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THE EFFECTS OF INEFFICIENT TRANSPORT SYSTEMS ON COMMUNITY HEALTH IN MUREWA DISTRICT: 2020-2021, MASHONALAND EAST

BY

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A PROPOSAL SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF BACHELOR'S IN HEALTH SCIENCE MANAGEMENT (HONORS) IN THE FACULTY OF HEALTH SCIENCE OF AFRICA UNIVERSITY

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Abstract

This research focused on The Effects of Inefficient Transport Systems on Community Health in Murewa District: 2020-2021, Mashonaland East. The researcher wished to examine the role of transport in community healthcare, to assess the accessibility of transport by patients at Murewa District Hospital, to establish the challenges to efficient transport system at Murewa District Hospital, to establish the impact of inefficient transport on community health and to establish feasible solutions to improve transport efficiency. A quantitative survey was done on 40 hospital staff and 150 hospital patients using purposive and snowball sampling. The research used a questionnaire, and data was analysed using SPSS software. The research revealed that transport was a critical in effective and efficient delivery of healthcare, and the main challenges hindering accessibility to transport were cost, distance, poor roads and inadequate vehicles. The research recommended provision of adequate transport to both the community and the health workers, the research lobbied for the government to increase public transport, which is affordable by everyone and that the hospital should include a transport budget in its annual plans.

Declaration Page

I declare that this project is my original work except where sources have been cited and acknowledged. The work has never been submitted, nor will it ever be submitted to another university for the award of a degree.

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To my classmates, I give my utmost gratitude for help during my times of mounting pressure and confusion. We started off not so long ago and here we are still soldiering on together. Thank you.

Lastly, I would like to acknowledge the efforts of the AU community for the encouraging words and never-ending support, I say thank you.

Dedication

I come through this report to show my gratitude and dedicate this work to Africa University and to my mother and father for supporting me through all my studies financially spiritually and emotionally. Words cannot begin to express my gratitude, to them, my friends and family, I say I hope I am making you proud as I am humbled by the kindness of their hearts.

List of abbreviations

AUREC	Africa University Research Ethics Committee
WHO	World Health Organization
WEF	World Economic Forum
UNICEF	United Nations Children's Fund

Definition of Terms

Effect

Gross, (2008) defined effect as something that is produced by an agency or cause, it may also be termed result or consequence.

Inefficient transport

The research defined inefficient transport system as different modes of taking patients from one point to another that are not efficient, or are unable to achieve the desired result with reasonable economy of means or not working in a satisfactory way.

Community Health

Goodman (2014) defines community health as the health status of a defined group of people, or community, and the actions and conditions that protect and improve the health of the community.

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CHAPTER I

1.0 Introduction

Transport has been identified as a key constraint to achieving health goals in most of the developing countries in Africa. (World Bank, (2018). Transport and health are inextricably linked. Nearly half of all deaths and about a third of disabilities in low and middle-income countries could be avoided if people had access to emergency care. Over the past 18 years the African Federation for Emergency Medicine, an advocacy group, has been encouraging the development of emergency care systems on the continent Vogel, (2020). The gaps it has identified include decent efficient transport and hospital services, thus making access to efficient transportation a critical aspect of health care. This is especially true in rural areas where individuals often must travel long distances to access health care services. The three main modes of transport are air, water and land. This research will focus only on land, road transport in the analysis of The Effects of Inefficient Transport Systems on Community Health in Murewa District, Mashonaland East, a Zimbabwean rural area.

1.1 Background to the study

Despite the huge differences between developing and developed countries, accessibility of transport is the major issue in rural health around the world. Even in the countries where most of the population lives in rural areas, the resources are concentrated in the cities Atuoye,(2015). All countries have difficulties with transport having efficient rural transport systems. Around the world, the health status of people in rural areas is generally worse than in urban areas. In many developing countries, these challenges are made more acute by poor road conditions in rural areas that can prevent patients from reaching hospitals and accessing health services. This is particularly true during the rainy season when flooding is common. During public health emergencies such as the COVID-19 pandemic, such challenges are not merely inconvenient, but can be life-threatening.

WHO/UNICEF (2010) bluntly describes the consequences of inadequate transport for the delivery of basic health care: "The most impoverished usually rural areas have no means to transport people for medical assistance. About 90 per cent of children dying die at home, often without their families even seeking health care". Lack of transport and cost of transport are important reasons why people do not use healthcare services. Part of the key obstacles to getting adequate healthcare are long distances to facilities, inadequate and unaffordable transport systems.

Inefficient transport systems also affect the ability of staff to deliver health services. Access to appropriate transport services is a major issue for communities isolated by their remoteness, or because of social, cultural or economic factors. Use of health care services declines as the individuals' distance from the facility increases (Babinard, & Roberts, (2006). Distance has been related to delays in treatment, increased mortality for some health problems such as ischemic heart disease. Lack of accessible, affordable and timely public transport is a risk factor for health (Jeremy, 2009). There must be smooth and prompt vehicles to address emergence cases and referral cases at every level of health care.

Efficient transport systems have a chance to significantly improve the livelihoods of poor people living in rural areas. Transport facilitates that are timely and affordable may be the link to a healthier nation. Hospitals, and the government have major roles to play in influencing efficient transport systems. These two organisations are faced with internal and external challenges which may hinder them in providing efficient transport systems to the hospital worker, and the patients (Olorunfemi, (2016). WHO & the Lancet Commission for global surgery recommends people to live in a two-hour threshold for defining access to emergency obstetric and surgical care respectively. The benchmark is further added to having at least 80% of any given population staying within the two hours from access to hospitals.

In dealing with absence of, and a lack of efficient transport systems in America, the state implemented the Affordable Care Act, which includes taking care of transportation needs for older people, those with disabilities, low-income earners and those who have no transportation to access healthcare services across the American states. This has gone a long way to reduce the burden of transportation on patients, and it has greatly increased the access to healthcare. To add to strategies of inefficient transport, the US also has telehealth, a platform that performs Real-time communication allowing patients to connect to health workers. Additionally, the US has Community healthcare workers, who can travel to many patients' homes daily. This reduces the number of people who need to physically show up for their appointments at the hospital, and hence act as a solution to inefficient transport systems Atuoye, et al, (2015).

Spain's public transportation system provides long-distance buses and local rural buses that reach coastal towns and rural villages. These buses are typically known to be very reliable and run-on time, and they operate by the hour or by every few hours. Spain's rural buses provide travel options

for Spanish residents around local villages and towns, which would be completely adequate for patients needing transportation to Spanish rural hospitals or local pharmacies. With the assurance that there are health centres in every region, Spanish residents are guaranteed an easy ride on a publicly operated bus in most rural villages to travel to their health appointment in their region's health centre Vogel, (2020).

In Africa, over 75% of the population in South Sudan, Central African Republic, Chad and Eritrea live over 2 hours away from the hospital, and the people struggle with inefficiencies of transport systems, with the rural dwellers being worse off. Zanzibar, Comoros, São Tomé, Kenya, South Africa and Nigeria are the African countries which have put in place efficient transport systems such that the citizens, rural areas included live less than 2 hours away from the hospitals McLaren t al (2013). Their transport infrastructure has been greatly improving, mainly the roads, and railway lines making areas accessible by train, cars, and motorbikes depending on the common method of travel in a country World Economic Forum, (2022).

Taking look at the country under study, Zimbabwe in general struggles with its transport system. Currently, the min mode of transport is road. The country faces socio, economic and political struggles which has left the country's transport infrastructure in a terrible state of potholes, and lack of tarred roads. The challenge also lies in the access to road worthy vehicles. Currently the ZUPCO is the main mode of transport approved for ferrying the public from one destination to another. However, the ZUPCO is in capable of meeting the number of demands, and citizens have been forced to rely on using private cars for lifts, or unlawfully pirating buses and combis where the distance is too long to walk.

1.2 Problem statement

Murehwa District has an inefficient transport system characterised by lack of enough ambulances and vehicles, worn out vehicles, and insufficient fuel allocations. Murehwa itself is a small rural area with inadequate public transport to serve the population making the main method of movement walking on foot. People also rely on combis, private cars, bicycles, and ox wagons when requiring hospital service. Nurses, doctors, and other hospital employees are hindered from performing their duties fully and timely. Patients cannot access the hospital timely for emergency services, appointments, or general check-ups because of lack of reliable transport to and from the hospital. The effects of these inefficiencies in the transport systems are key contributors to the 53.9

under age five mortality rate UNICEF, (2022), Mothers in Zimbabwe are more than 76 times more likely to lose their lives during childbirth than in other countries, and the adult mortality rate was at level of 45.68 deaths per 100 population in 2020, up from 44.15 deaths per 100 population in 2015, this is a change of 3.46% World Economic Forum, (2022). Inefficient transport systems have their significant contributions to these alarming death rates. Hence, an analysis of The Effects of Inefficient Transport Systems on Community Health in Murewa District.

1.3 Research Objectives

1. To find out the role of transport in community healthcare
2. To assess the accessibility of transport by patients at Murewa District Hospital
3. To establish the challenges to efficient transport system at Murewa District Hospital
4. To establish the impact of inefficient transport on community health
5. To establish feasible solutions to improve transport efficiency

1.4 Research Questions

1. What is the role of transport in community healthcare?
2. Is transport accessible at Murewa District Hospital?
3. What are the challenges to an efficient transport system at Murewa District?
4. How does inefficient transport system affect the Murewa District community?
5. What can be done to improve efficiency of transport systems?

1.5 Significance of the study

This study will bring to light and focus the major issues concerning health services provision for the community brought about by transportation systems. It will also ensure the community receives better access to health care and education. It will also raise awareness to the relevant authorities and community on the importance of preserving transport systems. It will also make sure that more reliable and efficient transport systems are put in place to ensure improvements in community health and access to healthcare services by the community.

1.6 Delimitations

Geographical Scope

Geographically, the study was limited to Murehwa District Hospital, Mashonaland East Zimbabwe.

Theoretical Scope

Theoretically, the study intended to analyse and limit the study to The Effects of Inefficient Transport Systems on Community Health.

Methodological Scope

The study was limited to a quantitative study to answer the research objectives. The research instrument was limited to an open-ended questionnaire to collect survey data.

1.7 Limitations

The study was limited to access of adequate data on hospital patient's information like frequency of visiting the hospital, and the status of hospital transport to give a substantial report, to mitigate this, the researcher supplemented primary data with secondary data.

1.9 Summary

The chapter introduced the topic, a brief back ground of rural transport, an overview of the transport systems across the globe, the problem statement, the research questions and objectives, research significance, delimitations, limitations and definitions of terms.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

This chapter provides a brief literature review of Inefficient Transport Systems on Community Health starting with the role of transport in community health, accessibility of transport in rural areas, Challenges to efficient transport systems, the link between inefficient transport systems and community health and the research gap.

2.1 Role of transport in community health

Bruni, et al (2014) studied the contribution of transport to health care delivery at Mankranso District Hospital in Ghana. The study's findings confirmed the existence of healthcare transport as a supportive service in quality health care delivery but due to the poor road network, few health facilities and high transport cost most household do not access medical treatment. It is also difficult for health workers to embark on outreach programs and be at work on time because of transport infrastructure and services. These have tended to negatively impact on the delivery of healthcare commodities and services. Broni recommended the establishment of a good road network, increasing medical outreach and mobile health clinics. This study reveals the critical role of efficient transport systems in a rural setup in a developing economy, even though it is limited to an analysis of a hospital setup in Ghana.

2.1.2 Accessibility of transport in rural areas

People travel to gain access to goods, services, employment, friends and family, leisure pursuits and healthcare. A survey conducted by Department of Transport, UK showed that 28% of households who are without access to a car find it harder to travel to get to shops, employment, healthcare and other services. Access to appropriate transport services is a major issue for communities isolated by their remoteness, or because of social, cultural or economic factors National Public Health Partnership, (2001). People who do not have their own means of transport suffer considerable disadvantage within the community. Use of health care services declines as the individuals' distance from the facility increases. Distance has been related to delays in treatment, increased mortality for some health problems such as ischemic heart disease.

2.1.3 Challenges to efficient transport systems

Public transport efficiency is hindered by so many things in a growing economy. The government budget for public transport, determines the availability of the quantity of public vehicles available for public use (Litman, 2013). Government initiatives, and development strategies may lead to innovative and advanced means of transportation or backward transport. The status of the economy determined the number of people who can afford to own cars. A country's policies determine the parties that can come into play in provision of a variety of transport for the public O'Neill (2011). So many things come into play, the status of a country's politics, the qualification and skills of the leadership in the transport sector.

2.1.4 The link between inefficient transport systems and community health

Gbadamosi, (2016) examined the rural road transport infrastructural challenges as an impediment to health care service delivery in Akutupa-Kiri, Nigeria. The study revealed that the state of the roads is terribly bad and characterized by poor road infrastructures. Most of the households find it harder to travel to get to healthcare and other services because of insufficient healthcare facilities, poor roads and high transport cost. Even though the road is motorable, transport services are unreliable and infrequent; where available, such services are for hire and most rural inhabitants cannot afford them. As a result, the community health of Akutupa Kiri has been declining. This study reveals a negative association between inefficient transport systems and community health. The study is however, limited to a more developed economy as compared to that of Zimbabwe which is currently an underdeveloped country.

2.2 Research gap

From the analysis done by the researcher, it shows that inefficiency of transport systems in rural communities is a major challenge, the negative impacts to health are observed, however, there is little research done on the topic in Zimbabwe. Other researches made outside of Zimbabwe may be similar in other aspects, however they do not totally speak to the Zimbabwean situation, which is an economy in recession, a country with its own norms, culture, and different political and economic setup. Which calls for special focus on a Zimbabwean study in a Zimbabwean rural setup.

2.3 Summary

The chapter presented an overview of the literature on the topic at hand. Literature revealed that transport has a significant role in delivering patients to hospitals, efficient transport has been linked

to improved community health. Literature further revealed that accessibility of transport in the rural area is a challenge, and these challenges are influenced by socio, economic and political setups of a country. The following chapter will provide the research methodology.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

This chapter provides an outline of the research methodology followed by the researcher in conduction of the research.

3.1 Research Design

The research is a descriptive research survey, and it was quantitative in nature. A descriptive research study is concerned with describing the characteristics of a particular individual, or of a group (Kothari, 2004). This research intended to describe the characteristics of transport users in Murehwa district. The research took a quantitative nature to allow for quantifying the numerous different traits and experiences of respondents who travel to visit Murehwa hospital

3.2 Population and Sampling

3.2.1Targeted population

The targeted population was Murehwa district hospital patients and employees. The hospital serves approximately 195 085 people according to Wikipedia, (2014). The population size of employees at the hospital is 309 employees, (Murehwa District year-end report, (2020).

3.2.2 Study site

The targeted area was Murehwa district. The hospital is in Murewa, Mashonaland East Province, Zimbabwe. The hospital caters for patients all over the district. It is one of the biggest hospitals in the district, and its patience are experiencing transport challenges to and from the hospital. Hence it was selected for this study.

3.2.3 Sampling techniques

It is impractical to study a whole population, thus the researcher selected a small population to survey using sampling techniques.

Purposive sampling

The research required hospital staff as respondents to answer the following research objectives; is transport accessible at Murewa District Hospital? What are the challenges to an efficient transport

system at Murewa District? How does inefficient transport system affect the Murewa District community? What can be done to improve efficiency of transport systems?

To select hospital staff as respondents the researcher used purposive sampling whereby, the researcher chose participants based on their purposed and the expectancy of rich data on the subject matter. The researcher sought participation of the hospital director, key decision makers, the finance team, doctors, nurses as well as general employees.

Snowball sampling

The research required the views of hospital patients on the following research questions; is transport accessible at Murewa District Hospital? What are the challenges to an efficient transport system at Murewa District? How does inefficient transport system affect the Murewa District community? What can be done to improve efficiency of transport systems?

To select a sample of hospital patients, the researcher used the snowball sampling technique to select patients that would have visited the hospital. Snowball sampling is a sampling technique whereby, research participants recruit other participants for a test or study. It is employed where potential participants are hard to find (Levine, 2014). The benefits of snowballing are that it allows for studies to take place where otherwise it might be impossible to conduct because of a lack of participants. Snowball sampling additionally helps to discover characteristics about a population that a researcher is not aware exist (Everitt, and Skrondal, 2010).

3.2.3 Sampling size

A good maximum sample size is usually around 10% of the population, as long as this does not exceed 1000 Piroska (2022) .The population sample size was calculated as 10% of the population

Hospital staff sample size

10% (309)

40

Hospital patients sample size

10% (1340)

134

Group	Sampling technique	Sample size
Hospital staff	Purposive sampling	40
Hospital patients	Snowball sampling	134

3.3 Data collection instruments

3.3.1 Questionnaires

The researcher used questionnaires as the main method for collecting research data. The researcher structured close ended questionnaires that are clear. The questionnaire used the Likert scale for answers ranging from 1 to 5 agree, to strongly disagree.

Advantages of the questionnaires

Close ended questionnaires allow for bulk analysis of results. Questionnaires further provide anonymity giving room for more honest answers.

Disadvantages of questionnaires

The disadvantages of questionnaires are that they sometimes have a low response rate, to solve this the researcher will do a rigorous follow up on the questionnaires sent out.

3.4 Data Analysis

The researcher analysed data using SPSS, and the results were presented in frequency, means, median, percentages, and standard deviation.

Descriptive statistics such as frequencies, cross-tabulation, and descriptive ratio statistics were run for objective 1, 2 and 3.To measure the relationship between transport efficiency and community health, the Pearson's correlation coefficient ® demonstrated whether the two variables are correlated or related to each other.

3.5 Pre-testing

Pretesting was done using a small sample of the hospital patients and employees to ensure that the researcher has structured the questions well for the respondents. Pretesting ensured correct, meaningful answers and valid results.

3.6 Ethical Considerations

The researcher respected the five principles of ethical research in conduction of the research. That is to seek informed consent, voluntary participation, to not harm, maintenance of confidentiality

of information obtained, maintaining anonymity of respondents, and only assessing relevant components.

Consent was sought from the hospital to allow it staff to participate in the research. This was done by speaking to the District Hospital Medical Officer explaining the research and its benefits to the hospital. Consent was sought from the participants by fully explaining what the research is all about and letting the respondents know of their free will to withdraw from the research at any point they feel uncomfortable. Ethical clearance to conduct the study will be sought from Africa University Research Ethics. In addition, information was collected in accordance with the requirements of the Ethics Committee (AUREC).

3.7 Summary

The chapter presented the methodology behind the research whereby the researcher has adopted a quantitative approach to research in a descriptive research design. The researcher selected Murehwa District as the study area, the Hospital employees with a sample size of 40, and the hospital patients with a sample size of 134. The techniques used to select the sample are purposive sampling and snowballing. The researcher will use close ended questions and a questionnaire as research instruments. Data analysis will be done using SPSS and a pre-test and ethical considerations will be done.

CHAPTER IV

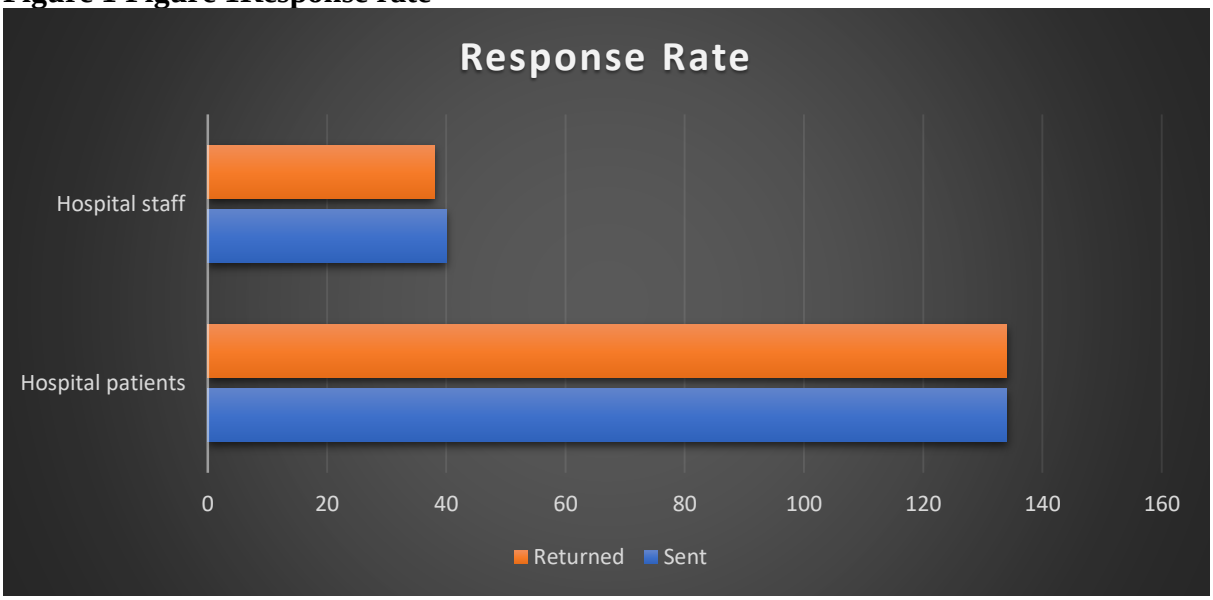
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter presents the research findings from the research survey conducted on the Murewa hospital patients and Murewa hospital staff in line with the research objectives; To find out the role of transport in community healthcare; To assess the accessibility of transport by patients at Murewa District Hospital; To establish the challenges to efficient transport system at Murewa District Hospital; To establish the impact of inefficient transport on community health and To establish feasible solutions to improve transport efficiency.

4.1 Questionnaire response rate

Figure 1 Figure 1Response rate

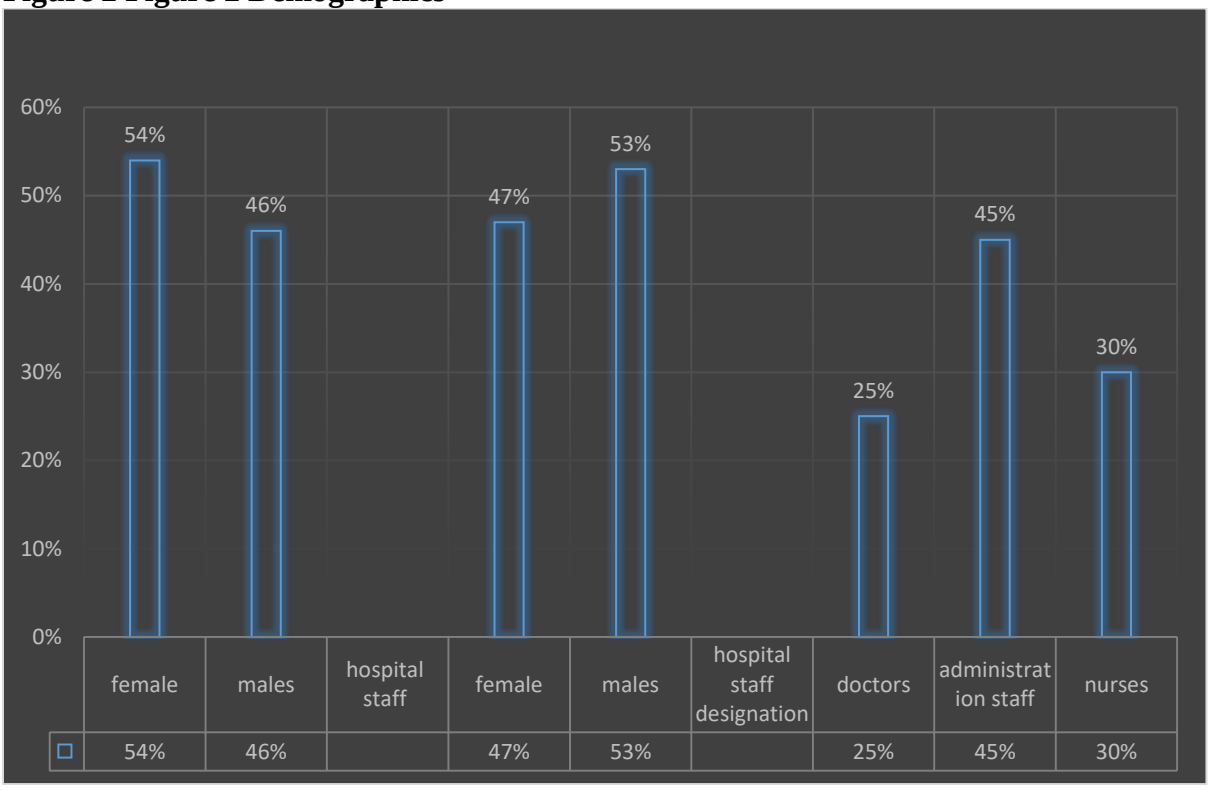


The researcher sent 134 questionnaires to 134 hospital patients, and received feedback from all 134 giving a 100% response rate. The researcher sent 40 questionnaires to hospital staff, 38 came back giving a 95% response rate. Fincham, (2008) states that response rates approximating 60% for most research should be the goal of researchers as they give a true representation in medical

fields. 95% is above the threshold, therefore the researcher concludes that the sample surveyed provided an accurate representation of the Murewa patients and hospital staff.

4.1.2 Demographics

Figure 2 Figure 2 Demographics

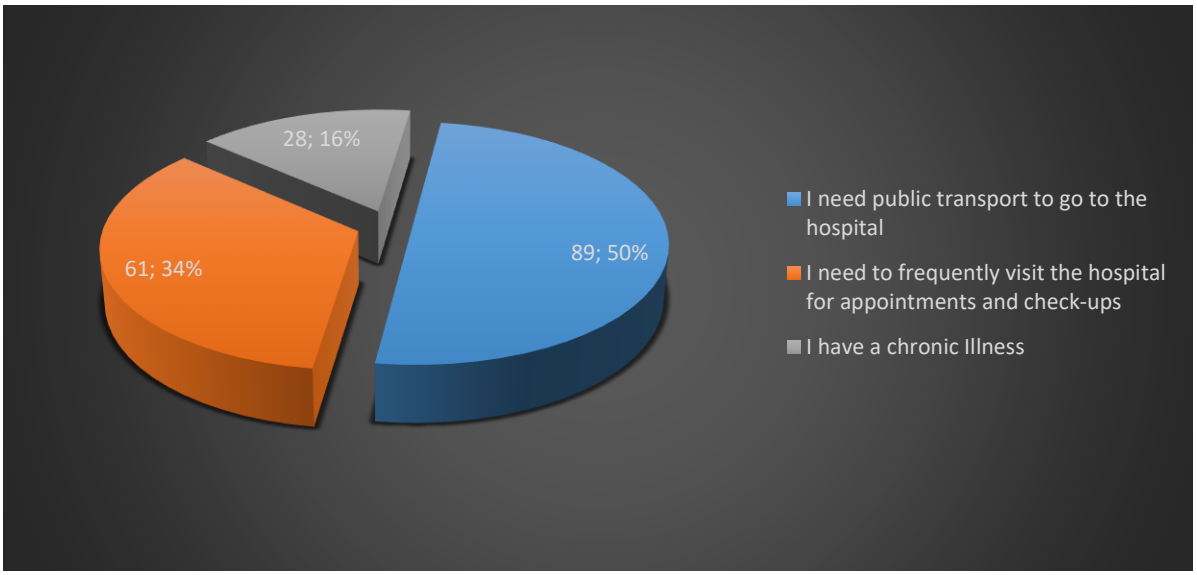


The researcher interviewed Hospital Patients (54% female and 46% males) and hospital staff (53% males and 47% females) showing a balanced representation of both genders in the study.

On the hospital staff, 25% of the respondents were doctors, 45% administration staff and 30% were nurses. This shows that the research versatile hospital departments and people to provide a true representation of data.

4.2 The role of transport in community healthcare

Figure 3 Figure 3 Role of transport

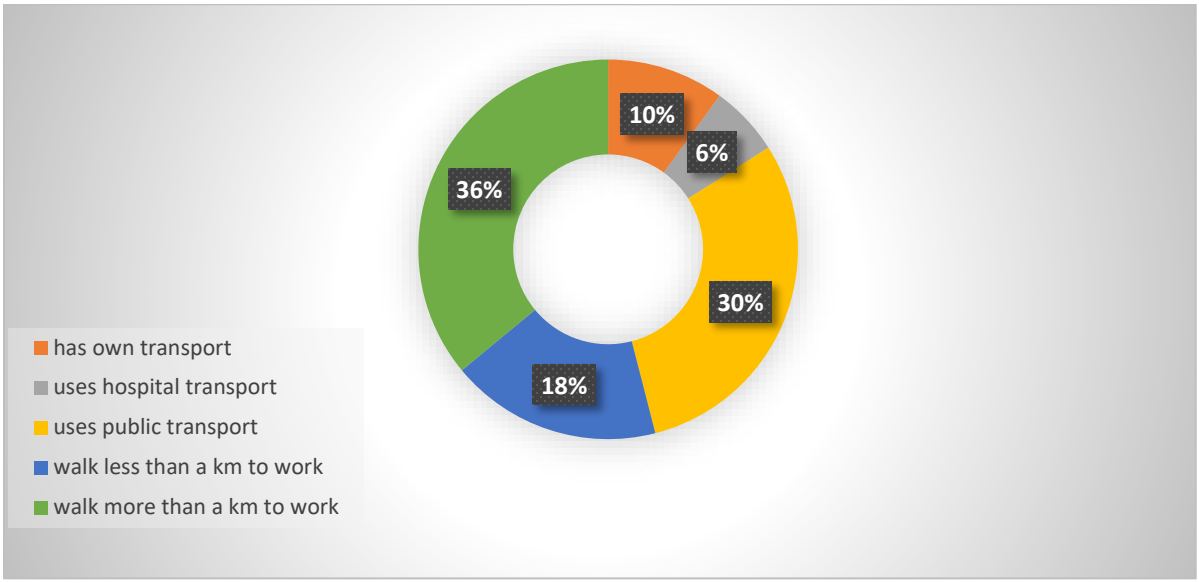


Source: Research data

Of the hospital patients interviewed, a frequency of 28 representing 16% of the respondents indicated that they have a chronic illness, showing that 16% of the hospital patients are frequent users of the hospitals needing reliable transport. A frequency of 61 representing 34% of the respondents indicated that they need to frequently visit the hospital for regular check-ups and hospital appointments. A frequency of 89 representing 50% of the population indicated that they require transport to go to the hospital. This shows that transport is vital in supporting community members who are unable to drive or afford the upkeep of personal vehicles.

Rural Transport is widely accepted to be the principal physical communications facility for rural communities to connect them to the national principal or main road, or waterway network. All respondents positively affirm that, transport plays a critical role in the effective and efficient delivery of health care which enables people to access services and health workers to reach all surrounding communities. Transport is also essential for delivering supplies of resources such as drugs and personnel to health centres, and for transferring patients between health facilities and to the different levels of care.

Figure 4 Figure 4 Hospital staff mode of transport to work



Source: Research data

10% of the hospital staff have their own vehicles to use to work, the hospital provides only 6% of its workers with transport, 18% of the staff stay a walkable distance of less than a km. 30% rely on public transport to work, and 36% have to walk more than a km to get to work. This shows that 66% of the hospital staff are in need of transportation to work.

4.3 Accessibility of transport by patients at Murewa District Hospital

Figure 5 Accessibility of transport by patients at Murewa District Hospital

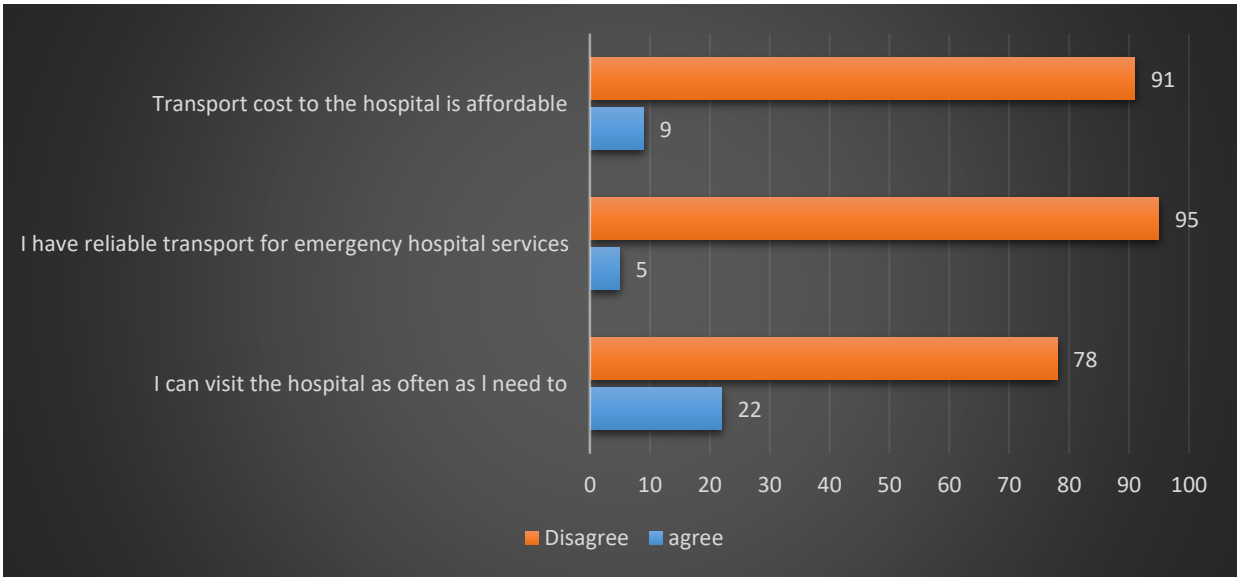


Figure 5 shows the responses of hospital patients in relation to transport accessibility. 91% indicated that transport cost to the hospital is not affordable, 9% indicated that transport cost is affordable. 95% of the hospital patience lack reliable transport to the hospital in times of emergencies, 5% indicated that they do have reliable transport to the hospital. 78% of the respondents indicated that they cannot travel to the hospital as often as they need to, and 22 % indicated on their ability to visit the hospital as frequently as they need to.

Table 1 Hospital accessibility

Statement	**Frequency**		
	30 minutes or less	30 minutes to 1 hr	1 hr or more
If l call an ambulance l wait for:	12	34	54
	half a km or less	**half a km to 1 km**	**more than 1 km**
I can board public transport to the hospital in a distance of:	22	46	38
I must walk to visit the hospital:	15	32	53

A frequency of 12 indicated that they only wait 30 minutes or less to get an ambulance if they require one, a frequency of 34 indicated that they wait an hour or more for an ambulance to come if they call one, and a frequency of 54 indicated that it takes more than an hour for an ambulance to come if requested.

The Ambulance has a critical role to play in moving a patient quickly to the hospital since there are preventive and curative services in it as compared to commercial vehicle. It is fast, convenient and urgently attended to at the referred hospital on arrival as a delay in treatment can make difference between life and death. The response times of emergency services will be influenced by the transport infrastructure. Short response times of ambulances are accepted policy and practice in reducing mortality and morbidity from life threatening conditions were shortening the time to

definitive care results in health gain. In cases of emergencies qualified health personnel have to accompany the patient and not the relatives to the hospital. But it is on few occasions that some patients luckily use the Ambulance as shown by the length of time a patient must wait in an emergency.

This lack of reliable transport results in us of substandard transport which sometimes worsen the condition of a patient especially in cases where a patient needs oxygen, blood, or a drip along the route to the hospital.

Table 2 Cost and accessibility

Statement	**Percentage**	
	Patient %	**the hospital %**
Who sponsors your transport costs?	69	31
	yes	**no**
The hospital provides transport for patients	26	74
The hospital provides transport for referral patients	25	75
Accessibility Of Transport for Staff		
	self	**hospital**
Who provides your transport to work and back home	84	16
	yes	**no**
The hospital has adequate transport for ferrying employees to and from work	17	83

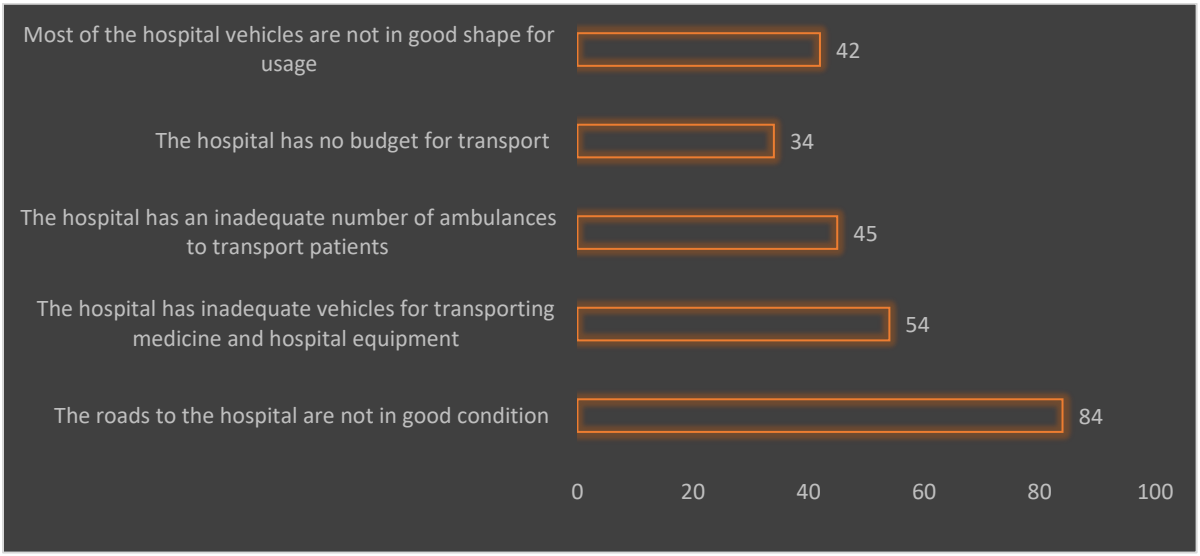
From table 2, it shows that 69% of the population pays for its transport costs, and 31% of the hospital patients have their transport cost catered for by the hospital. 74% indicated that the

hospital does not offer transport for patients, whilst 26% indicated that the hospital gives its patients transport. For referral cases, 25% indicated that the hospital provides transport whilst 75% indicated that in cases of being referred, the patient provides own transport.

In researching on accessibility of transport for the hospital staff, 84% indicated that they have to provide their own transport to and from work, whilst 16% indicated that the hospital provides them with transport to work and back home. 83% highlighted that the hospital has inadequate transport to ferry employees to and from work, whilst 17% stated that the hospitals have adequate transport to ferry workers to and from work.

4.4 Challenges to efficient transport system at Murewa District Hospital

Figure 6 Hospital Transport Challenges



Source: Research data

Figure 6 shows the challenges to efficient transport systems. A frequency of 42 revealed that the vehicles at the hospital are not in good shape for usage. This is in line with the research of Boston, (2018) who states that rural transport in developing countries mainly consists of poor roads along with foot paths across valleys, if mountainous landscapes or dusty roads if flat terrain landscapes. By nature, these does not provide proper mobility hence the terrains are confined and constrained to the development. 34 indicated that the hospital does not have a budget for transport, 45 indicated that the hospital does not have adequate ambulances to transport patients, a frequency of 54

indicated that the hospital has inadequate vehicles for transporting medicine and hospital equipment, and a frequency of 84 revealed that the roads themselves are in bad conditions for transport to move.

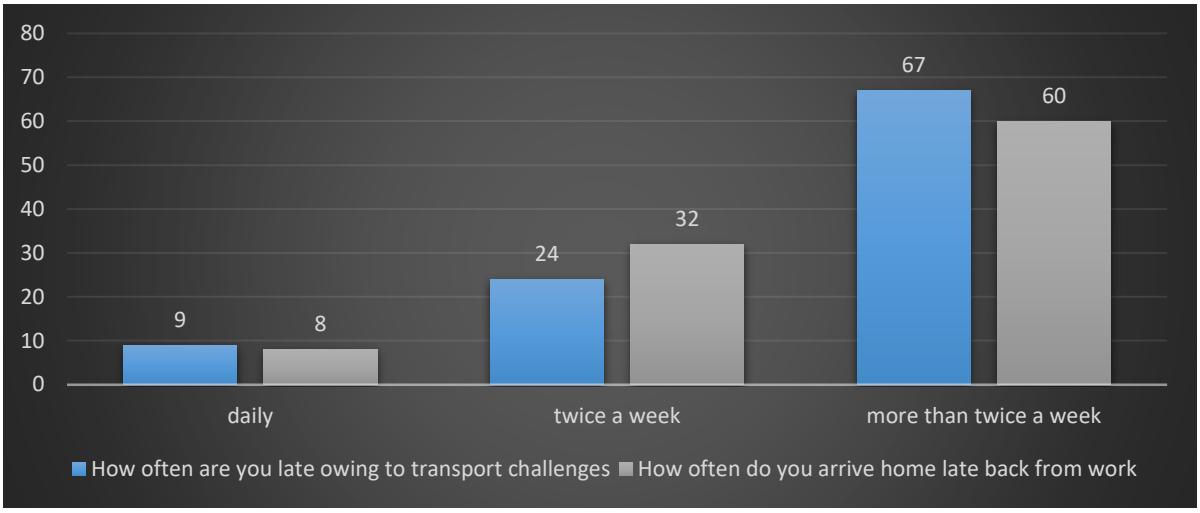
4.5 Impact of inefficient transport on community health

Table 3 Impact of Inefficient Transport on Community Health

Impact of inefficient transport on the community health
Occurrences of death
Missed Clinic Appointments
Inefficiency of staff
Limited medical access
Worsening of health status
Limited health outreach programmes
Inability to visit the hospital in the rainy season
Giving birth riskier
Limited amount of time to perform all duties for hospital staff
Hiking public transport and footing long distances to work is strenuous and demotivating for hospital workers
Delays in treatment

The researcher sought to find out the impact of inefficient transport on community health. Table 3 shows a summary of the feedback from respondents.

Figure 7 Impact of Inefficient Transport on hospital workers



From the research data on hospital staff, it was revealed that a frequency of 9 hospital employees arrive late at work owing to transport challenges, a frequency of 24 arrive late on a weekly basis to work, and a frequency of 67 arrive late more than twice a week to work. A frequency of 8 revealed that daily, they arrive home late from work owing to transport challenges, 32 arrive late twice a week, and a frequency of 60 arrive home late from work due to transport issues.

It was revealed that most of the hospital staff go to work late and lateness of health workers affects quality health care delivery. Hospital workers are always in a rush, because they arrive in late and return home late. This means they also require extra time to cater for transport delays. Basically, the research shows that most of the health workers live far from the hospital and thus, they do not spend the originally intended time attending to patients resulting in poor healthcare delivery.

This situation compounds in times of emergencies. Such strain the hospital staff goes through, footing long distances to work, and hiking public transport, can lead to frustration, demotivation, tiredness and work and low productivity resulting in inefficiency and overall poor health of the community.

4.6 To establish feasible solutions to improve transport efficiency

The researcher asked the respondents to share their opinions on how rural transport may be improved. Below is a summary of the feedback obtained.

Respondents suggested that the government increase buses, and kombis transport in rural areas as well as their frequency of moving. The time spent waiting for the bus is a major part of their total

transit time. Hospital patients want the assurance that their bus will arrive soon, in a reasonable enough time for them to get to the hospital quickly.

Respondents suggested that the government invest in clearing roads to make them more navigable and safer for all kinds of vehicles. Currently, rural roads are in bad conditions, they get worse during the rainy season, and most of the time people end up finishing journeys of foot.

The respondents suggested that the hospital invest in more hospital vehicles and ambulances, which are frequently serviced, well equipped. Additionally, the hospital can service and maintain well those vehicles that are currently available so that it can be made sure that they are roadworthy.

CHAPTER V

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a brief summary of the research findings, concluding remarks as well as recommendations adopted from the study.

5.1 Summary of findings

The main difficulties, influencing peoples visit to the Hospital were Poor Road networks, inadequate facilities, and transportation cost. Examining further, it came to light that it is challenging to get access to transport from communities to the hospital, some have to walk to long distances to get access to vehicles to convey them to the hospital, others have to walk a long distance to the main road to able to access transport to the hospital. The survey shows that, it is difficult to access the hospital in the rainy season due to the deplorable nature of the road. From the survey most of the respondents do not have reliable transport in cases of emergency. All respondents to the survey positively affirm that, transport plays a critical role in the effective and efficient delivery of health care which enables people to access services and health workers to reach all surrounding communities. Again, the study showed that most of the health professionals live far from the hospital and due to that they do not spend enough time to attend to the patient resulting in poor healthcare delivery.

5.2 Study Limitations

This research was limited to Murewa District Hospital in Mashonaland East Province of Zimbabwe. This was done to narrow down to a specific area for specific results.

The research was limited buy funds. Money was needed to buy stationery, research data, for mobility, for printing and binding, and for lunch. The research had to be conducted on a very tight budget.

The study was limited to opinion from hospital patients and hospital staff only, in order to get views from the first hand.

5.3 Conclusion

The study looked at the effects of inefficient transport systems on community health. The patients and the health workers provided their opinions, and based on the research findings, the following conclusions are reached. Transport is key to accessing medical services in a timely manner. Transport to and from the hospital is not affordable to the bulk, physical location of the hospital is not convenient for most of the hospital staff and patients, distance is a major obstacle to the rural population. A higher percentage of the rural poor needs to travel for hours to the next health facility. Both hospital staff and patients find it hard to travel to get to healthcare and other services because of the few health facilities, poor roads and high transport cost. Even where motorable roads exist, transport services are not reliable and not frequent. Where available, such services are for-hire and the majority of rural inhabitants cannot afford them.

The study further revealed that Ambulance response to emergency cases is very limited to the communities, making it ineffective in transporting patients in a timely manner. Health professional at Murewa hospital indicated that, lack of transport to ferry staff to and from work causes them to wait for long hours getting late to work, and returning back home late, struggling with other passengers for transport. These frustrations result in tired staff, irritable staff, demotivated staff and unhappy staff. Additionally, transportation is a major constraint that hinders health workers from embarking on outreach programmes owing to inadequate transport infrastructure and service. The outreach programme is usually for critical prenatal and neonatal periods, preventive and curative services and also supportive health advice.

Owing to transport challenges, lives have been lost owing to delays by the ambulance, and failures to get to the hospital in time, home deliveries are a norm resulting in maternal mortality, patients do not get a chance to visit the hospital as often as they need, there has been worsening of conditions that would have been manageable.

5.4 Recommendations

Based on the findings, it was recommended that:

Health workers need to be provided with buses to convey them to and from work and for outreach programs, and to report to duty on time.

The government should increase public transport, ensure that it is well service and maintained, improve the frequency of visits to the hospital and price it is such a way that it can be afforded by many.

The hospital should include a transport budget in its annual plans, invest in service maintenance, and adequate stocking of ambulances for people.

5.5 Dissemination of results

The researcher will submit 3 hard copies of the results to Africa University, Faculty of Health Science of Africa University. Some copies will be submitted to Murewa district hospital for internal use on how the hospital can improve its transport system. Presentation of findings to the District Health Executive for Murewa and key stakeholders will be done.

5.6 Suggestions for further study

The researcher suggests future research on the impacts of public transportation on health care utilization and transportation difficulties will need to gather data from a larger number of transit users. The number of transit users who responded to this survey was too small to make too many conclusions regarding transit. Further research could also compare results between different communities with different levels and types of transportation options.

References

Atuoye, K.N., Dixon, J., Rishworth, A. et al. 2015 Can she make it? Transportation barriers to accessing maternal and child health care services in rural Ghana. BMC Health Serv Res 15, 333 (2015). https://doi.org/10.1186/s12913-015-1005-y

Babinard, J., & Roberts, P. (2006). Maternal Health and Child Mortality Goals. What can the Transport sector do? Washington, DC, United States of America: World Bank.

Broni, Aikins, Asibey, and Duah (2014) The Contribution Of Transport (Road) In Health Care Delivery "A Case Study Of Mankranso District Hospital In The Ahafo Ano South District Of Ashanti Region" British Journals of Marketing StudiesVol.2,

Charlotte Vogel 2020 An analysis of the effects of transportation as a barrier to health care and a comparison between the United States and Spain. https://storymaps.arcgis.com/stories/e80feae1dfb74918b03752130891d3ab

Everitt, B. and Skrondal, A. (2010) The Cambridge Dictionary of Statistics. Cambridge University Press,Cambridge. https://doi.org/10.1017/CBO9780511779633

Gbadamosi, Olorunfemi 2016 Rural Road Infrastructural Challenges: An Impediment to Health Care Service Delivery in Kabba-Bunu Local Government Area of Kogi State, Nigeria Academic Journal of Interdisciplinary Studies MCSER Publishing, Rome-Italy

Goodman, C.C. and Fuller, K.S. (2014) Pathology: Implications for the Physical Therapist. 4th Edition, Elsevier Health Sciences, Amsterdam, 1800.

Gross, J. J. (2008). Emotion regulation. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), Handbook of emotions (pp. 497–512). The Guilford Press.

Kothari, C.R. (2004) Research Methodology: Methods and Techniques. 2nd Edition, New Age International Publishers, New Delhi.

Levine TR 2014. Active Deception Detection. Policy Insights from the Behavioral and Brain Sciences. 2014;1(1):122-128. doi:10.1177/2372732214548863

Litman, T. (2013). Transportation and Public Health. Annual Review of Public Health , 34, 217213.

Mattson, Jeremy (2009) "North Dakota Transportation Survey: Aging and Mobility." UGPTI Departmental Publication No. 221, Upper Great Plains Transportation Institute, North Dakota State University, Fargo, ND

O'Neill (2011) The problem with rural transport is that it is rural, the solution is in branding https://blogs.worldbank.org/transport/the-problem-with-rural-transport-is-that-it-is-rural-the-solution-is-in-branding

Piroska (2022) How to choose a sample size (for the statistically challenged) https://tools4dev.org/resources/how-to-choose-a-sample-size/

Sara Allin Elias Mossialos Martin McKee Walter Holland 2004 Making decisions on public health: a review of eight countries Published Online Health Promot J Austr.

Scheuer, O. & McLaren, B. M. (2013). CASE: A configurable argumentation support engine. IEEE Transactions on Learning Technologies, 10 Jan. 2013. IEEE computer Society Digital Library. IEEE Computer Society, http://doi.ieeecomputersociety.org/10.1109/TLT.2013.3. [pdf] [Online Citation] (Journal article #21)

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APPENDIX 1

Timetable

SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY
Chapter 1								
	Chapter 1							
		Chapter 2						
			Chapter 3					
				Pre-test				
					Field Survey			
						Data analysis		
							Chapter 5	
								Compiling & Binding

Appendix 2

Application Letter Sourcing Approval to carry out the Research

Post Office Box 1320
Mutare

5 November 2021

District Medical Officer

Murewa District Hospital

P.O. Box 60

Murewa

Dear Sir

RE: REQUEST FOR PERMISSION TO CARRY OUT A STUDY ON THE EFFICIENCY OF TRANSPORT SYSTEMS FOR BETTER COMMUNITY HEALTH AT MUREWA DISTRICT HOSPITAL 2019-2020.

I am a final year student at Africa University in the college of Health, Agriculture and Natural Sciences. I write this letter seeking permission to carry out my research on the above topic. I have chosen to conduct this research at Murewa District Hospital because it is in Mashonaland East Province, where I have been attached over the past 6 months and had much access to transport records during my attachment. The research will be submitted in partial fulfilment of the requirements for the degree of Bachelor of Health Services Management honours in the department of health sciences.

I am looking forward to a favourable response.

Yours Faithfully

Munashe Foroma

Appendix 3

Budget

ACTIVITY	ITEM	COST in USD
Stationary	Bond Paper	40
	Note books	30
	A4 Envelopes	25
	Ball point Pens	15
Subtotal		110
Secretarial Services	Printing Services	15
	Data Coding and Analysis Services	20
	Research (internet)	45
Subtotal		80
Communication	Airtime	20
	Other (s)	10
Grand total		**220**

Appendix 4

Informed Consent Guide

My name is Munashe Foroma a final year student studying Health Services Management from Africa University. I am carrying out a study on the effects of inefficient transport systems on community health. I am kindly asking you to participate in this study by filling in your details below.

Purpose of the study:

The purpose of the study is to research and gain more knowledge on the topic area stated above. You were selected for the study because of ease of access, and you were seen to be one of the people who benefits from health services within the district.

Procedures and duration

If you decide to participate you will answer a questionnaire, which consists of straight forward questions and will take about 10 minutes.

Risks and discomforts

There are likely to be minimum to no risks related to answering the questionnaire but if any discomforting situation arises it will be dealt with in an amicable manner

Benefits and/or compensation

There will be no benefit nor compensation rewarded for participating in the study

Confidentiality

Should any personal information be used or be made known it is guaranteed that it will not be disclosed, and it will remain anonymous.

Voluntary participation

Participation in this study is voluntary. If participant decides not to participate in this study, their decision will not affect their future relationship with anyone involved in the research study or organizations involved. If they chose to participate, they are free to withdraw their consent and to discontinue participation without penalty.

Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

Authorisation

If you have decided to participate in this study, please sign this form in the space provide below as an indication that you have read and understood the information provided above and have agreed to participate.

---------- ----------

Name of Research Participant (please print) Date

---------- Signature of Research Participant or legally authorised representative

If you have any questions concerning this study or consent form beyond those answered by the researcher including questions about the research, your rights as a research participant, or if you feel that you have been treated unfairly and would like to talk to someone other than the researcher, please feel free to contact the Africa University Research Ethics Committee on telephone (020) 60075 or 60026 extension 1156 email aurec@africau.edu

Name of Researcher : Munashe Foroma

Appendix 5

Questionnaire For Hospital Patients

Please read each question carefully and tick appropriate answer

Gender	**M**	**F**
State your Age		
Do you have a chronic illness	Yes	No

Select appropriate figure to rate 1 = agree 2 = strongly agree 3 = disagree 4 = strongly disagree

	1 agree	**2. strongly agree**	**3. Disagree**	**4. Strongly disagree**
I need public transport to go to the hospital				
I need to frequently visit the hospital for appointments and check-ups				
I can visit the hospital as often as l need to				
I have reliable transport for emergency hospital services				
The roads to the hospital in good condition				
Transport cost to the hospital is affordable				

Tick appropriate answer					
If l call an ambulance l wait for:	30 minutes or less	30 minutes to 1 hr	1 hr or more		
I can board public transport to the hospital in a distance of:	half a km or less	half a km to 1 km	more than 1 km		

I must walk to visit the hospital:	half a km or less	half a km to 1 km	more than 1 km		
To visit the hospital l mostly use:	l walk	a motor bike	private car	public transport	an ox wagon
During emergencies, to visit the hospital l use	an ambulance	l walk	a motor bike	private car	an ox wagon
Who sponsors your transport costs?	patient	the hospital	the government		
If you get referred who sponsors transport	patient	the hospital	the government		

What are the challenges to an efficient transport system at Murewa District? …….

How does inefficient transport system affect the Murewa District community?

……

What can be done to improve efficiency of transport systems in the district

…….

Appendix 6

Questionnaire for hospital staff

Please circle appropriate answer

Gender	M	F	
Designation	Nurse	Doctor	Administration
Who provides your transport to work and back home	self	hospital	government
How often are you late owing to transport challenges	daily	twice a week	more than twice a week
How many minutes late are attributed to transport challenges	10 minutes or less	11 to 30 minutes	half an hour or more
How often do you arrive home late back from work	daily	twice a week	more than twice a week
How many minutes late home are attributed to transport challenges	10 minutes or less	11 to 30 minutes	half an hour or more

Tick appropriate answer			
The hospital provides transport for patients	yes	no	sometimes
The hospital provides transport for referral patients	yes	no	sometimes
The hospital has adequate vehicles for transporting medicine and hospital equipment	yes	no	
The hospital has adequate transport for ferrying employees to and from work	yes	no	
The hospital has an adequate number of ambulances to transport patients	yes	no	
The hospital has a budget for transport	yes	no	
The hospital vehicles are all in good shape for usage?	yes	no	

The hospital requires government help with transport issues	yes	no	
The hospital is performing efficiently with the current transport	yes	no	

What are the challenges to an efficient transport system at Murewa District? ……..

How does inefficient transport system affect the Murewa District community?

……..

What can be done to improve efficiency of transport systems?

……..