73 19.6%	299 80.4%	372 100.0%
Bus	3 20.0%	12 80.0%	15 100.0%
Train	0 0.0%	2 100.0%	2 100.0%
Own transport	68 19.3%	284 80.7%	352 100.0%
Bicycle/ motorcycle	0 0.0%	2 100.0%	2 100.0%
Total	238 19.1%	1008 80.9%	1246 100.0%
<b>Non-metropolitan Areas</b>			
Means of transport	Medical aid coverage		
	Yes	No	Total
Walking	71 5.4%	1254 94.6%	1325 100.0%
Minibus taxi	41 5.8%	670 94.2%	711 100.0%
Bus	1 7.1%	13 92.9%	14 100.0%
Train	0 0.0%	3 100.0%	3 100.0%
Own transport	28 5.9%	446 94.1%	474 100.0%
Bicycle/ motorcycle	0 0.0%	5 100.0%	5 100.0%
Total	141 5.6%	2391 94.4%	2532 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### **4.2.2.6 Means of transport to healthcare facilities by monthly household income**

Financial access is considered one of the most important determinants of access and is most directly associated with dimensions of poverty. Besides the direct cost of treatment and informal payments, indirect costs deter the poor from seeking treatment. These indirect costs include the opportunity cost of time for the patient and those accompanying him or her and transportation costs. There is an increasing focus on these financial barriers to accessing care and the economic consequences of paying for health services (Peters et al., 2008; Thomson, Cylus and Evetovits, 2019). The distribution between means of transport and monthly household income is depicted in Table 12. The data shows that among low-income, no-income and middle-income households, there was a high prevalence of women that walked to healthcare facilities (39%, 25.8% and 22.7%, respectively). Depending on the availability of healthcare services, relatively high transport costs are incurred, particularly in rural areas (McIntyre and Ataguba, 2017). As a result, van Biljon and van Niekerk (2021) highlighted that poverty is the principal reason adults walk to healthcare facilities. According to Mokoena, Schellack and Brink (2021), the minibus taxi industry plays an integral part in society. It is the most abundant form of transportation available to the public as they are affordable and used by low to middle-income groups.

This study found that the majority of women in low-income households utilized a minibus taxi (41.9%) to access healthcare facilities. In contrast, only a tiny proportion of women from high-income households utilized a minibus taxi (9.3%). The study's findings further found that there was low overall utilization of trains, where most women were from low-income households (40%), and the minority were from middle-income households (13.3%). The findings indicate that women in high-income households account for the majority of women that utilize their transport, followed by no income (17.9%) and middle-income households (17.9%). The high prevalence of own transport utilization in accessing healthcare facilities among high-income households may be due to their ability to maintain the associated costs. The prevalence of own transport utilization among no-income households is an unexpected result because, generally, one would expect that households with limited financial resources would be unable to maintain their own means of transport financially. However, Gray (2004) and Varela et al. (2019) highlights that car ownership is higher among the rural poor than among those on low incomes

and that rural households would not own a car if they lived in an area with adequate public transport and facilities.

Furthermore, the Chi-square test statistic was used to test the relationship between means of transport and monthly household income. The findings indicated a significant relationship between these two variables ( $p=0.000<0.05$ ). Further analysis was conducted to assess the strength of the relationship. Cramer's V analysis indicated a moderate association between the variables (Cramer's V= 0.291; Phi=0.505).

Looking at the distribution between means of transport and monthly household income of women living in non-metropolitan areas, as depicted in Table 12, it was discovered that walking was most prevalent across all income groups except among high-income households. Women in low-income (37.9%), no-income (33.4%) and middle-income households (19.2%) constituted the majority of women that stated they walked to healthcare facilities, as compared to women in high-income households (9.4%). Women in no-income and low-income (34.3%) households (34.7%) accounted for the majority of women that utilized minibus taxis. Further, low utilization was observed when utilizing bus services to access healthcare facilities. However, the study revealed that 58.3% of women in no-income households utilized buses. This may be due to the costs associated with utilizing a bus, although bus fare is an additional out-of-pocket expense. A one-off monthly bus fare may be more affordable to these women than continuous out-of-pocket payments on travel. High-income women accounted for the majority of women that utilized their own transport when seeking medical help (54%). Low utilization of own transport to healthcare facilities was observed among no-income (17.6%) and low-income households (7.1%).

The relationship between means of transport and monthly household income was examined using the Chi-square and Cramer's V. The results showed a statistically significant relationship between the two variables ( $p=0.000<0.05$ ). Cramer's V indicated a moderate association between healthcare facility utilized and the area of residence (Cramer's V =0.268; Phi=0.464).

**Table 12: Distribution of means of transport by monthly household income across municipalities**

<b>Metropolitan Areas</b>					
Means of transport	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Walking	59 12.5%	184 39.0%	107 22.7%	122 25.8%	472 100.0%
Minibus taxi	33 9.3%	148 41.9%	81 22.9%	91 25.8%	353 100.0%
Bus	4 26.7%	6 40.0%	2 13.3%	3 20.0%	15 100.0%
Train	1 50.0%	1 50.0%	0 0.0%	0 0.0%	2 100.0%
Own transport	184 56.8%	24 7.4%	58 17.9%	58 17.9%	324 100.0%
Bicycle/ motorcycle	0 0.0%	0 0.0%	1 50.0%	1 50.0%	2 100.0%
Total	281 24.1%	363 31.1%	249 21.3%	275 23.5%	1168 100.0%
<b>Non-metropolitan Areas</b>					
Means of transport	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Walking	113 9.4%	456 37.9%	231 19.2%	402 33.4%	1202 100.0%
Minibus taxi	77 11.5%	232 34.7%	130 19.5%	229 34.3%	668 100.0%
Bus	2 16.7%	3 25.0%	0 0.0%	7 58.3%	12 100.0%
Train	1 33.3%	1 33.3%	0 0.0%	1 33.3%	3 100.0%
Own transport	227 54.0%	30 7.1%	89 21.2%	74 17.6%	420 100.0%
Bicycle/ motorcycle	1 20.0%	2 40.0%	1 20.0%	1 20.0%	5 100.0%
Total	421 18.2%	724 31.3%	451 19.5%	714 30.9%	2310 100.0%

Source: Author's own calculations from 2018 General Household Survey



#### 4.2.2.7 Means of transport to healthcare facilities by residential area

The distribution between means of transport and area of residence in the metropolitan areas is illustrated in Table 13. The data shows that women residing in urban areas (93.1%) accounted for the majority of women walking to healthcare facilities, compared to rural residents (6.9%). More so, the study's findings indicate a high prevalence of urban residents that utilize minibuses and their own transport (89.8% and 86.7%, respectively), compared to women in rural areas (10.2% and 13.3%, respectively). Low utilization of buses was observed between urban (93.3%) and rural (6.7%) residents, and no utilization of trains and bicycles/motorcycles was indicated between rural residents in metropolitan areas. The relationship between means of transport and residential area was tested using the Chi-square test statistic, which showed a statistically non-significant relationship between the two variables ( $p=0.066>0.05$ ).

When patients try to access healthcare services, time, distance and cost constraints related to transportation usage lead to a lack of healthcare access. Transportation barriers are especially prevalent among poorer and rural populations, which are disadvantaged in transport utilization owing to geographical inconveniences, inability to drive, lack of private cars and financial difficulties in paying for public transportation (Syed, Gerber and Sharp, 2013; Varela et al., 2019). Looking at non-metropolitan areas, the study's findings, as depicted in Table 13, indicate that rural residents (72.5%) were more likely to walk to healthcare facilities than urban residents (27.5%). Walking remains prevalent in rural areas due to the lack of reliable transportation to health facilities, especially in areas where many roads are still non-paved. The only reliable means of public transportation is minibus taxis, as roads and terrain are unsuitable for trains, buses, or motorcycles.

Additionally, rural residents (62.1%) constituted the majority of women that utilized minibus taxis when accessing healthcare facilities. The study revealed a low utilization of buses, trains and bicycles/motorcycles among women in metropolitan areas due to unfavorable terrain and inappropriate infrastructure for these vehicles. Rural residents accounted for 66.7% of women that utilized their own means of transport, compared to 33.3% of urban women. To ascertain the relationship between means of transport and area of residence in non-metropolitan areas, Chi-square test statistic was used to measure the association. A significant relationship between the two variables was observed ( $p=0.000<0.05$ ). However, when the strength of this relationship was measured, Cramer's V indicated a weak association between means of transport and area of residence (Cramer's  $V=0.104$ ).

**Table 13: Distribution of means of transport by area of residence across municipalities**

<b>Metropolitan Areas</b>			
Means of transport	Area of residence		
	Rural	Urban	Total
Walking	35 6.9%	469 93.1%	504 100.0%
Minibus taxi	38 10.2%	336 89.8%	374 100.0%
Bus	1 6.7%	14 93.3%	15 100.0%
Train	0 0.0%	2 100.0%	2 100.0%
Own transport	47 13.3%	306 86.7%	353 100.0%
Bicycle/ motorcycle	0 0.0%	2 100.0%	2 100.0%
Total	121 9.7%	1129 90.3%	1250 100.0%
<b>Non-metropolitan Areas</b>			
Means of transport	Area of residence		
	Rural	Urban	Total
Walking	871 72.5%	331 27.5%	1202 100.0%
Minibus taxi	415 62.1%	253 37.9%	668 100.0%
Bus	10 83.3%	2 16.7%	12 100.0%
Train	2 66.7%	1 33.3%	3 100.0%
Own transport	281 66.9%	139 33.1%	420 100.0%
Bicycle/ motorcycle	2 40.0%	3 60.0%	5 100.0%
Total	1581 68.4%	729 31.6%	2310 100.0%

*Source: Author's own calculations from 2018 General Household Survey*

### **4.2.3 Travel time to healthcare facilities among women in Eastern Cape**

A comparison between the time taken to travel to healthcare facilities and women's characteristics was carried out by crosstabulation, followed by Chi-square to measure the strength of the association.

#### **4.2.3.1 Travel time by age**

The distribution between travel time and age in metropolitan areas is depicted in Table 16. This study found that women between the ages of 25-44 and 45-64 were more likely to travel less than 15 minutes to healthcare facilities compared to women younger than 15 years and older than 65 years. Women between the ages of 25-44 (37%) constituted the majority of women who travelled between 15-29 minutes, followed by women between 45-64 years (27.6%) and 15-24 years (17.6%). Women younger than 15 years constituted the least number of women that travelled between 15-29 minutes. Furthermore, when accessing healthcare facilities, a small proportion of women indicated having to travel more than 30 minutes. Women between 15-24 years (21.9%), 25-44 (34.8%) and 45-64 years (25.2%) accounted for the majority of women that travelled between 30-89 minutes. The study's findings revealed that women between the ages of 15-24 (42.6%) were the majority that travelled 90 minutes and more when accessing healthcare facilities. This was followed by women between 25-44 years (28.6%) and 45-64 years (14.3%).

The statistical relationship between age and travel time in metropolitan areas was tested using Chi-square test statistic. A non-significant relationship was indicated between the two variables ( $p=0.689>0.05$ ).

Regarding non-metropolitan areas, the findings of the study, depicted in Table 16, revealed that the majority of women indicated they travel less than 15 minutes when accessing healthcare facilities. Among these women, 28.9% constituted women between 25-44 years, 26.3% for women between 45-64 years, and 21.6% for women between 15-24 years. This is an unexpected result as several studies have indicated that rural residents travel longer distances when accessing healthcare facilities due to their remoteness. Notably, women between the ages of 25-44 and 45-64 constituted the majority of women that travelled between 15-29 minutes to a healthcare facility (27.9% and 27.7%, respectively). Those between 25-44 years (30.2%) and 45-64 years (30.4%) accounted for the majority of women that travelled between 30-89

minutes. However, a small proportion of women indicated travelling 90 minutes and more when accessing a healthcare facility. Among these women, women between 45-64 years (47.4%) constituted the majority, followed by women between 15-24 years (18.4%).

The relationship between travel time and age was tested using Chi-square test statistic. A non-significant relationship between the two variables was revealed ( $p=0.117>0.05$ ).



**Table 14: Distribution of travel time by age group across municipalities**

<b>Metropolitan Areas</b>						
Time travelled	Age categories					
	Under 15 years	15 - 24 years	25 - 44 years	45 - 64 years	65+ years	Total
Less than 15 minutes	32 6.1%	100 19.1%	186 35.6%	156 29.8%	49 9.4%	523 100.0%
15-29 minutes	41 7.2%	100 17.6%	210 37.0%	157 27.6%	60 10.6%	568 100.0%
30-89 minutes	12 7.7%	34 21.9%	54 34.8%	39 25.2%	16 10.3%	155 100.0%
90 minutes and more	1 7.1%	6 42.9%	4 28.6%	2 14.3%	1 7.1%	14 100.0%
<b>Total</b>	<b>86 6.8%</b>	<b>240 19.0%</b>	<b>454 36.0%</b>	<b>354 28.1%</b>	<b>126 10.0%</b>	<b>1260 100.0%</b>
<b>Non-metropolitan Areas</b>						
Time travelled	Age categories					
	Under 15 years	15 - 24 years	25 - 44 years	45 - 64 years	65+ years	Total
Less than 15 minutes	107 9.3%	247 21.6%	331 28.9%	301 26.3%	160 14.0%	1146 100.0%
15-29 minutes	107 10.8%	206 20.7%	278 27.9%	276 27.7%	128 12.9%	995 100.0%
30-89 minutes	26 6.8%	69 18.1%	115 30.2%	116 30.4%	55 14.4%	381 100.0%
90 minutes and more	3 7.9%	7 18.4%	5 13.2%	18 47.4%	5 13.2%	38 100.0%
<b>Total</b>	<b>243 9.5%</b>	<b>529 20.7%</b>	<b>729 28.5%</b>	<b>711 27.8%</b>	<b>348 13.6%</b>	<b>2560 100.0%</b>

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.3.2 Travel time by population group

The study's findings revealed that in metropolitan areas, black women accounted for a large portion of women that travelled less than 15 minutes (66.9%), followed by 23.7% of coloured women and 9.4% of white women. Most women, irrespective of ethnicity, indicated that they travel between 15-29 minutes when seeking medical treatment. Among these women, black women are the majority (72.7%) followed by coloured women (17.1%) and white women (10%). Indian/Asian women accounted for a minor proportion of those that travelled between 15-29 minutes (0.2%). A small percentage of women (13.4%) indicated that they travel more than 30 minutes when accessing a healthcare facility. Black women constituted 85.2% of women that travelled between 30-89 minutes, compared to white women (2.6%). Furthermore,

the findings revealed that only black (85.7%) and white (14.3%) women travelled 90 minutes and more to healthcare facilities. Table 15 below gives a summary of the study's findings.

To ascertain the relationship between travel time and population group in metropolitan areas, the Chi-square statistical test was used to measure the association. A significant relationship between the two variables was observed ( $p=0.000<0.05$ ). However, when the strength of this relationship was measured, Cramer's V indicated a negligible association between travel time and population group (Cramer's  $V=0.092$ ). Therefore, it can be concluded that the population group can determine travel time among women in metropolitan areas.

Moreover, the distribution between travel time and population group among women living in non-metropolitan areas is depicted in Table 15. The study's findings indicated that black women (97.4%) accounted for the majority of women who travelled less than 15 minutes when accessing healthcare facilities. Additionally, the majority of black women travelled between 15-29 minutes (93.5%), compared to Coloured and white women (5% and 1.5%, respectively). A small percentage of women indicated travelling more than 30 minutes to a healthcare facility. Among these women, black women were significantly more likely than white women to travel between 30-89 minutes to a healthcare facility (89.2% compared to 1.3%). Furthermore, black women constituted 65.8% of women that travelled 90 minutes or more to a healthcare facility, whereas no white women indicated travelling  $m=90$  minutes and more.

The Chi-square test statistic was used to test the relationship between travel time and population group in non-metropolitan areas. The findings indicate a significant relationship between travel time and population group where  $p=0.000<0.05$ . In addition, when Cramer's V was used to measure the strength of the association, a weak association between the two variables was identified (Cramer's  $V = 0.153$ ).

**Table 15: Distribution of travel time by population group across municipalities**

<b>Metropolitan Areas</b>					
Time travelled	Race				
	Black/ African	Coloured	Indian/ Asian	White	Total
Less than 15 minutes	350 66.9%	124 23.7%	0 0.0%	49 9.4%	523 100.0%
15-29 minutes	413 72.7%	97 17.1%	1 0.2%	57 10.0%	568 100.0%
30-89 minutes	132 85.2%	18 11.6%	1 0.6%	4 2.6%	155 100.0%
90 minutes and more	12 85.7%	0 0.0%	0 0.0%	2 14.3%	14 100.0%
Total	907 72.0%	239 19.0%	2 0.2%	112 8.9%	1260 100.0%
<b>Non-metropolitan Areas</b>					
Time travelled	Race				
	Black/African	Coloured	White	Total	
Less than 15 minutes	1116 97.4%	20 1.7%	10 0.9%	1146 100.0%	
15-29 minutes	930 93.5%	50 5.0%	15 1.5%	995 100.0%	
30-89 minutes	340 89.2%	36 9.4%	5 1.3%	381 100.0%	
90 minutes and more	25 65.8%	13 34.2%	0 0.0%	38 100.0%	
Total	2411 94.2%	119 4.6%	30 1.2%	2560 100.0%	

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.3.3 Travel time by level of education

The distribution between travel time and level of education in metropolitan areas is depicted in Table 16. The study revealed that women who were educated until the secondary level (82.5%) constituted the majority of women that travelled less than 15 minutes to healthcare facilities. This was followed by women with primary education (15.3%) and no schooling (1.8%). Women with secondary education accounted for 72.3% of women that travelled between 15-29 minutes, followed by women with primary education (15.9%) and women with no schooling (1.6%). A small number of women that received tertiary education travelled less than 15 minutes and between 15-29 minutes (0.4% and 0.4%, respectively). Women that have received secondary education accounted for 62.2% of women that travelled between 30-89 minutes, followed by women with primary education (14.9%) and women who have received no

schooling (4.7%). Among women who travelled 90 minutes and more, women with secondary education are the majority (91.7%) compared to women with primary education (8.3%). The results from the Chi-square test show a statistically significant relationship between the dependent and independent variables ( $p=0.039<0.05$ ).

Looking at the distribution between travel time and level of education in non-metropolitan areas, women with secondary education were more likely to travel less than 15 minutes to healthcare facilities than women with no schooling (9.3%) and primary education (31.7%). The study's findings indicated that the majority of women with secondary education travelled between 15-29 minutes to healthcare facilities, followed by women with primary education (29.3%) and no education (8.9%). A small proportion of women with tertiary education travelled between 15-29 minutes to healthcare facilities (0.5%). Women that travelled more than 30 minutes to healthcare facilities constituted 16.5%. Women with secondary education accounted for 60.1% of women who travelled between 30-89 minutes, followed by 29.3% of women with primary education and 10.1% with no education. A low prevalence of women travelled 90 minutes and more. Among these women, those with primary education (50%) constituted the majority of women that travelled 90 minutes and more, followed by women with secondary education (47.2%) and no education (2.8%).

Chi-square test statistic and Cramer's V were utilized to evaluate the statistical relationship between travel time and level of education. The Chi-square test statistic indicated a non-significant relationship between the dependent and independent variables due to a high p-value ( $p=0.234>0.05$ ).



**Table 16: Distribution of travel time by level of education across municipalities**

<b>Metropolitan Areas</b>					
Time travelled	Education				
	No School	Primary	Secondary	Tertiary	Total
Less than 15 minutes	8 1.8%	69 15.3%	372 82.5%	2 0.4%	451 100.0%
15-29 minutes	9 1.6%	89 15.9%	404 72.3%	2 0.4%	559 100.0%
30-89 minutes	7 4.7%	22 14.9%	92 62.2%	0 0.0%	148 100.0%
90 minutes and more	0 0.0%	1 8.3%	11 91.7%	0 0.0%	12 100.0%
Total	24 1.9%	181 14.6%	879 71.1%	4 0.3%	1236 100.0%
<b>Non-metropolitan Areas</b>					
Time travelled	Education				
	No School	Primary	Secondary	Tertiary	Total
Less than 15 minutes	100 9.3%	340 31.7%	631 58.8%	2 0.2%	1073 100.0%
15-29 minutes	83 8.9%	335 36.1%	505 54.4%	5 0.5%	928 100.0%
30-89 minutes	36 10.1%	105 29.3%	215 60.1%	2 0.6%	358 100.0%
90 minutes and more	1 2.8%	18 50.0%	17 47.2%	0 0.0%	36 100.0%
Total	220 9.2%	798 33.3%	1368 57.1%	9 0.4%	2395 100.0%

Source: Author's own calculations from 2018 General Household Survey

#### 4.2.3.4 Travel time by employment status

Access to healthcare is a measure of human well-being that is limited by many factors of geographic variation. Due to the clustering of healthcare facilities in densely populated areas, individuals living in remote regions often experience increased health-related burdens, including travel times when seeking healthcare (Bai, Goa and Dong, 2022). In this study, the results depicted in Figure 10 highlight the distribution between travel time and employment status. The findings of this study indicate that among women who travelled less than 15 minutes to healthcare facilities, the majority were economically inactive women (52.5%), followed by 37.5% of employed women and 10% of unemployed women. Regarding women that travelled between 15-29 minutes, 51.2% were economically inactive, compared to 34.2% of women that were employed.

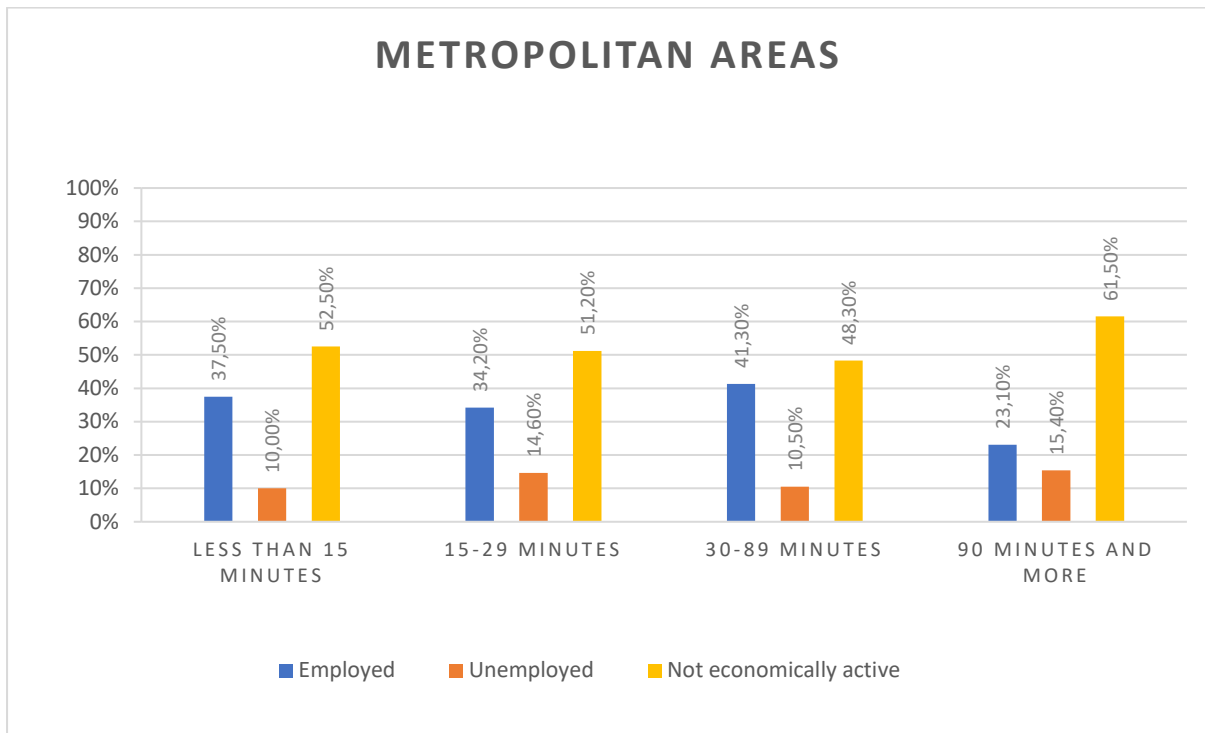
Women who are employed often have the financial means to cover the costs associated with travelling and are more likely to access transport means than unemployed women who cannot finance additional travel expenses. The findings indicated that a small portion of women travelled 30-89 minutes. Among these women, the study found a difference of 7% between employed women and economically inactive women. In their study, Bai, Goa and Dong (2022) stated that dispersed populations and healthcare facilities inevitably cause residents to spend more time accessing healthcare facilities, which significantly affects low-income and unemployed/inactive populations because they often live in remote and poorly accessible areas. However, with regard to employed women that have increased travel time, Escamilla et al. (2018) state that women often bypass facilities closest to home due to poor quality and their ability to afford transport costs to travel further for adequate healthcare. A small percentage of employed (23.1%) and unemployed (15.4%) women travelled 90 minutes and more to healthcare facilities.

Further statistical analysis was conducted to determine whether there is a significance and an association between the time taken to travel to healthcare facilities and employment status through Chi-square. The results indicated a non-significant relationship between the two variables ( $p=0.234>0.05$ ).

Regarding non-metropolitan areas, the findings of the study, as illustrated in Figure 11, indicate that women in non-metropolitan areas that are economically inactive constitute the majority of women that travel less than 15 minutes to a healthcare facility. This was followed by employed women (24.2%) and unemployed women (7.4%). Among women that indicated travelling between 15-29 minutes to healthcare facilities, 64.3% constituted economically inactive women compared to 9.5% that constituted unemployed women. The study's findings indicate a low prevalence among women that travelled more than 30 minutes to healthcare facilities. Economically inactive women were 2.4 times more likely to travel between 30-89 minutes as compared to employed women (64.5% and 26.5%, respectively). Economically inactive women were more likely to travel 90 minutes and more to healthcare facilities (71.4%).

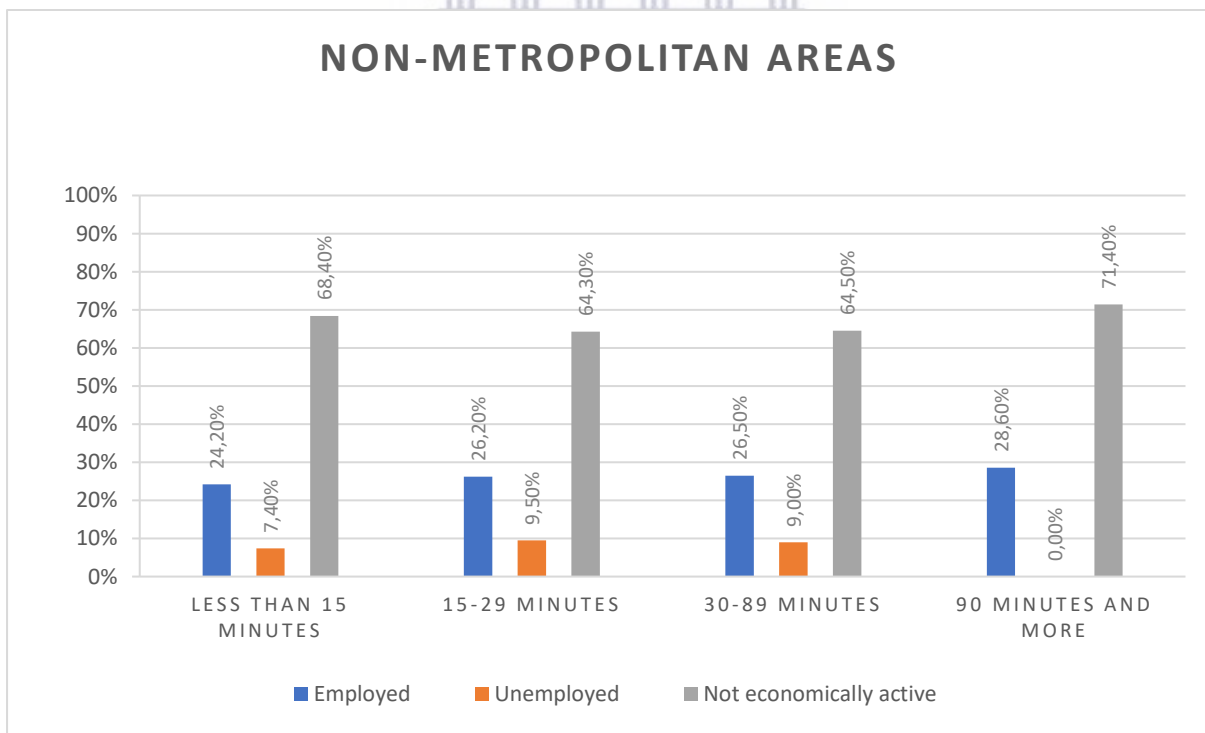
When the Chi-square test statistic was used to test the relationship between the two variables, the findings indicated a statistically non-significant relationship between travel time and employment status ( $p=0.219>0.05$ ).

**Figure 10: Distribution of travel time by employment status in metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

**Figure 11: Distribution of travel time by employment status in non-metropolitan areas**



Source: Author's own calculations from 2018 General Household Survey

#### 4.2.3.5 Travel time by medical aid coverage

The distance people need to travel to a health facility is a key element of access and utilization of healthcare facilities. There are considerable differences in households' proximity to a healthcare facility between rural and urban areas and socioeconomic groups (McIntyre and Ataguba, 2017). Table 17 indicates the time travelled to healthcare facilities by medical aid coverage among women in metropolitan areas. The study's findings indicate that among women who travelled less than 15 minutes to a healthcare facility, 81.6% accounted for women without medical aid coverage and 18.4% with medical aid coverage. Where women indicated, they travelled between 15-29 minutes to a healthcare facility, 81% of them were uninsured. Escamilla et al. (2018) indicated that women would travel further to obtain family planning services from higher-quality facilities. The data shows that 78% of uninsured and 21.6% of insured women travelled 30-89 minutes to a healthcare facility. Stock (1983, as cited in McLauren, Ardington and Leibbrandt, 2013; Zhou et al., 2020) states that the type of healthcare facility influences distance decay. People travel further the higher the facility's position in the service hierarchy (i.e., tertiary hospital vs local clinic). This may be due to obtaining specialized services, better quality medical care, or treatment for more serious illnesses. Thus, the longer travelling times among insured women may be due to seeking private healthcare facilities and uninsured women seeking available and quality healthcare services. A small proportion of women (1%), irrespective of medical aid coverage status, travelled 90 minutes and more to healthcare facilities.

Chi-square test statistic was used to test the relationship between medical aid coverage and travel time. The results indicate a statistically non-significant relationship between the independent and dependent variables ( $p=0.601>0.05$ ).

Looking at non-metropolitan areas, the data shows that many women travelled less than 30 minutes when accessing healthcare facilities. The findings reveal that 95% of medical aid non-members and 5% of medical aid members travelled less than 15 minutes to healthcare facilities. Among women that travelled between 15-29 minutes, 93.4% constituted non-medical aid members, and 6.6% constituted medical aid members. Furthermore, the findings indicate that the majority of women who are non-medical aid members travel longer than 30 minutes. 94.9% of uninsured women travel between 30-89 minutes, and 94.6% of women travel 90 minutes or more, as compared to medical aid members (5.1% and 5.4%, respectively).

Beyond cross-tabulation, Chi-square was used to test the relationship between time travelled and monthly household income. The test shows a statistically non-significant relationship between the dependent and independent variables ( $p=0.406>0.05$ ).

**Table 17: Distribution of travel time by medical aid coverage across municipalities**

<b>Metropolitan Areas</b>			
Time travelled	Medical aid coverage		
	Yes	No	Total
Less than 15 minutes	96 18.4%	426 81.6%	522 100.0%
15-29 minutes	108 19.0%	460 81.0%	568 100.0%
30-89 minutes	33 21.6%	120 78.4%	153 100.0%
90 minutes and more	1 7.7%	12 92.3%	13 100.0%
Total	238 18.9%	1018 81.1%	1256 100.0%
<b>Non-metropolitan Areas</b>			
Time travelled	Medical aid coverage		
	Yes	No	Total
Less than 15 minutes	57 5.0%	1087 95.0%	1144 100.0%
15-29 minutes	65 6.6%	919 93.4%	984 100.0%
30-89 minutes	19 5.1%	357 94.9%	376 100.0%
90 minutes and more	2 5.4%	35 94.6%	37 100.0%
Total	143 5.6%	2398 94.4%	2541 100.0%

*Source: Author's own calculations from 2018 General Household Survey*

#### **4.2.3.6 Travel time by monthly household income**

In South Africa, people are often inconvenienced by travelling long distances to visit more than one service point to obtain the health care services they need from government facilities. This is because some of these people form part of the low-income population who tend to reside in the more peripheral locations of the urban areas or marginalized areas of the city (Mokgalaka, 2014). The distribution between travel time and monthly household income in metropolitan areas is illustrated in Table 18. The study's findings show that women in high-income and low-income households accounted for the majority of women who travelled less than 15 minutes to

a healthcare facility (29.7% and 30.1%, respectively). This was followed by women in middle-income and no-income households (20.6% and 19.6%, respectively). Women in low-income households constituted the majority that travelled between 15-29 minutes, followed by women in middle-income households (23.9%), no-income households (23.5%) and high-income households (22.4%). Low-income households (38.5%) constituted the majority of women who travelled between 30-89 minutes, compared to high-income households (11.2%). The findings indicated that only 1% of women travelled 90 minutes and more to healthcare facilities. Among these women, women in no-income households constituted the majority (53.8%), whereas no women in high-income households indicated travelling 90 minutes or more. The study's findings show a transparent income gradient in proximity to healthcare facilities. Women in low-income households constitute the majority of women that travel longer to access healthcare facilities due to physical distance, costs of services and availability of health facilities and services.

Chi-square and Cramer's V statistical tests were conducted to test the relationship and strength of association between travel time and monthly household income. The study's findings indicated a statistically significant relationship between the two variables ( $p=0.000<0.05$ ). Furthermore, Cramer's V indicated a relatively strong association (Cramer's  $V = 0.483$ ) exists between the dependent and independent variables.

Regarding non-metropolitan areas, the study discovered that most women in non-metropolitan areas, irrespective of monthly household income, travelled less than 15 minutes to a healthcare facility. Women with no income (27.3%) and low income (26.5%) constituted a slightly higher proportion of women that travelled less than 15 minutes to healthcare facilities. Similarly, women in no-income (30.4%) and low-income households (34.5%) were more likely to travel between 15-29 minutes as compared to women in middle-income (18.6%) and high-income (16.6%) households. The findings indicated that travelling between 30-89 minutes was more common among no-income (41.7%) and low-income (36.6%) households than among women in middle-income (12.1%) and high-income (9.6%) households.

Beyond cross-tabulation, Chi-square was used to test the relationship between travel time and monthly household income. The results from the Chi-square test show a statistically significant relationship between the dependent and independent variables ( $p=0.001<0.05$ ). Moreover, when Cramer's V was used to measure the strength of the association, the findings showed a weak association (Cramer's  $V= 0.113$ ) between the two variables.

**Table 18: Distribution of travel time by monthly household income across municipalities**

<b>Metropolitan Areas</b>					
Time travelled	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Less than 15 minutes	146 29.7%	148 30.1%	101 20.6%	96 19.6%	491 100.0%
15-29 minutes	118 22.4%	159 30.2%	126 23.9%	124 23.5%	527 100.0%
30-89 minutes	16 11.2%	55 38.5%	23 16.1%	49 34.3%	143 100.0%
90 minutes and more	0 0.0%	5 38.5%	1 7.7%	7 53.8%	13 100.0%
Total	280 23.9%	367 31.3%	251 21.4%	276 23.5%	1174 100.0%
<b>Non-metropolitan Areas</b>					
Time travelled	Monthly household income				
	High Income	Low Income	Middle Income	No Income	Total
Less than 15 minutes	240 23.1%	275 26.5%	240 23.1%	284 27.3%	1039 100.0%
15-29 minutes	147 16.6%	306 34.5%	165 18.6%	270 30.4%	888 100.0%
30-89 minutes	34 9.6%	130 36.6%	43 12.1%	148 41.7%	355 100.0%
90 minutes and more	3 8.6%	15 42.9%	1 2.9%	16 45.7%	35 100.0%
Total	424 18.3%	726 31.3%	449 19.4%	718 31.0%	2317 100.0%

Source: Author's own calculations from 2018 General Household Survey

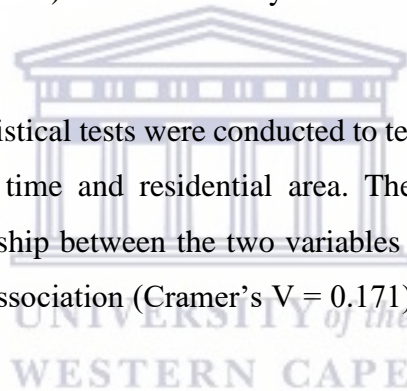
#### 4.2.3.7 Travel time by residential area

In metropolitan areas, the findings of this study (Table 19) indicate that most residents that travelled less than 30 minutes to healthcare facilities were urban residents. Urban residents constituted the majority of women that travelled less than 15 minutes (93.1%) and between 15-29 minutes (89.8%), as compared to rural residents of metropolitan areas (6.9% and 10.2%, respectively). The data shows a low prevalence of rural residents travelling longer than 30 minutes. Among these women, only 18.7% of rural residents travelled between 30-89 minutes, compared to 81.3% of urban residents. Rural residents constituted 7.1% of women that travelled 90 minutes or more, whereas urban residents constituted 92.9%.

Chi-square and Cramer's V test statistics were conducted to test the relationship and strength of association between travel time and area of residence. The results indicated a statistically significant relationship between the two variables ( $p=0.000<0.05$ ), and Cramer's V showed a weak association between the dependent and independent variables (Cramer's  $V=0.123$ ;  $\Phi=0.123$ ).

Looking at non-metropolitan areas, the data shows that women in rural areas (75.6%) were the majority of women who travelled less than 15 minutes to healthcare facilities. Women in rural areas were more likely to travel between 15-29 minutes to healthcare facilities than women in urban areas of non-metropolitan regions (66.6% and 33.4%, respectively). The findings revealed a slight difference of 8.2% among women in rural (54.1%) and urban (45.9%) areas that travelled between 30-89 minutes, indicating that travelling longer distances while seeking medical treatment was common for both rural and urban residents. Furthermore, the study showed that urban residents (54.3%) were more likely than rural residents (45.7%) to travel 90 minutes or more.

Chi-square and Cramer's V statistical tests were conducted to test the relationship and strength of association between travel time and residential area. The study's findings indicated a statistically significant relationship between the two variables ( $p=0.000<0.05$ ). Furthermore, Cramer's V indicated a weak association (Cramer's  $V = 0.171$ ) exists between the dependent and independent variables.





**Table 19: Distribution of travel time by area of residence across municipalities**

<b>Metropolitan Areas</b>			
Time travelled	Area of residence		
	Rural	Urban	Total
Less than 15 minutes	36 6.9%	487 93.1%	523 100.0%
15-29 minutes	58 10.2%	510 89.8%	568 100.0%
30-89 minutes	29 18.7%	126 81.3%	155 100.0%
90 minutes and more	1 7.1%	13 92.9%	14 100.0%
Total	124 9.8%	1136 90.2%	1260 100.0%
<b>Non-metropolitan Areas</b>			
Time travelled	Area of residence		
	Rural	Urban	Total
Less than 15 minutes	785 75.6%	254 24.4%	1039 100.0%
15-29 minutes	591 66.6%	297 33.4%	888 100.0%
30-89 minutes	192 54.1%	163 45.9%	355 100.0%
90 minutes and more	16 45.7%	19 54.3%	35 100.0%
Total	1584 68.4%	733 31.6%	2317 100.0%

*Source: Author's own calculations from 2018 General Household Survey*

### **4.3 Logistic regression on the determinants of access and utilization of healthcare facilities**

Logistic regression was used to determine the factors determining access and utilization of healthcare facilities among women in metropolitan and non-metropolitan municipality areas. The use of logistic regression is based on the fact that the dependent variables are dichotomous. Hence, the Logistic regression model consisted of three dependent variables: the type of healthcare facility utilized, means of transport to the nearest healthcare facility, and the time travelled to get to the healthcare facilities. The independent variables utilized in the regression module included age, population group, level of education, monthly household income, medical aid coverage, area of residence and employment status.

#### **4.3.1 Utilization of healthcare facilities by the municipality**

##### **4.3.1.1 Determinants of utilization of public healthcare facilities across areas of residence**

Table 20 depicts the regression model results for women that consulted public healthcare facilities in metropolitan areas. The goodness of fit model was additionally checked, and the output reveals that the model fits the data since the omnibus test of model coefficients indicates  $p=0.000<0.05$ , and the Hosmer Lemeshow test indicated  $p=0.686>0.05$ .

The findings indicate that age, education, medical aid, area of residence and employment status are insignificant in the model. This demonstrates that these variables do not influence access and utilization of public healthcare facilities. The study's findings indicated that monthly household income influences the chances of women consulting public healthcare facilities when they are sick in metropolitan areas while having no income was regarded as a reference category. However, the data reveals that living in high-income, middle-income and low-income households decreases the chances of utilizing public healthcare facilities in metropolitan areas by 0.119, 0.047 and 0.153 times, respectively. The decreased utilization of healthcare facilities among women in high-income and middle-income households may be their preference for private healthcare facilities, perceived better quality of care (Escamilla et al., 2018; Bell et al., 2020), and their ability to pay. Contrary to this, a decreased utilization of healthcare facilities among low-income households may result from the direct and indirect costs of accessing healthcare facilities, which may burden women with limited financial resources. These women

are more likely to give precedence to housing or food before taking care of their health. Additionally, “the high cost of consulting a healthcare facility can force a low-income patient to make difficult decisions between their health and the financial well-being of their family” (Lewis, Abrams and Seervai, 2017).

From the study results, the population group is another factor that influences the access and utilization of public healthcare facilities in metropolitan areas when people are sick, especially among the Coloureds. However, being Coloured decreases the likelihood of utilizing public healthcare facilities in metropolitan areas. The regression model further indicates that, area of residence is significant in consulting public healthcare facilities in metropolitan areas with Exp (B) of 0.583, which revealed that women who reside in urban areas are 0.583 times less likely to consult public healthcare facilities in metropolitan areas than women who reside in rural areas within the metropolitan districts.

Looking at non-metropolitan areas, the main factors influencing access and utilization of public healthcare facilities among women in non-metropolitan areas were assessed using logistic regression analysis. The findings reveal that the model fits the data. The study revealed that only two variables are significant when assessing the contribution of the independent variables on accessing and utilizing public healthcare facilities in non-metropolitan areas, as depicted in Table 20. The findings further revealed that women in high-income households decreased the chances of consulting public healthcare facilities by 0.088 times compared to women in households with no monthly income. Additionally, women who reside in low-income households were 0.261 times less likely to access and utilize public healthcare facilities in non-metropolitan areas than women who reside in no-income households.

Furthermore, the study found that unemployed women were 0.663 times less likely to utilize public healthcare facilities in non-metropolitan areas. This is possibly due to the financial circumstance’s women face when deciding to seek medical treatment when they are sick. Women with no income or limited financial capacity are less inclined to use their available resources to consult healthcare facilities.

**Table 20: Determinants of utilization of public healthcare facilities across municipalities**

Metropolitan Areas					Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	-0.004	0.757	0.384	0.996	0.002	0.435	0.510	1.002
<b>Education</b>		2.510	0.643			4.684	0.321	
No School	0.471	0.178	0.673	1.602	0.158	0.029	0.865	1.172
Primary	1.277	1.121	0.290	3.588	0.573	0.380	0.538	1.774
Secondary	0.536	0.230	0.631	1.709	0.328	0.129	0.719	1.388
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		229.947	0.000			372.285	0.000	
High Income	-2.124	113.895	0.000	0.119	-2.425	248.055	0.000	0.088
Middle Income	-3.066	197.146	0.000	0.047	-2.699	277.258	0.000	0.067
Low Income	-1.880	91.321	0.000	0.153	-1.344	85.532	0.000	0.261
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		6.244	0.100			7.790	0.020	
Black/ African	-0.474	2.931	0.087	0.622	0.441	0.443	0.506	1.554
Coloured	-0.657	4.741	0.029	0.518	-0.598	0.627	0.428	0.550
Indian/ Asian	1.469	0.951	0.330	4.345				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	-0.283	1.555	0.212	0.754	-0.291	1.042	0.307	0.747
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	-0.539	4.751	0.029	0.583	0.216	2.887	0.089	1.241
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		0.593	0.743			3.507	0.173	
Employed	-0.084	0.261	0.609	0.919	-0.079	0.325	0.568	0.924
Unemployed	-0.172	0.480	0.488	0.842	-0.411	3.451	0.063	0.663
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	1.522	1.723	0.189	4.579	-0.509	0.200	0.655	0.601
<b>Hosmer Lemeshow</b>	p=0.686>0.05				p=0.340>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

#### **4.3.1.3 Determinants of the utilization of private healthcare facilities in metropolitan and non-metropolitan areas**

The results provided the logistic regression analysis concerning the determinants of access and utilization of private healthcare facilities among women in metropolitan areas, as indicated in Table 21. The omnibus test of the model coefficient indicates  $p=0.00<0.05$ , while the Hosmer Lemeshow test is also statistically significant with  $p=0.542>0.05$ . The regression model results reveal that age, education, population group, medical aid coverage, and employment status were not statistically significant. Therefore, this indicates that these variables did not affect private healthcare facility utilization. The findings reveal that living in high-income and middle-income households increase the chances of utilizing private healthcare facilities in metropolitan areas by 8.368 and 21.446 times, respectively. Additionally, the findings revealed that women in low-income households increase the chances of utilizing private healthcare facilities by 6.553 times higher living in no-income households. Population group was another factor influencing women's access to private healthcare facilities. The data shows that coloured women were 1.929 times more likely to consult private healthcare facilities than white women. Moreover, the area of residence was seen to be statistically significant when accessing private healthcare facilities in metropolitan areas. The results show that living in urban areas of metropolitan municipalities increases the chances of utilizing private healthcare facilities, compared to living in rural areas, by 1.715 times.

At the non-metropolitan level, the omnibus test model coefficient indicates  $p=0.00<0.05$ , while Hosmer Lemeshow test is also statistically significant with  $p=0.218>0.05$ . The results of the regression model, as depicted in Table 21, for women that consulted private healthcare facilities in non-metropolitan areas indicate that age, education, medical aid, area of residence and employment status are not significant in the model. These variables do not influence the utilization of private healthcare facilities in non-metropolitan areas. Looking at the independent variables in Table 21, monthly household income is the only variable that shows statistical significance. The findings reveal that living in high-income and middle-income households increase the chances of utilizing private healthcare facilities in non-metropolitan areas by 11.304 times and 14.859, respectively. Additionally, low-income households increased the likelihood of utilizing private healthcare facilities by 3.836 times. This is in line with the findings of a study conducted on healthcare-seeking behaviour among low-income patients in South Africa by Govender and colleagues (2020). The authors found that patients chose to

utilize private healthcare facilities when financially viable and preferred them over public healthcare facilities due to their perception of better-quality care in the private sector (Govender et al., 2020). Furthermore, the study found that unemployed women were 1.509 times more likely to consult private healthcare facilities.



**Table 21: Determinants of utilization of private healthcare facilities across municipalities**

Metropolitan Areas					Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	0.004	0.757	0.384	1.004	-0.002	0.435	0.510	0.998
<b>Education</b>		2.510	0.643			4.684	0.321	
No School	-0.471	0.178	0.673	0.624	-0.158	0.029	0.865	0.853
Primary	-1.277	1.121	0.290	0.279	-0.573	0.380	0.538	0.564
Secondary	-0.536	0.230	0.631	0.585	-0.328	0.129	0.719	0.720
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		229.947	0.000			372.285	0.000	
High Income	2.124	113.895	0.000	8.368	2.425	248.055	0.000	11.304
Middle Income	3.066	197.146	0.000	21.446	2.699	277.258	0.000	14.859
Low Income	1.880	91.321	0.000	6.553	1.344	85.532	0.000	3.836
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		6.244	0.100			7.790	0.020	
Black/ African	0.474	2.931	0.087	1.607	-0.441	0.443	0.506	0.643
Coloured	0.657	4.741	0.029	1.929	0.598	0.627	0.428	1.818
Indian/ Asian	-1.469	0.951	0.330	0.230				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	0.283	1.555	0.212	1.327	0.291	1.042	0.307	1.338
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	0.539	4.751	0.029	1.715	-0.216	2.887	0.089	0.806
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		0.593	0.743			3.507	0.173	
Employed	0.084	0.261	0.609	1.088	0.079	0.325	0.568	1.082
Unemployed	0.172	0.480	0.488	1.188	0.411	3.451	0.063	1.509
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	-1.522	1.723	0.189	0.218	0.509	0.200	0.655	1.663
<b>Hosmer Lemeshow</b>	p=0.542>0.05				p=0.218>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

## **4.3.2 Means of transport to healthcare facility by municipality**

### **4.3.2.1 The factors contributing to walking as means of transport to healthcare facilities across areas of residence**

The variables contributing towards walking as means of transport to healthcare facilities among women residing in metropolitan areas to healthcare facilities were identified by means of binary logistic regression. The goodness of fit model was also checked. The output reveals that the model fits the data since the omnibus test of model coefficients indicates  $p=0.000 < 0.05$ , and the Hosmer Lemeshow test indicated  $p=0.909 > 0.05$ . The results reveal that age, employment status, education, medical aid coverage and population group were not statistically significant. That is, these variables did not influence whether or not women walked to healthcare facilities. In Table 22, the findings indicate that monthly household income was a factor which influenced the likelihood of walking to healthcare facilities in metropolitan areas. The study results indicate that women who reside in high-income, middle-income and low-income households had 0.328-, 0.245- and 0.348-times decreased chances of walking to healthcare, respectively. Furthermore, the area of residence was another factor influencing the likelihood of walking to healthcare facilities when women are sick. The results indicate that living in urban areas decreases the chances of walking to healthcare facilities by 0.496 times more than in rural areas. This may be due to better accessibility to means of transport in urban areas and healthcare facilities being less sparse compared to rural areas.

On the non-metropolitan level, Table 22 highlights the variables influencing the likelihood of walking to healthcare facilities when women are sick. Monthly household income was seen as one of the variables influencing the odds of walking to healthcare facilities among women living in metropolitan areas. The extent to which monthly household income influences walking to healthcare facilities was seen as significant, such that having high-income and middle monthly household income decreases the chances of walking by 0.275 and 0.210 times than having no monthly household income. Similarly, women who reside in low-income households are 0.348 times less likely to walk to healthcare facilities than women who reside in high-income households. This might be because women with low incomes are less likely to seek help when sick than women who receive a higher income.

Area of residence was another factor influencing the likelihood of walking to healthcare facilities among women in non-metropolitan areas. The study results reveal that living in urban



areas increases the chances by 1.570 times of women walking to healthcare facilities in non-metropolitan areas compared to women in rural areas. Furthermore, the findings indicate that race influenced the likelihood of walking to healthcare facilities among women in non-metropolitan areas. It was observed that Coloured and black women had decreased chances of walking to healthcare facilities in non-metropolitan areas compared to white women by 0.358- and 0.400-times, respectively.



**Table 22: The factors determining walking to healthcare facilities across municipalities**

Metropolitan Areas					Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	0.002	0.223	0.637	1.002	0.001	0.153	0.695	1.001
<b>Education</b>		1.026	0.906			2.158	0.707	
No School	-0.192	0.025	0.876	0.825	-0.261	0.130	0.719	0.770
Primary	0.162	0.015	0.901	1.175	0.029	0.002	0.968	1.030
Secondary	-0.155	0.016	0.900	0.856	-0.130	0.033	0.855	0.878
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		58.702	0.000			139.037	0.000	
High Income	-1.116	33.231	0.000	0.328	-1.290	91.039	0.000	0.275
Middle Income	-1.370	56.506	0.000	0.254	-1.562	133.033	0.000	0.210
Low Income	-1.057	28.932	0.000	0.348	-1.055	52.281	0.000	0.348
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		2.057	0.561			5.196	0.074	
Black/ African	-0.308	1.584	0.208	0.735	-0.916	4.799	0.028	0.400
Coloured	-0.157	0.350	0.554	0.855	-1.026	4.999	0.025	0.358
Indian/ Asian	20.983	0.000	0.999	1296756327.8				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	0.067	0.125	0.724	1.069	-0.099	0.212	0.645	0.905
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	-0.701	9.249	0.002	0.496	0.451	20.096	0.000	1.570
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		1.314	0.518			2.071	0.355	
Employed	0.083	0.350	0.554	1.086	0.059	0.306	0.580	1.061
Unemployed	0.224	1.235	0.266	1.252	0.232	1.993	0.158	1.261
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	2.170	2.953	0.086	8.756	1.825	4.777	0.029	6.204
<b>Hosmer Lemeshow</b>	p=0.909>0.05				p=0.076>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

### **4.3.2.3 The factors contributing to motorized means of transport to healthcare facilities across areas of residence**

Logistic regression analysis was carried out to determine the factors influencing using motorized means of transport to access healthcare facilities among women by looking at areas of residence. The findings show that the omnibus test model coefficient was statistically significant with  $p=0.000<0.05$ , and the Homser and Lemeshow were  $p=0.755>0.05$ . Table 23 highlights the variables influencing the likelihood of using motorized means of transport to access healthcare facilities in metropolitan areas. The study indicates that age, employment status, education, medical aid coverage and population group are statistically non-significant. This, therefore, demonstrates that these variables do not affect the utilization of motorized transport when accessing healthcare facilities among women in metropolitan areas. The study shows that monthly household income was statistically significant. It was observed that residing in high- and middle-income households increased the chances of women utilizing motorized transport to access healthcare facilities in metropolitan areas by 3.051 and 3.934 times, respectively. Additionally, the study found that women who reside in urban areas had 2.017 times increased chance of utilizing motorized transport to access healthcare facilities in metropolitan areas. In urban areas, there are more opportunities for education and employment, therefore, more opportunities to afford transportation to healthcare facilities (Buor, 2004).

Logistic regression was used to highlight factors playing a role in the use of motorized transport to access healthcare facilities among women in non-metropolitan areas. The findings show that the omnibus test model coefficient was statistically significant with  $p=0.00<0.05$ , however, the Homser Lemeshow was statistically non-significant with  $p=0.021<0.05$ . Looking at the significant variables at the non-metropolitan level in Table 23, the study revealed that living in high-income and middle-income households had 3.634 and 4.768 increased chances of utilizing motorized transport when seeking healthcare among women in non-metropolitan areas, respectively. Women in low-income households were 2.872 times more likely to utilize motorized transport to healthcare facilities than women in no-income households. This is an unexpected result as it would be assumed that women in low-income households do not have substantial financial resources to utilize motorized means of transport to access healthcare facilities. However, Mattson (2011) argues that individuals with relatives who can provide them with transportation are more likely to access healthcare facilities. Additionally, women

in low-income households may prioritize utilizing motorized means of transport to access healthcare facilities to alleviate the burden of extended travelling periods.

Furthermore, area of residence was noted as a factor influencing the use of motorized transport among women in non-metropolitan areas. The study revealed that living in urban areas decreased the odds for women in urban areas to utilize motorized transport by 0.637 times more than women who reside in rural areas. Population group was observed, and the results showed that women from non-metropolitan areas are more likely to utilize motorized transport. It is clearly indicated that black and coloured women have increased odds of utilizing motorized transport by 2.499 and 2.790 times, respectively, than white women.



**Table 23: The factors contributing to motorized means of transport to healthcare facilities across municipalities**

Metropolitan Areas					Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	-0.002	0.223	0.637	0.998	-0.001	0.153	0.695	0.999
<b>Education</b>		1.026	0.906			2.158	0.707	
No School	0.192	0.025	0.876	1.212	0.261	0.130	0.719	1.298
Primary	-0.162	0.015	0.901	0.851	-0.029	0.002	0.968	0.971
Secondary	0.155	0.016	0.900	1.168	0.130	0.033	0.855	1.139
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		58.702	0.000			139.037	0.000	
High Income	1.116	33.231	0.000	3.051	1.290	91.039	0.000	3.634
Middle Income	1.370	56.506	0.000	3.934	1.562	133.033	0.000	4.768
Low Income	1.057	28.932	0.000	2.878	1.055	52.281	0.000	2.872
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		2.057	0.561			5.196	0.074	
Black/ African	0.308	1.584	0.208	1.360	0.916	4.799	0.028	2.499
Coloured	0.157	0.350	0.554	1.170	1.026	4.999	0.025	2.790
Indian/ Asian	-20.983	0.000	0.999	0.000				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	-0.067	0.125	0.724	0.935	0.099	0.212	0.645	1.104
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	0.701	9.249	0.002	2.017	-0.451	20.096	0.000	0.637
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		1.314	0.518			2.071	0.355	
Employed	-0.083	0.350	0.554	0.920	-0.059	0.306	0.580	0.942
Unemployed	-0.224	1.235	0.266	0.799	-0.232	1.993	0.158	0.793
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	-2.170	2.953	0.086	0.114	-1.825	4.777	0.029	0.161
<b>Hosmer Lemeshow</b>	p=0.755>0.05				p=0.021>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

### **4.3.3 Travel time to healthcare facility across municipalities**

#### **4.3.3.1 The factors determining travelling less than 30 minutes to healthcare facilities across areas of residence**

The main factors influencing travelling less than 30 minutes to healthcare facilities among women in metropolitan areas were assessed through logistic regression analysis, which shows that the model fits the data. Assessing the contribution of independent variables on travel time in metropolitan areas, as depicted in Table 24, revealed that some variables are statistically significant. The findings revealed that monthly household income was statistically significant. The results show that living in high-income and middle-income households increase the chances of travelling less than 30 minutes to healthcare facilities in metropolitan areas by 3.143 and 2.597 times, respectively. Furthermore, area of residence was another variable influencing access to healthcare facilities in metropolitan areas. The study indicated that women who were residents of urban areas were 0.608 times less likely to travel less than 30 minutes to healthcare facilities than women who were residents of rural areas.

As depicted in Table 24, the results reveal that in non-metropolitan areas, some factors contribute towards travelling less than 30 minutes to healthcare facilities. The omnibus test model coefficients were performed, and it was revealed to be statistically significant with  $p=0.00<0.05$ , while the Hosmer Lemeshow test indicated  $p=0.802>0.05$ . Monthly household income is a variable that influences travelling less than 30 minutes to healthcare facilities. The findings indicate that living in high-income and middle-income households increased the odds of travelling less than 30 minutes to healthcare facilities in non-metropolitan areas by 2.806 and 2.476 times, respectively. Another variable that impacted whether women travelled less than 30 minutes to healthcare facilities was the population group. The results reveal that Coloured women had an increased chance of travelling less than 30 minutes, as compared to white women, by 3.344 times. Furthermore, the area of residence is another factor influencing the likelihood of travelling less than 30 minutes to healthcare facilities. Women that were residents of urban regions were 1.810 times more likely to travel less than 30 minutes to healthcare facilities within non-metropolitan areas than women in rural areas. This may be due to closer proximity to healthcare facilities and the dispersion of healthcare facilities in urban areas being more widely available.

**Table 24: Travelling less than 30 minutes to healthcare facilities among women across municipalities**

	Metropolitan Areas				Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	-0.010	2.782	0.095	0.990	0.005	2.045	0.153	1.005
<b>Education</b>		13.056	0.011			2.246	0.691	
No School	19.422	0.000	0.999	272303734.397	-0.173	0.041	0.840	0.841
Primary	20.083	0.000	0.999	527127263.025	-0.486	0.318	0.573	0.615
Secondary	18.681	0.000	0.999	129796893.104	-0.530	0.397	0.529	0.589
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		20.683	0.000			42.410	0.000	
High Income	1.145	16.575	0.000	3.143	1.032	28.731	0.000	2.806
Middle Income	0.955	11.883	0.001	2.597	0.906	21.885	0.000	2.476
Low Income	0.426	1.786	0.181	1.531	0.253	1.238	0.266	1.288
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		8.343	0.039			16.363	0.000	
Black/ African	0.719	3.078	0.079	2.053	0.345	0.427	0.514	1.411
Coloured	0.089	0.037	0.848	1.093	1.207	4.654	0.031	3.344
Indian/ Asian	1.834	1.542	0.214	6.262				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	0.061	0.053	0.818	1.063	-0.450	2.388	0.122	0.638
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	-0.498	3.601	0.058	0.608	0.593	23.001	0.000	1.810
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		1.504	0.471			0.135	0.935	
Employed	0.139	0.486	0.486	1.149	0.019	0.020	0.889	1.019
Unemployed	-0.229	0.579	0.447	0.795	-0.065	0.092	0.762	0.937
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	-21.270	0.000	0.999	0.000	-2.649	6.808	0.009	0.071
<b>Hosmer Lemeshow</b>	p=0.163>0.05				p=0.802>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

#### **4.3.3.3 The factors determining travelling more than 30 minutes to healthcare facilities across areas of residence**

The main factors that influence travelling more than 30 minutes to healthcare facilities among women in metropolitan areas were assessed by employing logistic regression analysis, which shows that the model fits the data. The study's findings reveal that some factors influenced whether women travelled more than 30 minutes to healthcare facilities. Monthly household income is one factor that plays a vital role in accessing healthcare facilities and travel time. The findings indicated that living in high-income and middle-income households decreased the chances of travelling more than 30 minutes to healthcare facilities by 0.318 and 0.385 times, respectively, compared to women in no-income households. Another variable that influences travelling more than 30 minutes to healthcare facilities is the population group. However, the findings reveal that Coloured women have a decreased chance of travelling more than 30 minutes than white women by 0.915 times. Additionally, living in urban areas increases the odds of travelling more than 30 minutes to healthcare facilities by 1.645 times.

Logistic regression was used to highlight factors influencing the likelihood of travelling more than 30 minutes to healthcare facilities among women in non-metropolitan areas. The omnibus test of model coefficients was performed, and it was revealed to be statistically significant with  $p=0.00<0.05$ , while the Hosmer Lemeshow test indicated  $p=0.777>0.05$ . Looking at the significant variables at the non-metropolitan level in Table 25, the study revealed that living in high-income and middle-income households in non-metropolitan areas decreased the odds of travelling more than 30 minutes to healthcare facilities by 0.356 and 0.404 times, respectively. Population group was another factor that influenced travelling more than 30 minutes to healthcare facilities. The findings revealed that coloured women had a decreased chance of travelling more than 30 minutes to healthcare facilities by 0.299 times. Furthermore, another factor that influenced travelling more than 30 minutes to healthcare facilities among women was the area of residence. It is observed that living in urban areas decreased the chances of travelling more than 30 minutes to healthcare facilities by 0.553 times. This makes sense because, possibly, healthcare is more easily accessible in urban and more populated areas.



**Table 25: Travelling more than 30 minutes to healthcare facilities among women across municipalities**

	Metropolitan Areas				Non-Metropolitan Areas			
	B	Wald	Sig.	Exp(B)	B	Wald	Sig.	Exp(B)
<b>Age</b>	0.010	2.782	0.095	1.010	-0.005	2.045	0.153	0.995
<b>Education</b>		13.056	0.011			2.246	0.691	
No School	-19.422	0.000	0.999	0.000	0.173	0.041	0.840	1.189
Primary	-20.083	0.000	0.999	0.000	0.486	0.318	0.573	1.625
Secondary	-18.681	0.000	0.999	0.000	0.530	0.397	0.529	1.699
Tertiary@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Monthly Household Income</b>		20.683	0.000			42.410	0.000	
High Income	-1.145	16.575	0.000	0.318	-1.032	28.731	0.000	0.356
Middle Income	-0.955	11.883	0.001	0.385	-0.906	21.885	0.000	0.404
Low Income	-0.426	1.786	0.181	0.653	-0.253	1.238	0.266	0.777
No Income@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Population Group</b>		8.343	0.039			16.363	0.000	
Black/ African	-0.719	3.078	0.079	0.487	-0.345	0.427	0.514	0.709
Coloured	-0.089	0.037	0.848	0.915	-1.207	4.654	0.031	0.299
Indian/ Asian	-1.834	1.542	0.214	0.160				
White@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Medical aid coverage</b>								
Yes	-0.061	0.053	0.818	0.941	0.450	2.388	0.122	1.569
No@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Area of residence</b>								
Urban	0.498	3.601	0.058	1.645	-0.593	23.001	0.000	0.553
Rural@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Employment status</b>		1.504	0.471			0.135	0.935	
Employed	-0.139	0.486	0.486	0.871	-0.019	0.020	0.889	0.981
Unemployed	0.229	0.579	0.447	1.257	0.065	0.092	0.762	1.067
Not economically active@	0 <sup>b</sup>				0 <sup>b</sup>			
<b>Constant</b>	21.270	0.000	0.999	1727231419.5	2.649	6.808	0.009	14.135
<b>Hosmer Lemeshow</b>	p=0.159>0.05				p=0.777>0.05			
@. Reference group								

Source: Author's own calculations from 2018 General Household Survey

## 4.4 Conclusion

The objective of this chapter was to highlight the major patterns of healthcare access and utilization in relation to the socio-economic and socio-demographic characteristics of women by considering areas of residence. According to the results of this study, the overall picture is that certain female characteristics influence healthcare utilization more than others, and this varies among women residing in metropolitan and non-metropolitan areas. Monthly household income was found to influence household access to healthcare facilities, and the type of healthcare facility utilized in both metropolitan and non-metropolitan areas. In general, the utilization of private healthcare facilities was most common among employed women, residing in high- and middle-income households, who have access to medical aid. The utilization of public healthcare facilities was found to be more frequently utilized by women who are economically inactive or unemployed, with no to low monthly household income.

The study revealed that the predominant means of transportation utilized to access healthcare facilities among women when they are sick was walking. The majority of women in metropolitan and non-metropolitan areas walked to healthcare facilities. However, certain characteristics enabled women to utilize motorized means of transport. The factors which significantly influenced means of motorized transport to healthcare facilities was monthly household income and area of residence. The logistic regression analysis highlighted that women who reside in high income and middle-income households had an increased advantage of utilizing motorized means of transport in metropolitan and non-metropolitan areas. Furthermore, residing in urban areas increased the likelihood of utilizing motorized means of transport when accessing healthcare facilities.

The time travelled to healthcare facilities among women in metropolitan and non-metropolitan areas were rather consistent, in as much that the majority of women travelled more than 30 minutes to healthcare facilities. However, factors such as increased monthly income and residing in urban areas displayed a likelihood of travelling less than 30 minutes to healthcare facilities.

## **CHAPTER 5: DISCUSSION OF RESULTS**

This study aimed to analyse the access and utilization of healthcare facilities among women across municipalities (metropolitan and non-metropolitan municipalities) in the Eastern Cape Province. This was done by identifying the types of facilities women consult when sick, their means of transport to healthcare facilities and the time taken to travel to healthcare facilities. The study's main objective was to determine the factors influencing access and utilization of healthcare facilities among women in the Eastern Cape. The study was based on the demographic and socio-economic characteristics of women 12 years and above. Area of residence (municipality type) was used for comparison purposes to assess the access and utilization patterns of healthcare facilities among women and to identify the differences and similarities of healthcare facility access and utilization between metropolitan and non-metropolitan municipality areas in the Eastern Cape. This chapter discusses the main findings of the analysis highlighted in Chapter 4.

### **5.1 Summary of the methodology used**

This study which determines the access and utilization of healthcare facilities among women residing in the Eastern Cape Province is quantitative and therefore used the 2018 General Household Survey data requested from the University of Cape Town's DataFirst Website. The relationship between the identified independent and dependent variables were determined, and hypotheses were formulated. Variables of interest were recoded to fit the scope and objectives of the study. The data was then used to establish the independent and dependent variables' associations. The independent variables included age, population group, level of education, monthly household income, medical aid coverage, employment status and area of residence. Time travelled to a healthcare facility, means of transport and types of healthcare facility utilized were dependent variables in the analysis. Each analysis of the independent and dependent variables was executed for women in metropolitan and non-metropolitan areas.

The analysis was carried out first using univariate analysis, which described the distribution of each variable individually. The analysis was carried out according to the metropolitan and non-metropolitan areas. This was followed by bivariate analysis which was performed through cross-tabulation. This was used to measure healthcare facility access and utilization patterns among women, while the Chi-square test was used to measure the association between the independent and dependent variables. Cramer's V and Phi were used to determine the strength

of the relationship between these variables. Moreover, multivariate analysis was conducted through logistic regression analysis to identify the variables that yield the most influence on the access and utilization of healthcare facilities among females heading households in metropolitan and non-metropolitan areas. The study's objective was to determine the relationship between women's socio-economic and socio-demographic characteristics and their access and utilization of healthcare facilities in the Eastern Cape.

## **5.2 Characteristics of women seeking healthcare in the Eastern Cape**

The study revealed that the distribution of women seeking healthcare and utilizing healthcare facilities is concentrated in non-metropolitan or rural areas. This is due to the extensive rural nature of the Eastern Cape and the gross under-development of these regions (Msutwana, 2017). Accessibility of healthcare facilities and services according to the place of residence is of primary importance, especially in rural areas where there is a high distribution of women who reside in these areas. The study findings indicate that these women encounter barriers due to their area of residence. Previous research has revealed that women require more medical care and treatment due to menstruation, pregnancy, fertility, and family planning, hence their need to consult healthcare facilities frequently (van Wijk, van Vliet and Klok, 1996; Bertakis et al., 2000; Ajawang, 2013; Azad et al., 2020). The study's findings revealed that women in their reproductive ages are the most common utilizers of healthcare facilities in general and in Eastern Cape.

Regarding population group, black women constitute the majority of women in the Eastern Cape and the most common users of healthcare facilities. The findings revealed that women within the Eastern Cape still face high unemployment rates and, on average, low monthly household income. This is partly due to the high prevalence of adolescents in the province (Statistics South Africa, 2018) resulting in a high dependency ratio. Black women in the Eastern Cape comprise a large proportion of the socioeconomically disadvantaged, which is attributed to their extreme vulnerability, low educational attainment, lack of financial resources and limited opportunity and availability of formal jobs. Additionally, this is possibly as a result of the history of apartheid in South Africa which dates back the creation of the Eastern Cape Province from former homelands, which has negatively influenced the Black population (Nsengiyumva, 2013; Kwenda, Ntuli and Mudiriza, 2020). The findings of this study are in line with existing literature regarding discrimination against women and the differences in access to resources and opportunities determined by race, class and gender, where women often

experience the brunt of the burden of poverty and inequality (Kehler, 2001; Manuel, 2018). The employment status of women plays a significant role in their health and well-being. The economic stability of women allows them to put financial resources towards their health without placing the household under financial strain. Unfortunately, this study revealed that the majority of women in the Eastern Cape Province are economically inactive or unemployed. Existing literature supports the findings of this study by confirming that women suffer from higher unemployment when compared to men (Kwenda, Ntuli and Mudiriza, 2020) and are more likely to remain in poverty (Kehler, 2001; Dubihlela and Dubihlele, 2014; Nwosu and Ndinda, 2018) or occupy informal, unskilled and low-income jobs (Nwosu and Ndinda, 2018).

Household income significantly influences the possibility of accessing and utilizing healthcare facilities, especially among women. The study found that a significant portion of the women in the Eastern Cape have a monthly household income of zero rand. This is possibly due to the high unemployment rate in the Eastern Cape, accompanied by the high concentration of women in low-wage jobs and unpaid household work. This results in a vicious cycle of poverty, which eventually affects their health and their ability to access and utilization healthcare facilities when they are sick.

Among women who consult healthcare facilities when they are sick, only a few are well educated. However, the majority of women who access and utilize healthcare facilities are educated up until secondary level. The findings of this study is confirmed in existing literature, which emphasizes that education increases women's ability to benefit from health information and make good use of health services, and those who are better-educated patients are more likely to consult healthcare facilities and utilize services (Ajwang, 2013; Agyemang and Asibey, 2018). The low levels of education among women are as a result of discrimination experienced by women and the perceived social and cultural notion that women are to maintain the household and cater to the needs of their families rather than be educated (Nsengiyumva, 2013; Azad et al., 2020).

In understanding the determinants of access and utilization of health facilities among women living in the Eastern Cape, it is important to understand why patients utilize certain health facilities over others. In order to understand this, the research question was posed, “ *What are the main reasons why women do not consult the nearest health care facility?*”

Regarding this study, the results revealed that the most common reason for not utilizing the nearest health care facility in metropolitan and non-metropolitan areas is the preference to utilize private healthcare facilities. A possible explanation for this would be that private health care facilities offer longer and more convenient service hours that accommodate women's busy schedules. Furthermore, private healthcare facilities offer private chemists and specialized doctors, which allow women to access the medication and medical care they require without having to consult multiple facilities. The reality in the Eastern Cape is that the public sector is under-resourced, and over-used, and in most cases the quality of service delivery and treatment offered is inadequate and ineffective (Willie, 2011). Therefore, women bypass the nearest health care facility and prefer to utilize private healthcare facilities that are well equipped with resources and provide quality health care.

However, the study found that some households headed by women chose not to use the nearest health care facilities due to their preference for utilizing a public healthcare facility. A possible explanation for this is that public health care services in South Africa are free including pharmaceuticals, wheelchairs, crutches and home visits (Young, 2016), and patients may receive subsidies on their medical bills if they are within specific income categories. Women who are not medical aid holders and reside in low income households may choose to use public healthcare facilities as they are not able to cover the costs of private health care.

Further, the findings of the study found that women bypass the nearest health care facilities due to long waiting hours. Patients spend a substantial amount of time in healthcare facilities waiting for services to be delivered (Oche and Adamu, 2013). Patient waiting time is an important indicator of the quality of services offered by health care facilities. The amount of time that patients spend waiting to receive care is a significant factor that affects the choice of utilization of healthcare services and facilities. Healthcare facilities in the Eastern Cape are characterized by overcrowding and under-staffing, a possible explanation for the excessive waiting times women experience in metropolitan and non-metropolitan areas when seeking healthcare. Therefore, we can conclude that women do not utilize the nearest health facility as they perceive long waiting times as a barrier to obtaining services (Oche and Adamu, 2013; Minyihun and Tessema, 2020).

Medicines are an essential part of medical care, which improve patients' health and quality of life (Phuong et al., 2019). The study shows that the unavailability of drugs that were needed was another significant factor in why women in metropolitan and non-metropolitan areas did

not utilize the nearest healthcare facility. The reason for the medication shortages may possibly be due to quality manufacturing issues, insufficient quantities of raw materials or discontinuation of products from the market (Phuong et al., 2019). The unavailability of drugs among women seeking health care may impact patient outcomes, resulting in adverse patient events, inferior treatment and medication errors. The unavailability of necessary drugs may result in patient dissatisfaction and therefore contribute towards why women utilized other healthcare facilities.

Utilization of healthcare facilities is dependent on many factors including the experience and quality of the services. The findings revealed that service satisfaction influences the access and utilization of healthcare facilities. The study found that a small but significant proportion of women were dissatisfied with the services they received. The reason for the relatively high prevalence of dissatisfaction with healthcare facilities may be due to the lack of healthcare facilities available, the condition of the healthcare facility in terms of staff, resources and infrastructure. These women may opt to use other healthcare facilities that meet their health needs and are adequate source of healthcare.

### **5.3 Confirmation of hypotheses**

#### **5.3.1 The differentials between access to healthcare facilities and utilization by age**

Age is assumed to be an important determinant of good health for human beings, especially women. This factor is important since women's healthcare needs differ with age. In fact, age is expected to be positively related to the utilization of healthcare facilities (Dias et al., 2008 as cited in Awoyemi, Obayelu and Opaluwa, 2011; Jiang et al., 2018). From this study, age is an important factor which influences the access and utilization of a particular type of healthcare facility.

The study revealed that women in their reproductive years are the most common utilizers of healthcare facilities. In metropolitan areas, women between 25-44 years utilize healthcare facilities the most. With regards to private healthcare facilities, healthcare utilization is common among women between 25-64 years. This is because these women require more medical care due to their challenges in menstruation, pregnancy, menopause and possible chronic illness such as HIV/AIDS. Therefore, they require a higher and more specialized level

of care that is more commonly found in private healthcare facilities. The general observation, however, is that very few females younger than 15 years and women older than 65 years utilize private or public healthcare facilities in metropolitan areas. The findings are supported by the work of Klein, McNulty and Flatau (1998) and Doyle et al. (2019), which state that adolescents are among those least likely to have access to healthcare and have the lowest rate of primary healthcare use. The reason for this may be that healthcare facilities in the Eastern Cape are not youth friendly and rather offer general healthcare services. Additionally, women under 15 years may not require as much medical care before they reach puberty and reproductive age.

Looking at the influence of age on the access and utilization of healthcare facilities among women living in non-metropolitan areas, women, irrespective of age, are more likely to consult public healthcare facilities. Women in non-metropolitan areas between 24-64 are the most common utilizers of private and public healthcare facilities. However, public healthcare facilities remain the most frequently consulted by these women. The reason for this might be that public healthcare facilities are readily available to women, are often free of charge, and within walking distance. Therefore, women who face financial and transport barriers in non-metropolitan areas are able to consult public healthcare facilities. The study found that women 65+ years utilize healthcare facilities the least. However, when they do, they are more inclined to utilize public healthcare facilities. These findings confirm results in the findings provided by Awoyemi, Obayelu and Opaluwa (2011) and Govender et al. (2020) who note that the majority of those who seek medical care, seek healthcare from government hospitals.

Additionally, the low utilization of private hospitals across the various age groups are possibly because of the high costs associated with their services. The findings therefore answered the research question asked, *“Is there a difference between age groups in terms of the types of healthcare facilities women who reside in Eastern Cape use to consult when they are sick”*. As confirmed by the Chi-square, the test statistic was significant for non-metropolitan municipalities. In support of this question, the hypothesis was formulated *“The individual characteristics of women such as age influences the types of healthcare facilities women residing in Eastern Cape use when they are sick?”*. This means that access and utilization of healthcare facilities vary with age groups among women. Therefore, age is an important feature which influences patterns of utilization and access to the types of healthcare facilities.



### **5.3.2 Access to healthcare facility and utilization by population group across areas of residence**

South Africa's apartheid history leaves large racial disparities in access to health care and healthcare facilities despite post-apartheid health policy to increase the number of health facilities, even in rural areas (McLauren, Ardington and Liebbrandt, 2014; Brauns, 2016). Race is one of the major determinants of the demand for healthcare (Mhlanga and Garidziari, 2020).

The results of this study indicated that differentials of access and utilization of healthcare facilities vary among Black, Coloured, Indian/Asian and White population groups. The general picture emerges that utilizing private and public healthcare facilities varies according to population groups in metropolitan areas. The results showed that Black women are the most common utilizers of healthcare facilities in metropolitan areas and are more inclined to use public healthcare facilities. These findings reflect the aspect of healthcare segmentation among the different population groups, which may stem from the legacy of apartheid in which Blacks were relocated to places where health departments were under-resourced and inadequate.

Regarding non-metropolitan areas, the pattern of access and utilization of healthcare facilities are similar to those experienced in metropolitan areas. However, this study found that a larger proportion of Black women are residing in non-metropolitan areas compared to metropolitan areas, and these women constitute the majority of public healthcare facility utilizers. The reason might be a high prevalence of HIV and TB among women in rural areas, where women need to collect regular medication without any cost. Moreover, the saturation of Black women utilizing public healthcare facilities is due to the healthcare landscape of the Eastern Cape, coupled with physical access barriers. The idea behind the findings is that Blacks are generally in a relatively unfavourable desperate socio-economic position, and proportionately few have the privilege of permanent employment and the resources for utilizing private health care (van Rensburg and Fourie, 1994; Shabangu, 2015). Moreover, inequality of this sort has systematically been created and maintained in South Africa despite the abolishment of apartheid policies.

Regarding White women, a significantly smaller proportion of women reside in non-metropolitan areas. Of these women, a more significant proportion utilize public healthcare facilities. However, when compared to Black women, these findings are rather small.

The above-stated findings answered the research question, *“Is there any difference between population groups in terms of the types of healthcare facilities that women use in the Eastern Cape?”*. This research question generated the hypothesis, *“The individual characteristics of women such as population group influence the types of health care seeking in the Eastern Cape province of South Africa”*. By means of Chi-square test, the findings revealed an association between population group and the types of healthcare facilities utilized among women living in non-metropolitan areas.

### **5.3.3 The impact of education on the types of healthcare facilities utilized by women**

Education is one of the major factors that has been proven to influence the type of healthcare facility and plays a paramount role in people's health-seeking behaviour, especially among rural inhabitants (Agyemang and Asibey, 2018). Education plays a significant role in creating awareness about health issues which influence beliefs about disease causation and means of cure, while impacting the use of healthcare facilities. Agyemang and Asibey (2018) affirm that formal education is linked to improved knowledge of healthcare services, as well as their ability to communicate their health needs. In the context of South Africa, educational attainment remains low. This is particularly the case for individuals living in former homelands, who have experienced and continue to live in the aftermath of the under-invest in human capital development, especially in rural areas under the apartheid regime.

Generally, the level of education plays a great role in the access and utilization of healthcare facilities among women. The study revealed variations in the access and utilization of healthcare facilities in relation to the level of education among women. In metropolitan areas, many women are educated up until secondary level. These women are the most frequent utilizers of private and public healthcare facilities. Women in metropolitan areas with no formal schooling utilized healthcare facilities less frequently. These findings are supported by the work of Ajwang (2013) and Amwonya, Kigosa and Kizza (2022) who highlight that educated women have an increased ability to benefit from health information and use health services. Moreover, better educated patients are aware of the medical skills that different providers possess and how these skills apply differently according to their reason for seeking healthcare. Women who are not educated or who have a low level of education possibly may not understand when health care treatment is required or may not have income from a job that will be able to cover the costs of seeking healthcare when they are sick.

At non-metropolitan municipality level, the study revealed that women who are more educated utilize healthcare facilities more than women who are not educated. The high utilization of public healthcare facilities among women that are educated may be due to circumstance. The reason for this might be that these women are educated enough and have the knowledge to understand the need for healthcare facilities but do not occupy high-income jobs to utilize private healthcare facilities. The findings therefore answered the research question asked, *“Does the level of education determine health care utilization in the Eastern Cape Province?”* The hypothesis formulated in this regard was that *“The access to health care facilities and utilization by women residing in the Eastern Cape differ by level of education”*.

#### **5.3.4 The relationship between medical aid coverage and healthcare facility utilization**

Healthcare in South Africa is plagued by a multitude of inequalities, constraints and deficiencies (van Rensburg and Fourie, 1994; Maphumulo and Bhengu, 2019). Medical aid coverage is one of the inequalities experienced by all seeking healthcare, especially among women. This is because medical aid is often linked to employment. Since most women are unemployed, and others are part-time employees who do unskilled jobs, they are predominantly among the uninsured. However, health insurance may improve access to acceptable quality healthcare and well-equipped private healthcare facilities (Ataguba and Goudge, 2012; Ajwang, 2013; Michel et al., 2020). In this section, the discussion is based on the relationship between medical aid coverage and healthcare facility utilization among women in metropolitan and non-metropolitan areas. The findings of the study answered the research question, *“Do women who hold medical aid consult private healthcare facilities more than public healthcare facilities?”*. This research question generated the hypothesis, *“Women who are medical aid holders consult private healthcare facilities more than public healthcare facilities in Eastern Cape Province”*.

The results of this study indicate that medical aid membership is extremely low among women in metropolitan and non-metropolitan areas of the Eastern Cape. However, women in metropolitan areas are more likely to have medical aid coverage compared to those in non-metropolitan areas. The utilization of private healthcare facilities remains low among women in metropolitan areas; however, women who have medical aid are often the most common private healthcare utilizers. This is supported by the work of Ataguba and Goudge (2012) on the impact of health insurance on healthcare utilization. The authors affirm that the utilization

of private healthcare facilities is most common among individuals who can pay for them. These facilities are largely used by individuals who are covered by private health insurance (medical aid). Generally, these findings reflect the state of medical aid coverage in South Africa, where a tiny portion of individuals have some form of medical aid coverage, especially in the Eastern Cape (van Eeden, 2009; Statistics South Africa, 2020)

With respect to non-metropolitan areas, the same hypothesis was tested in the same way, and the study shows similar findings to that of metropolitan areas. However, a significantly smaller percentage of women who access and utilize healthcare facilities were medical aid holders. These women, however, were the primary users of private healthcare facilities. These findings are therefore consistent with the literature on healthcare and health insurance in contemporary South Africa, from which inequalities in healthcare stem from the apartheid era. In the predominantly rural and underdeveloped areas of the Eastern Cape, resources are skewed towards urban areas; therefore, there are limited opportunities to receive and maintain medical aid coverage. These findings are supported by the work of Jones et al. (2009, as cited in Mattson, 2011) and Zhang et al., 2017. The authors found that average incomes in non-metropolitan areas are lower, as compared to metropolitan areas. Therefore, households headed by women in non-metropolitan areas pay, on average, a higher percentage of their income towards health care and medical aid. Those who reside in non-metropolitan areas and are economically advantaged have the privilege of being medical aid holders because they can afford coverage costs.

### **5.3.5 The influence of socio-economic factors on the access and utilization of healthcare facilities**

The socio-economic status differentials of individuals greatly influence the privileges and opportunities individuals enjoy and are exposed to. In Sub-Saharan Africa, around 70 percent of the population who are of low-economic status are located in rural areas and confined to the informal sectors of the economy (Archibong et al., 2020). The different social and economic positions of individuals and income levels hinder them from the effective use of healthcare facilities. In this section, the discussion is based on the implications of socio-economic factors on the access and utilization of healthcare facilities among women in metropolitan and non-metropolitan areas. The findings of the study answered the research question, “*Does socio-economic factors such as employment and income influence the types of health care facilities women residing in Eastern Cape Province utilize?*” This research question generated the

hypothesis, “*Employed women with high levels of income tend to consult more private healthcare facilities than unemployed women with no income*”.

In South Africa, the wealthy, permanently employed and health-insured undoubtedly have better health care being in a position to avail themselves of high standard private health facilities (van Rensburg and Fourie, 1994; Bour, 2004; Girdwood et al, 2019). This study shows that women who reside in metropolitan areas and have a high monthly household income are more likely to utilize private healthcare facilities. Women who reside in middle income households are also frequent users of private healthcare facilities. The reason for this is that women who are economically advantaged have the privilege and the means to put financial resources towards healthcare without burdening the household. Women who had low to zero monthly income were the least likely to utilize private healthcare facilities. These findings are consistent with existing literature. High costs/ bills are a strong factor that discourages individuals from utilizing private healthcare services and facilities among low income earners in metropolitan areas (Archibong et al., 2020). Furthermore, private health facilities are concentrated in urban areas and are used mainly by higher-income groups (Ajwang, 2013). Therefore, there are less barriers to accesses private healthcare facilities and utilization among high-income women.

With regards to employment, the general picture that emerges from the findings is that the access and utilization of healthcare facilities among women in metropolitan areas varies according to employment status. However, the utilization of private healthcare facilities are associated with employed women. Generally, these findings reflect the aspect of social and economic segmentation imposed under the apartheid regime (Mariotti, 2012) which remains deeply rooted in the economic structure and development within the Eastern Cape Province.

In non-metropolitan municipalities, private healthcare facility access and utilization patterns remain predominantly focused around high income households. This is, possibly, due to women in non-metropolitan areas being economically advantaged and having the financial resources to consult private healthcare facilities. Konde-Lule et al. (2010) and Nabyonga-Orem et al., (2019) state that the private sector is increasingly becoming an important source of healthcare by filling the gaps where no or little public healthcare is available. Private healthcare providers may often be a main source of health care even in areas where free and low-cost public services are available. Furthermore, the high prevalence of private healthcare facility

utilization in non-metropolitan areas among women in high income households is, possibly, due to the need and preference for quality and timely treatment.

Regarding employment and healthcare facility utilization in non-metropolitan areas, this study reported variations of employment status in relation to private healthcare facility utilization. Employed women in non-metropolitan areas are common users of private healthcare facilities, however, they share this commonality with economically inactive women. This could be because employed women who utilize private healthcare facilities often take their children or elderly relatives to seek medical care when they are sick. The other reason might be that, since they are employed, they may have a medical aid which enables them to access private health facilities. They can even afford cash payment because they have the resources at their disposal.

### **5.3.6 The impact of female characteristics on means of transport to health care facilities**

Women face various transportation barriers when accessing healthcare facilities. When women seek medical treatment when sick, they are often times faced with limited availability of public and/or private transportation due to the lack of transport means and transportation routes to healthcare facilities. The characteristics of women may present barriers to transportation utilization, especially among women with low socio-economic status (Wallace et al., 2005).

The study revealed that many women across all age groups walked to healthcare facilities compared to motorized transport. The prevalence of walking to healthcare facilities was most common among women between the 25-44 years in both metropolitan and non-metropolitan areas. Although women between the ages of 25-44 years are of driving age, they may not have the resources to access or afford motorized means of transportation. The use of transport becomes more important as women get older. The study found that women between the ages of 45-64 years in metropolitan and non-metropolitan areas utilized minibus taxis the most. Du et al. (2022) state that the older women are prone to choose public transportation when seeking healthcare. Ewing, Reid and Morris-Paxton (2020) cite the reason for this being that older people may face mobility issues and might not be able to walk long distances when seeking healthcare.

The study found that the means of transport differ among black, coloured, Indian and white women. Blacks have historically been deprived of adequate healthcare provision and access (Kon and Lackan, 2008; Brauns, 2016; McIntyre and Ataguba, 2017). This has been

exacerbated by their predisposition of being a marginalized and vulnerable population, especially among black female household heads. In metropolitan areas, the study revealed that a larger proportion of black women walked to healthcare facilities, than women of other races. Archer (2020) highlighted that black people are disproportionately at the bottom of the economic and social ladder. This contributes to their lack of access to transport when seeking medical care when they are sick because they face financial constraints, and inequitable access to adequate means of transport (Archer, 2020). Looking at non-metropolitan areas the largest proportion of women that walked to healthcare facilities were black women. When compared to white women, the majority of white women utilized motorized means of transport, and an immensely low portion of white women walked to healthcare facilities. The pattern that emerges is similar to the pattern observed in metropolitan areas. When access to healthcare facilities and the provision resources has systematically favoured white women over black women, they are less likely to experience transportation barriers in accessing healthcare facilities.

The study found that the means of transport to healthcare facilities varies by level of education. In metropolitan areas, it was revealed that women who had no formal education, primary education, and secondary education constituted the majority of women who walked to healthcare facilities. Whereas women with tertiary education utilized buses and their own means of transport, rather than walking to healthcare facilities. The level of education among women is associated with better opportunities, such as the opportunity for employment and income. This is, therefore, a possible reason for the utilization of motorized means of transport among women with tertiary education. Regarding non-metropolitan areas, it was observed that women across all levels of education walk to healthcare facilities as their primary means of transport when seeking medical care. The inclination to walking to healthcare facilities among these women is based off of the opportunities that education allows these women to access healthcare facilities. Buor (2004) and Liu, Qin and Xu (2019) highlighted that the level of education is higher in metropolitan and urban areas, and the concentration of healthcare facilities is concentrated in these areas to the detriment of rural areas. Therefore, less educated women are more likely to saturate the informal employment sector and receive low pay. This results in more women walking to healthcare facilities, as they are unable to afford the costs associated with utilizing.

Medical aid schemes are predominantly income related, and dependant on employment. The study found that among women in metropolitan areas, a large proportion of women without

medical aid insurance walked to healthcare facilities when seeking medical care when they are sick. This is, possibly, attributed to low levels of education and income as these factors influence medical aid (Raghupathi and Raghupathi, 2020). Therefore, when women are unable to afford medical aid, they may be unable to afford the costs of transportation as both require a stable source of income (Wolfe et al., 2020). In non-metropolitan areas, similar patterns of transportation utilization to metropolitan areas were observed. A significant proportion of women were not medical aid holders, and of these women, the majority of women walked to healthcare facilities.

Furthermore, monthly household income was found to influence travel time to healthcare facilities. The means of transportation to healthcare facilities varied by the level of monthly household income among female household heads. In metropolitan areas, women residing in no income, low income and middle-income households constituted a large proportion of women that walked to healthcare facilities (Syed, Gerber and Sharp, 2013; Wolfe et al., 2020). Whereas women residing in high income households utilized their own means of transportation. The differentials in the utilization of means of transport to healthcare facilities is dependent on women's ability to pay. Therefore, women who reside in high income households have access to financial resources to utilize transportation to healthcare facilities when they are sick, this is not the case for women of low to no income households where cost of transportation is prohibitive (Wolfe et al., 2020). In non-metropolitan areas, walking to healthcare facilities was the most common means of transport among women of no income, low income and middle-income households. This is in line with the findings of Lazar and Davenport (2018). The authors state that low-income families are less likely to have stable transportation, therefore resulting in an increased tendency to walk to healthcare facilities.

The findings indicated that economically inactive women were among the majority of women that walked to healthcare facilities in both metropolitan and non-metropolitan areas. This may be influenced by the high unemployment rate in the Eastern Cape, which leaves women without jobs or a secure source of income (Shabangu, 2015), rendering them unable to afford transportation to healthcare facilities. Where transportation costs are high, the utilization of transport by economically disadvantaged women could be hindered (Buor, 2004; Wolfe et al., 2020) as employment and income determine the ability of women to access transportation to healthcare facilities. Where women are unable to foot the costs associated with utilizing



transport, they are left with limited options and are then required to walk to healthcare facilities to seek medical care when they are sick.

### **5.3.7 The impact of female characteristics on travel time to healthcare facilities**

In studying the factors that affect access and utilization of healthcare facilities among women in Eastern Cape Province, travel time and distance are critical features which are used to identify the different healthcare facility utilization patterns among women. Access to healthcare facilities may be hindered if the resources are available but located inconveniently. The distance to healthcare facilities is an important accessibility factor, as is time. The time travelled to healthcare facilities to access healthcare services is strongly associated with the accessibility of services (World Health Organisation, 2012; Le, La and Tykkylainen, 2022). The findings of this study remain consistent with existing literature that travel time to healthcare facilities differ based on area of residence, the mode of transportation and the proximity to healthcare facilities (Mattson, 2011; WHO, 2012; McLauren, Ardington and Leibbrandt, 2013; McIntyre and Ataguba, 2017). However, the role of socio-economic and socio-demographic characteristics of women have an increasing influence on travel time to healthcare facilities (Cook et al., 2009; Burger and Christian, 2020).

In metropolitan and non-metropolitan areas, the study found that travelling less than 30 minutes was observed to be the most common travel time among women of all age groups. The decreased travel time among younger women may be attributed to their health status. Younger women who do not have mobility restrictions may have easily access healthcare facilities through an increased walking speed or through their ability to drive a car. Among older women, the observed decreased travel time is attributed to assistance women might receive in accessing medical care when they are sick. Rosenbloom and Winsten-Barlette (2022) state that older women have different travel patterns and resources to cope with mobility loses as they age. Mattson (2011) supports this by stating that among older adults seeking transport to access healthcare, these individuals may dependant on a family member or friend to provide transportation to medical care when they are sick. Therefore, allowing for the decreased travel time to healthcare facilities. In both metropolitan and non-metropolitan areas, travelling 90 minutes and more was not a frequent occurrence among women of all age groups as an increase in travel time decreases the likelihood of accessing healthcare facilities (Zhao, Li and Liu,

2022). Therefore, these women may forgo seeking medical treatment when they are sick to avoid long commutes.

The study found that travel time to healthcare facilities differs by population group. Although Black women were among the majority of women who travelled less than 30 minutes to healthcare facilities in metropolitan and non-metropolitan areas. Black women were additionally observed to constitute the majority of women that travelled more than 30 minutes. The increased travel time among Black women, as compared to coloured and white women, is traced back to the apartheid era and the history of segregation within the Eastern Cape, where Blacks were forcefully relocated to the rural plains of the Eastern Cape and left with limited-service delivery, inadequate infrastructure and severely under-resourced healthcare systems. Black women remain the biggest bearers of the burden of accessing healthcare facilities as they are more likely to be concentrated in rural areas, which contributes to increased travel time.

The study revealed that socio-economic status influences the travel time to healthcare facilities among women seeking medical care when they are sick. The study found that low socio-economic status resulted in increased travel time. Women in low income and no-income households were among the majority of women that spent an increased time travelling to healthcare facilities as compared to high income households. Where income is concerned with travelling to healthcare facilities, women who are not able to pay for transport to healthcare facilities have to resort to walking to healthcare facilities, which contributes to an increased travel time when seeking healthcare when women are sick. Furthermore, the accessibility of healthcare facilities is dependent on affordability, therefore, women who have low monthly income may have to travel further to access free or more affordable healthcare facilities when they are sick. Furthermore, in metropolitan and non-metropolitan areas a similar pattern emerged regard employment status. Economically inactive women were more likely to travel more than 30 minutes to healthcare facilities as compared to employed or unemployed women. This may result from the lack of available financial resources to assist in accessing healthcare facilities (Buor, 2004).

Moreover, income and employment are influenced by education, inasmuch that high level of educational attainment is directly proportional to high level of monthly income, and increased employment opportunities; of which the opposite is also true. Women with higher levels of education were found to have decreased travel time to healthcare facilities. A higher level of

education allows women better access to healthcare facilities, and a decreased travel time as these women are able to depend on alternative means of transportation than walking.

### **5.3.8 Differences and similarities of access and utilization of healthcare facilities across metropolitan and non-metropolitan areas**

A comparison among areas of residence in relation to female household head's characteristics is essential in understanding access and utilization patterns of healthcare facilities. It is evident from the findings of this study that the access and utilization of healthcare facilities differ by area of residence with the socio-economic and socio-demographic characteristics of women who head households in the Eastern Cape. The focus on metropolitan and non-metropolitan municipalities is significant in understanding utilization patterns. The evidence suggests that female household heads use healthcare facilities differently across residential areas. Depending on the characteristics of women, some areas of residents are favourable to women in terms of accessing healthcare facilities (metropolitan municipalities).

In contrast, other areas are more restricted in healthcare facility treatment options, human resources and availability (non-metropolitan municipalities). The provision of public/state healthcare facilities is not uniformly distributed across areas of residence in the Eastern Cape Province, and both accessibility and availability of healthcare facilities do not fulfil the needs of women completely. Some areas provide better quality healthcare, better opportunities for accessing healthcare facilities, and effective service delivery while other areas are either restrictive in access or lacking healthcare facilities.

A general comparison of the results demonstrates some differences between the area of residence of women in terms of the access and utilization of healthcare facilities. The findings reveal that women in non-metropolitan areas utilize more healthcare facilities than women in metropolitan areas. The possible explanation for this is that the concentration of women in non-metropolitan areas is higher than in metropolitan areas, and women in rural and non-metropolitan areas are more at risk of chronic diseases than their urban counterparts (Jones et al., 2009; Lauckner and Hutchinson, 2016). These areas are observed as underserved areas which lack adequate service delivery, economic and educational opportunities and effective healthcare. Consequently, the high concentration of female household heads in non-metropolitan areas and the sparse distribution of adequate healthcare facilities creates a higher demand for healthcare.

With regards to the comparison between healthcare facility utilization and population group across metropolitan and non-metropolitan areas, the study revealed a great difference in healthcare utilization between Black household heads and other population groups in the different municipal areas. Black women were the predominant utilizers of healthcare facilities in metropolitan and non-metropolitan areas. Public healthcare facilities were the most common form of healthcare facilities utilized among black female household heads in the Eastern Cape. It can be suggested that this is based on the impact of racial segregation of the healthcare system during the apartheid era (Coovadia et al., 2009; Brauns, 2016). Black individuals suffered from the inequalities of the distribution of infrastructure and human resources between geographical areas, the inadequate distribution of resources and the exclusion from private healthcare facilities during the apartheid era (Coovadia et al., 2009; Maseko and Harris, 2018). More so, these individuals faced significant inequalities in education and employment, resulting in a lower socio-economic status still experienced by many black female household heads in the Eastern Cape. This in turn affects the utilization of access to healthcare facilities among black women who head households in both metropolitan and non-metropolitan areas.

The comparison of healthcare facilities and level of education of women who head households in metropolitan and non-metropolitan areas demonstrate minimal differences. It is however surprising to learn from the findings of this study that women heading households with no formal schooling and primary level education are among the women who frequently utilize healthcare facilities. The possible explanation for this might be the support from the South African Constitution, which declares the right to access healthcare for all without any discrimination. Therefore, women with little to no education are still eligible to utilize healthcare facilities and may receive subsidies at public healthcare facilities. Furthermore, the study found that the prevalence of the utilization of healthcare facilities is among women with secondary education. Of the women that reside in metropolitan municipalities, a more significant proportion utilize private healthcare facilities compared to the proportion of women in non-metropolitan municipalities who utilize private healthcare facilities. In non-metropolitan areas, the utilization of public healthcare facilities is highest among women with secondary education, as compared to women in metropolitan areas who have secondary education. It would appear that, despite the low level of education among women in both metropolitan and non-metropolitan areas, women in metropolitan areas seem to be better off and therefore are more likely to utilize quality healthcare facilities, such as private healthcare

facilities. Whereas women in non-metropolitan areas are more likely to utilize private healthcare facilities and utilize public facilities more often.

In order to identify the impact of monthly household income on the access and utilization of healthcare facilities, metropolitan and non-metropolitan municipal areas were compared. This study found that healthcare facility utilization and access vary depending on the income level among women heading households across municipalities. Results reveal that women living in metropolitan areas with high incomes utilize private healthcare facilities more. Whereas women in non-metropolitan areas utilize public healthcare facilities more frequently than private healthcare facilities among women heading households with no income, low income and middle-income households. The reason might be that these facilities are much cheaper and more likely to be accessible compared to private healthcare facilities.

With regards to utilization of healthcare facilities in different residential areas, the study found that in metropolitan areas, a larger proportion of urban residents utilized healthcare facilities. In non-metropolitan areas, a larger proportion of rural residents utilized healthcare facilities. The possible explanation is that women in non-metropolitan areas constitute a larger proportion of the populace of the Eastern Cape, and therefore utilize more healthcare facilities. In rural areas of non-metropolitan areas, women heading households in these areas are the predominant utilizers of healthcare facilities.

The above-stated findings answer the research question: *"Is there a difference between metropolitan and non-metropolitan areas in terms of access and utilization of healthcare facilities?"*. The hypothesis that was formed in this regard was, *"Women residing in the Eastern Cape differ by socio-demographic and socio-economic characteristics in terms of the access and utilization of healthcare facilities"*. This implies that, the utilization of healthcare facilities differs across municipalities depending on the characteristics of female household heads.

## **5.4.1 Logistic regression on the utilization of type of healthcare facilities by municipality**

In this study, logistic regression was used to identify the determinants of access and utilization of healthcare facilities among women and to what extent they influence access to healthcare facilities. Interesting results highlighting the relationship between healthcare facility utilization and female household heads characteristics were assessed.

### **5.4.1.1 Determinants of access and utilization of public healthcare facilities across municipalities**

In metropolitan areas, variables that influence accessibility and utilization of healthcare facilities among women heading households in the Eastern Cape were identified and tested, and the findings indicate that the data fits the model well. Monthly household income was identified as one of the contributing factors towards the access and utilization of healthcare facilities among women heading households. The findings indicated that women in high income and middle-income households were less likely to utilize public healthcare services. High income households are more likely to afford seeking healthcare when they are sick (Gordon, Booysen and Mbonigaba, 2020), have a higher probability of being medical aid members (Muntaner and Parsons, 1996; Buor, 2004; Maseko and Harris, 2018), and are thus more likely to bypass public healthcare facilities to access private healthcare facilities (Bell et al., 2020). Therefore, women who have the financial capacity to pay for healthcare services will consult healthcare facilities which provide better quality care, specialized healthcare services and treatments and timely treatment, such as private healthcare facilities (Buor, 2004; Maseko and Harris, 2018).

On the other hand, the findings indicated that women with lower levels of household income are less likely to utilize public healthcare facilities in metropolitan areas. Despite healthcare facilities in metropolitan areas being widely available and not as sparse as in rural and non-metropolitan areas, these women may delay seeking healthcare in metropolitan areas due to their household financial situation, despite public healthcare facilities being free. If resources, such as time and money for travelling and receiving care, are scarce, women may forgo seeking healthcare when they are sick in order to maintain the household and focus financial resources towards their basic needs. The findings generally agree with the literature, which states that women's access to healthcare services is negatively affected by their multiple roles and

gendered identities (Morgan et al., 2017; Azad et al, 2020; Vijayasingham et al., 2020; Yoosefi Lebni et al., 2020). The type of work women performs affect their health status and without health insurance and lack of employee benefits, healthcare access, prevention and treatment of illness is outside the budget of the low-wage job sphere (Mazzella, 2016).

In non-metropolitan areas, the model coefficient was significant as well. The results show that monthly household income was the main factor which influenced the access and utilization of healthcare facilities among women heading households. A decrease in monthly household income was observed to significantly lower the chances of accessing public healthcare facilities. This implies that women who head low-income households did not utilize healthcare facilities frequently. A possible reason is that women heading households in rural or non-metropolitan areas face barriers to utilizing healthcare facilities, such as availability and accessibility. Women from low-income households face significant barriers in accessing healthcare facilities as financial constraints hinder them in more ways. For example, women from low-income households may have to pay for healthcare out of their own pocket, meaning that these households may face exacerbated hardships when healthcare is required. Even when healthcare is free, these women may not have the financial resources to cover healthcare's indirect and hidden costs, such as transportation fares or prescription medication payments and treatment plans (Dawkins et al., 2021).

Furthermore, the study's findings indicated that unemployed women are less likely to utilize public healthcare facilities. Employment determines the ability of women to access healthcare facilities as it is a function of income (Buor, 2004; Minyihun and Tessema, 2020). The decreased utilization of public healthcare facilities among unemployed women is related to their ability to pay. The economic costs involved in utilizing healthcare facilities is a prohibitive factor for seeking medical treatment (Ahs, 2006; Domonic, Ogundipe and Ogundipe, 2019), as there are additional costs which may further prevent access to public healthcare facilities, even when they are free.

#### **5.4.1.2 Determinants of access and utilization of private healthcare facilities across municipalities**

In the context of this study, the main determinants of access and utilization of private healthcare facilities among women heading households in the Eastern Cape Province were measured in order to describe their level of relationship. In metropolitan areas, the model fit the data well, and it was statistically significant. The findings of the study were consistent with the views from literature which say that income and area of residence influence access and utilization of private healthcare facilities (Ataguba and Gouge, 2012; Kabongo, 2015; Mazzella, 2016; McIntyre and Ataguba, 2017 Edwing, Reid, Morris-Paxton, 2020) for women living in metropolitan areas. The study found that women living in high-income households increased the likelihood of utilizing private healthcare facilities. Women in high income households have a greater chance of affording medical insurance. This allows women to visit private healthcare facilities more frequently (Ajwang, 2013; Gordan, Booysen and Mbonigaba, 2020), which provide an overall better quality of healthcare, better range of services, increased availability of resources (Maseko and Harris, 2018) and a higher number of doctors and healthcare professionals (Machado et al., 2021). Additionally, the findings revealed that women who reside in low-income households had an increased chance of utilizing private healthcare facilities. The possible reason for this might be that the quality of healthcare is better at private healthcare facilities. Private healthcare facilities are more likely to offer specialized treatment for conditions such as HIV/AIDS, to which women, especially those of low socio-economic status and household heads, are more vulnerable (Shisana et al., 2010; Rodrigo and Rajapakse, 2010; Adongo, Azumah and Nachinaab, 2021).

Area of residence was shown to be a significant variable in metropolitan areas, meaning that women residing in urban areas consulted private healthcare facilities more frequently. The increased utilization of private healthcare facilities in urban areas may be attributed to the increased availability and accessibility of primary healthcare, preventative and specialized healthcare, and the overall perceived better quality of care (Chen et al., 2019). Ideally, private healthcare utilization among urban residents is possibly attributed to urban residents having more opportunities for education and employment (Bour, 2004; Vearey et al., 2019). As a result, they are more likely to access medical aid coverage and are more inclined to utilize private healthcare facilities.



With regards to female household heads accessing and utilizing private healthcare facilities in non-metropolitan areas, this study found that monthly household income, especially among women living in high income, middle-income and low-income households, contributes to increased utilization of private healthcare facilities in non-metropolitan areas. These findings are in line with existing literature by Girdwood et al., (2019). They state that although high-income earners and medical aid members predominantly utilize the healthcare sector, an essential proportion of the low-income population chooses to utilize private healthcare facilities for a fee instead of accessing free healthcare at public facilities. The reason for this, as previously highlighted, may be due to a perceived increase in quality healthcare (Girdwood et al., 2019; Govender et al., 2020). Additionally, using private healthcare facilities among low income and middle-income households may reduce the need for additional visits and decrease the waiting periods. This, in turn, may reduce the cost of accessing healthcare facilities as multiple consultations at various healthcare facilities, such as clinic followed by pharmacy consultation, will not be required.

#### **5.4.2 Logistic regression on the means of transport to healthcare facility by municipality**

A comparison of healthcare access and utilization results among metropolitan and non-metropolitan areas was done in line with female household heads' mode of transportation when seeking medical care when they are sick.

##### **5.4.2.1 The factors contributing to walking as a means of transport across municipalities**

In metropolitan areas, monthly household income was found to influence the likelihood of walking to healthcare facilities among women heading households. The study found that women who reside in high income and middle-income households had decreased chances of walking to healthcare facilities. These women are more economically advantaged and may use the financial resources they have to forgo walking to healthcare facilities and utilize motorized means of transport to access healthcare facilities. Moreover, the findings of this study revealed that women living in urban regions have decreased odds of walking to healthcare facilities. A possible explanation for this would be that accessing healthcare facilities is influenced by various factors such as the physical location and distance of the facilities and the time, distance and cost of accessing healthcare facilities. Women in urban areas have a greater advantage of

accessing healthcare facilities through alternative means of transportation than walking, as compared to women in rural areas. In urban areas, public transportation is more frequently and widely available; and means of transport range from public buses to own transport to metered taxis such as Uber's. Furthermore, South African urban areas are allocated greater subsidies to cater for public transportation which allows for access to and the implementation of more public transportation systems and vehicles at an affordable rate (Competition Commission, 2018). Therefore, women in urban areas have better access to modes of transportation and are less inclined to walk to healthcare facilities.

Household income remains salient in accessing healthcare facilities (Khullar and Chokshi, 2018). It is important to note the role that monthly household income plays when women who reside in non-metropolitan areas are sick and seek medical care. The study's findings indicated that women who reside in low-income households were less likely to walk to healthcare facilities. This is a significant finding as it indicates the dire circumstances that women face when accessing healthcare facilities. In non-metropolitan areas, the distribution of healthcare facilities and service delivery differs from metropolitan areas. Women in non-metropolitan areas are also more likely to live in rural regions, as the majority of female household heads in the Eastern Cape Province reside in rural areas. Though women have low income, they have no choice but to seek alternative transport than walking. Firstly, because they stay far from the healthcare facility, and secondly because they are scared to walk as they feel insecure to walk especially when they are alone.

However, the study further found that women in high- and middle-income households were less likely to walk to healthcare facilities. An increase in income is associated with an increase in transportation usage (Rodrigue, 2020). These women are at an advantage when accessing healthcare facilities, as they have the financial means to utilize their means of transport or public transportation systems; hence, they will forgo walking to healthcare facilities. Furthermore, women heading households in urban regions of non-metropolitan areas had increased odds of walking to healthcare facilities. This is in part due to the proximity to healthcare facilities in urban regions. These women may choose to walk to healthcare facilities in urban areas where healthcare facilities are close to them.

#### **5.4.2.2 The factors contributing to motorized means of transport to healthcare facilities across municipalities**

In urban regions of metropolitan areas, women are presented with a host of opportunities to access healthcare facilities which may not be the case for women in rural regions. In urban areas, women have an advantage regarding accessibility of services, especially healthcare facilities. The findings of this study revealed that women who live in urban regions are more likely to utilize motorized means of transport to access healthcare facilities when they are sick. Because urban areas are often more densely populated as compared to rural regions; and infrastructure is geographically in closer proximity, various modes of motorized transportation is readily available and accessible. Public transportation systems are concentrated in urban areas (Van Ryneveld, 2018; Falchetta, Hammad and Shayegh, 2020), allowing women the opportunity to access transportation to healthcare facilities more conveniently. Furthermore, the role of household income is another prominent factor when utilizing motorized means of transport to access healthcare facilities. The study found that monthly household income significantly influenced the utilization of healthcare facilities, such that high income and middle-income households had increased odds of utilizing motorized means of transport. Women in high income households are less likely to experience transport barriers, as compared to women in low-income households, as they can afford the costs of transportation (Appiah et al., 2020).

Regarding non-metropolitan areas, the study found that women in high, middle- and low-income households were more likely to utilize motorized transport. Transport barriers are cited in existing literature to be attributed to the costs of utilizing transportation (Buor, 2004; Lazar and Davenport, 2018; Ewing et al., 2020; Wolfe et al., 2020). However, women in high income and middle-income households have an increased opportunity over women in no income households to access motorized means of transportation. The utilization of motorized means of transport among low-income households may be related to the need for medical care when women are sick. In metropolitan areas, low-income households face greater disadvantage of accessing healthcare facilities due to location and distance (Wolfe et al., 2020), therefore, the utilization of motorized means of transport allows women to access healthcare facilities quicker and easier.

Area of residence was found to be another significant factor in utilizing healthcare facilities in non-metropolitan areas. Women who head households and who reside in urban areas had

decreased odds of utilizing motorized transportation when seeking medical treatment when they are sick. This means that women in urban areas are likely to walk to healthcare facilities. The possible reason for this might be that the healthcare facilities in urban areas are located nearer to them and are not located far from each other. These facilities are not dispersed widely and with great distances between them, such as in rural areas. Thus, women can find many healthcare facilities in a smaller radius from their household and may walk to healthcare facilities due to their convenience and avoid unnecessary travel costs.

### **5.4.3 Logistic regression on travel time to healthcare facility across municipalities**

A comparison of healthcare access and utilization results among metropolitan and non-metropolitan areas was done in line with female household heads' travel time to healthcare facilities when seeking medical care when they are sick.

#### **5.4.3.1 Travelling less than 30 minutes to healthcare facilities across municipalities**

This study investigated the role of travel time to healthcare facilities on patterns of access and utilization of healthcare facilities among female household heads in the Eastern Cape Province. In metropolitan areas, the study revealed that the area of residence was a significant factor that influenced access and utilization of healthcare facilities. It is interesting and unexpected to observe that women who reside in urban areas were less likely to travel less than 30 minutes to healthcare facilities. This could be, possibly, as a result of seeking quality healthcare from facilities that are not nearest to the household but nearest to women's activity space which include place of employment or areas that they frequently visit, such as close to areas where women run errands (Mattson, 2011; Escamilla et al., 2018). This would incur an increase in travel time for women residing in urban areas.

The study revealed that monthly household income significantly influenced travelling less than 30 minutes to healthcare facilities. Women who lived in high income and middle-income households were found to have increased chances of travelling less than 30 minutes to healthcare facilities when they are sick. A possible explanation for this would be the distance to healthcare facilities in metropolitan areas. In metropolitan areas, there are increased opportunities to receive healthcare due to the increased number of healthcare facilities available, the improved means of transportation and road infrastructure (Buor, 2004; Kaiser

and Barstow, 2022) and the higher doctor to patient ratio. The availability of financial resources allows these women to utilize convenient means of transport to access healthcare facilities on time.

Looking at non-metropolitan areas, the influence of monthly household income was found to significantly affect travelling less than 30 minutes to healthcare facilities. The study found that women residing in high income and middle-income households were more likely to travel less than 30 minutes to healthcare facilities. Travel time is associated with travelling costs and means of transport, distance to healthcare facility and the availability of healthcare facilities (Kabongo, 2015; Falchetta et al., 2020). Women in high income and middle-income households are at an economic advantage to cover the cost of transport to healthcare facilities, which contributes to a shorter travelling period for women.

The distribution of healthcare facilities and the availability and access to reliable means of transport is essential in accessing healthcare facilities in a timely manner and plays a significant part in the reduction of travel time to healthcare facilities. The study found that women residing in urban regions of non-metropolitan municipalities are more likely to travel less than 30 minutes when accessing healthcare facilities. Urban areas are more likely to have roads and infrastructure which support multiple modes of transportation. Healthcare facilities and the availability of transportation is more likely to be concentrated in urban areas and in regions where it could be suitably accessed (Abongile, 2010; Kaiser and Barstow, 2022), therefore resulting in reduced travel time.

#### **5.4.3.2 Travelling more than 30 minutes to healthcare facilities across municipalities**

Increased travel time to healthcare facilities is attributed to various factors which include distance, transportation availability, healthcare facility availability and quality of healthcare, health institution preference and affordability (Mattson, 2011; Awoyemi et al., 2011; McLauren et al., 2014; Escamilla et al., 2018). The findings from this study indicated that area of residence influenced the travel time among female household heads who reside in metropolitan areas. The study revealed that women heading households who reside in urban regions of metropolitan areas were more likely to travel more than 30 minutes to healthcare facilities. Women living along the peripheries of urban areas may experience an increased

travel time to healthcare facilities, as these facilities are more likely to be located towards the city centres (Zhao, Li and Liu, 2020).

Likewise, the findings revealed that monthly household income influenced the likelihood of travelling more than 30 minutes to healthcare facilities. Women residing in high income and middle-income households were less likely to travel more than 30 minutes to healthcare facilities. In metropolitan areas, healthcare facilities are widely available, concentrated in urban areas and city centres, and as such are suitably located and within close proximity. Therefore, high income and middle-income households have the resources to commute to healthcare facilities, which are also located in close proximity to high income neighbourhoods (Zhao, Li and Liu, 2020) resulting in decreased travel time to healthcare facilities. Additionally, they also have means of transport which help them to reach the healthcare quicker.

In non-metropolitan areas, monthly households' income was revealed to influence travelling more than 30 minutes to healthcare facilities. The study found that women residing in high income and middle-income households were less likely to travel more than 30 minutes to healthcare facilities. Existing literature highlights that income and employment are factors which influence travel time to healthcare facilities (Mattson, 2011; Varela et al., 2019). Women who are employed and receive high income are less likely to face barriers accessing healthcare facilities. Hence, in addition to the likelihood of having better access to motorized means of transport (Christian, 2014), women are less likely to endure long travel times to healthcare facilities (Zhao, Li and Liu, 2020).

Arguably, area of residence was found to be a factor which significantly influenced travel time. The study revealed that women heading households in urban areas were less likely to travel more than 30 minutes to healthcare facilities when seeking medical help when sick. The main reason for this would, possibly, be attributed to distance. Extensive literature on accessing healthcare facilities have indicated that women who reside in urban areas are more likely to have better access to healthcare facilities as a result of distribution of healthcare facilities, availability of public and private healthcare facilities, and the relative proximity to healthcare facilities (Buor, 2004; Mattson, 2011; McIntyre and Ataguba, 2017; Wolfe et al., 2020; Ewing et al., 2020).

## 5.5 Conclusion

In this chapter, an in-depth discussion of the methodology and data analysis used in this study has been shown. The focus of this study was on the access and utilization of healthcare facilities among women in the context of the Eastern Cape Province. Specifically, the determinants of access and utilization of healthcare facilities among female household heads in order to understand which factors are significant enough to alter the patterns of access and utilization of healthcare. Moreover, some hypotheses were supported by the study's findings and have been shown to be in line with existing literature, while other hypotheses were rejected.

The key findings of this study indicate that access and utilization of healthcare facilities among women are still accompanied by barriers. However, women are enduring these challenges for better health and well-being. The study reported that the main constraints women face are attributed to monthly household income, area of residence and population group. Monthly household income was identified as both a positive and negative influence on healthcare facility utilization, as women may be in an economic advantageous position to overcome certain access barriers. In contrast, other women are left overburdened by financial strain. Area of residence and population group are factors that contribute to access barriers largely due to the legacy of apartheid, where traces are still found within the healthcare system, primarily through healthcare facility location and service delivery. The distribution of healthcare facilities is still centred in urban areas along with better infrastructure and transportation options. This is attributed to both the rural-urban divide and the preference for better provision of healthcare facilities in more densely populated and economically active areas.

## CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

The main focus of this study was the access and utilization of healthcare facilities among women heading households in the Eastern Cape Province of South Africa. The aim was to examine the relationship between the socio-demographic and socio-economic factors and women's access and utilization of healthcare facilities. The characteristics of women in their role as household heads were explored through variables such as age, level of education, employment status, and income. Healthcare facility-related variables included access to medical aid, medical facility setting, means of transport to the nearest healthcare facility, time travelled to the nearest healthcare facility, reasons for not using the nearest healthcare facility and service satisfaction.

This section of the thesis highlights the prominent findings of the study. The General Household Survey 2018 was used in this study, as it was the most recent survey completed, which included all the variables relevant to this study. The most recent GHS data omitted some crucial variables for this study. The data was analysed through univariate analysis, which examines variables individually to identify the characteristics of female household heads. The female's socio-demographic characteristics, socio-economic characteristics, medical facility setting, mode of transportation and travel time to healthcare facilities was examined through cross-tabulation. Additionally, using the Chi-square test, the hypotheses formulated for this study were tested to measure the association between the characteristics of women and their access to and utilization of healthcare facilities. The strength of the association was measured through Phi and Cramer's V. Further statistical tests were carried out, such as logistic regression, to measure the main determinants of the access and utilization of healthcare facilities and the magnitude of its impact after dichotomizing the dependent variables. The data analysis was performed using the General Household Survey of 2018 and SPSS version 29 to analyse the data.

Given that there is no theory formulated around female healthcare facilities on the access and utilization patterns in South Africa in general and the Eastern Cape Province in particular, this study reviewed existing theories regarding access to healthcare facilities. The theories included in this study served as a starting point in building a conceptual framework which guided this study in investigating the determinants of access and utilization of healthcare facilities among women heading households.



## 6.1 Determinants of access and utilization of healthcare facilities

This study aimed to examine the relationship between women's socio-demographic and socio-economic factors and their access and utilization to healthcare facilities. This study found that women still face barriers when accessing healthcare facilities, which can affect their health.

Women in the Eastern Cape province are frequent users of healthcare facilities. The utilization of private and public healthcare facilities differs according to the characteristics of female household heads within the province. The impact of age on health is determined by various indicators, specifically self-reported health, acute and chronic sicknesses, and indicators of health services usage (Larkin, 2011, as cited in Alfaqeeh, 2015). The age of women heading households in the Eastern Cape was identified as a critical factor in their access and utilization patterns of healthcare facilities. This study found that Women between 25-44 years were the most frequent utilizers of private and public healthcare facilities in both metropolitan and non-metropolitan areas in the Eastern Cape. The high prevalence of women between these ages is possible because of their biological needs during pregnancy, menstruation and their general body during their reproductive years.

The high prevalence of HIV /AIDS and TB in the Eastern Cape in South Africa has also become a concern for women. Black women were the majority of women who sought medical care when sick. This is mainly due to the predominance of the Black populace in the Eastern Cape. Both private and public healthcare facilities were frequently consulted by Black women, of which private healthcare facilities were most frequently utilized. The monthly household income and employment status of women in the Eastern Cape province were in proportion to each other regarding the access and utilization of healthcare facilities. Employed women with high monthly household incomes favoured private healthcare facilities. Similarly, unemployed and economically inactive women with little to no monthly household income favoured public healthcare facilities in metropolitan and non-metropolitan areas.

The medical aid coverage among women determined their use of healthcare facilities. The study found that medical aid coverage was consistent with private healthcare facility utilization. Furthermore, the utilization of healthcare facilities in rural and urban areas is based on population density. In urban neighbourhoods of metropolitan, and municipal areas, more women reside in these areas; therefore, these women are the majority utilizers of both private and public healthcare facilities. Public healthcare facilities remain the most frequently

consulted healthcare facilities according to age, area of residence and level of education. Private healthcare facilities are most frequented by women of high-income households who are employed and have medical aid coverage.

The means of transportation to healthcare facilities remains a hindrance as women seek medical care when they are sick. The study found that walking was the predominant means of transportation among women at both metropolitan and non-metropolitan levels. The lack of transportation options leaves women in vulnerable positions when seeking healthcare. This is in line with the accessibility component of the Penchansky and Thomas framework and the ability to reach, availability and accommodating factors of the conceptual framework of access to healthcare by Levesque et al. The scarce availability and accessibility of public transportation, such as trains and buses, resulted in women primarily relying on walking. As walking was observed to be more prevalent in non-metropolitan areas, it is evident that government public transportation is scarce in most rural areas. However, monthly household income was a significant factor influencing the utilization of own transport to access healthcare facilities. Accessing healthcare facilities through their own means of transportation was most common among women living in high-income households.

The legacy of resource allocation under the apartheid era is still found within the framework of the healthcare system. The wide, unequal and inequitable distribution of resources between metropolitan and non-metropolitan areas is observed in the Eastern Cape and is evident in the time taken to travel to healthcare facilities among women seeking medical care when sick. The study found that most women in metropolitan and non-metropolitan areas travelled more than 30 minutes to access healthcare facilities. Living in rural areas was associated with travelling long distances to healthcare facilities. This is attributed to the distribution of healthcare facilities and the availability of services required by women seeking healthcare when they are sick.

Furthermore, it was observed that in the Eastern Cape Province, a significantly small portion of women heading households were medical aid holders. From this observation, the study found that medical aid coverage and monthly household income influenced the travel time to healthcare facilities. Women in high-income households may consult private healthcare facilities which provide better quality healthcare and effective service delivery. Additionally, depending on the type of medical aid scheme that women are members of, the healthcare

facilities that accept their medical aid scheme may vary; therefore, they are obligated to travel further when seeking healthcare.

## **6.2 Recommendations**

### **6.2.1 Policy recommendations**

Implementing effective, reliable and timely transportation to healthcare facilities should be the biggest concern and priority of the policy makers in Department of Health and provincial government of Eastern Cape, and the whole South Africa as a country in general. The modes of transportation and their associated infrastructure are either severely inadequate, unsafe or non-existent. In rural areas of the Eastern Cape, the means of transport to healthcare facilities significantly burden women seeking medical care when sick. The South African Government should consider emergency medical transportation to transport women to healthcare facilities when sick, at a low cost to the passengers, as these women are already in dire circumstances. The maintenance and construction of roads and infrastructure to access healthcare facilities should be given priority. Where coastal areas or outlining areas are concerned, access points such as pick-up spots should be considered when roads are not practical to be used during emergencies.

Moreover, there is a high frequency of women who walk to healthcare facilities and who still may not benefit from the implementation of emergency medical transportation. It is recommended that tared roads and safe sidewalks be constructed in rural areas and along the peripherals of metropolitan areas. This will allow women who walk to healthcare facilities to walk along a safe route and not be restricted access to healthcare facilities due to challenging terrain conditions.

To address the issue of transportation due to geographic barriers, the Eastern Cape Government should invest in Mobile Clinics and medical vans. The distribution of healthcare infrastructure and financial and human resource allocation needs should be addressed to provide equitable access to healthcare when women are sick. The redistribution of healthcare resources towards mobile clinics will provide women in rural areas with better access to medical treatment. The implementation of mobile clinics will reduce the travel time of women in rural areas who walk to healthcare facilities, and it will reduce the health risk of not consulting health professionals on time.

Moreover, as the unequal distribution of healthcare facilities among metropolitan and non-metropolitan remains a prevalent issue, the South African Government and the Eastern Cape Department of Health should work together to create homogeneity in the availability of services in metropolitan and non-metropolitan areas. As many rural communities in non-metropolitan areas are without adequate healthcare facilities and basic resources, the Policy Makers and the Eastern Cape Department of health should align the health needs of the rural residents with the allocation of healthcare services and facilities. Additionally, the Eastern Cape Department of Health should enforce common practice between metropolitan areas and non-metropolitan areas in regard to effective service delivery, quality healthcare including availability of specialised healthcare services; and ease of access to healthcare facilities. The development and implementation of policy requiring healthcare facilities within a certain radius to communities in both metropolitan and non-metropolitan areas would further create homogeneity in the availability and accessibility of healthcare facilities and services.

Medical facilities in the Eastern Cape are severely under-resourced, especially in the public healthcare sector. Well-maintained and well-equipped healthcare facilities are conducive to improved health and well-being. However, in the Eastern Cape, medical facilities are often overburdened by a high influx of patients. In order to improve the issue of access to healthcare facilities, the Eastern Cape Health Department should ensure that more resources are being directed towards public healthcare system. This should not only be addressed by constructing of healthcare facilities but also through an increased doctor-patient ratio and human resource allotment.

Income and employment are important factors in accessing and utilizing healthcare facilities, especially among women. The government should implement or provide the opportunity for women of low-income households or women who are unemployed to have access to low-cost medical aid schemes or hospital plans. Furthermore, the government and the Department of Health should address the high prevalence of out-of-pocket payments among women utilizing healthcare facilities. Out-of-pocket payments are acknowledged as an access barrier to healthcare facilities and burden many women seeking medical treatment. This is especially important as despite primary healthcare facilities being free of charge to patients, additional costs of prescription and over-the-counter medication, consultation fees and follow up visit costs, cost of maintenance of treatment, crutches, wheelchairs and co-payments create access and utilization barriers to healthcare facilities and services.

Furthermore, time travelled to healthcare facilities affects timely access to healthcare facilities. Implementing an effective appointment system may reduce the waiting times and long queues at healthcare facilities and provide more structure regarding treating patients correctly and in a timely manner.

### **6.2.2 Recommendations for future research**

Further research should consider healthcare access and utilization patterns by looking at the nature of healthcare facilities to the needs of women. For example, which healthcare facility is consulted based on the type of medical help required? This should provide a better understanding of the utilization patterns of women and an in-depth analysis of why and how female characteristics influence their decision to seek medical care. Furthermore, the General Household Survey should ask the same questions regarding healthcare needs and utilization in each subsequent survey and should not omit questions regarding healthcare and well-being so that healthcare patterns can be easily identified and interventions can follow where needed.

In addressing the access and utilization of healthcare patterns among women who head households in the Eastern Cape, a comparison of access and utilization of healthcare facilities could be conducted at the local authority's lowest level, such as local and district municipalities and small towns. The data should include variables on health and migration to be analysed together. This will provide policymakers with the data used to explore migration and access to healthcare in South Africa, which is one of the gaps in the existing body of research.

## References

- Abongile, J., 2010. *Health seeking behaviours in South Africa: a household perspective using the general households survey of 2007* (Doctoral dissertation, University of the Western Cape).
- Addati, L. and Cassirer, N., 2008. Equal sharing of responsibilities between women and men, including caregiving in the context of HIV/AIDS. *New York, NY: Department of Economic and Social Affairs. International Labour Organization (ILO)*, pp.1-41.
- Adongo, A.A., Azumah, F.D. and Nachinaab, J.O., 2021. A comparative study of quality of health care services of public and private hospitals in Ghana. *Journal of Public Health*, pp.1-7.
- Agyemang, S. and Asibey, B.O., 2018. Effect of Education on Health Care Utilization in Rural Ghana: The Case of Selected Communities in The Bekwai Municipality. *KNUST Journal of Geography and Development*, 2(1), pp.114-127.
- Ahinkorah, B.O., Seidu, A.A., Agbaglo, E., Adu, C., Budu, E., Hagan, J.E., Schack, T. and Yaya, S., 2021. Determinants of antenatal care and skilled birth attendance services utilization among childbearing women in Guinea: evidence from the 2018 Guinea Demographic and Health Survey data. *BMC Pregnancy and Childbirth*, 21(1), pp.1-11.
- Åhs, A., 2006. *Health and health care utilization among the unemployed* (Doctoral dissertation, Acta Universitatis Upsaliensis).
- Ajwang, N.W.O., 2013. The impact of health insurance on household access to healthcare in Eldoret, Kenya. *Informal and Formal Social Protection Systems in Sub-Saharan Africa*, pp. 231-258.
- Alfaqeeh, G.A., 2015. Access and utilisation of primary health care services in Riyadh Province, Kingdom of Saudi Arabia (Doctoral Dissertation, University of Bedfordshire).
- Allinder, S., 2020. The World's Largest HIV Epidemic. [online] Available at: <<https://www.csis.org/features/worlds-largest-hiv-epidemic-0>> [Accessed 13 April 2022].
- Amwonya, D., Kigosa, N. and Kizza, J., 2022. Female education and maternal health care utilization: evidence from Uganda. *Reproductive Health*, 19(1), pp.1-18.

Apuke, O.D., 2017. Quantitative research methods: A synopsis approach. Kuwait Chapter of Arabian Journal of Business and Management Review, 33(5471), pp.1-8.

Archer, D.N., 2020. Transportation Policy and the Underdevelopment of Black Communities. *Iowa L. Rev.*, 106, p.2125.

Archibong, E.P., Bassey, G.E., Isokon, B.E. and Eneji, R., 2020. Income level and healthcare utilization in Calabar metropolis of Cross River state, Nigeria. *Heliyon*, 6(9), p.e04983.

Ataguba, J.E.O. and Goudge, J., 2012. The impact of health insurance on health-care utilisation and out-of-pocket payments in South Africa. *The Geneva Papers on Risk and Insurance-Issues and Practice*, 37(4), pp.633-654.

Audibert, M. and Mathonnat, J., 2013. Facilitating access to healthcare in low-income countries: a contribution to the debate. *Field Actions Science Reports. The Journal of Field Actions*, (Special Issue 8), pp.1-5.

Awoyemi, T.T., Obayelu, O.A. and Opaluwa, H.I., 2011. Effect of distance on utilization of health care services in rural Kogi State, Nigeria. *Journal of Human Ecology*, 35(1), pp.1-9.

Azad, A.D., Charles, A.G., Ding, Q., Trickey, A.W. and Wren, S.M., 2020. The gender gap and healthcare: associations between gender roles and factors affecting healthcare access in Central Malawi, June–August 2017. *Archives of Public Health*, 78(1), pp.1-11.

Bai, R., Gao, J. and Dong, W., 2022. Is Travel Time Associated with Health Service Utilization in Northwest China? Evidence from Shaanxi Province. *International Journal of General Medicine*, 15, p.4949.

Bell, G., Macarayan, E.K., Ratcliffe, H., Kim, J.H., Otupiri, E., Lipsitz, S., Hirschhorn, L., Awoonor-Williams, J.K., Nimako, B.A., Ofori, A. and Leslie, H., 2020. Assessment of bypass of the nearest primary health care facility among women in Ghana. *JAMA network open*, 3(8), pp.e2012552-e2012552.

Bello, B., Ndagurwa, P., Omogiate, S., Luwaca, B. and Motsieloa, I., 2021. Republic of South Africa: 2020 Global Aids Monitoring Report, pp.1-53.

- Bertakis, K.D., Azari, R., Helms, L.J., Callahan, E.J. and Robbins, J.A., 2000. Gender differences in the utilization of health care services. *Journal of Family Practice*, 49(2), pp.147-147.
- Biya, M., Gezahagn, M., Birhanu, B., Yitbarek, K., Getachew, N. and Beyene, W., 2022. Waiting time and its associated factors in patients presenting to outpatient departments at Public Hospitals of Jimma Zone, Southwest Ethiopia. *BMC Health Services Research*, 22(1), pp.1-8.
- Brauns, M., 2016. *Public healthcare in a post-apartheid South Africa: a critical analysis in governance practices* (Doctoral dissertation, University of Kwa-Zulu Natal).
- Bue, M.C.L., Le, T.T.N., Silva, M.S. and Sen, K., 2022. Gender and vulnerable employment in the developing world: Evidence from global microdata. *World Development*, 159, p.106010.
- Buor, D., 2004. Determinants of utilisation of health services by women in rural and urban areas in Ghana. *Geo Journal*, 61(1), pp.89-102.
- Burger, R. and Christian, C., 2020. Access to health care in post-apartheid South Africa: availability, affordability, acceptability. *Health Economics, Policy and Law*, 15(1), pp.43-55.
- Buvinić, M., 1997. Women in poverty: A new global underclass. *Foreign Policy*, pp.38-53.
- Caldwell, J.T., Ford, C.L., Wallace, S.P., Wang, M.C. and Takahashi, L.M., 2017. Racial and ethnic residential segregation and access to health care in rural areas. *Health & place*, 43, pp.104-112.
- Chauluka, M., Uzochukwu, B.C. and Chinkhumba, J., 2022. Factors Associated with Coverage of Health Insurance Among Women In Malawi. *Frontiers in Health Services*, pp.16.
- Chen, X., Orom, H., Hay, J.L., Waters, E.A., Schofield, E., Li, Y. and Kiviniemi, M.T., 2019. Differences in rural and urban health information access and use. *The Journal of Rural Health*, 35(3), pp.405-417.
- Chinyakata, R., Roman, N.V. and Msiza, F.B., 2021. Stakeholders' Perspectives on the Barriers to Accessing Health Care Services in Rural Settings: A Human Capabilities Approach. *The Open Public Health Journal*, 14(1), pp.336-344.



Christian, C.S., 2014. *Access in the South African public health system: Factors that influenced access to health care in the South African public sector during the last decade* (Master's Dissertation, University of the Western Cape).

Competition Commission, 2018. *Land-Based Public Passenger Transport Market Inquiry*.

Cooperative Governance and Traditional Affairs, 2022. *Eastern Cape Profiles*. [online] Available at: <<https://www.cogta.gov.za/ddm/index.php/2020/07/06/eastern-cape-profiles/>> [Accessed 17 March 2022].

Coovadia, H., Jewkes, R., Barron, P., Sanders, D. and McIntyre, D., 2009. The health and health system of South Africa: historical roots of current public health challenges. *The lancet*, 374(9692), pp.817-834.

Cu, A., Meister, S., Lefebvre, B. and Ridde, V., 2021. Assessing healthcare access using the Levesque's conceptual framework—a scoping review. *International journal for equity in health*, 20(1), pp.1-14.

Davidson, P.M., McGrath, S.J., Meleis, A.I., Stern, P., DiGiacomo, M., Dharmendra, T., Correa-de-Araujo, R., Campbell, J.C., Hochleitner, M., Messias, D.K. and Brown, H., 2011. The health of women and girls determines the health and well-being of our modern world: A white paper from the International Council on Women's Health Issues. *Health care for women international*, 32(10), pp.870-886.

Dawkins, B., Renwick, C., Ensor, T., Shinkins, B., Jayne, D. and Meads, D., 2021. What factors affect patients' ability to access healthcare? An overview of systematic reviews. *Tropical Medicine & International Health*, 26(10), pp.1177-1188.

Deaton, A.S. and Tortora, R., 2015. People in sub-Saharan Africa rate their health and health care among the lowest in the world. *Health Affairs*, 34(3), pp.519-527.

Department of Health Eastern Cape, 2003. *Strategic Plan 2003/4*. [online] Available at: <<http://www.treasury.gov.za> > EC - Vote 03 – Health> [Accessed: 01 April 2022].

Department of Health Kwa-Zulu Natal, 2001. *Definitions of Health Facilities*. [online] Available at: <<http://www.kznhealth.gov.za/definitions.htm>> [Accessed: 01 April 2022].

Dominic, A., Ogundipe, A. and Ogundipe, O., 2019. Determinants of women access to healthcare services in Sub-Saharan Africa. *The Open Public Health Journal*, 12(1), pp.504-514.

Doyle, A.M., Mchunu, L., Koole, O., Mthembu, S., Dlamini, S., Ngwenya, N., Ferguson, J. and Seeley, J., 2019. Primary healthcare and school health service utilisation by adolescents and young adults in KwaZulu-Natal, South Africa. *BMC Health Services Research*, 19(1), pp.1-11.

Du, F., Wang, J., Liu, Y., Zhou, Z. and Jin, H., 2022. Equity in Health-Seeking Behavior of Groups Using Different Transportations. *International Journal of Environmental Research and Public Health*, 19(5), p.2765.

Dubihlela, J. and Dubihlela, D., 2014. Social grants impact on poverty among the female-headed households in South Africa: A case analysis. *Mediterranean Journal of Social Sciences*, 5(8), pp.160-160.

Dungumaro, E.W., 2008. Gender differentials in household structure and socioeconomic characteristics in South Africa. *Journal of Comparative Family Studies*, 39(4), pp.429-451.

Ekpenyong, M.S., Matheson, D. and Serrant, L., 2022. The role of distance and transportation in decision making to seek emergency obstetric care among women of reproductive age in south-South Nigeria: A mixed methods study. *International Journal of Gynecology & Obstetrics*, 159(1), pp.263-269.

Escamilla, V., Calhoun, L., Winston, J. and Speizer, I.S., 2018. The role of distance and quality on facility selection for maternal and child health services in urban Kenya. *Journal of Urban Health*, 95(1), pp.1-12.

Ewing, R.M.G., Reid, S. and Morris-Paxton, A.A., 2020. Primary healthcare services in the rural Eastern Cape, South Africa: Evaluating a service-support project. *African Journal of Primary Health Care and Family Medicine*, 12(1), pp.1-7.

Falchetta, G., Hammad, A.T. and Shayegh, S., 2020. Planning universal accessibility to public health care in sub-Saharan Africa. *Proceedings of the National Academy of Sciences*, 117(50), pp.31760-31769.

Ferrant, G., Pesando, L.M. and Nowacka, K., 2014. Unpaid Care Work: The missing link in the analysis of gender gaps in labour outcomes. *Boulogne Billancourt: OECD Development Center*.

FinMark Trust, 2020. *SASSA Grant Recipients - Generating Better Livelihoods*.

Fosu, G.B., 1989. Access to health care in urban areas of developing societies. *Journal of Health and Social Behavior*, pp.398-411.

Galappaththi-Arachchige, H.N., Zulu, S.G., Kleppa, E., Lillebo, K., Qvigstad, E., Ndhlovu, P., Vennervald, B.J., Gundersen, S.G., Kjetland, E.F. and Taylor, M., 2018. Reproductive health problems in rural South African young women: risk behaviour and risk factors. *Reproductive health*, 15, pp.1-10.

Gerein, N., Green, A. and Pearson, S., 2006. The implications of shortages of health professionals for maternal health in sub-Saharan Africa. *Reproductive health matters*, 14(27), pp.40-50.

Gilson, L. and McIntyre, D., 2007. Post-apartheid challenges: household access and use of health care in South Africa. *International Journal of Health Services*, 37(4), pp.673-691.

Girdwood, S., Govender, K., Long, L., Miot, J. and Meyer-Rath, G., 2019. Primary healthcare delivery models for uninsured low-income earners during the transition to National Health Insurance: perspectives of private South African providers. *South African Medical Journal*, 109(10), pp.771-783.

Goebel, A., Dodson, B. and Hill, T., 2010. Urban advantage or urban penalty? A case study of female-headed households in a South African city. *Health & place*, 16(3), pp.573-580.

Gordon, T., Booysen, F. and Mbonigaba, J., 2020. Socio-economic inequalities in the multiple dimensions of access to healthcare: the case of South Africa. *BMC Public Health*, 20(1), pp.1-13.

Govender, K., Girdwood, S., Letswalo, D., Long, L., Meyer-Rath, G. and Miot, J., 2020. Primary Healthcare Seeking Behaviour of Low-income, Uninsured Patients Across the Public and Private Health Sectors in South Africa. DOI: <https://doi.org/10.21203/rs.3.rs-74088/v1>

Government of the Republic of South Africa, 2018. Presidential Health Summit 2018 Report. Government of Republic of South Africa.

Gray, D., 2004. Rural transport and social exclusion: Developing a rural transport typology. *Built Environment*, 30(2), pp.172-181.

Gribble, J. and Haffey, J., 2008. Reproductive health in sub-Saharan Africa. *Population reference bureau*, 8.

Hansoti, B., Mwinnyaa, G., Hahn, E., Rao, A., Black, J., Chen, V., Clark, K., Clarke, W., Eisenberg, A.L., Fernandez, R. and Iruedo, J., 2019. Targeting the HIV epidemic in South Africa: the need for testing and linkage to care in emergency departments. *EClinical Medicine*, 15, pp.14-22.

Holton, E.F. and Burnett, M.F., 2005. The basics of quantitative research. *Research in organizations: Foundations and methods of inquiry*, pp.29-44.

Jalali, F.S., Bikineh, P. and Delavari, S., 2021. Strategies for reducing out of pocket payments in the health system: a scoping review. *Cost Effectiveness and Resource Allocation*, 19(1), pp.1-22.

Jiang, M., Yang, G., Fang, L., Wan, J., Yang, Y. and Wang, Y., 2018. Factors associated with healthcare utilization among community-dwelling elderly in Shanghai, China. *PloS one*, 13(12), p.e0207646.

Jones, C.A., 2009. *Health status and health care access of farm and rural populations* (No. 57). DIANE Publishing.

Kabongo, W.N.S., 2015. *The determinants of access to health care services: empirical evidence from African countries* (Doctoral dissertation).

Kaiser, N. and Barstow, C.K., 2022. Rural Transportation Infrastructure in Low-and Middle-Income Countries: A Review of Impacts, Implications, and Interventions. *Sustainability*, 14(4), p.2149.

Kehler, J., 2001. Women and poverty: the South African experience. *Journal of International Women's Studies*, 3(1), pp.41-53.

Kennedy, E., Binder, G., Humphries-Waa, K., Tidhar, T., Cini, K., Comrie-Thomson, L., Vaughan, C., Francis, K., Scott, N., Wulan, N. and Patton, G., 2020. Gender inequalities in health and wellbeing across the first two decades of life: an analysis of 40 low-income and middle-income countries in the Asia-Pacific region. *The Lancet Global Health*, 8(12), pp. e1473-e1488.

Khullar, D. and Chokshi, D.A., 2018. Health, income, & poverty: Where we are & what could help. *Health Affairs*, 10(10.1377).

Kirigia, J.M., Sambo, L.G., Nganda, B., Mwabu, G.M., Chatora, R. and Mwase, T., 2005. Determinants of health insurance ownership among South African women. *BMC health services research*, 5(1), pp.1-10.

Klein, J.D., McNulty, M. and Flatau, C.N., 1998. Adolescents' access to care: teenagers' self-reported use of services and perceived access to confidential care. *Archives of paediatrics & adolescent medicine*, 152(7), pp.676-682.

Koch, S.F., 2012. The abolition of user fees and the demand for health care: re-evaluating the impact. *Economic Research Southern Africa, WP*, 307.

Kon, Z.R. and Lackan, N., 2008. Ethnic disparities in access to care in post-apartheid South Africa. *American Journal of Public Health*, 98(12), pp.2272-2277.

Konde-Lule, J., Gitta, S.N., Lindfors, A., Okuonzi, S., Onama, V.O. and Forsberg, B.C., 2010. Private and public health care in rural areas of Uganda. *BMC international health and human rights*, 10(1), pp.1-8.

Kwenda, P., Benhura, M. and Mudiriza, G., 2020. *Former homeland areas and unemployment in South Africa: A decomposition approach* (No. 12941). IZA Discussion Papers.

Lartey, N., 2018. *Differentials in unemployment duration across households in South Africa: A two-level modelling approach* (Doctoral Dissertation, University of the Western Cape).

Lauckner, H.M. and Hutchinson, S.L., 2016. Peer support for people with chronic conditions in rural areas: a scoping review. *Rural and remote health*, 16(1), pp.1-14.

Lazar, M. and Davenport, L., 2018. Barriers to health care access for low income families: a review of literature. *Journal of Community Health Nursing*, 35(1), pp.28-37.

Le, K.H., La, T.X.P. and Tykkyläinen, M., 2022. Service quality and accessibility of healthcare facilities: digital healthcare potential in Ho Chi Minh City. *BMC Health Services Research*, 22(1), pp.1-13.

Levesque, J.F., Harris, M.F. and Russell, G., 2013. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health*, 12(1), pp.1-9.

Lewis, C., Abrams, M.K. and Seervai, S., 2017. Listening to low-income patients: obstacles to the care we need, when we need it. *To the Point from [https://www. commonwealthfund.org/blog/2017/listening-low-income-patientsobstaclescare-we-need-when-weneed-it](https://www.commonwealthfund.org/blog/2017/listening-low-income-patientsobstaclescare-we-need-when-weneed-it)*.

Liu, S., Qin, Y. and Xu, Y., 2019. Inequality and influencing factors of spatial accessibility of medical facilities in rural areas of China: a case study of Henan Province. *International journal of environmental research and public health*, 16(10), p.1833.

Luseno, W.K., Wechsberg, W.M., Kline, T.L. and Ellerson, R.M., 2010. Health services utilization among South African women living with HIV and reporting sexual and substance-use risk behaviors. *AIDS patient care and STDs*, 24(4), pp.257-264.

Machado, S.R., Jayawardana, S., Mossialos, E. and Vaduganathan, M., 2021. Physician density by specialty type in urban and rural counties in the US, 2010 to 2017. *JAMA network open*, 4(1), pp. e2033994-e2033994.

Malakoane, B., Heunis, J.C., Chikobvu, P., Kigozi, N.G. and Kruger, W.H., 2020. Public health system challenges in the Free State, South Africa: a situation appraisal to inform health system strengthening. *BMC health services research*, 20(1), pp.1-14.

Mangalore, R., 2006. Income, health and health care utilization in the UK. *Applied Economics*, 38(6), pp.605-617.

Manuel, J.I., 2018. Racial/ethnic and gender disparities in health care use and access. *Health services research*, 53(3), pp.1407-1429.

Maphumulo, W.T. and Bhengu, B.R., 2019. Challenges of quality improvement in the healthcare of South Africa post-apartheid: A critical review. *Curationis*, 42(1), pp.1-9.

- Mariotti, M., 2012. Labour markets during apartheid in South Africa 1. *The Economic History Review*, 65(3), pp.1100-1122.
- Maseko, L. and Harris, B., 2018. People-centeredness in health system reform. Public perceptions of private and public hospitals in South Africa. *South African Journal of Occupational Therapy*, 48(1), pp.22-27.
- Mashiri, M., Nkuna, Z., Chakwizira, J. and Maponya, G., 2008. Strengthening informal healthcare delivery: Gender perspectives. *SATC 2008*.
- Mattson, J., 2011. Transportation, distance, and health care utilization for older adults in rural and small urban areas. *Transportation research record*, 2265(1), pp.192-199.
- Mayosi, B.M. and Benatar, S.R., 2014. Health and health care in South Africa—20 years after Mandela. *New England Journal of Medicine*, 371(14), pp.1344-1353.
- Mazzella, D.M., 2016. *Low-income working women's access to health care: a case study of San Francisco* (Doctoral dissertation, San Francisco State University).
- McBride, K. and Moucheraud, C., 2022. Rural–Urban Differences: Using Finer Geographic Classifications to Reevaluate Distance and Choice of Health Services in Malawi. *Health Systems & Reform*, 8(1), p.e2051229.
- McIntyre, D. and Ataguba, J., 2017. Access to quality health care in South Africa: Is the health sector contributing to addressing the inequality challenge. *Parliament of South Africa*, 2017.
- McLaren, Z., Ardington, C. and Leibbrandt, M., 2013. *Distance as a barrier to health care access in South Africa*.
- McLaren, Z.M., Ardington, C. and Leibbrandt, M., 2014. Distance decay and persistent health care disparities in South Africa. *BMC health services research*, 14(1), pp.1-9.
- Mekonnen, Y. and Mekonnen, A., 2002. *Utilization of maternal health care services in Ethiopia*. Ethiopian Health and Nutrition Research Institute.
- Mhlanga, D. and Garidzirai, R., 2020. The influence of racial differences in the demand for healthcare in South Africa: A case of public healthcare. *International Journal of Environmental Research and Public Health*, 17(14), p.5043.

Mhlanga, D., 2021. A Dynamic Analysis of the Demand for Health Care in Post-Apartheid South Africa. *Nursing Reports*, 11(2), pp.484-494.

Michel, J., Tediosi, F., Egger, M., Barnighausen, T., McIntyre, D., Tanner, M. and Evans, D., 2020. Universal health coverage financing in South Africa: wishes vs reality. *Journal of Global Health Reports*, 4, p.e2020061.

Minyihun, A. and Tessema, Z.T., 2020. Determinants of access to health care among women in East African countries: a multilevel analysis of recent demographic and health surveys from 2008 to 2017. *Risk Management and Healthcare Policy*, 13, p.1803.

Mokoena, T.T., Schellack, N. and Brink, A.J., 2021. Driving antibiotic stewardship awareness through the minibus-taxi community across the Tshwane District, South Africa—a baseline evaluation. *JAC-antimicrobial resistance*, 3(3), p.dlab106.

Morgan, R., Tetui, M., Muhumuza Kananura, R., Ekirapa-Kiracho, E. and George, A.S., 2017. Gender dynamics affecting maternal health and health care access and use in Uganda. *Health policy and planning*, 32(suppl\_5), pp.v13-v21.

Morudu, P. and Kollamparambil, U., 2020. Health shocks, medical insurance and household vulnerability: Evidence from South Africa. *PloS one*, 15(2), p.e0228034.

Moussié, R., 2016. Childcare from the perspective of women in the informal economy. *Policy Brief for the UN Secretary General's High-Level Panel on Women's Economic Empowerment*.

Msutwana, N., 2017. *Assessment of CRDP in empowering women at uMhlonlto Local Municipality in the Eastern Cape Province* (Doctoral dissertation).

Nabyonga-Orem, J., Nabukalu, J.B. and Okuonzi, S.A., 2019. Partnership with private for-profit sector for universal health coverage in sub-Saharan Africa: opportunities and caveats. *BMJ Global Health*, 4(Suppl 9), p.e001193.

National Planning Commission, 2013. *National development plan vision 2030*. [online] Available at: <<https://www.gov.za/issues/national-development-plan-2030>> [Accessed 11 May 2022].

Ngobeni, V., Breitenbach, M.C. and Aye, G.C., 2020. *Efficiency of provincial public healthcare in South Africa* (No. 810). Economic Research Southern Africa.



Nishimwe-Niyimbanira, R., Ngwenya, Z. and Niyimbanira, F., 2021. The impact of social grants on income poverty in a South African township. *African Journal of Development Studies*, 11(3), p.227.

Nkosi, M.S., 2020. National Health Insurance (NHI)–towards Universal Health Coverage (UHC) for all in South Africa: a philosophical analysis.

Nsengiyumva, P., 2013. *Female migration and housing in South Africa: evidence from the 2007 community survey* (Doctoral dissertation, University of the Western Cape).

Nteta, T.P., Mokgatle-Nthabu, M. and Oguntibeju, O.O., 2010. Utilization of the primary health care services in the Tshwane Region of Gauteng Province, South Africa. *PloS one*, 5(11), p.e13909.

Nudelman, A., 2013. Gender-Related Barriers to Services for Preventing New HIV Infections Among Children and Keeping Their Mothers Alive and Healthy in High-Burden Countries Results from a Qualitative Rapid Assessment in the Democratic Republic of.

Nwosu, C.O. and Ndinda, C., 2018. Female household headship and poverty in South Africa: an employment-based analysis. *Economic Research Southern Africa*, 3(71), pp.1-26.

O'Neil, A., Russell, J.D., Thompson, K., Martinson, M.L. and Peters, S.A., 2020. The impact of socioeconomic position (SEP) on women's health over the lifetime. *Maturitas*, 140, pp.1-7.

Obuaku-Igwe, C.C., 2015. Health inequality in South Africa: A systematic review. *African Sociological Review/Revue Africaine de Sociologie*, 19(2), pp.96-131.

Oche, M.O. and Adamu, H., 2013. Determinants of patient waiting time in the general outpatient department of a tertiary health institution in North Western Nigeria. *Annals of medical and health sciences research*, 3(4), pp.588-592.

Oleribe, O.O., Momoh, J., Uzochukwu, B.S., Mbofana, F., Adebisi, A., Barbera, T., Williams, R. and Taylor-Robinson, S.D., 2019. Identifying key challenges facing healthcare systems in Africa and potential solutions. *International Journal of General Medicine*, 12, p.395.

Paköz, M.Z. and Yüzer, M.A., 2014. Access to healthcare: A field survey in Istanbul. *A/ Z ITU J Faculty Architecture*, 11(2), pp.271-290.

Park, H.A., 2013. An introduction to logistic regression: from basic concepts to interpretation with particular attention to nursing domain. *Journal of Korean Academy of Nursing*, 43(2), pp.154-164.

Penchansky, R. and Thomas, J.W., 1981. The concept of access: definition and relationship to consumer satisfaction. *Medical care*, pp.127-140.

Perrot, C., 2017. Being a Black Rural Woman in South Africa Today. *Alizés: Revue angliciste de La Réunion*, (42), pp.141-155.

Peters, D.H., Garg, A., Bloom, G., Walker, D.G., Brieger, W.R. and Hafizur Rahman, M., 2008. Poverty and access to health care in developing countries. *Annals of the new York Academy of Sciences*, 1136(1), pp.161-171.

Phuong, J.M., Penm, J., Chaar, B., Oldfield, L.D. and Moles, R., 2019. The impacts of medication shortages on patient outcomes: a scoping review. *PloS one*, 14(5), p.e0215837.

Raghupathi, V. and Raghupathi, W., 2020. The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015. *Archives of Public Health*, 78(1), pp.1-18.

Republic of South Africa, 1998. Municipal Structures Act 117 of 1998.

Republic of South Africa, 2015. *The Constitution of the Republic of South Africa, 1996*. Pretoria: Department of Justice and Constitutional Development.

Ricketts, T.C. and Goldsmith, L.J., 2005. Access in health services research: the battle of the frameworks. *Nursing outlook*, 53(6), pp.274-280.

Rodrigo, C. and Rajapakse, S., 2010. HIV, poverty and women. *International Health*, 2(1), pp.9-16.

Rodrigue, J.P., 2020. *The geography of transport systems*. Routledge.

Rosenbloom, S. and Winsten-Bartlett, C., 2002. Asking the right question: Understanding the travel needs of older women who do not drive. *Transportation Research Record*, 1818(1), pp.78-82.

Schatz, E., Madhavan, S. and Williams, J., 2011. Female-headed households contending with AIDS-related hardship in rural South Africa. *Health & place*, 17(2), pp.598-605.

Scheffler, E., Visagie, S. and Schneider, M., The impact of health service variables on healthcare access in a low resourced urban setting in the Western Cape, South Africa. *Afr J Prim Health Care Fam Med*. 2015; 7 (1): Art.# 820, 11 pages.

Shabangu, S., 2015. The status of women in the South African economy. *Department: Women*.

Shisana, O., Rice, K., Zungu, N. and Zuma, K., 2010. Gender and poverty in South Africa in the era of HIV/AIDS: a quantitative study. *Journal of Women's Health*, 19(1), pp.39-46.

Simbayi, L., Zuma, K., Zungu, N., Moyo, S., Marinda, E., Jooste, S., Mabaso, M., Ramlagan, S., North, A., Van Zyl, J. and Mohlabane, N., 2019. South African national HIV prevalence, incidence, behaviour and communication survey, 2017: towards achieving the UNAIDS 90-90-90 targets.

Simelane, S.E., 2002. An overall and demographic description of the South African Population based on the Census 1996. *Occasional Paper Series, 1*.

South African Human Rights Commission, 2003. 4th economic and social rights report. *Pretoria: SAHRC*.

South African Human Rights Commission, 2017. Access to Health Care.

Srivastava, D. and McGuire, A., 2016. The determinants of access to health care and medicines in India. *Applied Economics*, 48(17), pp.1618-1632.

Statistics South Africa, 2001. Investigation into appropriate definitions of urban and rural areas for South Africa.

Statistics South Africa, 2007. *Concepts and Definitions for Statistics South Africa*. [online] Available at: <[http://www.statssa.gov.za/standardisation/Concepts\\_Definitions\\_StatisticsSA\\_V01.01.pdf](http://www.statssa.gov.za/standardisation/Concepts_Definitions_StatisticsSA_V01.01.pdf)> [Accessed 17 March 2022].

Statistics South Africa, 2014. Census 2011 Provincial Profile: Eastern Cape. Pretoria: Statistics South Africa.

Statistics South Africa, 2018. Demographic profile of adolescents in South Africa. *Statistics South Africa*.

Statistics South Africa, 2018. Men, Women and Children: Findings of the Living Conditions Survey, 2015.

Statistics South Africa., 2020. General Household Survey 2019 (Statistical Release P0318). *Pretoria: Stats SA*.

Surender, R., 2014. *The drivers of universal health care in South Africa: The role of ideas, institutions and actors* (No. 2014-19). UNRISD Working paper.

Syed, S.T., Gerber, B.S. and Sharp, L.K., 2013. Traveling towards disease: transportation barriers to health care access. *Journal of community health*, 38(5), pp.976-993.

Tessema, Z.T., Worku, M.G., Tesema, G.A., Alamneh, T.S., Teshale, A.B., Yeshaw, Y., Alem, A.Z., Ayalew, H.G. and Liyew, A.M., 2022. Determinants of accessing healthcare in Sub-Saharan Africa: a mixed-effect analysis of recent Demographic and Health Surveys from 36 countries. *BMJ open*, 12(1), p.e054397.

Thomson, S., Cylus, J. and Evetovits, T., 2019. Can people afford to pay for health care? New evidence on financial protection in Europe. World Health Organization. Regional Office for Europe, pp.1-119.

Titus, O.B., Adebisola, O.A. and Adeniji, A.O., 2015. Health-care access and utilization among rural households in Nigeria. *Journal of Development and Agricultural Economics*, 7(5), pp.195-203.

Tsawe, M. and Apunni, S.S., 2014. Determinants of access to and use of maternal health care services in the Eastern Cape, South Africa: a quantitative and qualitative investigation. *BMC research notes*, 7(1), pp.1-10.

Tsawe, M., 2019. *Inequalities in the use of maternal and reproductive health services in Sierra Leone* (Doctoral dissertation, University of the Western Cape).

UN Women, 2017. Key barriers to women's access to HIV treatment: a global review. *New York*.

United Nations, 2015. General Assembly Resolution A/RES/70/1. *Transforming Our World, the 2030 Agenda for Sustainable Development*.

Van Biljon, H.M. and van Niekerk, L., 2021. Community Mobility and Transport Use of Urban Older Adults Who Attend Public Healthcare in Gauteng, South Africa. *South African Journal of Occupational Therapy*, 51(3), pp.34-41.

Van Eeden, J., 2009. *The demand for healthcare and health insurance in South Africa*. Econex Research Note 8. February.

Van Rensburg, H.C., 2014. South Africa's protracted struggle for equal distribution and equitable access—still not there. *Human resources for health*, 12(1), pp.1-16.

Van Ryneveld, P., 2018. Urban Transport Analysis for the Urbanisation Review. *Urbanisation Review, Paper*, 9.

Van Wijk, C.M.G., Van Vliet, K.P. and Kolk, A.M., 1996. Gender perspectives and quality of care: towards appropriate and adequate health care for women. *Social Science & Medicine*, 43(5), pp.707-720.

Varela, C., Young, S., Mkandawire, N., Groen, R.S., Banza, L. and Viste, A., 2019. Transportation barriers to access health care for surgical conditions in Malawi a cross sectional nationwide household survey. *BMC public health*, 19, pp.1-8.

Vearey, J., Luginaah, I., Magitta, N.W.F., Shilla, D.J. and Oni, T., 2019. Urban health in Africa: a critical global public health priority. *BMC public health*, 19(1), pp.1-4.

Vijayasingham, L., Govender, V., Witter, S. and Remme, M., 2020. Employment based health financing does not support gender equity in universal health coverage. *bmj*, 371.

Visser, M. and Booysen, F., 2004. Determinants of the choice of health care facility utilised by individuals in HIV/AIDS-affected households in the Free State province of South Africa.

Wickrama, K.A.S. and Keith, P.M., 1990. Use and evaluation of healthcare services by male- and female-headed households in rural Sri Lanka. *The Journal of Developing Areas*, 25(1), pp.1-14.

Williams, J.S., Bishu, K., Dismuke, C.E. and Egede, L.E., 2017. Sex differences in healthcare expenditures among adults with diabetes: evidence from the medical expenditure panel survey, 2002–2011. *BMC Health Services Research*, 17(1), pp.1-8.

Williams, K.M. and Tremblay, N., 2019. *Improving Transportation Access to Health Care Services* (No. NCTR# 79062-20). University of South Florida. Centre for Urban Transportation Research, pp.1-60.

Willie, M.M., 2011. Access to Public Health Facilities: Taking Stock of South Africa's Rural Eastern Cape Province. *Health*, 28(29), p.34.

Winchester, M.S. and King, B., 2018. Decentralization, healthcare access, and inequality in Mpumalanga, South Africa. *Health & Place*, 51, pp.200-207.

Wolfe, M.K., McDonald, N.C. and Holmes, G.M., 2020. Transportation barriers to health care in the United States: findings from the national health interview survey, 1997–2017. *American Journal of Public Health*, 110(6), pp.815-822.

World Health Organization, 2011. Addressing the Challenge of Women's Health in Africa. Report of the Commission on Women's Health in the African Region. Brazzaville, Republic of Congo: WHO.

World Health Organization, 2012. Barriers and Facilitating Factors in Access To Health Services in the Republic of Moldova. Copenhagen, Denmark.

Yoosefi Lebni, J., Mohammadi Gharehghani, M.A., Soofizad, G. and Irandoost, S.F., 2020. Challenges and opportunities confronting female-headed households in Iran: a qualitative study. *BMC women's health*, 20(1), pp.1-11.

Young, M., 2016. Private vs. public healthcare in South Africa (Honours thesis, Western Michigan University).

Zhang, X., Dupre, M.E., Qiu, L., Zhou, W., Zhao, Y. and Gu, D., 2017. Urban-rural differences in the association between access to healthcare and health outcomes among older adults in China. *BMC geriatrics*, 17(1), pp.1-11.

Zhao, P., Li, S. and Liu, D., 2020. Unequable spatial accessibility to hospitals in developing megacities: New evidence from Beijing. *Health & place*, 65, p.102406.

Zhou, X., Yu, Z., Yuan, L., Wang, L. and Wu, C., 2020. Measuring accessibility of healthcare facilities for populations with multiple transportation modes considering residential transportation mode choice. *ISPRS International Journal of Geo-Information*, 9(6), p.394.

Zhou, Y., 2019. *The Impact of Transportation Disadvantage on Healthcare Access* (Doctoral Dissertation, Clemson University).



# Appendices

## Appendix 1:

**Table 1: Frequency Distributions**

<b>Population group</b>	<b>Frequency</b>	<b>Percent</b>
Black/ African	3361	86.9
Coloured	360	9.3
Indian/ Asian	2	0.1
White	144	3.7
Total	3867	100.0
<b>Age groups</b>	<b>Frequency</b>	<b>Percent</b>
Under 15 years	333	8.6
15-24 years	776	20.1
25-44 years	1202	31.1
45-64 years	1072	27.7
65+	484	12.5
Total	3867	100.0
<b>Marital status</b>	<b>Frequency</b>	<b>Percent</b>
Legally married	858	22.2
Living together	176	4.6
Divorced	81	2.1
Separated, but still legally married	54	1.4
Widowed	598	15.5
Single	26	0.7
Single and never married	2067	53.5
Total	3860	100.0
<b>Area of residence</b>	<b>Frequency</b>	<b>Percent</b>
Rural	1923	51.6
Urban	1944	48.4
Total	3867	100.0
<b>Municipality type</b>	<b>Frequency</b>	<b>Percent</b>
Metropolitan areas	1272	32.9
Non-metropolitan areas	2595	67.1
Total	3867	100.0
<b>Level of education</b>	<b>Frequency</b>	<b>Percent</b>
No Schooling	232	6.0
Primary	985	25.5
Secondary	2282	59.2
Tertiary	341	8.8
Total	3840	100.0
<b>Monthly household income</b>	<b>Frequency</b>	<b>Percent</b>
No income	1005	28.4
Low income	852	24.1
Middle income	965	27.3
High income	712	20.1
Total	3534	100.0
<b>Main source of income</b>	<b>Frequency</b>	<b>Percent</b>
Salaries/wages/commissions	2007	59.4
Income from a business	275	8.1
Remittances	265	7.8
Pensions	68	2.0
Grants	701	20.7
Sales of farming products and services	7	0.2
Other income sources	58	1.7
Total	3381	100.0



**Table 1: Frequency distributions continued**

<b>Employment status</b>	<b>Frequency</b>	<b>Percent</b>
Employed	1030	29.1
Unemployed	338	9.6
Not economically active	2166	61.3
Total	3534	100.0
<b>Medical aid scheme membership</b>	<b>Frequency</b>	<b>Percent</b>
Yes	386	10.0
No	3457	90.0
Total	3843	100.0
<b>Healthcare facility for medical help</b>	<b>Frequency</b>	<b>Percent</b>
Public hospital	230	6.0
Public Clinic	2593	67.4
Other in public sector	11	0.3
Private hospital	59	1.5
Private clinic	59	1.5
Private doctor/ specialist	844	21.9
Traditional healer	31	0.8
Spiritual healer's workplace	1	0.0
Pharmacy/ chemist	9	0.2
Health facility provided by employer	11	0.3
Total	3848	100.0
<b>Means of transport</b>	<b>Frequency</b>	<b>Percent</b>
Walking	1840	48.4
Minibus taxi/ bakkie taxi	1091	28.7
Bus	30	0.8
Train	5	0.1
Own transport	829	21.8
Bicycle/ motorcycle	7	0.2
Total	3802	100.0
<b>Time travelled to healthcare facility</b>	<b>Frequency</b>	<b>Percent</b>
Less than 15 minutes	1669	43.7
15-29 minutes	1563	40.9
30-89 minutes	536	14.0
90 minutes and more	52	1.4
Total	3820	100.0
<b>Service satisfaction</b>	<b>Frequency</b>	<b>Percent</b>
Very satisfied	2096	60.0
Somewhat satisfied	845	24.2
Neither satisfied nor dissatisfied	305	8.7
Somewhat dissatisfied	125	3.6
Very dissatisfied	124	3.5
Total	3495	100.0
<b>Reason for not using nearest healthcare facility</b>	<b>Frequency</b>	<b>Percent</b>
Facilities not clean	2	0.9
Long waiting time	32	14.6
Opening times not convenient	3	1.4
Too expensive	12	5.5
Drugs that were needed, not available	18	8.2
Staff rude or uncaring or turned patient away	12	5.5
Incorrect diagnosis	3	1.4
Not on medical aid scheme list of facilities	2	0.9
Prefer to use a state/provincial health institution	17	7.8
Prefer to use a private health institution	118	53.9
Total	219	100.0

*Source: Author's own calculations from 2018 General Household Survey*

**Appendix 2: Table 26: The strength and significance of a relationship**

	Characteristics	Municipality Type	Chi-Square	Cramer's V	Phi
<b>Type of Healthcare Facility</b>	Age	Metropolitan area	0.304	0.062	0.062
		Non-metropolitan areas	0.012	0.07	0.07
	Population group	Metropolitan area	0.614	0.038	0.038
		Non-metropolitan areas	0.000	0.078	0.078
	Level of education	Metropolitan area	0.238	0.066	0.066
		Non-metropolitan areas	0.499	0.036	0.036
	Employment status	Metropolitan area	0.091	0.064	0.064
		Non-metropolitan areas	0.333	0.031	0.031
	Medical aid	Metropolitan area	0.2	0.036	-0.036
		Non-metropolitan areas	0.109	0.032	-0.032
Monthly household income	Metropolitan area	0.000	0.483	0.483	
	Non-metropolitan areas	0.000	0.446	0.446	
Area of residence	Metropolitan area	0.163	0.039	0.039	
	Non-metropolitan areas	0.421	0.017	0.017	
<b>Transport</b>	Age	Metropolitan area	0.485	0.063	0.125
		Non-metropolitan areas	0.009	0.061	0.122
	Population group	Metropolitan area	0.285	0.068	0.119
		Non-metropolitan areas	0.154	0.053	0.075
	Level of education	Metropolitan area	0.039	0.08	0.161
		Non-metropolitan areas	0.408	0.045	0.09
	Employment status	Metropolitan area	0.338	0.069	0.098
		Non-metropolitan areas	0.826	0.036	0.05
	Medical aid	Metropolitan area	0.955	0.03	0.03
		Non-metropolitan areas	0.977	0.018	0.018
Monthly household income	Metropolitan area	0.000	0.291	0.505	
	Non-metropolitan areas	0.000	0.268	0.464	
Area of residence	Metropolitan area	0.66	0.091	0.091	
	Non-metropolitan areas	0.000	0.104	0.104	
<b>Travel time</b>	Age	Metropolitan area	0.689	0.049	0.085
		Non-metropolitan areas	0.117	0.048	0.084
	Population group	Metropolitan area	0.000	0.092	0.159
		Non-metropolitan areas	0.000	0.153	0.216
	Level of education	Metropolitan area	0.039	0.076	0.132
		Non-metropolitan areas	0.234	0.044	0.077
	Employment status	Metropolitan area	0.234	0.059	0.083
		Non-metropolitan areas	0.219	0.042	0.06
	Medical aid	Metropolitan area	0.601	0.039	0.039
		Non-metropolitan areas	0.406	0.034	0.034
Monthly household income	Metropolitan area	0.000	0.483	0.483	
	Non-metropolitan areas	0.000	0.113	0.196	
Area of residence	Metropolitan area	0.000	0.123	0.123	
	Non-metropolitan areas	0.000	0.171	0.171	

Source: Author's own calculations from 2018 General Household Survey