The Movement from Face-to-Face Healthcare to e-health Services: An Ethical Exploration of the Telemedicine Experiences of Healthcare Seekers in Harare, Zimbabwe

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PLAGIARISM DECLARATION

I, Media Rufaro Mukarati, hereby declare that I have read and understood the rules of the University of KwaZulu Natal on plagiarism and that this dissertation is my original work under supervision of Professor Beatrice Okyere-Manu. This body of work has not been submitted to any other institution.

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Media Rufaro Mukarati

15 November 2022

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Prof Beatrice Okyere-Manu

15 November 2022

DEDICATION

This thesis is dedicated to my parents, Absolom and Evelyn Mukarati,

my little sister, Moreblessing Tafadzwa Mukarati

and

my late grandfather, Philemon Musarara

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Firstly, I would like to thank God because without Him this work would not have been possible. This journey was aided by constant prayer and faith that my dreams would become a reality one day and for that, I would like to thank my Creator.

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ABSTRACT

This dissertation provides an overview of the experiences of healthcare seekers in the shift from the tradition face-to-face way of seeking healthcare to a virtual alternative, known as telemedicine. The COVID-19 pandemic forced the world to go into lockdown which created limitations for gatherings and accessibility of physical healthcare facilities. This reality resulted in healthcare seekers in Harare seeking alternative healthcare methods which not only allowed them to comply with the restrictions put in place by the government but also decreased their exposure and risk of contacting the airborne virus. The use of telemedicine presents many opportunities with healthcare seekers in Harare as the Zimbabwean capital battles with providing adequate healthcare for all with some of the challenges experienced within the healthcare system including sparse numbers of healthcare seekers, shortage of resources at healthcare facilities and dilapidated healthcare facilities. The shift to telemedicine comes with a change in medical culture for healthcare seekers and it is against this backdrop that, through the lenses of the ethical theory of consequentialism, this dissertation will explore the ethical implications of the movement from face-to-face healthcare to telemedicine. Taking from the experiences of healthcare seekers in Harare, this dissertation analyses the notable changes which have come from this shift and explores both the favourable and unfavourable consequences. Furthermore, this dissertation argues for more contextualised implementation and use of telemedicine that takes into consideration the social setting under which this tool is being administered to maximise the favourable results.

Keywords: Healthcare Seekers, Face-to-face healthcare, Telemedicine, Ethical theory of Consequentialism, Virtual, Experiences

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ACRONYM

AIDS - Acquired Immune Deficiency Syndrome

ARV - Antiretroviral

COVID-19 – Coronavirus Disease of 2019

HIT - Health Information Technology

ICT - Information Communication Technology

RAFT - Réseau Afrique Franscophone de Télémédecine

UK - United Kingdom

UKZN - University of KwaZulu Natal

UN - United Nation

CHAPTER ONE
INTRODUCTION TO THE STUDY

1.1 Introduction

One of the biggest challenges faced across the globe is how to make healthcare accessible to everyone. Accessibility to healthcare is interrupted by numerous factors, and the challenges experienced within the healthcare system vary for each country as noted by Fejiro Chinye-Nwoko, Utibe Effiong and Nchiewe Eni (2020). In Africa, one of the major challenges to access to healthcare is the lack of healthcare professionals. In Nigeria, the richest and most populous country on the continent, there are only 4 doctors per 10 000 patients. This ratio compares to the USA, which has 26 doctors per 10 000 patients while the UK has 28 doctors per 10 000 patients (Chinye-Nwoko, Effiong & Ani, 2020), highlighting the limited availability of medical professionals in Africa and the need for a healthcare system that can support the needs of patients.

In Harare Zimbabwe, Dr Greg, a practicing medical doctor, observed that at the Harare General Hospital, 9 out of 10 patients are turned away because there are either no doctors, or no resources that can assist these patients (Meyers, 2020). Due to the dwindling numbers of healthcare workers at many facilities across Harare, patients are most likely to be turned away in the early morning because that is when the least number of healthcare workers are available. In addition, healthcare seekers are faced with waiting for long hours before they can access medical services due to healthcare professionals attending to the enormous number of patients with limited resources and facilities.

The COVID-19 pandemic has exacerbated the restrictions faced by healthcare seekers and their access to healthcare facilities. Hospital facilities no longer allow people to freely walk in unless there are an emergency and further restrictions have been implemented on visitation hours at hospitals to limit the spread of COVID-19. The pandemic resulted in an increased need for a healthcare system that can be accessed virtually and that reduces contact between the healthcare seekers and the healthcare professionals. The use of virtual healthcare has increased significantly since the outbreak of COVID-19. The ethical implications raised by the change from face-to-face healthcare to telemedicine for healthcare seekers in Harare is the backdrop for this dissertation.

1.2 Background of the research problem

Traditionally, the practice of medicine involves a patient physically going to a medical facility to get medical attention from a doctor. The doctor examines the patient, gives a diagnosis and the

patient receives the necessary treatment. However, the ability to access quality healthcare is hindered by various circumstances in Zimbabwe, which includes the shortage of healthcare workers as discussed above and the poor state of healthcare facilities. There are various contributing factors to the current state of the healthcare facilities across the country. Fast rising inflation and severe drought have led to a high demand at healthcare facilities in many parts of Zimbabwe. These are some of the factors that have led to poor healthcare facilities and inhumane operating conditions (Meyers, 2020). Healthcare seekers are often left desperate with nowhere else to turn because a substantial portion of the population in Zimbabwe are living in poverty and therefore do not have the luxury of accessing private facilities as an alternative to the state-run facilities. Healthcare workers are forced to work with limited resources and often are not able to perform their duties properly because they are given extraordinarily little to work with in increasingly unsafe conditions. These unreasonable working conditions with low salaries resulted in doctors, nurse and other healthcare personnel engaging in strikes across the country. One such strike started in September 2019 and lasted several months and had a major impact on the administration of healthcare (Meyers, 2019). This strike is one of many which have taken place over the last decade in the country as healthcare workers have tried to have their voices heard, needs met and having improved working conditions.

Healthcare seekers in Zimbabwe are faced with the burden of waiting for long hours before they can access medical services. The time spent before one can get medical attention can result in many challenges especially in emergencies and healthcare seekers in Zimbabwe are no strangers to these challenges as in the rural areas of Zimbabwe, people must walk between 10 km and 50 km to access the nearest health facility (Loewenson, et al, 2014). These challenges highlight the need for telemedicine as it allows healthcare seekers to get medical attention without the added burden of travelling to a healthcare facility.

One of the advantages of telemedicine is the help available to isolated or scattered populations to gain access to healthcare services and it has the added benefit of allowing the exchange of information which gives access to knowledge (Martinez et al 2004: 485). Telemedicine allows for medical attention to be received without the need to physically visit a healthcare facility (Chinye-Nwoko et al 2020). Africa's large populations, shortage of healthcare professionals and other challenges experienced in the medical care delivery, provides the perfect context for virtual healthcare. In an article which highlights the possibilities which telemedicine presents for African countries, the Lancet medical journal dubbed sub-Saharan Africa as the "new breeding ground for global digital health" (Holst et al, 2020). Telemedicine can be used as a tool in the delivery of

healthcare services and provision of medical assistance across distances through building links between well-served and underserved areas and linking healthcare workers to the latest research and information (Chetley et al, 2006). The ever-expanding applications of telemedicine allow its' users to reduce the burdens of inferior healthcare access through utilization of technology (Ramos, 2010) as information can be shared amongst healthcare professionals which aids in the diagnostic process.

However, the experiences healthcare seekers have with telemedicine varies from country to country because there is no universal approach in the implementation as noted by Samuel Furusa and Alfred Coleman (2018). These experiences can be influenced by numerous factors which include financial limitations as it was found that in developing countries, from the total allocation given to healthcare investments, only 1% of that allocation is invested in healthcare information technology (Turan & Palvia, 2014:58). This has hampered the growth of telemedicine in many developing countries including Zimbabwe. The technological advancements in developing countries are lower than that of their western counterparts which has resulted in higher usage of telemedicine in the west. This has allowed for the healthcare seekers in western countries to be more exposed to telemedicine and has given the administrators time to revise this tool and make it more favourable for the healthcare seekers. However, this is not the case for healthcare seekers in Zimbabwe whose increased exposure to telemedicine came because of the COVID-19 pandemic which created limitations for traveling and gatherings to combat the spread of the virus. It is with this background that this study will explore the ethical implications in the movement from face-to-face healthcare to telemedicine for the healthcare seekers in Harare, Zimbabwe.

1.3 Key Research Question

What ethical issues should be considered when engraining the experiences of healthcare seekers in the emerging practice of telemedicine services in Harare, Zimbabwe?

1.3.1 Sub-Research Questions

1. What is the nature and scope of telemedicine?
2. What are the notable different experiences between face-to-face healthcare seekers and patrons of telemedicine?
3. What are some ethical issues likely to be faced by healthcare seekers who patronize telemedicine?
4. What are the ethical implications of telemedicine under the ethical theory of consequentialism?

1.4 Preview of the Theoretical Framework

The theory which will guide this research paper is the ethical theory of consequentialism.

1.4.1 Defining the Ethical Theory of Consequentialism

Consequentialism is a normative ethical theory which examines whether actions are right or not based on their consequences as defined by Samuel Scheffler, (1988). Consequentialism provides criteria for moral evaluations, and it asserts that the morality of an action is determined by the result. Consequentialism was coined by Elisabeth Anscombe in 1958. This theory argues that the right thing to do in any situation is that which has the best consequences. "Consequentialism in its purest and simplest form is a moral doctrine which says that the right way to act in any given situation is the one that will produce the best possible outcome" (Scheffler, 1988: 1). Therefore, if the consequences of an action are good (even though the means is flawed) the action is moral.

One of the main attributes of the theory of consequentialism is the act of utilitarianism. Eugene Bales writes that an action is considered utilitarian when "its contributions toward intrinsically good states of affairs- is not less than that of some alternative" (1971: 257). This mean that the right action is one that benefits the most people and maximises pleasure. Results and consequences which maximise the good are often considered to be the best. Consequentialism can be divided into two dimensions: actual consequences and expected consequences (Anscombe, 1958). Actual consequences are those which have taken place already while expected consequences are those which are anticipated to take place.

1.4.2 Arguments against the ethical theory of consequentialism

Immanuel Kant puts forward the theory of deontology as critique of consequentialism. Deontology is grounded on an action being done because it is the right thing to do, it is one's duty to do so. Donald Palmer argues that Kant's theory of deontology is to "act only according to that maxim by which you can" (1996: 266). Will the action be considered lawful? The theory of deontology therefore contradicts that of consequentialism because consequentialism places morality on the result and not how people are obligated to act. Elinor Mason also critiques consequentialism adding that this theory only focuses on the consequences of an action and does not consider the act itself (2009). Therefore, if the consequences of an action are good even if the action itself is immoral/wrong, the theory of consequentialism supports the end results. Mason further argues that there are actions one must always do even if the end results are not necessarily favourable (2009). An example of this would be always telling the truth, even when the consequences of telling the truth might potentially have negative end results.

1.4.3 Justification for the study

In this study, the theory of consequentialism will be used to give an analysis of the experiences of healthcare seekers with telemedicine in Harare. Katarzyna De Lazari-Radek and Peter Singer put forward the argument that the ethical theory of consequentialism promotes transparency and open discussions (2010). They further noted that consequentialism promotes fairness of persons and avoids accepting morality that is only for the elite which would manipulate results of those who are not part of the elite, to produce the best consequences (De Lazari-Radek & Singer, 2010. The theory of consequentialism considers all parties involved as equal and does not select only the elite. This argument makes this theory suitable for this study as it did not sample the population based on class or status.

1.5 Preview of the Research Methodology

This study made use of the qualitative descriptive methodology. Qualitative descriptive studies are characterized by simultaneous data collection and analysis as presented by (Lambert & Lambert, (2012: 256). Two methods of data collections were employed in this study. The first was a review of literature which included dissertations, theses, and journal articles. Data was gathered using search engines which included Google Scholar, Research Gate and Ebscohost. There was a further use of appropriate newspaper articles and to get the appropriate information, key words will be used to narrow down the searches. The literature review will be presented in themes therefore making it easier to bring together thoughts from various scholars. This will also help to identify the gap. Once the gap was identified, the study took on an empirical approach as the second method of data collection. This included interviews which were conducted to gather data on the telemedicine experiences of health seekers in Harare.

1.5.1 Research design

Vickie A. Lambert and Clinton E. Lambert define qualitative descriptive as a research methodology with the goal to give a "comprehensive summarization of specific events experienced by individuals or groups of individuals" (2012: 255). The qualitative descriptive approach makes use of a variety of sources to gather information and refers to research approaches as the tools with which researchers collect and analyse data. According to Norman Denzin (1970), the use of multiple independent research methods results in greater reliability, provided that they all reach the same conclusion. Therefore, to get accurate accounts of the experiences of telemedicine for the health seekers in Harare, interviews were conducted in a way which allowed participants to give their account.

.5.2 Sampling

The sampling method which was used in this project is nonprobability sampling. This type of sampling involves the researcher identifying the individual or groups under the correct setting where the research problem can be examined (Tansey, 2007). This method helped identify the first few interviewees; to get the rest of the population sample, the snowball sampling was used. Snowball sampling is when the interviewees recommend someone in their network who fits the criteria for the population sample needed (Vehovar et al, 2016:326). The population sample was made up of adult men and women. A total of seven (7) women and six (6) men were interviewed for this study. The target population was people over the age of 40. This is because these people experienced face-to-face healthcare services for a considerable amount of time, and the study was interested to learn of their experiences with the shift to telemedicine. The other reason was because this generation can be described as the *digital immigrants*. This means that they are not as technologically advanced and therefore do not accept modern technologies as quickly as younger generations who can be described as *digital natives*. Getting the experiences of these digital immigrants was important to understand what can be done to improve telemedicine and its acceptance rate amongst all the populations of Harare.

The inclusion criteria for this study targeted healthcare seekers who are residents of Harare. The inclusion process did not discriminate against anyone with any challenges/ disabilities as the aim of this study does not require engagement with that kind of information. The aim is simply to give an ethical analysis of the experiences in the movement from face-to-face healthcare to telemedicine for healthcare seekers. Those who were excluded are those who do not live in Harare and are regarded as part of the digital native ages. No children were used in this study.

1.6 Sources of Data

The data for the study was generated from both primary and secondary sources. The primary data was gathered through interviews with healthcare seekers in Harare. Due to the traveling restrictions created by COVID-19, the interviews for the study were conducted telephonically. The interviewees received a copy of both the consent form and questions via WhatsApp or email before the time of the interview. This also allowed them to have a chance to make an informed decision to participate before the telephonic interview. The value of interviews is that they allow for one to build a holistic view of the subject matter (Alshenqeeti, 2014). This enables a detailed analysis of words because interviewees can use their own words to express their thoughts and feelings towards a subject matter (Berg, et al 2004). The reason interviews will be conducted interviews in this

specific area is to avoid language barriers (if any) which would affect the accuracy of the findings. The questions were translated into Shona, which is also the researcher's native language, to curb the language barrier in situations where the interviewees did not fully understand English or could not properly articulate themselves in it.

The secondary sources of data included academic journals, articles and dissertations from other scholars related to the research topic. The use of key words helped to narrow down searches to find the related studies. This study also made use of television and radio interviews from reliable and trusted sources. Telemedicine is in its pilot stages in many African countries and different platforms have been used to improve its advancements and acceptance. Interviews from doctors, researchers and other interested parties were used in this research paper.

1.7 Aim and Rationale of Study

Telemedicine promises solutions for many problems experienced in the healthcare sector across African countries. The shortage of healthcare professionals in Africa has been one of the problems experienced on the continent for decades (Chinye-Nwoko et al, 2020). While the continent bears a sizeable portion of the global burden in terms of health, it also battles with the shortage of sufficient medical personnel and infrastructure. Moving from face-to-face medical consultation means that the burden of limited healthcare professionals and sufficient infrastructure will be eliminated. While the benefits of telemedicine are broad, the implications could differ from place to place. Several scholars have put forward their thoughts on this phenomenon both globally and in Africa. However, there is a dearth in literature which addresses the ethical implications of these services in Africa particularly for the digital strangers.

This study comes in hand to address that although telemedicine has proven to address the various challenges experienced by the healthcare system in Africa, it is important to address the ethical implications of this tool for healthcare seekers. Since telemedicine requires the use of various telecommunication networks to be effective, the healthcare seekers who are users of this healthcare system need to have some level of technological literacy. This study will give an ethical analysis of the implications of moving from the traditional practice of medical to the virtual space for the healthcare seekers in Harare, Zimbabwe.

1.8 Overview of the dissertation

Chapter 1: Introduction of the Study

The first chapter of this research project provides an overview of the study. It gives a background on the research topic and introduces the research questions which will be answered in this paper, the objectives, the research methodology and the theoretical framework under which the research problem will be examined.

Chapter 2: Literature Review

The second chapter is a review of existing literature and gives various definitions for telemedicine and the types of telemedicine. It provides the advantages of telemedicine, the limitations, and the ethical considerations in telemedicine. It also provides the gap in literature which will prompt further research for this study.

Chapter 3: Theoretical Framework

The third chapter explores the theory which will be used to analyse this research project. The theory of consequentialism will look at the experiences of telemedicine for the populations in Harare. These results will then be used to do an ethical interrogation of telemedicine in the setting in which this research study will be conducted.

Chapter 4: Research Methods and Methodology

The fourth chapter presents the research methods and methodology. An overview of the methodology which will be used in this project and the data collection techniques. The data will be collected from literature together with telephonic interviews from the relevant sample population. The chapter also explores the research design which is explained in the research methodology, population samples, reliability, and anticipations.

Chapter 5: Presentation of findings

The fifth chapter is a presentation of the findings from the interviews. These findings are presented thematically with the aim of answering the main research questions for this study- What are the

ethical issues to be faced by healthcare seekers who resort to the emerging practice of telemedicine services in Harare, Zimbabwe?

Chapter 6: Analysis of findings

Chapter 6 presents an analysis of the findings of this study under the tenets of the ethical theory of Consequentialism. These findings are divided into favorable findings and reservations.

Chapter 7: Summary of Findings and Conclusion of the Study

Finally, the seventh and last chapter recounts the main arguments of this thesis and shows how the research objectives were achieved. It also gives recommendations and proposes the need for future studies for telemedicine in Zimbabwe and the African continent at large.

1.9 Conclusion

This chapter has introduced the study and set the tone for the reader. It provided an overview and detailed outline of this study and laid the foundation for what is to follow. The research question, sub-research questions and objectives were all outlined in this chapter which provides a clear outline for what this study intends to do.

The next chapter will be a review of literature and existing views face-to-face healthcare and further explore the existing thoughts on telemedicine. The literature review will be presented thematically, putting similar thoughts from different scholars as found in existing literature. This chapter will also identify the gap in the literature reviewed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

As presented in the previous chapter, this study will be an ethical exploration of the experiences of the movement from face-to-face healthcare to telemedicine for healthcare seekers in Harare, Zimbabwe. Chapter 1 also set the scene for the current state of face-to-face healthcare in Harare and then highlighted some of the challenges experienced in this Zimbabwean capital. These challenges include sparse numbers of healthcare professionals, inadequate healthcare facilities due to limited resources and patients often having to travel exceptionally long distances to get medical attention.

In this chapter, I will give a review of literature which will explore the existing thoughts in the movement from face-to-face healthcare to telemedicine. This literature review is presented thematically with the first section providing insight on face-to-face healthcare; this will include the benefits and challenges. Then, I will provide the various definitions for telemedicine as found in different literature studies and examine the diverse types of telemedicine. I will then explore the benefits and limitations of telemedicine as provided by literature. Thereafter, I will discuss the ethical considerations of telemedicine. Lastly, I will highlight the gap in literature which will lay the foundation for the rest of the study.

2.2 Face-to-face or traditional model of healthcare

Face-to-face healthcare is the traditional way of practicing medicine, and it has been used for many years. It involves a physical relationship and contact between the healthcare seeker and the healthcare professional. It is when the healthcare seeker physically goes to a healthcare facility to seek medical attention either for a diagnosis or checkups on pre-existing medical conditions. Helen Atherton and Sue Ziebland noted that physical consultations include history taking, physical examinations and investigations which lead to a doctor getting a diagnosis (2016:6). This form of healthcare is the traditional way of practicing medicine and has proven to have many benefits in

the past. However, with the world evolving through various technological advancements, other forms of practicing medicine have been introduced. The COVID-19 pandemic has also increased the need for alternative healthcare practices as it has created limitations on the accessibility of healthcare facilities. Face-to-face healthcare increases exposure to the COVID-19 virus for both healthcare professionals and healthcare seekers. The terms 'doctor,' 'physician' and 'healthcare professional' will be used interchangeably in this research report to describe anyone who administers healthcare.

2.3 Advantages of face-to-face healthcare system

One of the most obvious advantages of face-to-face healthcare system is that it allows for a physical relationship between the healthcare seeker and the healthcare professional. A physical relationship between a patient and the physician helps build trust between the two parties- a highly valued aspect of healthcare (Atherton & Ziebland, 2016). Trust in healthcare is particularly important as it allows the patient to be able to fully express themselves to the physician because they understand that all their personal information will be protected and confidential. When there is a physical relationship between the doctor and the patient, the patient can easily see the empathy being expressed by the doctor and this holds therapeutic value (Townsend et al, 2019). This therapeutic value which is received when one seeks healthcare physically can be noted especially after one comes from receiving medical attention. There is a certain level of hopefulness which can be noted in one and it is easily observable in children who often claim to feel better immediately after they have left the doctor's office.

Another upside to the face-to-face form of healthcare practice is that it encourages the 'rules of engagement' which are argued to be especially important in healthcare (Atherton & Ziebland, 2016). The rules of engagement refer to how the physician and the healthcare seeker interact. The healthcare seeker can see that the doctor understands what they are explaining based on body language which includes actions such as nodding in agreement. These small gestures are important in situations where the healthcare seeker might not be able to express themselves fluently in medical terms or whatever language is being used to communicate. A simple nod from the physician gives the healthcare seeker confidence and assurance allowing them to continue expressing themselves to the physician as they feel heard and understood. The rules of engagement, in the medical context, also refer to the process in the diagnostic process whereby the physician can make better diagnosis based on their physical interaction with the patient.

The rules of engagement also allow the physician to be able to pick up some of the health challenges being experienced by the healthcare seeker simply from their engagement and conversation; these are known as diagnostic cues (Atherton & Ziebland, 2016). Diagnostics cues

are a form of non-verbal communication which can be useful to the physician in situations where patients cannot express themselves due to distinct reasons or the doctor is looking for more physical evidence to aid them in the diagnostic process. According to Hellen Atherton and Sue Ziebland, diagnostic cues include the smell of the skin and breath; how a patient walks into the consultation room; casual contact; and access to skin temperature and tone (2016). A physician being able to smell a patient could help them determine what the patient might be suffering from. Different medical conditions manifest themselves differently and result in physical changes which can be noted by a physician during consultation. In some cases, the way a patient is breathing can also assist the physician in their diagnostic process and it indicates whether the patient is experiencing any difficulties in their chest area. For example, if a patient had to walk into a consultation room with a heavy cough, the doctor can hear the cough and easily determine if they have an infection of any sort simply based on the sound of the cough. The doctor can also check the breathing of the patient and oxygen levels, which can assist the doctor in the diagnostic process. Face-to-face healthcare also allows for the physician and patient to have the opportunity to have what are known as 'door-handle' issues. Door-handle issues refer to the final exchange before a patient leaves a consultation room. This exchange allows the patient to enquire about some matters for the last time before they leave the physician's room. They allow the patient to reflect on the consultation and seek a second opinion. If the patient did not understand something which was said during their consultation, they can use this time to clarify before leaving the consultation room. This time can also be used to express any other ailments the patients might be experiencing before they can leave.

2.4 Challenges of face-to-face healthcare

In March 2020, the World Health Organisation declared COVID-19 a global pandemic which led to countries around the world imposing lockdowns, mask-wearing and social distancing to curb the spread of the virus (Zhou et al, 2020). COVID-19 is a virus which resulted in restricted access to healthcare facilities to decrease exposure to the virus especially for patients with non-urgent health needs. This resulted in limitations for face-to-face healthcare as the COVID-19 pandemic has changed the ways in which people live, work and how we interact with each other. Face-to-face healthcare requires one to physically go to the healthcare facility which increases the risk of being exposed to COVID-19 and other illnesses. COVID-19 restricted access to healthcare facilities especially to non-emergency healthcare needs which can be assisted remotely. The virus can spread more when there is direct contact or breathing contaminated air (Zhou et al, 2020). This virus can transmit from one person to the other very easily when there is physical interaction. Based on this knowledge, it is evident how face-to-face healthcare could increase the spread of

COVID-19 and potentially expose those who are not sick when they are at healthcare facilities. It could also put healthcare workers at risk as they are constantly exposed to those who have this highly contagious virus.

Face-to-face healthcare requires that the healthcare seeker physically visits a healthcare facility. This means that they will need to be prepared to meet the traveling costs to and from the facility. In Africa, one of the major problems experienced with healthcare systems across the continent is the small numbers of healthcare professionals. The dearth of healthcare professionals in Africa is a hindrance in healthcare delivery. In Nigeria, the richest and most populous country on the continent, there are only 4 doctors per 10 000 patients (Chinye-Nwoko et al 2020). These numbers highlight the lack of healthcare workers in Africa which has a direct impact on face-to-face healthcare.

The sparse numbers of healthcare workers result in crowding at healthcare facilities. This will result in healthcare workers being overwhelmed by the number of people who need to be attended to with limited human resources. As a result, people end up spending long hours waiting in queues before they can get medical attention. According to a report from the United Nations (UN) in 2018, 43% of the population in Africa resides in rural areas (Chinye-Nwoko et al 2020). However, only a quarter of the doctors in Africa are deployed to rural areas which results in a greater shortage of medical professionals in these areas. In rural areas of these developing countries, people are often faced with the burden of traveling exceptionally long distances to get access to medical attention. In the introductory chapter, it was noted that the rural populations of Zimbabwe often must travel between 10 km and 50 km to access the nearest health facility (Loewenson, et al 2014). Most of the time, they must walk these long distances due to the lack of effective transport systems in these areas. These long journeys to access healthcare are worsened by the fact that those who must travel to the healthcare facilities are also the same people who will be sick. This is a downfall when using face-to-face healthcare because in some remote areas, the lack of good road infrastructure also affects the movement of cars, buses, and other forms of road transport.

Alternatives to face-to-face healthcare have potential to make positive changes in healthcare delivery. Telemedicine presents itself as an alternative to the former healthcare system. One of the questions paused by Atherton and Ziebland is, what can be gained or lost by using alternative methods to healthcare? (2016:3). To explore this thought, it is important to understand telemedicine (an alternative form of healthcare) and what it entails.

2.5 Defining Telemedicine

Telemedicine is the exchange of information and communication between the healthcare professionals and the healthcare users without physical contact (Furusa & Coleman, 2018:2). It is

the art of remotely consulting, diagnosing, and treating a patient using information communication technology (ICT) to connect healthcare professionals with patients (Chinye-Nwoko et al, 2020). Victoria Ramos defines telemedicine as the "provision of healthcare in the absence of personal contact" (2010:1). In their article, "Assessment of Internet-based Telemedicine in Africa- The RAFT Project," Cheick Oumar Bagayoko, Henning Müller, and Antoine Geissbuhler, define telemedicine as "tools which enable the communication and sharing of medical information in electronic form" (Bagayoko et al, 2006: 407). This enables healthcare professionals across different geographic location to exchange data which not only adds to the pool of knowledge but assists in giving a better diagnosis for the healthcare seekers.

Telemedicine is also defined as a subset of e-health services which involves the practice and delivery of medical assistance and healthcare from a distance using information communication technology (Townsend et al, 2019). According to Richard Scott and Maurice Mars, telemedicine uses ICT to provide healthcare services past geographic, time, social, cultural, and political barriers (2015:26). Telemedicine is not always the use of complicated software as it ranges from a simple telephonic conversation between two healthcare professionals exchanging medical data, or it can be as complex as using satellite technology and videoconferencing equipment to conduct a real-life consultation between medical specialists in two different countries (Ramos, 2010:4). Victoria Ramos also describes telemedicine as the electronic transfer of electronic medical data from one place to another. This data can come in the form of high-resolution images, sounds, live videos, and patient records (Ramos, 2010:4)

These various definitions of the term make it clear that telemedicine is made possible by technology, in its different forms, and is practiced virtually and can be achieved despite different geographical locations. A proposal was put forward for telemedicine to be more effective some of the changes which need to take place include keeping the technology simple, relevant, and local; building on what is there (and being used); involving users in the design (by demonstrating benefit); strengthening capacity to use, work with and develop effective ICTs; introduce greater monitoring and evaluation, particularly participatory approaches; including communication strategies in the design of ICT projects, continuing to research and share learning about what works, and what fails (Chetley et al, 2006).

Telemedicine involves the sharing of knowledge which includes the exchange of diagnosis data between physicians which is the key to improving the standard of medical knowledge, particularly in developing countries. For example, in a situation where the healthcare seeker's medical attention requires a specialist and there is no specialist close by, the healthcare facility can arrange to consult with a specialist virtually and successfully assist the patient. This can be done using

video calls or conference calls which will assist in getting medical advice from a specialist or other healthcare professionals. This method of seeking healthcare allows for health information to be shared amongst healthcare professionals which increases the quality of treatment because there are more opinions, and this improves the diagnostic process.

Today, information technologies have made it possible for more than one group of healthcare professionals to work together on virtual platforms effectively and efficiently. Healthcare facilities which are on the outskirts or have limited resources can make use of telemedicine as it virtually connects healthcare workers across separate locations. Telemedicine services in Africa have been used in neonatal care; maternity and child healthcare; intensive-care services; trauma care; occupational healthcare; mental health services and counselling (Chinye-Nwoko et al, 2020). This has been achieved through video consultation, telephone call and text messaging. There are a range of factors which should be taken into consideration for the successful implementation of telemedicine. These factors are human resources; infrastructural; design; delivery and policy challenges (Chinye-Nwoko et al, 2020).

2.6 Types of Telemedicine

Telemedicine is the practice of giving medical assistance remotely and this can be achieved in diverse ways. There are three types of telemedicine and how this tool can be used to administer healthcare (Cilliers & Flowerday, 2013; Mars, 2013; Ramos, 2010)

Store-and-forward telemedicine: this method involves acquiring medical information and transmitting this data to a medical professional or specialist for offline assessment. It is the collection of data which then gets stored and sent to another healthcare professional for a diagnosis. The physician receives the reports on the patient's history through audio or videos explaining the patient's condition. In situations where a diagnosis has already been given, the data is then used to get a second opinion. This is the most used method in Africa.

Remote monitoring telemedicine: this method involves self-monitoring and testing. Medical professionals monitor a patient remotely using various technological devices. This method is primarily used in managing of chronic diseases and specific conditions (for example: hypertension, heart disease and asthma).

Interactive/ real-time telemedicine: this method involves real-time interactions between patient and healthcare care provider. It includes distant examination and live (virtual) interaction between the patient and the doctor These include phone conversations, online communication, and home

visits. The devices which are used during consultations include electronic stethoscopes, video-otoscopes which allow for information to be stored and accessed virtually.

2.7 Benefits of Telemedicine

Richard Scott and Maurice Mars put forward that the benefits of telemedicine date as far back as being used as a tool in aiding the war in the 1860s (2015:26). Telemedicine was used in the military to assist wounded soldiers through telegraph messages which were transmitted to medical personnel (Scott & Mars, 2015:26). This was useful in assisting where medical professionals were not available on the ground and assisted with various medical challenges faced on the battle fields. Technological innovations have allowed medical assistance to be accomplished despite geographical differences between the health care provider and the health seeker.

The use of telemedicine in Africa includes text message reminders for patients on their mobile phones and this has seen an improvement in appointment adherence in several African countries (Mars, 2013: 331). Telemedicine also allows for information to be shared in remote/rural areas therefore increasing the knowledge pool found in these areas. With more access to information, people can be taught how to adjust their lives to be healthier and how to manage certain diseases. This sharing of information can also happen between medical schools.

In countries like Finland, emails have been used as a way for doctors and patients to communicate for over a decade (Atherton & Ziebland, 2016). The healthcare seekers can freely email their doctor as a way of consultation. This method of consultation has proved to be effective for many reasons as it avoids crowding in healthcare facilities and allows patients to get medical assistance remotely in situations where they cannot physically access healthcare facilities. This is one of the many benefits of telemedicine as it creates various virtual ways of receiving medical attention. A great promise of telemedicine has been to help isolated or scattered populations gain access to health services.

Telemedicine is useful in situations where there are physical barriers which restrict health seekers from being able to access healthcare providers. It has been identified as one of the viable solutions to the medical problems experienced in Africa; these challenges include lack of training opportunities and career advancements; updated information and lack of digital applications (Tsiko, 2019). Telemedicine expands healthcare availability in areas experiencing shortage of healthcare facilities and/or healthcare professionals. The results of telemedicine can benefit both the healthcare professionals and the healthcare seekers. The growth of telemedicine means that geographical isolation can no longer be a hindrance in people receiving timely and quality medical care (Ramos, 2010).

Some of the notable changes brought about by telemedicine in African countries include facilitating the early detection of disease; successful disease management; lowered mortality rate; improved medical consultation; and decrease in health care expenditure (Hassibian & Hassibian 2016:2). Since telemedicine allows for healthcare professionals in distinct locations to be connected, the medical challenges which were previously experienced can be reduced. Disease management is made possible because in situations where the nearest healthcare facility does not have the resources or the knowledge, they can easily connect to someone who will be able to assist virtually thus improving the overall service provision for healthcare facilities which do not necessarily have all the needed resources.

Victoria Ramos highlights four benefits of telemedicine (2010:1). The fist benefit is the significant difference in time spent traveling and money spent on traveling is also reduced. When a healthcare seeker goes to a healthcare facility, they often must wait before getting assistance. This waiting time is reduced or eliminated with telemedicine. One can book an appointment at a time which is best for them and can still cater to their other responsibilities. Telemedicine allows for home healthcare systems and virtual care which reduces costs of traveling from to the nearest health facility.

The second benefit is transmitting images received from patients to key medical centres to be examined by specialist almost immediately. This allows populations in areas that do not have a large pool of available specialists to receive the medical attention they need. Specialists can play a significant role in the diagnostic process and provide a second opinion in situations where healthcare providers need assistance in a particular medical condition.

The third benefit is that physicians who are conducting research can be connected virtually despite their geographical difference. This allows them to share patient records and diagnostic images.

The fourth and final noted benefit is that medical education in these remote areas which will improve community hospitals because they can be put on rotation. This allows knowledge to be spread around which is made possible by the sponsoring from medical schools. The sharing of information will allow for the knowledge amongst the healthcare professionals to increase as they can share ideas and exchange data.

Telemedicine can be used to train local health care professionals to improve the diagnostic process through the exchange of medical data (Wootton et al, 2017:8). This will benefit areas with little to no healthcare specialists to access the help they need. Telemedicine is a tool which enables the communication and sharing of medical information in electronic form. Andres Martinez and others further argue that telemedicine also enables the exchange of information and gives access to

knowledge (2004: 14). It does so by providing increased diversity and exchange of data thus increasing diversity needed in graduate medical education.

The services of telemedicine include the exchange of valid information for diagnosis, treatment and prevention of disease, research and evaluation, and continuous education of healthcare providers (Hassibian & Hassibian, 2016:1). It links healthcare professionals from various locations, and this could be helpful in sharing knowledge and ideas. It can also be used to train local health care professionals to improve the diagnostic process through the exchange of medical data (Wootton et al, 2017:4).

Telemedicine allows for continual medical education making it possible for physicians and medical students located in remote areas to get access to resources to learn and improve their skills (Menachemi et al, 2004: 618). It improves the functioning of healthcare systems by improving the management of information and access to that information (Chetley et al, 2006). It allows for better delivery in healthcare services through better diagnosis; better training and sharing of knowledge among health workers; better mapping of public health threats; and supporting health workers in primary health care, particularly in rural areas.

Heather Brant and others put forward that the underlying assumption about telemedicine is that it improves access and efficiency for patients (2016:460). Patients can improve their diagnosis by sending pictures or audio recordings to their physician. For example, being able to send a picture of a rash or sending an audio recording of a child's cough can assist the physician in knowing how to assist a patient remotely. Patients sending emails and calling for consultations allows for efficient use of a practitioner's time, and they can plan and schedule their work better.

Helen Atherton and Sue Ziebland put forward that telemedicine could help with alleviating the staff workload and improve access to healthcare for patients (2016). Telemedicine helps to create less traffic at healthcare facilities. If health seekers can contact the physician and get assistance without going to healthcare facilities, this will also mean that the workload for those working in these spaces will be reduced. The growth and expansion of telemedicine requires the following factors to be taken into consideration: human; infrastructural; design; delivery and policy challenges (Chinye-Nwoko et al, 2020). These factors have created limitations in the functionality of telemedicine in Africa.

2.8 Limitations of Telemedicine

Despite the benefits of telemedicine, Mohammad Hassibian and Sepideh Hassibian have noted that the acceptance rate of in Africa is disturbingly low (Hassibian & Hassibian 2016:2). In a study done in Nigeria, Ibrahim Adeleke and other scholars noted the following as challenges in the

implementation of telemedicine (2015:51). Political and economic instability- the implementation of telemedicine requires funding, and its success rate is also depending on the investments put into it. Political and economic instability results in certain projects getting more funds than others and this not only slows down the growth and implementation of telemedicine, but it can also influence the acceptance rate from those who must use it.

Poor telecommunication infrastructure presents challenges in the implementation of telemedicine because telemedicine relies on the use of various technological devices, and this means that reliable telecommunication infrastructure is necessary for its success. Poor telecommunication infrastructure results in low connectivity which means that devices do not have service thus rendering them useless in the use of telemedicine which relies on consistent connectivity as this is how a healthcare seeker will be able to contact a healthcare facility.

Inadequate monetary and human resources present challenges because money is required in the implementation of telemedicine as it allows for the various technological devices to be used efficiently. Inadequate monetary resources can slow down the implementation of telemedicine because this limit the availability of funds which make it possible for certain things to be done. Inadequate human resources also slow down the implementation of telemedicine because this is a system that requires people for it to work and if there are no people to use it, this has a direct impact on the implementation and success rate.

Interruptions in electricity and water supplies, corruption are factors which affect many countries across Africa and have resulted in telemedicine not being as successful in these countries as it is in the western countries. Another hindrance experienced across the continent is corruption which results in money being mishandled and funds not reaching their required destination. This means that while a certain amount of money is allocated to the implementation of telemedicine, only a portion of it is used and the rest of the funds are often unaccounted for. The interruptions in electricity supplies have also hampered the growth of telemedicine as this tool requires the use of technological devices and these are only accessible if they are charged and there is consistent electricity supply.

Lastly, it was presented that cultural influences contribute to a lag in telemedicine implementation as things are done in a particular way in a specific culture, therefore, introducing a tool such as telemedicine could potentially not be received well if it does not necessary complement the cultural practices in that area (Adeleke et al, 2015:51).

Mapesa adds that information technology in Zimbabwe has been successfully implemented at various health facilities in the country, but most have abandoned the projects due to the challenges they experience (2016). Two of the main factors noted by Mapesa which contribute to the health information technology being implemented at a slow rate are: funding and infrastructural challenges. In a separate study, it was noted that the contributing factors to the slow implementation of telemedicine include lack of adequate facilities; and lack of access to basic infrastructure including power (Chinye-Nwoko et al, 2020). Some of the challenges which were noted by the World Health Organisation (WHO) on the implementation of telemedicine in Zimbabwe are: lack of policy framework; underdeveloped infrastructure; and perceived costs of implementation being too high (Marufu & Maboe, 2017).

Ibrahim Adeleke and other scholars also noted the same and other factors affecting the effective implementation of telemedicine in Africa include political and economic instability; poor telecommunication infrastructure; inadequate monetary and human resources; interruptions in electricity and water supplies; corruption; cultural influences (Adeleke et al, 2015:48). The suggestion put forward by Chinye-Nwoko, Effiong and Ani is that there is a need for a partnership between public and private sectors as this will help optimize the limited resources available to the healthcare facilities across African countries (2020). Keep the technology simple, relevant, and local.

In Zimbabwe, the ICT policy framework from the Ministry of Health and Child Care states that "ICT has the potential to impact upon every aspect of the health sector. In public health, health information management and communication processes are pivotal and are facilitated or limited by the available information and communication technology" (Chawurura et al, 2019:3). This shows that the Ministry of Health and Child Care acknowledges the changes that can be brought by ICT, such as telemedicine, but there are some limitations.

To get first-hand evidence on the challenges of telemedicine in African countries, Cheick Oumar Bagayoko, Henning Muller and Antione Geissbuhler conducted research in Mali, West Africa. The RAFT (Réseau Afrique Franscophone de Télémédecine) project was supported by grants from the Geneva State government and Geneva University Hospitals. One of the goals of this 18 months project was "development of a functional national telemedicine network" (Bagayoko, 2006: 408). This was done by creating a network which connected several health institutions across the country where medical teams were trained in the use of internet-based tools.

The RAFT project did an evaluation of feasibility, potential, problems, and risks of an internet-based telemedicine network in developing countries in Africa (Bagayoko, 2006: 408). The researchers used this time to connect with various graduate students across the country to train

them on how to effectively use telemedicine tools. The technical infrastructure which was used to conduct the research was based on internet technologies for medical distance learning and teleconsultants (Bagayoko, 2006: 408). Three of the issues which arose from the research are instability of basic infrastructure especially power; limitations of the intranational bandwidth: the network connection is not as good as the European counterparts. Bagayoko and others expand on this by arguing that the network connection is the entire country in weaker than that of western universities alone, and unavailability of reliable internet connectivity beyond the large cities.

The factors discussed above are only some of the limitations to the implementation of telemedicine. Other limiting factors are discussed below:

2.8.1 Cost

Fejiro Chinye-Nwoko, Utibe Effiong and Nchiewe Ani argue that telemedicine services are expensive and that makes them affordable mostly to the middle and upper classes (2020). In Africa, a large part of the continent's population lives below the poverty line, and this limits the full effectiveness of telemedicine. Richard Scott and Maurice Mars noted that one in every five people in developing countries lives on less than $1,25 per day (2015:27). This makes it impossible for these populations to fully utilise telemedicine services.

However, the cost barriers do not only come from the users of this system. Telemedicine implementation faces the challenge of trying to convince leadership that it is indeed a solid investment (Scott Kruse et al, 2018:9). Investors still need some convincing that telemedicine is an effective way to provide healthcare in peripheral areas. Lack of investments in telemedicine is a limiting factor as the infrastructure required for such an innovation to be implemented and for its effective operating requires a lot of money (Mapesa, 2016). Mapesa further argues that stakeholder resistance and funding also contribute to the slow adoption of health information technology (HIT) in developing countries (2016:19-20). Tsiko supports the claims made by Mapesa and adds that budget constraints are a major limiting factor for telemedicine growth in Africa (2019).

Other costs faced in the implementing telemedicine are those of training both the healthcare professionals and the healthcare user (Hassibian & Hassibian, 2016:3). For the service to be used effectively all parties involved need to have a good understanding of how telemedicine systems work. This requires money to be invested in the training process and this has slowed down the growth of telemedicine in Africa.

Another restriction which telemedicine faces is trying to convince leadership and those in positions of power that telemedicine is indeed a solid investment (Scott Kruse et al, 2018:9). Leaders and

investors in developing countries seem to still need convincing that telemedicine is an effective way to provide healthcare. The levels of telemedicine acceptance in developing countries are still incredibly low (Hassibian, 2013; Turan & Palvia, 2014). Khalifa argues that HIT development is low in developing countries because the investment requirements for its successful implementation have not been met (2013).

2.8.2 Commercialization of Infrastructure

In a study done in Mali, one of the hindrances to telemedicine which was noted is the commercialization of the communication infrastructure. This means that those in charge of this infrastructure will give preference to areas where they could potentially gain the most, monetarily. This implies that the remote areas, where telemedicine tools could be most useful, will be served last (Bagayoko et al, 2006: 409) posing limitations in the development of telemedicine as it requires effective power supply and network connectivity to operate.

2.8.3 Connectivity

A recurring concern is that of internet connection and this is a crucial part in the implementation of telemedicine. Various scholars have written on the implementation of telemedicine in developing countries and the recurring concern seems to be that of internet connection- which is a crucial part in the implementation of telemedicine. Africa falls amongst the lowest internet speeds globally with some parts of the continent not having any internet connection at all (Chinye-Nwoko, 2020). It is evident that developing countries are still lagging and this is a hindrance in the implementation of telemedicine as this tool relies on steady internet connection to store, share and access data (Scott & Mars, 2015:31). Scott Kruse and others write on this saying “the ubiquitous presence of high-speed bandwidth would help bridge a geographical gap of medical access” (Scott Kruse et al, 2018: 10)

Despite the available evidence which shows that there has been an increase in the used of mobile communication in Zimbabwe, there is little evidence of the progress in the use of communication technology, particularly in healthcare (Marufu & Maboe, 2017). Trymore Chawurura and others put forward that limited connectivity and access to network creates constraints and barriers which lead to suppression of the local voices, knowledge, and inclusion (2019). While a substantial percentage of the Zimbabwean population has cell phones, a small percentage has access to cell phone services which include access to the internet. As of 2018, 9 out of 10 Zimbabwean households had cell phones and 23% had computers (Moyo-Nyede & Ndoma, 2020). Just under 43% of those with cell phones had access to the internet. In Harare, 48% of households had

computers and 98% of the city had access to cell phone service. However, the availability of cell phone service is not always recognized due to the prohibitive costs of data in Zimbabwe.

The country is reported to have one of the highest data prices on the continent and the world. With the country also being amongst one of the poorest, this raises major concerns as many people cannot afford data simply because of the prices being too high. This creates a major gap in those who can access a service such as telemedicine as it requires good internet connectivity which requires data.

The graph below shows the access to communication Zimbabwe as of 2018. It shows the percentage of people who have access to the mentioned communication devices which are a crucial tool to access telemedicine (Moyo-Nyede & Ndoma, 2020).

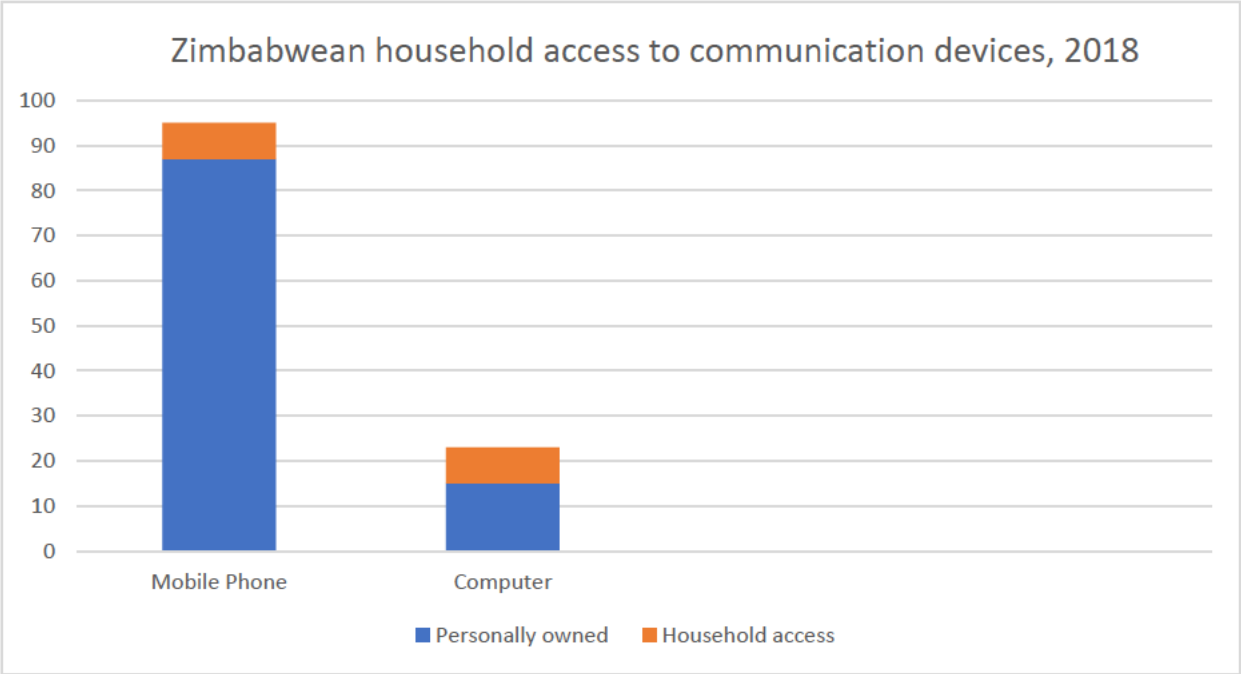

Figure 1: Zimbabwean household access to communication devices (Moyo-Nyede & Ndoma, 2020:3)

2.8.4 The Digital Divide

Clemens Scott Kruse and other scholars wrote an evaluation of the barriers to adopting telemedicine. The study examined the different challenges which arise when implementing telemedicine amongst several countries. One of the issues noted by Scott Kruse et al is technological immaturity (2018: 8). This directly affects how people will receive telemedicine due to its virtual nature. People tend to be more resistant towards trying new forms of technology and even more so when this technology is being used in medicine. However, resistance to telemedicine

does not only come from the health seekers but some of the medical professionals as well. Getting staff involved at the medical facilities has proven to be a challenge as there is resistance in learning and adopting new strategies (Scott Kruse et al, 2018: 10).

Richard Wootton and John Craig referred to this as a 'digital divide' (Scott Kruse et al 2018: 8; Wootton & Craig, 2017 :9). The digital divide can directly affect the experiences with telemedicine. Younger generations can easily adapt to technology which makes it easier for them to navigate around innovations such as telemedicine. Sue Bennett and others refer to this group as 'digital native' (Bennett et al, 2008). However, this is not usually the case for older generations. Older generations take longer to assimilate technological innovations and Prenksy (2001) labels this group as 'digital immigrants' (or strangers) (2001). This results in a digital divide. The elderly populations find it difficult to work with technology which makes it difficult for them to use telemedicine. Heather Brant and others put forward that there is an increasing concern around the disadvantaged groups and their ability to access telemedicine (2016). This group includes those who are deaf; blind; elderly; demented; and the mentally ill. Their ability to access and use technology is restricted which increases the digital divide.

In a study done by Chester Marufu and Kefiloe Maboe in Zimbabwe, 104 respondents did a questionnaire on the utilisation of mobile health (2017). The results showed that 50% of the participants lacked knowledge and awareness of how to use telemedicine.

Other factors which influence the digital divide are low literacy rates; low education rates; low income and language barriers. The data used in telemedicine often comes from abroad and often does not transmit in local languages (Wootton & Craig et al, 2017:10). This could create limitations for healthcare seekers who are not proficient in the English language.

2.8.5 Culture

Culture refers to the way in which things are done in an area. This is how people do things (explicitly or implicitly) and what is regarded as norm by the people involved (Jahoda 2012:290) When culture is challenged, people could resist the changes because they are unfamiliar and alters the way they do things. In telemedicine, the move from face-to-face healthcare to virtual care changes the culture in healthcare practices and this could result in resistance from people. The resistance does not only come from the investors who are not familiar with the innovation. Getting staff involved at the medical facilities has proven to be a challenge as there is resistance in learning and adopting new strategies (Scott Kruse et al, 2018: 10).

From the users of telemedicine, the resistance can be because of unfamiliarity with the innovation or other cultural divides. Cultural differences which exist between the creators of ICT and the users create barriers in its acceptance and its use. Introducing an innovation to an area, such as telemedicine, requires an understanding of the social setting as this will aid in its effectiveness.

A study done on *'The Ethical Guidelines for Telemedicine in South Africa'* found that privacy is culturally and contextually constructed (Townsend et al, 2019:19). This is because distinct cultures and belief systems have different norms for what is acceptable to discuss or disclose. For example, in the African culture it is not necessarily acceptable to be open about trying to conceive. This is different in western culture where a couple can openly express their desire to fall pregnant and in some cases, share their struggles in this journey. African parents go through their conceiving journey privately as this is not something which is normalized in our culture. This example highlights some of the differences which exist in cultures and how privacy differs culturally. Therefore, in using telemedicine privacy concerns need to be developed and addressed contextually. In doing so, it will allow the users to feel more comfortable using telemedicine as it is accustomed specifically for them. Culture plays a crucial role in how people accept anything that is introduced to them and in addressing privacy concerns in telemedicine, this is one of the aspects which needs to be considered.

Most of the data in telemedicine comes from a western perspective. This creates barriers which extend beyond language and affects activating local meaning, content, relevance, and production of systems (Chawurura et al, 2019). If the telemedicine systems are specifically designed for health system in western countries, translating them to suit systems in countries like Zimbabwe could pose some complications.

The authors further argue that development is effective if it is embedded in the culture of the place in which it is being introduced (Chawurura et al, 2019). Holistic and efficient development involves the sharing of resources and opportunities which take into consideration the possible users of the application and the social dynamics and social setting of the users in question. One of the solutions put forward by Trymore Chawurura, Ronald Manhibi, Janneke van Dijk and Gertjan van Stam for the improved adoption of telemedicine programmes is involving actual end-users in the implementation process (2019). Looking at the cultural context in which telemedicine is being implemented allows for the limitations to be explored and addressed, and further allows for programmes which are specific for social settings and can be utilized more effectively.

2.8.6 Language

In most African countries, the populations found in the remote areas speak the local languages. This is not only true for remote areas as some people found in the cities often speak their native language only. While telemedicine can be an effective tool in addressing the various challenges experienced in the medical space, the language barriers means that its functionality will be disturbed due to lack of vocabulary in the native languages to explain medical procedures (Scott & Mars, 2015). The data used in telemedicine often comes from abroad and often does not transmit in local languages (Wootton et al, 2017:10). The inability of the local people and users of telemedicine to translate and understand the tool means that there needs to be regulations put in place to make it simpler to use and protects healthcare when using this foreign phenomenon which they are learning to understand while using it. However, such regulations do not exist, and this could have some major implications for the technologically illiterate populations of Africa or those who simply are not eloquent in the languages used by this tool.

2.8.7 Lack of Regulations and Policies

In his study on the strategies healthcare users are using to adopt health information technology, Noxjoen Mandaza Mapesa noted that there are no policy guidelines on the adoption of health information technology in the public sector in some African countries such as Zimbabwe (2016). The same predicament was highlighted by Mengistu Kifle, Victor Mbarika and Pratim Datta when the authors noted that the implementation in sub-Saharan Africa raises legal and ethical concerns as there is no regulatory body (Kifle et al, 2006). This raises issues of security and confidentiality of patient data especially when working with populations who might not necessarily be aware of the implications on virtual medical procedures.

It is important for governments across the continent to produce policies and regulations for telemedicine within the ethical confines of medical practice (Chinye-Nwoko et al, 2020). Tsiko supports this claim and argues that there is a need for a regulatory framework in telemedicine (2019). This will help to protect both the healthcare professionals and the healthcare users if there are any challenges experienced. In terms of regulations from the patient's perspective, there is a need for more guidelines over responsibilities from both the physician and the patient's perspective (Townsend et al, 2019). One of the added responsibilities which comes with telemedicine for the patients is the need for them to take pictures for the physician. For example, after surgery a patient is expected to keep pictures of the healing wound for the physician to keep track of their progress. In the traditional face-to-face practice of medicine, the doctor can look at the wound and determine how far in the healing process a patient is. Telemedicine places some level of responsibility on the patient and if they do not comply with what they are expected to do, this could affect their healing

process. Therefore, there is a need for well-documented guidelines with rules and regulations which help the patient understand what is expected of them in telemedicine.

2.8.8 Disruption of Organisation Dynamics

Existing organisational practices can be affected by initiatives such as telemedicine. The assumption is always that telemedicine being used as a tool in healthcare delivery will have maximum benefits for all parties involved. However, there are some changes which can be brought about by this alternative to face-to-face healthcare. Helen Atherton and Sue Ziebland (2016:3) put forward the following questions to address some of the changes which can be brought about by telemedicine to the organizational dynamic, how will patients know what services the doctor offers?; How will virtual consultations be scheduled in a way that does not interfere with the already existing system?; What are the agreed rules of engagement and how will they be observed?; What systems are in place in situations where there is a system failure?; What will be done to ensure that patients receive communication in a timely manner?

In a study conducted by Heather Brant and other scholars, they noted that the movement to telemedicine comes with increased access through emails which puts more stress on the healthcare professionals (2016:463). The presence of telemedicine does not mean the absence of face-to-face healthcare therefore, the work which is usually done physically still exists thus increasing the workload for those working in the administration and the physicians themselves. There is an increase in the workload as emails need to be attended to and the physical patients also need attention.

2.8.9 Disruption to the Healing Process

Another perception is that technology may threaten the holistic approach to healing, which may lead to unknown technology-induced accidents or errors (Goldberg, Mick, Kuzel, Feng, & Love, 2013). Richard Wootton argues that telemedicine "presents a threat to the doctor-patient relationship and is an intrinsically unsafe way of practicing medicine" (Wootton, 1996: 1375). This concern is fueled by the uncertainty towards telemedicine due to the lack of exposure. Resistance to telemedicine is normal especially when doctors feel that it could interfere with their work in any way (Atherton & Ziebland 2016). Fredrick Evan Blavin and Melinda Beeuwkes Buntin argue that health care professionals regard the practice of medicine as an act of personal dexterity, and it is at the core of the relationship between the doctor and the patient (2013). This is

echoed amongst the public where many people, particularly the older generations, believe that there is a need for physical contact in medical practice.

A solution proposed by Trymore Chawurura and others for the successful implementation of telemedicine is trans disciplinary (2019). The authors argue that "multiple, complementary approaches towards society and technologies are necessary to reconcile an abstract international discourse" (Chawurura et al, 2019:6). In doing so, telemedicine will have a more localized approach and focus on the society and context in which it is being introduced. An African perspective in telemedicine could increase its successful implementation because all the limitation would have been considered and dealt with accordingly.

2.9 Ethical Considerations

The movement from face-to-face healthcare to telemedicine is a transition into an unfamiliar way of practicing healthcare and therefore comes with some concerns. The various pros and cons of telemedicine have been discussed above. However, Giulio Nittari and others (2020) argue that there are some ethical and legal concerns which should be considered in telemedicine. These include informed consent; protection of data; confidentiality; physician malpractice; liability; and regulations (Nittari et al, 2020: 1427). Some of the other ethical challenges which were identified in telemedicine include change in the nature of the traditional doctor-patient relationship, standard of care, quality of care, privacy, accountability, record keeping & data storage and authentication (Townsend et al, 2019:20-22).

Little research exists on how misunderstandings can take place when the doctor and the patient do not have a physical relationship. Does this affect the healing process in any way? How does the doctor ensure that they are making a correct diagnosis? Are there any measures which exist to protect both the physician and the patient in the virtual space?

It is important to understand that the emergence of an innovation such as telemedicine does not alter the healthcare professional's ethical, professional, and legal responsibilities and how they are expected to deliver healthcare. One of the most fundamental lessons healthcare professionals are taught is the importance of the doctor-patient relationship (Townsend et al, 2019). This relationship involves trust and empathy towards the patient or healthcare seeker. It holds therapeutic value and is usually fostered through face-to-face encounters. However, in telemedicine where there is no face-to-face consultation there is a need for other ways for this relationship to be achieved.

For the doctor-patient relationship to be fostered in telemedicine, there is a need for the use of video calls (Townsend et al, 2019). During video calls, the doctor has a better understanding of where the patient is both physically and mentally based on their body language, ways of speaking and other medical cues which are noticed in the diagnostic process. It is with this reasoning that worries about the doctor-patient relationship being altered are unwarranted (Townsend et al, 2019). It must be noted that digitalization is an irreversible process globally (Wernhart et al, 2019). While we cannot avoid the impact of telemedicine, it is important to examine it ethically based on the lived experiences. The ethical concerns require some level of telemedicine literacy from the users. This is argued to rise with more exposure to technology. Wernhart and others argue that populations will soon have to migrate from being digital immigrants to digital natives (Wernhart et al, 2019). Medical practice is governed by medical ethics; however, these are concerned with the face-to-face relationship between doctors and patients. Therefore, the growth of telemedicine may require new ethical considerations which consider the different experiences and expectations of those who are or will be exposed to it.

Proponents of telemedicine argue that this is an intrinsically unsafe way to practice medicine (Nguefack et al, 2020). Recent studies of telemedicine have shown that patients see the distance as a benefit because it allows them to feel more comfortable discussing sensitive issues with physicians (Terrasse et al, 2019). However, it can also be argued that telemedicine erodes the authentic doctor-patient relationship thus depersonalizing medical interactions and affecting the therapeutic physical connection between the two. It is interesting to know that according to a study by Melanie Terrase, Moti Gorin and Dominic Sisti, some doctors raise concerns that the lack of physical touch and smell affect their ability to make a proper diagnosis (Terrasse et al, 2019). It was found that doctors believe that seeing a patient physically improves their ability to identify what is wrong and give the appropriate treatment as they can make a more accurate assessment of their patient.

The safeguarding of classified information and protection of data is one of the issues of concern which are a plague in the successful implementation of telemedicine. Since telemedicine involves the sharing of data across various healthcare professionals, it means that the borderless setting of the innovation could potentially raise some privacy concerns. It is therefore important that all users of telemedicine are aware of this before they use this tool. The “disclosure of all necessary information that a reasonable person would use in making an informed decision, in a format that is readily understandable to the individual” is necessary (Townsend et al, 2019:23).

There have been various telemedicine systems implemented across Zimbabwe which are reported, but most of these systems/programs appear not to consider local context, vocabulary, access realities, sensitivities, and taboos, and for local inclusion and agency considering the sociology of ubuntu/unhu (Chawurura et al, 2019). This slows down the implementation and acceptance rate of telemedicine especially in the African context where morality and virtue are a big part of the culture. When you have a group of people from the same cultural background, being raised in the same cultural setting, sharing living space and beliefs, they come together towards a moral good (Kwasi Wiredu in Tschaepe, 2013). This means that if some people in the community do not agree with any changes or the introduction of new ways of life, the acceptance rate is incredibly low.

Culture and community are the source of morality. In the African context, to be a person is to belong to a community (Tschaepe, 2013). This means that for one to have a sense of self, they need to have a good understanding of the community which they come from and those around you. One is not an island. You are who you are because of those around you therefore, you do according to how those around you are doing to be a good member of society. This builds on virtue and good character. These values are especially important in African ethics and are valued highly. Kwasi Wiredu puts forward that the elders are moral guides in African communities and younger generations should look to them for how to live and learn from them (Kwasi Wiredu in Tschaepe, 2013). This is how most African communities have operated for many generations, but the digital age poses some questions to this way of life.

As discussed above, the digital divide is the lack of technological literacy amongst elder generations. Their knowledge and understanding of certain information technology communication systems is limited thus compromising their role as moral guides in this context. How do you look up to the elders for moral guidance if they are not knowledgeable on the subject? How can the elders' advice on an innovation such as telemedicine when they themselves do not understand how it works? Does the use of telemedicine take away from any of their African beliefs? Younger generations have a greater understanding of technological advancements. They are a part of what was earlier referred to as *'digital natives.'* This means that they are at an advantage when it comes to understanding telemedicine thus switching the roles of teaching and passing down of knowledge in communities.

With regards to consent, this has always been a major part of the practice of medicine. Before a doctor assists a patient, there is consent which is received and everything that happens in the confides of the consultation room are consensual. However, in telemedicine the need for informed consent has become more apparent within the westernized medical space, legal and ethical paradigms (Townsend et al, 2019). Some of the factors which should be included in the informed

consent are: the role and responsibilities of both the healthcare provider and the patient; the objectives of telemedicine interactions and the other parties which will be participating in the interaction; care documentation requirements; risks and benefits; and lastly, that the patient has the option to decide that they do not wish to carry on using telemedicine (Townsend et al, 2019).

As discussed earlier, one of the limitations to telemedicine is the language barrier. In communities which have significantly low levels of literacy or do not have a good understanding of English (which is usually the language most telemedicine programs come in) there is a need to address how informed consent is received from the users of telemedicine in these places. What can be done to achieve informed consent? Language diversity would be able to address the informed consent being addressed across diverse cultures and communities (Townsend et al, 2019).

2.10 Gap in literature

There is a considerable amount of research which exists about the benefits and limitations of telemedicine. These have been discussed in the above review of literature. While telemedicine has promising advantages, studies show that there are challenges in the implementation on the ground. The limitations vary from place to place and can influence the adoption rate of telemedicine. However, the research which exists focuses a lot on the data collection and disease surveillance in telemedicine. It focuses on the advancements made in the practice of medicine when telemedicine is used as a tool.

Telemedicine can be used as a vital tool in healthcare delivery across geographical or infrastructural barriers. However, Scott and Mars argue that there is a need for a realistic view to explain what works, who it works for and under what circumstances it works (2015). It is therefore futile to do a general assessment of telemedicine without specifying the context under which it is being considered (Bashshur et al, 2000: 623). To get an understanding of the experiences of telemedicine, the accounts of those exposed to it should be considered.

It is with this understand that this study will ethically explore and interrogate the movement from face-to-face healthcare to telemedicine for healthcare seekers in Harare, Zimbabwe. A pragmatic assessment of telemedicine will help determine the experiences of the health seekers in question and the ethical issues that may need the governments attention. These experiences of telemedicine will be examined through the lenses of the ethical theory of consequentialism.

2.11 Conclusion

This chapter has explained face-to-face healthcare and interrogated some of the existing thoughts on telemedicine. One of the most notable advantages of the face-to-face healthcare system is that it is a system which people are used to, therefore familiarity makes it easier to understand and use. However, the shortage of healthcare workers in Africa is a hindrance for healthcare seekers as they often are unable to access medical attention easily. Costs related to traveling to healthcare facilities were also found to be one of the challenges experienced by healthcare seekers in face-to-face healthcare. After an understanding of the face-to-face healthcare system was established, the chapter went on to define telemedicine and explore some of the benefits and limitations of this tool. Several definitions were given for telemedicine, and they all noted that it is a tool being used in healthcare which allows for healthcare seekers to get medical attention despite geographical barriers and from virtually anywhere using different technological devices. The three types of telemedicine were identified as store-and-forward telemedicine, remote monitoring telemedicine and interactive/ real-time telemedicine. The chapter went on to explore the advantages of telemedicine and how it presents endless opportunities given the various challenges experienced in the medical space across th African continent. There is a dearth in literature which explores the experiences of health seekers in Harare in the movement from face-to-face healthcare to telemedicine. It is this background and gap in literature which has prompted a deeper interest in this research study. The experiences of healthcare seekers in Harare will be explored further and the next chapter will get into detail about the theoretical framework under which this study will be explored- the ethical theory of consequentialism.

CHAPTER THREE
THEORETICAL FRAMEWORK

3.1 Introduction

The previous chapter gave a review of literature on face-to-face healthcare and telemedicine. It explained both forms of healthcare and explored the benefits and limitations of both. As discussed in the background, this study will be an ethical exploration of the movement from face-to-face healthcare to telemedicine for health seekers in Harare. To achieve this ethical exploration, these experiences will be examined under the theoretical framework of the ethical theory of consequentialism. This chapter will give a detailed explanation of the ethical theory of consequentialism. The chapter is divided into five parts. The first part will give various definitions and insight on what consequentialism is. The second part will present the diverse types of the ethical theory of consequentialism. The third part will present some of the arguments for this ethical theory. The fourth part will present arguments against this theory and the fifth and final part will explain the relevance of this theory in this study.

3.2 What is the ethical theory of consequentialism?

The ethical theory of consequentialism is a normative ethical theory which was coined by Elisabeth Anscombe in 1958. It is grounded on promoting norms which are regarded universal and provide a source of guidance on what ought to be done. This ethical theory puts forward the idea that the moral thing to do is that which results in the best possible consequences (Scheffler, 1988:1). Bryan van Norden argues that the ethical theory of consequentialism alludes that a moral action is that which is concerned with making the world a better place (2007). If the focus of any action is placed on favourable consequences, then this will result in increased pleasure and happiness and this normative theory argues that this makes an action moral.

One of the main attributes of the ethical theory of consequentialism is the act of utilitarianism. Eugene Bales writes that an action is considered utilitarian when "its contributions toward intrinsically good states of affairs- is not less than that of some alternative" (1971: 257). This mean that the right action is one that benefits the most people and maximizes pleasure. Consequences are what an action is based on- a moral action is one that ensures that the consequences are good. The ethical theory of consequentialism focuses on the result of an action and not the action itself (Sosa, 1993). Under the ethical theory of consequentialism, an action on its own has no value and

consequences determine the value of an action. The theory is futurist in its nature and is concerned with both the long and short consequences of an action (Nkohla-Ramunenyiwa, 2017:25). Being futurist allows for the assumption of expected consequences and not only the immediate consequences.

The ethical theory of consequentialism argues that the right thing to do in any situation is that which has the best consequences. It examines whether actions are right or not based on their consequences (Scheffler, 1988). The ethical theory of consequentialism provides criteria for moral evaluations and asserts that the morality of an action is determined by the result. "Consequentialism in its purest and simplest form is a moral doctrine which says that the right way to act in any given situation is the one that will produce the best possible outcome" (Scheffler, 1988: 1). Therefore, if the consequences of an action are good (even though the means is flawed) the action is moral.

The ethical theory of consequentialism can be divided into two dimensions: actual consequences and expected consequences (Anscombe, 1958). Actual consequences come from actions which have taken place already while expected consequences are from actions which have not yet happened, and the results are assumed and are anticipated to take place. Brad Hooker and E. Zaltan (2003) provide the following as a calculation for expected consequences:

> *Here is how expected good of a set of rules is calculated. The acceptance of a set of rules of course has various possible alternative outcomes. Suppose we can identify the value or disvalue of each possible outcome. Multiply the value of each possible outcome by the probability of that outcome's occurring. Take all the products of these multiplications and add them together. The resulting number is the expected good of that set of rules.*

In the context of this study, both the actual and expected consequences will be explored. The assumption is that not all people have been exposed to telemedicine on the same level. This will give an accurate analysis of actual experiences from those who have used this tool and expected consequences from those who have either experienced it at a smaller scale or have not experienced it at all.

The ethical theory of consequentialism can also take the hedonistic approach which says that pleasure is the only good thing that we are going to be looking at and only pleasurable consequences are examined. However, this has been critiqued by Ben Eggleston and Tim Mulgan (1985) which will be discussed below. Pluralistic consequentialism provides a different account which argues that there are a variety of things which are considered as good and therefore pleasure

should not be the only consequence that is considered. An action might not necessarily produce pleasurable consequences, but this does not mean that these consequences are bad.

3.3 Types of consequentialism

There are four types of consequentialism. They include the following:

3.3.1 Utilitarianism

The term was coined by John Stuart Mill and this theory argues that the best possible action is that which maximises pleasure and minimises pain/harm. Daniel Jacobson argues that utilitarianism promotes actions which increase happiness, good and pleasure (2008). Eugene Bales writes that an action is considered utilitarian when "its contributions toward intrinsically good states of affairs- is not less than that of some alternative" (1971: 257). This mean that the right action is one that benefits the most people and maximises pleasure. Results and consequences which maximise the good are often considered to be the best.

3.3.2 Act consequentialism

This involves weighing the possible number of actions and then choosing the action which will produce the best possible consequences (Nkohla-Ramunenyiwa, 2017:26). This ethical theory understands that with every cause comes effect; therefore, an important feature of this theory is to act in a way that will result in the best possible consequence.

3.3.3 Rule consequentialism

This theory subscribes to set rules or regulations which result in the best possible consequences. According to Cocking and Oakley, rule consequentialism results in indirect consequences because the primary concern is not the action itself but the rules and regulations which dictate if an action can take place (1995). The main objective of this theory is to achieve any consequences instead of making the consequences the primary purpose of an action (Nkohla-Ramunenyiwa, 2017:26).

3.3.4 Indirect consequentialism

This theory alludes to one's failure to avoid an action which leads to dire consequences (Harris, 1974:265). This refers to consequences which result because of other consequences and often, they cannot be prepared for.

3.4 Arguments for the ethical theory of consequentialism

Brad Hooker provides support for the ethical theory of consequentialism the rule-consequentialism approach (2002:1). This is to act in a manner that ensures that the consequences are good and following rules which result in good consequences. Hooker argues that human beings should act in manner that "avoids disaster" (Hooker in De Lazari-Radek & Singer 2010:47). In acting in a manner which avoids disaster, Hooker acknowledges that maximising good is not always the best

solution, thus providing a counter argument for consequentialism which is the theory of utilitarianism. The argument by Hooker provides support for the ethical theory of consequentialism by promoting that people should always avoid dire consequences, even if the action will not maximise general pleasure. The aim is to avoid dire consequences which he refers to disaster. To evaluate the consequences of any action, there is a need to properly understand why and how the action took place. This gives a clearer understanding of both the expected and actual consequences.

De Lazari-Radek and Singer support the ethical theory of consequentialism by putting forward the argument that the theory promotes transparency and open discussions (2010:51). They argue that this ethical theory explores all possible outcomes from any action which allows for both the good and the dire consequences to be explored thus giving an accurate analysis of morality. This means that for consequences to be explored properly, all parties involved examined equally. De Lazari-Radek and Singer further argue that "to accept morality that is only for the elite implies that we are permitted to manipulate those who are not part of the elite, in order to produce the best consequences" (2010:52). The ethical theory of consequentialism considers all parties involved and does not select only the elite. All parties involved are considered equally; there are open discussions, transparency, and involvement which is crucial when assessing consequences of any form of action.

Timothy P. Mulgan suggests that one the best attribute of the ethical theory of consequentialism is that it encourages which makes life better (2001). The best possible consequences in any situation increase pleasure and happiness which makes the world a better place. Due to this reason, Mulgan vouches for the ethical theory of consequentialism as one of the most rational ethical theories. It is an impartial theory without any bias; it also maximises an individual's consideration of others before an action.

3.5 Arguments against the ethical theory of consequentialism

Immanuel Kant offers a non-consequentialist approach to judging the morality of an action. His critique provides a Kantain view which is "a state of which affairs which have intrinsic value" (Scheffler, 1988: 20). Kant puts forward the theory of deontology as critique of consequentialism. Deontology is grounded on an action being done because it is the right thing to do- duty. The theory of deontology looks at law. Will the action be considered lawful? The theory of deontology therefore contradicts that of the ethical theory of consequentialism because consequentialism promotes that people act in accordance with the result and not how they are obligated to act. Donald Palmer argues that Kant's theory of deontology is to act only according to that maxim by which you can (1996). Will the action be considered lawful? The theory of deontology therefore

contradicts that of the ethical theory of consequentialism because the ethical theory of consequentialism places morality on the result and not how people are obligated to act.

Philippa Foot argues that the ethical theory consequentialism is flawed because it reduces the moral quality of an action (1985: 197). He argues that there are other considerations which matter in the determination of moral qualities of an action and good consequences do not necessary determine morality. Jon Stuart Mill critiques consequentialism together with the act of utility. Mill argues that we cannot judge the goodness of action simply based on the amount of pleasure that produces (2016: 340). The moral quality of the action should be considered in the same way the consequences of the action are considered. This means that the fear of consequences is flawed because the process which takes place before the result is disregarded.

Elinor Mason also critiques the ethical theory of consequentialism adding that this theory only focuses on the consequences of an action and does not consider the act itself (2009). Therefore, if the consequences of an action are good even if the action itself is immoral/wrong, the ethical theory of consequentialism supports the end results. Mason further argues that there are actions one must always do even if the end results are not necessarily favourable (2009). An example of this would be always telling the truth, even when the consequences of telling the truth might potentially have negative end results.

Thomas Nagel argues that one of the downsides of the ethical theory of consequentialism is that it only focuses on happiness and pleasure of most of the population and not the individual (1986). With this said, this theory does not focus on maximising pleasure of individuals thus taking away from individuality and personal identity. It generalises the pleasure of the majority as the same pleasure for an individual. This theory considers pleasure to be the same for all people which is not always the case. Nagel further argues that the ethical theory of consequentialism makes a person a mere object through which consequences are calculated to assess the happiness of the greater good (1986). The ethical theory of consequentialism is impersonal, but it is determined by an individual and this is the argument presented against the ethical theory of consequentialism by Thomas Nagel. This is supported by Mulgan who argues that the ethical theory of consequentialism does not consider humans as separate and individual entities (2001).

Jon Stuart Mill critiques the ethical theory of consequentialism together with the act of utility. Mill argues that we cannot judge the goodness of action simply based on the amount of pleasure that produces (2016: 340). The moral quality of the action should be considered in the same way the consequence of the action is considered. This means that the fear of consequences is flawed because the process which takes place before the result is disregarded.

3.6 How the ethical theory of consequentialism will guide the study

The ethical theory of consequentialism will be used to explore the experiences of health seekers with telemedicine in Harare. The consequences of telemedicine will be examined and from these findings, a conclusion can be made to determine whether telemedicine has favourable consequences for the populations which have been exposed to it. Rogers (2010) and Menachemi, Burke and Ayers (2004) agreed that there are various attributes which need to be considered when introducing a tool such as telemedicine to any society. These attributes should be considered and critiqued as they could result in rejecting of telemedicine or a slow acceptance rate. These attributes are discussed below:

Relative advantage: is the degree to which an innovation (telemedicine) is perceived as better than the idea it supersedes. It does not matter so much if an innovation has a great deal of objective advantage. What does matter is whether an individual perceives the innovation as advantageous. These improvements include economic advantages, increased comfort, and market shares. If telemedicine is better in any way, then the likelihood of it being adopted increases.

Compatibility: is the degree to which telemedicine is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. The higher the compatibility, the higher the rate of acceptance. The various aspects of the social system influence the compatibility thus the acceptance of telemedicine. For example, if a social system is of the notion that medical attention requires physical contact, then the compatibility of telemedicine in that social system would be low.

Complexity: is the degree to which telemedicine is perceived as difficult to understand and use. An innovation is considered hard to use if it requires extensive training and this could slow down the adoption rate.

Trialability: is the degree to which telemedicine may be experimented with on a limited basis. Can people try telemedicine and successfully use it in a limited amount of time? If the early adopters can experiment with telemedicine (without much required commitment) and the uncertainty in low, then the adoption and acceptance rate will be high.

Observability: is the degree to which the results of telemedicine are visible to others. The clearer the visible benefits of telemedicine are, the more likely the adoption rate will increase. This attribute looks at the earlier mention relative advantage(s) of telemedicine.

These attributes which have been discussed above will be carefully considered in the ethical exploration of the telemedicine experiences for health seekers in Harare. The ethical theory of consequentialism will be used to assess the experiences of those who have been exposed to telemedicine or those who will potentially be exposed to it. It allows for a critical analysis for the subject through the analysis of results which have come from the use of telemedicine through transparency and open discussions. They further argue that "to accept morality that is only for the elite implies that we are permitted to manipulate those who are not part of the elite, in order to produce the best consequences" (De Lazari-Radek & Singer, 2010: 34-58). The ethical theory of consequentialism considers all parties involved and does not select only the elite. This argument makes this theory suitable for this study as it will not sample the population based on class or status.

It is important to consider all the distinct factors that affect people who are exposed to telemedicine and the observable change/consequences it brings about in the populations of Harare. This means that telemedicine should not only improve the lives of people in African society, but it should also consider how people's behaviours, characteristics and cultures altered by this innovation. The results of telemedicine will be explored using the ethical theory of consequentialism. However, considering the social setting in which the research will be conducted, consequences cannot be the only thing considered. The cultural and beliefs changes which will be brought about by telemedicine need to be carefully considered in the ethical exploration of this innovation.

3.7 Conclusion

This chapter critically discussed the ethical theory of consequentialism as the lenses through which the experiences of telemedicine for health seekers in Harare will be explored. The ethical theory of consequentialism deems a function as good or moral if it has more pleasurable consequences than bad ones. The ethical theory of consequentialism can be summarised as follows- 'x is right' because 'x best promotes the good' (Agrawal and Chhatre, 2011). Considering this project, telemedicine has proven to have many good consequences and could be of great assistance to the medical profession for health seekers as discussed in the literature review. Telemedicine could also assist in addressing the various medical challenges; however, the limitations have been explored in the previous chapter. To get data on the telemedicine experiences of health seekers in Harare, the next chapter will explore the methods and methodology.

CHAPTER FOUR

RESEARCH METHODS AND METHODOLOGY

4.1 Introduction

This chapter will present the research design, research methodology and the methods which were used to gather the data for this study. The research objectives and plans to achieve them will be outlined in this chapter. The chapter also explores the research design which is explained in the research methodology, population samples, reliability, and anticipations.

This study made use of the qualitative descriptive methodology. Two methods of data collection will be employed in this study. The first is a review of literature which was presented in chapter 2 and included dissertations, theses, and journal articles. These were gathered using search engines which include Google Scholar, Research Gate and Ebsohost; there was further use of appropriate newspaper articles. The literature review was presented in themes making it easier to combine similar thoughts from various scholars. This also helped to identify the gap in literature reviewed in the second chapter. The identification of this gap allows for this study to take on an empirical approach as the second method of data collection.

The second data collection method includes interviews which were conducted to gather data on the experiences of healthcare seekers in Harare, Zimbabwe in the movement from face-to-face healthcare to telemedicine. The responses and data gathered from these interviews will then be analysed under the ethical theory of consequentialism. These responses provided insight on the experiences of healthcare seekers in Harare and their experiences in the movement from face-to-face healthcare to telemedicine services, thus allowing for an ethical exploration of these experiences. These study areas have not received a lot of attention and in the African context, and in Harare, there is little research which exists in this area as telemedicine is a relatively new aspect in our healthcare systems.

4.2 Research methodology and methods

Methodology refers to the “overall approach to research linked to the paradigm or theoretical framework” while the method is defined as “systematic modes, procedures or tools used for

collection and analysis of data" (Mackenzie & Knipe, 2006: 8). Qualitative descriptive studies are characterized by simultaneous data collection and analysis (Lambert et al 2012: 256). Qualitative research involves the system analysis of a situation, problem, or phenomenon. It describes a phenomenon by providing information about a situation and explores attitudes towards an issue (Mackenzie & Knipe, 2006). Qualitative research is done methodologically- documenting every step of the study and in this study, this was done by keeping audio recordings of the interviews.

A descriptive study focuses on providing a description of a situation or problem rather than examining relationships between situations (Mackenzie & Knipe, 2006). In this study, the descriptive methodology will be used to explore the experiences of healthcare seekers in Harare in the movement from face-to-face healthcare to telemedicine. Qualitative descriptive methodology refers to research approaches as the tools with which researchers collect and analyse their data. Vaismoradi et al write that "qualitative approaches share a similar goal in that they seek to arrive at an understanding of a particular phenomenon from the perspective of those experiencing it (2013). The phenomena being focused on will be telemedicine.

The qualitative research approach together with the descriptive research approach will guide this research project. With the support of data gathered from literature, the qualitative descriptive method was used to gather and describe some of the results which were gathered from the participants. These results will then be examined under the ethical theory of consequentialism in the chapter that follows.

4.3 Research design

Vickie A. Lambert and Clinton E. Lambert define qualitative descriptive as a research methodology with the goal to give a "comprehensive summarization of specific events experienced by individuals or groups of individuals" (2012: 255). The qualitative descriptive approach makes use of a variety of sources to gather information and refers to research approaches as the tools with which researchers collect and analyse data.

According to Norman K. Denzin (1970), the use of multiple independent research methods results in greater reliability, provided that they all reach the same conclusion. Therefore, to get accurate accounts of the experiences of telemedicine for the health seekers in Harare, telephonic interviews were conducted in this study.

However, it is important to point out that qualitative descriptive study is not a grounded theory, because it does not produce a theory from the data that generated. Instead, it makes an analysis of the given area of study based on the data received from the research conducted. This research

method makes use of a variety of sources to gather information on the subject and this information is then analysed to make recommendations and conclusions based on the results. The sources which were used in developing this research paper include dissertations, theses, and journal articles. They were obtained through various online sources including Google Scholar and Research Gate.

"Data collection of qualitative descriptive studies focuses on discovering the nature of the specific events under study" (Lambert et al, 2012: 256). Considering this research paper, this research method was used to investigate the implications and effects of telemedicine. It is undeniable that the emergence and growth of telemedicine has had an impact on the traditional practice of medicine. Various aspects of life have evolved because of technological innovations, and medicine is one of them. These changes were discussed using the qualitative descriptive methods and analysed to show how different livelihoods have been influenced by telemedicine and how it can be an effective tool in the healthcare sector of Harare.

Lambert and other scholars further argue that "qualitative descriptive research is purely data-derived in that codes are generated from the data in the course of the study" (2012:256). This means that this research method does not follow a list of pre-set rules which denote how research should be conducted. It makes use of various research methods to give an accurate presentation of the results. Qualitative descriptive studies are characterized by simultaneous data collection and analysis (Lambert et al (2012: 256).

This research study took on an interpretivist paradigm. Paradigm can be defined as "a loose collection of logically related assumptions, concepts, or propositions that orient thinking and research" (Bogdan & Biklen 1998:22). It also provides criteria for validity. Interpretivism is a paradigm which aims at understanding human experiences and acknowledges that one's background and experiences has an impact on how they view the world (Mackenzie & Knipe, 2006:4). This paradigm relies on the participants' views and opinions of the situation of interest for a study (Creswell, 2003). The data collection tools used in this paradigm include interviews, observations, document reviews and visual data analysis. This study will make use of interviews.

The interpretivist research paradigm is aided by the researcher's background. I, the researcher, am a Zimbabwean woman, which allows me to understand the setting in which these interviews will be taking place. In cases where participants want to describe certain things, I can understand them easily due to my familiarity with the city of Harare and the Zimbabwean culture. This study is aimed at adding to the body of knowledge of the health seekers' experiences with telemedicine.

The study made sure that the findings in this study were in line with the views from other scholars as presented in the literature review.

4.4 Data Collection and Ethical Consideration

Data collection involves the collection of information which gives you details about a phenomenon. The method of data collection which were used in this study is a review of literature and interviews. One of the benefits of conducting interviews is that participants are not forced to participate, which therefore means that they are honest in their responses as this is something they are willing to do. Sally Hutchinson, Margaret Wilson, and Holly Skodol Wilson also argue that interviews allow the researcher to have in-depth conversations which results in people being open about their experiences which aid in the research results (1994:164). These interviews were conducted on a one-to-one basis and all responses were based on subjective experiences. Due to the traveling restrictions created by COVID-19, the interviews for the study were done telephonically. This was also done as a safety precaution for both the participants and the researcher. The interview guide was scrutinized and assessed by my supervisor which allowed me to refine the questions and ensure that I got the most relevant information from the participants.

The participants received copies of the consent form which informed them about the details of the study and the participation, informed consent form which detailed the conditions under which they were participating and explained that participants had the option to pull out of this study at any moment for whatever reason, and the interview questions which were sent to them via WhatsApp or email before the time of the interview. This also allowed them to have a chance to make an informed decision to participate before the telephonic interview. The value of interviews is that they allow one to build a holistic view of the subject matter (Alshenqeeti, 2014). The researcher can receive detailed information from different perspectives which allows for a thorough insight on the study objectives. This also enables a detailed analysis of words because interviewees can use their own words to express their thoughts and feelings towards a subject matter (Berg, et al 2004).

In drafting the questions of the interviews for this study, the researcher had to bear in mind that "interviewing is an interest in understanding the experience of other people and the meaning they make of that experience" (Seidman, 1991:3). This understanding enabled the researcher to draft the questions in a way that would allow them to get the most information out of all the participants in a way that is not invasive or uncomfortable. It also meant that the questions had to be structured in an open-ended manner which allowed participants to express their experiences in a way that is not limiting. However, the questions were asked in a way that does not make the participants feel

that they are giving away any information which they were not comfortable with giving. The questions were straight-forward and do not have any ambiguity which could confuse the participants in any way.

The interviewees for this study were all healthcare seekers in Harare. The reason I chose to conduct interviews in this specific area is to avoid language barriers (if any) which would affect the accuracy of the findings. The questions were translated into Shona, which is also my native language, to curb the language barrier in situations where the interviewees did not fully understand English or could not properly articulate themselves in English.

4.5 Sampling

The sampling method which was used in this project is non-probability sampling. This type of sampling involves the researcher identifying the individual or groups under the correct setting where the research problem can be examined (Tansey, 2007). The recruitment of participants was done virtually due to the travel restrictions created by COVID-19. This method helped to identify the first few interviewees. To get the rest of the population sample, snowball sampling was used. Snowball sampling is when the interviewees recommend someone in their network who fits the criteria for the population sample needed (Vehovar et al, 2016:326).

The participants were recruited from Harare. The first few participants were identified from having informal conversations about my research project. They showed interest and were willing to participate and were then interviewed after receiving the consent forms. The rest of the participants came from networks of the first few participants. These were recommended to me based on their residency in Harare and their interest in my research topic. Some of the participants contacted me asking to be interviewed after finding out about my research topic from the participants I had already spoken to.

The population sample was made up of men and women from the age of forty (40) and above. This is because these people experienced face-to-face healthcare services for a considerable amount of time, so I was interested to know their experiences with the change to telemedicine. Younger generations can easily adapt to technology which makes it easier for them to navigate around innovations such as telemedicine. Bennett and others refer to this group as *digital native* (Bennett et al, 2008). However, this is not usually the case for older generations. Older generations take longer to assimilate technological innovations and Prenksy (2001) labels this group as *digital immigrants* (or strangers) (2001). This means that they are not used to modern technologies and therefore do not accept modern technologies as quickly as digital natives. Getting the experiences

of these digital immigrants is important to understand what can be done to improve telemedicine and its acceptance rate amongst all the populations of Harare.

The inclusion criteria included participants who are residents of Harare. The inclusion process did not discriminate against anyone with any challenges/ disabilities as the aim of this study did not require engagement with that kind of information. The study was limited to those who can speak English and/or Shona as these are the languages the questions and consent form are available in. Those who were excluded are those who did not live in Harare and those regarded as part of the *digital native* ages. These include children who are under the age of forty. This means that no children were interviewed in this study.

4.5.1 Participants

Table 1: Table showing participants pseudo names and gender

Participant	**Gender**
Blue	Male
Red	Male
Green	Male
White	Male
Orange	Male
Pink	Female
Purple	Male
Black	Male
Brown	Female
Maroon	Male
Yellow	Male
Violet	Male
Grey (Bonus participant)	Female

The 13th participant was not initially part of the list of participants. However, this participant overheard a conversation between me and her father and asked that she be included in my research. While she is not in the age bracket that this study was intended for, she is a medical student who brought different insight to study.

4.6 Validity, Reliability and Rigour

Ranjit Kumar argues that a "good researcher who aims to undertake a good study first explores different aspects of the study by understanding an exploratory phase which mostly uses qualitative methodology" (2008:28). In this study, this was achieved through a literature review which gave insight and background on the research study. However, a good researcher also ensures that their study considers validity, reliability, and rigour. These three aspects are important to take into consideration because they establish truthfulness, credibility, or believability of the research findings (Neuman, 2000).

Validity refers to the meaningfulness of the research. It looks at whether a study measures what it claims to measure- without the inclusion of other factors (Lakshmi et al, 2013: 2755). To ensure this, the interviews questions for this study were subjected to scrutiny by my supervisor. This allowed the researcher to structure the questions in a way that only got the necessary data from the participants. The validity was also achieved using consent forms.

There are two types of validity, internal validity, and external validity (Lakshmi et al, 2013:2752). Internal validity looks at the legitimacy of the results from a study based on the way the participants were selected, the way data was recorded, and the analysis performed. External validity is often referred to as "generalisability" and measures is the results achieved from a study are transferrable to other participants of interest (Lakshmi et al, 2013:2752). The question that can be asked is, can this be used among other populations? External validity cannot exist without internal validity.

It is important to structure the interview questions in a way that considers the potential correspondents. This means that much thought is put into the possible participants and the questions are structured in a way which accommodates them. This can be argued to ensure validity because it allows to explore whether the questions would be interpreted and understood as intended by the researcher.

"Reliability is the degree to which measures are free from error and therefore yield consistent results" (Lakshmi et al, 2013:2753). Reliability in this study will be achieved through recording the interviews. This allowed the views of the participants to be capture accurately without any influence of my own thoughts or views as the researcher. This also ensured rigour in this study.

Rigour refers to the trustworthiness of the study. This should be achieved from both the researcher and the participant. To rigour of the study, consent forms were given to participants. The participants received the consent forms through WhatsApp or email so that they were fully aware of what they were choosing to participate in. These consent forms informed the participants on the aim of the study and the purpose of the interviews. The consent form also made the participants know that they were free to withdraw from the interview at any moment; and that all information given to me will be used strictly for the purposes of this study; and that there is no monetary gain in agreeing to be interviewed. The consent forms and research questions were available in both English and Shona to avoid any language barriers between the researcher and the participants.

Due to the nature of these interviews being telephonic, verbal consent was given. The participants were also be made aware that there was recording of the interviews. This would help ensure that my account of their experience was accurate, and I can always refer to the recordings whenever there is a need. Pseudo names were given to all participants for anonymity which will help to maintain confidentiality in the study.

In doing these interviews telephonically, there are anticipated connection or network problems. In such a case, interviews were paused and continued at a better time; participants could decide if they want to continue from where they left off or re-start the interview. It was important to note that time allocation was given for the participants to schedule an appointment when they have enough time. However, it was not to limit the time they can be interviewed. The interviews could be if the participants were willing to talk; there were no time constraints. The participants were able to contact me at any point during the study and were made aware that upon request, they can access a copy of the completed study.

4.7 Anticipations

It was important for me as a researcher to understand that in interviewing people, there are various consequences which could come because of these interactions. In anticipation of any issues arising from the interviews, there was a counselor available for their assistance. While the nature of my study did not involve any physical contact, there was however a need to ensure that all participants are protected emotionally, mentally, or psychologically when participating or after they have participated in this study. The contact details of the counselor were made available to all participants and upon request, appointments between the counselor and participants could be made. Appendix 7 provides the details and contact information for the counselor.

4.8 Conclusion

This chapter has looked at the research methodology, methods, population sampling and explored the possible harm that could come because of this study. It gave insight into how data was collected for this study and justified the use of the qualitative descriptive method. Using non-probability and snowballing sampling, the researcher was able to gather participants for this study: The healthcare seekers in Harare, Zimbabwe.

The next chapter will present the findings of this study and examine them under the ethical theory of consequentialism.

CHAPTER FIVE

PRESENTATION OF FINDINGS

5.1 Introduction

The previous chapter presented the methodology, the sampling method and the methods which were used to collect the data. It also presented the research paradigm employed in this study and the population sample which was used to collect data. This chapter will be a presentation of the data collected for this study. The findings will be presented with the aim of answering the main research question for this study- What ethical issues should be considered when engraining the experience of health seekers in the emerging practice of telemedicine services in Harare, Zimbabwe? This chapter will begin with a description of the demographic which gives an understanding of the participants of this study. It will then take on a thematic approach in presenting the data as done in the literature review. It will start with presenting the findings of healthcare seekers' experiences with the face-to-face healthcare system in Harare then, move to present the telemedicine experiences as found in this study.

5.2 Understanding the Demographic

This study involved thirteen participants who were interviewed to gather data for this study. All the participants in this study are residents of Harare. The sampling method which was administered in this study was discussed in detail previously in Chapter 4. The study administered the snowball sampling to get the sample population. The sample size had healthcare seekers who used both public and private healthcare systems which allowed for a broader and more encompassing account of the experiences. The participants of this study were all health seekers who are above

the age of forty. However, participant thirteen was a bonus participant who is the daughter of one of the participants who was interviewed in this study. She overheard her father during our interview and was interested in the study. She particularly requested to be interviewed and although she did not meet the age requirement for the population sample, her responses proved to be valuable to this study and will be discussed in this chapter. The participants were all given pseudo names, namely: Blue, Red, Green, White, Orange, Pink, Purple, Black, Brown, Maroon, Yellow, Violet and Grey, the bonus participant. These are the names which will be used to refer to the participants throughout this chapter.

5.3 Findings on the Healthcare Seekers' Experiences with the Face-to-Face Healthcare System

The first thing that the researcher aimed to gain understanding of was the current healthcare system of face-to-face healthcare according to the experiences of healthcare seekers in Harare. One of the recurring responses found in this study is that healthcare seekers believe that face-to-face healthcare allows for an emotional and intimacy relationship between the patient and the doctor. Participant Purple, a man in his fifties, describes this as a "s*ocial attachment*" which he further argues to be a natural experience for humans. He also puts forward that "*because face-to-face healthcare has always been the tradition, there is somewhat an emotional attachment to this form of healthcare"*. Participant White added that the benefit of the face-to-face healthcare system is that the doctor can explain in detail and clarifies better which leads to less chances of leaving the doctor's rooms in doubt after one's consultation.

This study found that there is a clear gap in the face-to-face healthcare experiences of those who go to state-run healthcare facilities and those who can access private healthcare. Participant Pink highlighted this gap when she explained that she accesses healthcare at a private facility which allows her to call in and book an appointment with her doctor. This means that she only goes to the healthcare facility at the time she is scheduled to see the doctor and the only delays she experiences are related often short but most times, she does not battle to access healthcare. However, this is in direct contraction with the experienced noted by Participant Violet who stated that although there are two government facilities close to his home, he prefers driving further to access a private facility as these state-run facilities are *"deteriorating and not good.'* This study found that healthcare seekers in Harare share the same sentiments about healthcare facilities across the city and this has shaped their experiences with the face-to-face healthcare system.

According to participant Orange, who had been exposed to both healthcare systems after his COVID-19 diagnosis in December 2020, one of the benefits of the face-to-face healthcare system is familiarity since it has been used for many generations which results in healthcare seekers having confidence in this system. He further said that this healthcare system allows for various social cues to be adhered to and it also allows the doctor an opportunity to do physical observation which assists in the diagnosis process. In case a patient cannot give accurate symptoms, the doctor can make observations which lead to proper diagnosis. Both participants Orange and Purple agree that in seeking face-to-face healthcare, there is no rush in the consultation process and higher levels of concentration and attention from both the healthcare seeker and healthcare professional are beneficial in the diagnostic process.

A deeper understanding of the face-to-face healthcare system experiences for healthcare seekers in Harare was achieved by asking participants questions which aimed to understand the following issues: the distance the participants to get to their nearest healthcare facility; how the healthcare seekers get to the nearest facility to them; the state of the healthcare facilities and resources available at these facilities; and lastly, the medical professionals found available at these facilities.

5.3.1 Proximity of healthcare seekers to healthcare facilities

This study found that most of the participants have a healthcare facility within a 10km distance from their residential areas with the remaining participants having one within a 15km range. These healthcare facilities range from state-run hospitals, private hospitals, clinics, and private surgeries. Data gathered highlighted that healthcare seekers have healthcare facilities within proximity to their residential areas and they only ever go far if they need to see a specialist, or they have received a referral to go to another healthcare facility. Main reasons for healthcare seekers traveling to a healthcare facility which is further from their closest facility includes lack of resources, shortage of medical professionals and limited access to medication. However, this study also gathered that the proximity to healthcare facilities is not necessary the biggest challenge faced by healthcare seekers in Harare. On this point, Participant Brown expressed that he lives 2,5 km away from a healthcare facility, however, he is not always able to make use of this facility as he noted that *"...at any given time, you can be assisted by nurses, but you are not always guaranteed to get a doctor".* He further expressed that the conditions of the healthcare facility found close to his house are below average and more findings on this will be discussed below.

5.3.2. Dilapidated healthcare facilities

The findings of this study highlighted the concern amongst healthcare seekers about the state of healthcare facilities in Harare. The healthcare seekers in Harare gave a balanced view of the healthcare facilities as both private and state-run facilities were discussed during the interviews. The findings on the state-run facilities found that they are below average, and the services delivery seems to be deteriorating increasingly with time. When describing the state of the current healthcare facilities, words such as "*dilapidated, run-down, and underserviced"* were used by most healthcare seekers. This fact contributes to the long hours spent at healthcare facilities as healthcare facilitates do not have the necessary resources needed to administer proper healthcare services. Participant Green describes the nature of the state-run facility nearest to him saying that *"the infrastructure is starting to have cracks and falling apart. These cracks on the walls can be seen both from outside the building and from the inside making it hazardous for the healthcare seekers and healthcare professionals."* Participant Green added that healthcare facilities in Harare are "slightly below average in terms of service provision." He also relayed that on his last visit to the healthcare facility, he waited for three hours before he could get any medical attention.

However, for those who can afford to go to private healthcare facilities, their experiences with the healthcare system seems to be slightly better. This difference was explained by Participant Pink who noted that the resources at private healthcare facilities are considerable higher than those one has access to at the state-run facilities. This point was alluded to by Participant Orange and Participant White who both noted that they would rather travel further than they normally would to access private healthcare due to the conditions experienced at state-run facilities. The deteriorating healthcare facilities have experienced years of insufficient funding, little effort towards maintance and this has resulted in the service received at healthcare system across the country being compromised. Participant Violet suggested that "*there is a direct link between the deteriorating healthcare facilities and the service received from the healthcare professionals."* In our discussion, he highlighted that while the healthcare professionals might want to do their job properly, the limited resources and lack of funds from the state can be a hindrance. Participant Purple also shared that when one is admitted in government facilities, the food they receive is poor which he believes could "*slow down the* healing process in a patient as a good diet is a major contributor to good health."

5.3.3 Low numbers of Healthcare Professionals

This study also found that one of the challenges faced by the face-to-face healthcare system in Harare, Zimbabwe is a shortage in healthcare professionals. Participant Purple argued that the state of the Zimbabwean economy has affected the healthcare system and the service delivery therein. He further noted that "*nurses and doctors are underpaid which has contributed to poor service delivery"* in his opinion. Not only do the healthcare professional have to deal with being underpaid, but there is lack of personal protective equipment, poor working conditions due to limited resources and uneven ratio between doctors and patients. Participant Purple also noted that healthcare professionals have raised their grievances on endless occasions and these cries have gone unheard. He believes that "*healthcare professionals in Zimbabwe could be amongst the most underpaid professionals in Zimbabwe."* This he believes has a direct impact on how they perform their job given the high demand that comes with working with limited healthcare professionals. How does one perform their job when they are not only unpaid, but they are also overworked and forced to work with inadequate resources? This is believed to bring about many frustrations amongst healthcare workers and has a direct impact on the type of service rendered in face-to-face healthcare.

This study gathered that due to the sparse numbers of healthcare professionals, most healthcare facilities have doctors coming in rotation with nursing staff alone assisting patients in the absence of doctors. Participant Green relayed that on his last visit to this facility, he "*waited in line for three hours before getting medical attention"* which he attributed to sparse numbers of healthcare professionals. Healthcare seekers have learnt to accept that getting healthcare immediately is not a possibility as they are also able to assess for themselves and make sense of the circumstances under which healthcare professionals are operating. While this reality might seem shocking given the basic human right to healthcare, Participant Blue added that healthcare seekers have had to learn hospital systems and understand that doctors rotate amongst different facilities so one would have to ensure he/she goes on the correct day when the doctor is available if their medical condition cannot be attended to by the nursing staff, who are always available.

5.3.4 Shortage of Drugs at Healthcare Facilities

One other finding that came from the study is the shortage of medication at healthcare facilities. Participant Black explained that there is no medication given at the healthcare facility that she goes to, therefore she must make two trips to see a doctor and another one to get medication at the nearest pharmacy making the entire process of accessing healthcare more burdensome. She added

that this not only adds an extra burden of costs when trying to get medication, but there is also more time wasted between the consultation and one finally gets the medication prescribed. Participant Maroon also added that sometimes one can go to a pharmacy and find out that there is no medication when they get there, and they must look for another pharmacy. Healthcare seekers highlighted that at least 40% of the time, one might not be able to get the medication he/she needs at the same healthcare facility he/she gets medical attention from and must make another journey to go and look for the medication. The study also found that those who have easier access to medication are those who have access to private healthcare facilities which often have a pharmacy on the premises. However, this should not be the case as all citizens are meant to have equal access to healthcare even when they cannot afford private facilities.

These findings on the face-to-face healthcare system showed there are various challenges experienced within the healthcare system and these have an influence on the telemedicine acceptance and use in Harare as it promises opportunities which eradicate these challenges. The findings made on telemedicine will be discussed in detail below.

5.4 Findings on Telemedicine

Before collecting data of the telemedicine experiences for healthcare seekers in Harare, this study wanted to first gauge if the healthcare seekers knew about telemedicine. The simple question "Have you ever heard, or do you know anything about telemedicine?" was asked to healthcare seekers and in cases where they did not know telemedicine, it was explained to them. The table below presents findings of healthcare seekers knowledge of telemedicine.

Table 2: Table showing participants knowledge of telemedicine

Participant	**Do you know telemedicine?**	
	Yes	**No**
Blue		X
Red	X	
Green	X	
White	X	
Orange	X	
Pink		X

Purple	X	
Black		X
Brown	X	
Maroon		X
Yellow		X
Violet	X	
Grey (Bonus participant)		X

The consensus among healthcare seekers is that telemedicine is a great tool in healthcare especially with the pandemic through which we are currently living. The restriction placed on accessing healthcare facilities and gatherings have made it harder for those with 'minor' health conditions to access healthcare as the priority is given to emergency cases. The limited staff at these facilities makes it even harder for healthcare seekers to be helped immediately as the demand outweighs the resources available. One of the benefits brought forward by the participants is that telemedicine eliminates contact with other patients which decreases the risk of infection from the COVID-19 virus and other contagious ailments which one can be exposed to at a healthcare facility. Telemedicine not only avoids contacting diseases but also avoids the healthcare seekers spreading their ailments to whoever else they encounter at the healthcare facility. Healthcare seekers agree that the use of telemedicine is a great tool in assisting in the bid to curb the spread of the COVID-19 virus, flu, colds, and any other airborne diseases.

At the time of the interview, Participant Orange had just recovered from COVID-19. He relayed the story of his experience, also adding his wife's experiences as the two had both contracted the virus. With both him and his wife sick and unable to freely access the nearest healthcare facility, they had to seek alternative healthcare methods. It was during this time that participant Orange was exposed to telemedicine services as he had to be in isolation until he had recovered from the virus. Throughout his recovery process, he got assistance over the phone from his doctor and that was his first experience with telemedicine; he further noted that *"the system was easy and effective since neither me nor my wife could have driven us to the hospital."* Participant Orange spoke highly of telemedicine as this was his first time using it and he was pleasantly surprised by how it was administered throughout the time he was recovering from COVID-19. He also added that he could not imagine how he would have recovered without being able to access help virtually. The participant shared horror stories of those who contracted the virus in its initial stages before there

were proper measures put in place. He shared stories of people losing their battles to COVID-19 because they were unable to get medical attention in time or simply did not have the right contact to ask for help. This observation was echoed throughout this study as healthcare seekers highlighted that being able to get medical attention simply by making a call is an innovation which is much-needed especially in the uncertainty of living through a pandemic.

5.4.1 Reduced time spent at healthcare facilities

The other way in which telemedicine can help in saving time as discussed by participant Orange is by avoiding traveling to not only the healthcare facility, but to get medication as well. This participant put forward that *"one of the strains of the current face-to-face healthcare system is that it often requires you to travel twice, firstly to get medical attention and then to get the prescribed medication."* This not only creates time constraints, but it can easily become expensive with all the added travel costs. Participant Pink observed that the shortage of medication is not something experienced at state-run facilities only but also at the private facilities. The hours spent waiting to see a doctor and the hours spent trying to get medication all add up to face-to-face healthcare requiring a lot of time. However, healthcare seekers agreed that with the use of telemedicine, there is the option to get medication delivered to one's doorstep and this saves travel time and reduces travel costs.

There are numerous factors which contribute to how much time is spent at the healthcare facility and in some cases, there are limited resources to share amongst big populations which results in healthcare seekers spending hours in line before they can get medical assistance. Healthcare seekers narrated stories of waiting in long queues and sometimes having to wake up incredibly early to be ahead in the queue which guarantees being served earlier. For those who come a bit later in the day, there is a possibility of not getting assistance which mean that they must come back the following day. The study gathered that some participants believe that telemedicine can reduce the amount of people who are found at healthcare facilities at any given time since others will be accessing healthcare virtually. This not only reduces the congestion at healthcare facilities, but it also allows for more attention to be given to those in emergency situations as those with the less life-threatening conditions can be treated from home.

5.4.2 Reduced Costs

A recuring response among the participants is that the use of telemedicine instead of the traditional face-to-face healthcare system reduces costs related to seeking medical attention. One of the many

challenges faced in Harare as indicated by the participants is that of transport. The residents of Harare often spend hours waiting for transport due to th limited public transport facilities. The research findings show that healthcare seekers in Harare with private vehicles are at an advantage when trying to access healthcare, as compared to those using public transport.

The findings of this study showed that participants believe that the telemedicine heath system reduces costs especially those related to traveling to access healthcare. Participants Green and White both highlight that whether one drives themselves to a healthcare facility or they use public transport to get there, they will save money when using telemedicine system because the costs of traveling would have been eliminated. Telemedicine eliminates the need to travel to a healthcare facility thus making it easier for healthcare seekers in Harare to seek medical attention in a city that is already strained when it comes to its public transport facilities. The average Zimbabwean can easily access healthcare from their phone which lessens the burden of transport challenges and saves time. In addition to saving money by eliminating transport costs, the participants also highlighted that the movement from face-to-face healthcare to telemedicine avoids contact between healthcare seekers. Participant White adds that the use of telemedicine not only saves time, but one can have a doctor's appointment and still manage to go about their daily commitments since everything will be done virtually, instead of waiting in the queue to receive medical attention.

5.4.3 Avoids contact

Due to the nature of the healthcare system in Harare, people often spend hours before they can get medical attention thus increasing their risk to exposure of other diseases from core medical seekers at the medical facilities. This study found that one might not be able to get assistance on the first day that they visit the healthcare facility and often must re-visit the healthcare facility which puts them at an even higher risk of contracting diseases due to exposure at these facilities. Participant Pink, who is a chronic diabetic patient, expressed that telemedicine would be beneficial in her healthcare journey as she is someone who regularly visits healthcare facilities thus exposing her to many people with various ailments. Telemedicine eliminates this challenge which allows healthcare seekers to get a safer option to seek medical attention without the risk of either spreading whatever ailments they have or the possibility of being exposed to ailments from other healthcare seekers they meet at healthcare facilities.

As noted above, healthcare seekers in Harare appreciate telemedicine because it allows them to maintain social distancing and avoid contracting the COVID-19 virus. While this might seem to

be a repetitive answer in most of the advantages presented by telemedicine, it is important to understand that healthcare seekers in Harare are currently living through this pandemic with a strained healthcare system. They have witnessed many realities around them related to people contracting the virus from being exposed to infected people and the possibility of accessing healthcare virtually eliminates what might be one of the biggest medical fears amongst healthcare seekers across the globe at this present moment.

5.4.4 Accessibility

The findings of this study showed that participants believe that the use of telemedicine as a tool can allow them to access healthcare against the various challenges faced by the face-to-face healthcare system. Accessibility to healthcare is improved and the overall experience is quicker compared to the system which requires waiting in long queues before being assisted. Participant Green, who expressed that he often uses private healthcare facilities, highlighted that the notable advantage of telemedicine is the minimized cost since medical attention is received from the comfort of your home and medical assistance can be received 24/7. Participant Green further added that "*healthcare facilities such as clinics and surgeries do not operate during certain hours which creates restricted access for patients;"* this is not the case with telemedicine which has virtual services which are always operational.

As explained in earlier chapters, telemedicine is not only about the use of mobile devices or other forms of technology. Telemedicine can also be administered in situations where there is a shortage of medical professionals. It is evident that healthcare seekers in Harare believe that telemedicine can be used as a tool in place where there are not enough healthcare professionals and in places where there is a need for a specialist which might not be physically accessible. Another factor which was found in this study is that there is a concern from healthcare seekers about the sparse numbers of doctors in Harare healthcare facilities. This results in more time spend at healthcare facilities because one doctor is attending to a large pool of patients. Not only is this the case, but they must also address all these patients with limited resources at the facilities. The use of telemedicine can assist with these issues and improve the overall accessibility for healthcare seekers in Harare. Participant Brown, who often relies on state-run facilities when seeking healthcare, explained that the healthcare facility he seeks medical attention from "*has doctors who are on rotation and on any given days and on most days, one will be assisted by nurses."* He further explained that in some situations, one will end up traveling to the medical facility more than once before he/she cannot get assistance on the first visit.

5.4.5 Ability to exchange medical records electronically

Participant Red narrated his experiences with telemedicine as he has been briefly exposed to it in the past. He put forward that in telemedicine, "*the doctor has an easier way to access your medical records as these can be accessed electronically."* He believes that digital records make it much easier for continuous healthcare because the doctor can look at what has been diagnosed before, what has been previously prescribed and then map out what is the best possible solution moving forward. Participant Red believes that the accessibility and sharing of medical data can improve the diagnostic process and improve healthcare provision overall. If medical records can be shared electronically, doctors can also seek second opinions from their colleagues thus improving the diagnostic process. Participant Red further discussed how this system would present endless opportunities, especially for those in the remote parts of the country who have extremely limited access to healthcare services.

5.4.6 Increased confidence during consultation

This study found that in the case where the medical condition is a bit more personal, healthcare seekers are more comfortable to share with the doctor when there is no face-to-face interaction. Issues of sexual health were highlighted by several participants with participant Grey, the bonus participant, adding that "*as a young person, telemedicine allows for one to have a more private consultation with the medical professional."* Since she is still in her early twenties, living at home and does not have her own means of traveling and paying medical bills, she expressed that often her mother goes to the medical facilities and into the consultation room with her which limits her ability to ask certain questions or be as open as she would prefer to be with the doctor alone. With the use of telemedicine, she is afforded the privacy which she did not previously have in the face-to-face healthcare system. Participant Maroon supported this argument by bringing up concerns of failing to explain things face-to-face, especially ailments which are sexually related. There are several reasons for this which could be because one is shy or embarrassed and he acknowledges that avoiding face-to-face conversation could be a benefit for some medical conditions.

5.5 Reservations about telemedicine

While the participants of this study acknowledged the diverse ways in which movement from face-to-face healthcare to telemedicine can bring about positive change in the healthcare system in Harare, there were some concerns which were highlighted. Participant Black highlighted that the only experience she has had with telemedicine required her to call a facility and get assistance, however, the disadvantage was that the medicine was no longer at the same price. There was a

mark-up added to the medicine which made it more expensive than it is when one goes to the pharmacy physically. While telemedicine cut costs in terms of traveling to a healthcare facility, this study found that healthcare seekers believe that it is expensive because now it requires airtime or data to access the doctor. The cost of data is something that was highlighted by several participants during this study.

A recurring response of concern from the participants which contributed to the acceptance of telemedicine and in some cases is the fear of the unknown of buying medication that one has not seen. Participant Orange argues that "*we cannot completely do away with face-to-face healthcare."* He believes that there is a need to have a physical examination before telemedicine can be used as the primary method to receive healthcare. Healthcare seekers believe unless telemedicine can dictate things such as temperature and do some examinations in the diagnostic process, there will always be a need to use face-to-face healthcare.

5.5.1 Change in healthcare culture

Several participants highlighted that they are used to the traditional form of accessing healthcare and this involves physical contact with the healthcare professional and receiving assistance in that way. This is part of the culture of the people in Harare. As explained in a previous chapter, culture refers to the way people do things, and this has been practiced for generations and usually would not be that easy to break away from the culture. If people are used to doing things in a particular way and this is the way things have always been done for them, it is important to consider that it might also take a lengthy period because something new is introduced and to become a new norm of the culture or practice in that area.

Participant Purple highlighted some benefits of the face-to-face healthcare system by stating that it "*affords one a personal and physical relationship with a healthcare professional."* He believes that if one is not articulate to explain how he/she is feeling, the doctor will be able to physically examine, touch and observe body language which improves the diagnosis process. This study found that healthcare seekers believe that it is easier to get more information in a face-to-face consultation and that physical interaction is an especially important part of the healing process. Participant White went on to say that this is also why most times, "*people prefer to visit a sick person instead of calling them because of the healing properties which are believed to exist in human interactions."* This he believes has been the culture in seeking face-to-face healthcare and should be taken into consideration in the movement to telemedicine. White went on to say that humans are social beings, and he believes that there is a need for physical interaction in the healing

process. The healthcare seekers acknowledged that telemedicine might be a *"cultural shock*," but it is indeed a necessary move.

Participant Green, a man in his sixties who has lived in Harare for his whole life, added that people have traditions which tie to their cultures and changing of culture sometimes becomes difficult. He further noted that while this applies to ways of life, it also translates to how people do things-including how they access healthcare. People have been used to the system of physically seeing a doctor and they may not have the appropriate technological gadgets which allow them to access the telemedicine services. His concern was mostly with those in rural areas who are not technologically advanced enough to be able to use the relevant devices which are used in telemedicine. The participant further stated that *"sometimes healing might be a state of mind."* The movement from one's house to the doctor's rooms might be the first step of their healing process. Participant Green went on to claim that "*for some healthcare seekers, just knowing that they have seen a doctor may aid many patients in the healing process."* Changing this culture, as indicated by several healthcare seekers in this study, could affect the overall healing process in the healthcare seekers across Harare.

Another change to healthcare culture that was highlighted by Participant Blue is that there is a possibility of prescribing the wrong medication due to lack of physical examination with the patient. This can happen when the patient fails to describe their symptoms accurately, which would mislead the doctor and impact that diagnosis process. Participant Orange highlights that "*there are ailments which have similar symptoms,"* and for the patient describing such symptoms over the phone has a possibility of misdiagnosis. The participant's worries are that one might fail to describe the symptoms and end up getting the wrong medicine. Some of the symptoms which a patient can fail to describe on the phone can be picked up over face-to-face examinations. This argument is supported by participant Pink who puts forward that one's explanations of their symptoms can be inaccurate whereas with a physical examination, the doctor can make observations which allow him to give a more accurate diagnosis.

5.5.2 Concerns of compromised privacy

The concern for privacy being compromised was found to be a recurring reservation of telemedicine by healthcare seekers in this study. Healthcare seekers are not aware of who has access to their medical data when they seek healthcare virtually. This was highlighted by Participant Pink who noted that there has "*been no communication about the use of telemedicine,"* and she is not aware of any policies which create guidelines for its use. What she meant by this is

that one can never be sure about their medical details being kept private because they are unsure of who is on the other side of the phone and how their information is managed. Participant Pink added that in some cases, telemedicine is administered through platforms such as WhatsApp, and with WhatsApp now having more access to people's information, there is now a concern especially with medical data which is confidential.

Participant Red highlighted that there is no software which has been specifically developed for the enhancement of telemedicine and better understanding by the users. There is no customized software which helps the service to be understood or accessed better by the healthcare seekers. The participant posed three main questions: *"How do I know who is on the other side of the telephone conversation?" "Is the doctor alone in the room during consultation for the confidentiality of the patient?" "Is the call recorded or not?"* While these concerns may seem small, there is a need to understand the context under which this tool is being introduced. Participant Grey agrees that there is a need to have some form of regulations which ensure protection of personal information which is being shared virtually. She gave an example of healthcare seekers looking for help in sexual health. If one sends a picture to the doctor, they need to feel safe knowing that no one else will see these images and that all their health data is safe with one person.

5.5.3 Low levels of connectivity across the city

Healthcare seekers in Harare highlighted connectivity as one of their reservations about telemedicine. Data prices were said to be expensive and with a substantial portion of the population living in poverty, data can be easily considered to be a luxury thus restricting accessibility of telemedicine. On the issue of data costs, participant Maroon added that "*in a country that has almost 90% unemployed rate",* a system such as telemedicine could be expensive for the average healthcare seeker. His concern is that it might be effective in towns but in rural areas, it might be difficult to implement in the healthcare system. However, there is also the aspect of people not even being able to afford cellphones or other gadgets which grant them access to the internet due to the prevalent poverty rates across the country.

The study found that poor network connection is also an issue across the city which could result in people not being able to reach the doctor or being cut off while speaking to the doctor and this could cause problems in the communication and diagnostic process. Participant Brown acknowledged that his residential area does not have consistent internet connection and explained that certain network services providers do not have network range in his area, and his concerns are

that people who use these network services might not be able to benefit from telemedicine fully. Participants Marron, Yellow and Red also stated that there is no reliable network in their residential areas but acknowledged that there are new services which are being introduced to his area which can assist in the use of telemedicine. This claim was supported throughout the interviews through the various challenges which we faced. For the regular Harare resident, it might be difficult to use telemedicine if they do not have the necessary funds for data or a place with accessible Wi-Fi connection. The issue of connectivity was a recuring concern amongst participants in this study. While most acknowledge that telemedicine will inevitably become a part of the healthcare system, they are not sure of its success rate given the connectivity issues experienced in Harare.

5.6 Conclusion

This chapter presented the findings of this study and gave an account of the experiences of the healthcare seekers in Harare. It divided the findings into themes based on the participants' responses. The findings of this found that some of the challenges faced by healthcare seekers in using the face-to-face healthcare system include challenges traveling to the healthcare facility; dilapidated and under-resourced healthcare facilities; sparse numbers of healthcare administrators at healthcare facilities; and shortage of drugs at the healthcare facilities. Findings in the movement to telemedicine highlighted that healthcare seekers believe that the use of telemedicine reduces the time spent at healthcare facilities; reduces costs related to physically seeking medical attention; telemedicine avoids which limits the exposure and spreading of ailments. However, healthcare seekers also highlighted their reservations in the movement from face-to-face healthcare to telemedicine, adding that issues relating to change in culture are a point of concern. Concerns of compromised privacy were discussed with healthcare seekers expressing worry over lack consent forms when one accesses healthcare virtually. The low network coverage across the city was also discussed as one of the limitations and concerns for telemedicine by healthcare seekers in Harare. The next chapter will give an analysis of the findings of this study under the tenets of the ethical theory of consequentialism.

CHAPTER SIX
DISCUSSION OF THE FINDINGS

6.1 Introduction

The previous chapter gave a summary of the findings of this study and narrated the experiences of the healthcare seekers in Harare in the movement from face-to-face healthcare to telemedicine. The following chapter will discuss these findings under the tenets of the ethical theory of consequentialism. One of the main attributes of the ethical theory of consequentialism is the act of utilitarianism. Eugene Bales writes that an action is considered utilitarian when "its contributions toward intrinsically good states of affairs" (1971: 257). This means that the right action is one that benefits the most people and maximises pleasure through favourable consequences. Improving how healthcare seekers receive telemedicine and increasing the positive experiences classifies its use as acting utilitarian. A discussion of the findings from the study will be outlined in this chapter. The findings will be divided and discussed under two main themes - the positive impact of the change from the traditional healthcare system to telemedicine and how the changes contribute to a greater good for healthcare seekers in Harare; and the negative impact or reservations expressed by healthcare seekers based on their experiences in the shift to telemedicine.

6.1 Positive impact of a change to Telemedicine

6.1.1 Improved exchange of medical information

This study found that healthcare seekers agree with the diverse benefits of telemedicine, as presented in the second chapter of this study, the literature review. The review of literature presented that telemedicine allows for the exchange of medical information therefore increasing the knowledge pools (Furusa & Coleman, 2018:2); expands healthcare availability in areas experiencing shortage of healthcare facilities and/or medical professionals; and according to Victoria Ramos (2010) is a key factor in eliminating transportation costs. On this point, Participant White noted that in addition to transportation related costs being reduced, the shift to telemedicine also saves a lot of time for healthcare seekers as they often wait in long queues before getting service, and it also allows for one to still have time to go on with other daily activities and commitments while consulting virtually. Healthcare seekers noted that eliminating travel to access healthcare is one of the best parts of this tool as this not only saves time, but other costs related to accessing healthcare which include transportation. Most healthcare seekers in Harare agreed with Richard Scott and Maurice Mars who argue that telemedicine provides healthcare services past geographic, time, social, cultural, and political barriers (2015:26). The healthcare seekers in Harare highlighted that one of the major problems experienced in seeking healthcare is spending endless

hours at the healthcare facilities before getting assistance and there are several reasons which contribute to this reality thus amplifying the benefits of the availability of virtual healthcare in Harare. A study conducted in the Chegutu and Masvingo (rural) Districts of Zimbabwe across forty-five different public healthcare facilities where nurses and healthcare seekers who were willing and ready to participate were sampled and asked to share their perspectives on the accessibility of healthcare in these districts. The data from the nurses indicates that there was staff shortage by at least 55% (Mangundu et al, 2020). Data from the healthcare seekers in this district showed that 86% all agreed that long distances from villages to the health care facilities are hindrances in health care accessibility. Because of these reasons, many of the healthcare seekers indicated that they have resorted to traditional healers instead. However, resorting to traditional healers is not something that is only experienced by healthcare seekers in the rural parts of Zimbabwe. Healthcare seekers in the capital, Harare, noted that they often resort to traditional healers because they know that this is a more reliable way of accessing healthcare and this is not always guaranteed at healthcare facilities due to several reasons which will be discussed in detail below. Telemedicine does not only promise benefits for the residents of Harare but also for those scattered in rural areas in various parts of Zimbabwe and the continent at large. Furthermore, healthcare seekers highlighted that the use of telemedicine in Harare presents positive opportunities in a healthcare system that has been experiencing decades of challenges. A further analysis of the findings on favourable opportunities presented by telemedicine for healthcare seekers in Harare will be given below.

6.1.2 Avoidance of poor of healthcare infrastructure and systems

This study found that healthcare seekers agree that telemedicine is a great tool for them as it allows them to access healthcare remotely without having to face the burden of seeking healthcare at healthcare facilities which have below average resources. Healthcare seekers used words such as *"dilapidate," "worn out," "deteriorating,"* and *"unkept"* when describing the state of healthcare facilities across the city. These words were not only used to describe the conditions of the buildings found at the healthcare facilities, but they also spoke on the services rendered therein. Participant Green went on to narrate his experience after observing the healthcare facility on his last visit to the doctor. He mentioned that *"there were cracks in the wall"* and the building was *"falling "apart."* These claims by the healthcare seekers on the state of healthcare facilities in Harare was supported in a study conducted at the Harare General Hospital.

An article by Tayla Meyers titled *As Zimbabwe Doctors Strike Drags On, Hospital Hallways Fall Silent*, reported that hospitals in Harare have been compelled to decrease the number of patients

they can admit because of the level of deterioration in the medical facilities and lack of resources (2020). The article presented data found in a study conducted at the Harare General Hospital to explain the sparse numbers of healthcare seekers physically coming to healthcare facilities to seek medical attention. It was found that the Children's Ward which holds sixty-five children only had 6 children and the circumstances which led to the children getting admission at the hospital was that they were seriously ill (Meyers, 2020). On this point, Participant Pink explained that as a chronic patient she visits hospital facilities often for her check-up appointments and often ends ups spending hours before getting assistance as the priority is given to the patients with more serious medical conditions. This is not only due to limited healthcare administrators being available but also due to limited resources at the healthcare facilities. A medical doctor at the Harare General Hospital, Dr Powell, observed that hospitals hallways are empty because patients know that they will not get medical attention, so they do not even bother coming to the hospitals (Powell in Meyers, 2020). These numbers highlight the lack of trust in the healthcare system which was emphasised by the healthcare seekers in this study with some noting that they often resort to traditional healers as one is guaranteed to get help there as noted above.

The lack of trust in the healthcare system from healthcare seekers is a result of countless disappointing encounters and lack of adequate service delivery. Waiting in line for hours on end then going home without getting any help and visiting a healthcare facility countless time before getting assistance are some of the challenges healthcare seekers face daily. Healthcare seekers in Harare collectively agreed that being able to get medical assistance from a distance would benefit them as there are many challenges associated with healthcare facilities. This proved to be one of the reasons why healthcare seekers are excited for a tool such as telemedicine. Telemedicine increases the accessibility of healthcare thus improving the healthcare seekers' experiences. The biggest problem with healthcare in Harare is accessibility and if telemedicine helps to create a bridge for the healthcare seekers, then it increases the favourable experiences- which is what the ethical theory of consequentialism places focusses on. Furthermore, during this study, it was also found that healthcare seekers in Harare face a different issue with transportation which further increases their appreciation for telemedicine.

6.1.3 Anecdote to the challenges of transport when accessing healthcare

The issue of transportation and accessibility was highlighted in this study as a hindrance in face-to-face healthcare with healthcare seekers acknowledging that telemedicine will be especially favourable for those who rely on public transportation. According to Chinye-Nwoko and others (2020), telemedicine promises to use technology to connect healthcare professionals with patients

and healthcare seekers in Harare support this argument. Telemedicine creates a bridge for the healthcare seekers in Harare as citizens across the city face challenges of limited public transportation. Harare residents experience shortage of public transport often resorting to hitchhiking to move from one place to the next. In 2020, the Zimbabwean government put restrictions on the modes of public transport which can be used in the cities. These restrictions resulted in minibus taxis (known as combis in Zimbabwe) being banned from transporting the public. Taking into consideration that majority of the populations relies on public transport to move around, this meant that there was going to be more challenges getting people around the cities. The government imposed that the Zimbabwe United Passenger Company (ZUPCO), which is a parastatal company in Zimbabwe, which operates both urban and long-distance bus routes in the country are the only mode of public transport allowed on the Zimbabwean roads. These buses are limited, and this resulted in people spending many hours waiting for transport to get to and from work. The citizens of Harare describe this new mode of transport as a nightmare and poses many challenges for healthcare seekers who do not have their own private transport.

To put the use of public transport into context, when one needs to access a healthcare facility, they must wait for long hours before they can get a Zupco bus to get them to the nearest facility. It is also important to bear in mind that these buses are not only scheduled, but they also take specific routes which means that healthcare seekers might be dropped off at a location which will still require them to walk before they arrive at the healthcare facility. Overcrowding on the buses which is not an ideal situation for someone who is sick as they also risk contaminating other passengers on board. This concern was highlighted by healthcare seekers who further noted that with the COVID-19 pandemic, public transportation could easily become a hotspot for the virus; thus, increasing the benefits presented by telemedicine for healthcare seekers in Harare as it eliminates the need to travel to access healthcare.

Across the globe, taxis are used as a form of transportation because not only are they fast and dependable, but they also leave passengers as close as possible to their destination which makes them very efficient. The lack of such a system in Harare makes it difficult for the residents to move around and can directly impact those trying to get to the nearest healthcare facility and are unable to get an ambulance. What are some the ethical implications of the fractured transport system in Harare and how does this affect the healthcare seekers? Well, the unavailability of a reliable transport system means that those who are seeking healthcare and do not have private cars are immediately at a disadvantage as they must make alternative arrangements. In cases of emergency, this could pause a lot of challenges as the process before one gets help can be lengthy. There is a possibility that some could lose their battle before they can get medical attention because they are

unable to reach a healthcare facility quick enough. Resorting to hitchhiking presents many challenges particularly when someone is sick because some private vehicle owners might not be comfortable with it. The ability to access virtual healthcare in the shift to telemedicine eliminates transportation related issues and this was supported by Participant Orange when he shared his experience during the time, he was diagnosed with COVID-19. The participant expressed that the only time he left his home during the two-week recovery period with the virus was when he went to get tested. After his results came back positive, he received all the medical assistance virtually including having medication sent to him from the nearest pharmacy to his home. This example shows how telemedicine can also be an aid in situations where one does not have access to transport to the nearest healthcare facility. Making a single phone call to the relevant medical professional could assist in saving one's life before they can get to a healthcare facility. The availability of medical assistance creates opportunity for healthcare seekers to still be able to be assisted while they are on their way to the nearest facility or waiting for an ambulance. Participant Orange narrated that during his experience with COVID-19, he was able to contact a healthcare facility at any time using his mobile device and that made him feel at ease as this meant that help was always accessible if he needed it which he believes was instrumental in his healing process.

It can be argued that healing is a state of mind; when one thinks positively about their condition and are confident that they are going to be healed, there are increased chances of a speedy recovery. On this, TG Shrihari puts forward that, most of all diseases start in the mind, and they also end in the mind. With positive thoughts (quantum thinking) in our mind, we can heal any diseases including cancer" (2017). There are numerous ways in which one can achieve positive thoughts when they are healing and one of them is knowing that help is readily available to them whenever there is a need. Knowing that making a single call gets you help without the worry of being transported to a healthcare facility is important and allows for the healthcare seekers not to be in distress and focus on positive thoughts of healing. The movement to telemedicine can be instrumental in the healing process for many healthcare seekers in Harare as it brings about certainty that one will be able to access healthcare even when they are unable to physically go to a healthcare facility. Telemedicine presents opportunities for healing through positive thoughts as it allows healthcare seekers to access healthcare without facing the burden which comes with the various challenges experienced by the face-to-face healthcare system.

While telemedicine presents all these possibilities for healthcare seekers in Harare, there is a need to pay attention to the reservations from these healthcare seekers as they affect their experiences and an increase in unfavourable consequences presents ethical challenges for the healthcare seekers. Thus, an analysis of these reservations will be given below as this allows for further study

which will increase the favourable experiences in the movement from face-to-face healthcare to telemedicine.

6.2 Reservation about the change to telemedicine

6.2.1 One size does not fit all

The movement from face-to-face healthcare to telemedicine brings about changes to societal norms and the traditional way of accessing healthcare. Healthcare seekers in Harare highlighted that taking into consideration the social system in which telemedicine is being introduced not only improves its acceptance, but its success rate as well; thus, improving the favourable consequences. There are a range of factors which contribute to the social systema and some of them include technological literacy, cultural believes and values, societal hierarchies, and the environment. A study on the contextualisation of innovations in African countries found that the problems which are experienced in the acceptance of different innovations are often due to the neglection of the complexity of African countries and their cultural beliefs (2019:2). This reality means that there is no umbrella approach to the implementation of telemedicine and there cannot be an umbrella solution to address the different experiences. A pragmatic approach to the experiences in the movement from face-to-face healthcare to telemedicine for healthcare seekers in Harare will result in more favourable experiences. The factors which have an impact on the healthcare seekers in Harare and causes the acceptance of telemedicine to vary and contribute to the reservations in the movement were noted in the findings of this study. Healthcare seekers in Harare highlighted their various reservations about telemedicine and a detailed analysis of these reservations will be given below.

Kwame Gyekye presented that:

> *Negro-African society puts more stress on the group than on the individuals, more on solidarity than on the activity and needs of the individual, more on the communion of persons than on their autonomy. Ours is a community society (Senghor in Gyekye, 1992:329).*

This point further highlights the importance of community which is placed on members of African communities and how acting in solidarity is particularly important. Thus, the implementation of telemedicine needs to take this into consideration as its acceptance is not based on the individual alone but the community at large.

6.2.2 Cultural changes because of a change to telemedicine

This study gathered that telemedicine brings about change to the medical culture and norms, and the general understanding of seeking healthcare which has existed for many generations. It brings about change to what healthcare seekers are used to and there are varying rates of acceptance due to the varied factors which shape different societies and the influencers therein and the consideration for those who set the standard for culture, norms and morality in different social settings is important. In many African cultures, the elders are looked up to for a moral compass and they are the custodians of morality and ethical behaviour as they are believed to be wiser than most. The elders in the African communities set the tone for what is acceptable and what people in a particular area practice, and this then gets passed down from generation to generation. This is due to one of the core beliefs of Africans, Ubuntu, which places strong emphasis on the respect for elders. Adding to the influence of elders in the African communities, Beatrice Okyere-Manu and Stephen Morgan noted that "Custodians of African cultures do their very best to often pass on their beliefs and values from one generation to another in a bid to ensure the continuity and preservation of their inherited traditions, which, often, is traced to generations before them in their respective histories" (2020:26). The way in which things are done is something that is taught from one generation to the next thus bringing up the question, what does this mean for telemedicine as an emerging tool in healthcare which has not been used in the past? Does the belief in elders as custodians to society norms and practices have an impact on the acceptance and experiences of telemedicine?

When I had conversations with some of the elders in the Shona culture about the cultural values of Ubuntu, they referred it as *'hunhu'* in Shona. *Hunhu* is an especially important part of communities across the country and the word *'hunhu'* directly translates to 'manners. It is arguable that Ubuntu goes far beyond just manners; Ubuntu honouring the next person because you understand that your humanness is attained from theirs. In their argument on "The African Ethics of Ubuntu," Beatrice Okeyere-Manu, Stephen Nkansah Morgan and Joseph Antwi refer to the concept of Ubuntu as *Ukama* (2022:27). *Ukama* can be described as way of living; something that you are taught as you grown and learn as you go by your day-to-day life as it is how the community around you lives. It emphasises the importance of not only respecting oneself, but those around you in a community; treating them as if they are your family. *Ukama* honours that one does not simply exist as an island and that those around them influence their decisions and how they choose to live within the society with John Mbiti translating the concept of *Ubuntu* as "I am because we are; and since we are, therefore, I am" (1969: 109). The people who teach the communal beliefs and help provide a moral compass amongst many African cultures are the adults. For a system to

be considered moral within an African community there is a need for it to be approved by those who set the standards for morality. In the Shona culture, there is an idiom which says *"muromo wevakuru hauwire pasi,"* which means that the elders' words are powerful and hold a lot of weight. What the elders say will happen and with this understanding, community members look up to the elders in the society for guidance and morality.

These are some of the idioms subscribed to within the culture and helps to set standards for morality, what people should follow and how people should act. The acceptable moral way to act is that which is approved by the elders as their word does not fail and happens. This means that with a practice such as telemedicine, if these same elders do not understand what it is or are not made familiar with it, it is possible that they might be an influencing factor in the general acceptance and success of telemedicine. Due to the believes of the social system, if the elders have not accepted telemedicine and its use, there is a possibility that it will not always be looked at as the necessary tool in the healthcare system which it is. This was further highlighted by healthcare seekers in this study as they expressed their hesitations of telemedicine are a result of lack of understanding. This lack of understanding stems from the digital divide, which was presented in the literature review, chapter 2. This digital divide plays a role in the experiences in the movement to telemedicine for healthcare seekers in Harare.

6.2.3 The effect of the digital divide

Technical literacy

During data collection of this study, the first question which was asked aimed to assess if the participants knew about telemedicine. Forty-six percent responded that they did not know what telemedicine is but as the interviews progressed, it was evident that it was the term of which they were not particularly aware. This made me wonder how many other healthcare seekers out there have turned an eye on telemedicine simply because they did not know what it was. How many healthcare seekers have neglected this tool in healthcare because they have never heard about it, or it was not explained to them in a way which they understood? However, this is not the only place where healthcare seekers proved to have little knowledge and understanding. This study also found that the healthcare seekers are hesitant to use telemedicine due to their lack of skills when it comes to the digital space. It was found that telemedicine acceptance is slow, particularly by the age group participants of this study, because they are not digital natives which has unfavourable results for this tool in healthcare. These findings supported what was presented in the literature review when Scott Kruse and others (2018) put forward that technological immaturity amongst the older age groups is the reason telemedicine experiences low acceptance rates. This was termed

the “digital divide” by Richard Wootton, John Craig, and Victor Patterson (2017) and the healthcare seekers in Harare face challenges in using telemedicine due to this fact. Participant Grey, the bonus participant, raised this a concern in the acceptance in telemedicine as she noted that her peers might accept telemedicine easier as they are all *digital natives,* but she does not believe that the case would be the same for her parents and their peers who are *digital immigrants* and the target sample for this study. The lack of education about telemedicine as a tool being used in healthcare has led to healthcare seekers having doubt as it presents many new opportunities with which they are not familiar. It is therefore important to ask the following question, “what are the ethical implications for healthcare seekers in Harare using a healthcare system which they do not understand?.” While it is the healthcare seekers’ responsibility to make sure that they are aware of the system they are using to access healthcare, the responsivity cannot be placed on them alone and there is a need for the administrators of this system to ensure that both parties understand the implications of accessing healthcare virtually thus improving the favourable experiences in its use.

The lack of understanding of telemedicine and how it operates amongst certain age groups makes it less accessible to them which has a direct impact on the favourable consequences of this system. When these consequences are not addressed and dealt with accordingly, they could present unfavourable results when telemedicine is examined under the tenets of the ethical theory of consequentialism. For telemedicine to be deemed as ethical for the healthcare seekers in Harare, there is a need to consider the digital divide and what can be done to ensure that the digital natives are not inconvenienced by their lack of technological knowledge when trying to access healthcare. However, not being able to understand the telemedicine systems is not the only challenge experienced by healthcare seekers in Harare. The issue of connectivity came up several times during this study.

Internet connectivity

The interviews of this study were all done telephonically due to the travel restrictions which existed at the time due to COVID-19 pandemic. One of the problems which was experienced during the interviews with the participants was that network would often be problematic with issues such as not being able to hear the person on the other side and calls getting cut in the middle of the interview being common. In some cases, interview had to be re-scheduled to allow participants to have better connectivity because carrying on with the interviews would have been impossible and this would have caused inconsistencies in the results as there was risk of misunderstandings due to calls cutting or being delayed. This brought about many questions with regards to the use of telemedicine in Harare as this is a system which relies heavily on communicating though various

devices and this requires reliable internet connection which enables emailing, audio calling and video calling. During these interviews, I could not help but wonder, what happens in an emergency where a healthcare seeker is on the phone with the doctor, and they start to have connectivity issues? What happens in situations where there is no network coverage at all, and one needs to make use of telemedicine? Could this not create problems in the diagnostic process when the two parties cannot hear each other properly? One of the contributing factors to the low connectivity in Harare is the on-going power outages which lead to some communities going for days that turn into weeks without electricity.

The shortage of electricity was highlighted throughout this study and how this could have an impact on the use of telemedicine for healthcare seekers in Harare. Many communities face power outages which last for several days and for some high-density locations around the city, the possibility of going for months without power is not unheard of. For many people around Harare, using solar power system has become the solution to this power issue but this is not a solution feasible for everyone due to the affordability factor. Participant Green observed that from his experience as a citizen of Harare, the people who have reliable and uninterrupted electricity supplies are those who either use generators or solar energy. Power outages impact the use of various electronic gadgets in the household and makes it impossible to charge devices such as cell phones, tablets and laptops which are important in the use of telemedicine. Healthcare seekers in Harare indicated this as a concern in their experiences with telemedicine as days of power-outages can leave their devices uncharged thus restricting them from being able to access telemedicine services. The unavailability of power also interferes with the network connection which makes it difficult for phones to have service. While the use of telemedicine presents opportunities for challenges experienced within the medial space in Harare to be addressed, this cannot be done if there are limitations on the most important aspect which makes telemedicine possible-connectivity. Poor connectivity creates restrictions which increase the unfavourable consequences in the movement to telemedicine. The ethical theory of consequentialism focuses on maximising the good consequences and with the issues of connectivity being experienced at such a large scale in Harare, it is important to address these as this reality pauses ethical challenges in the movement to telemedicine.

6.2.4 Privacy and confidentiality

COVID-19 pandemic increased the need for telemedicine as it allows for limited physical interaction which helps reducing the spread of the virus. This meant that while an exceedingly small portion of the healthcare seekers had previously been exposed to telemedicine, particularly

those who have access to private healthcare services, countless other healthcare seekers only heard of telemedicine and its possibilities at the height of the pandemic due to the many restrictions which were put in place. While many were quick to make use of the tool due to the benefits it presents in modern society, very few took the time to consider what the ethical implications of using this tool could be. The concerns amongst healthcare seekers in this study support the findings made by Bongani Ngwenya, Tawanda Mushawarima and Fanwell Ncube where they highlighted some of the experiences in using virtual healthcare in Zimbabwe (2016).

One of the concerns which came from this study is that of privacy and the protection of personal information in the movement to virtual healthcare. Healthcare seekers need to be made aware of the fact that their privacy will be respected, and their data will be kept confidential for them to feel that they can trust using telemedicine in place of face-to-face healthcare. Medical data is extremely sensitive and the lack of trust with regards to privacy from the healthcare seekers can result in unpleasant experiences for the healthcare seekers and bad reputation of the healthcare industry. The concern for privacy heightens the trust healthcare seekers have in the healthcare system and this can have major impacts on their experiences.

Trust is an important aspect in the relationship between a doctor and patient and on this point, Ngwenya, Mushawarima and Ncube put forward the following (2016:34):

> *Patient data confidentiality is an ethical principle in medical practice. With the use of e-health systems patients' data will be in electronic form which is potentially easy to access and disseminate hence the issue of data security is of paramount importance when considering the adoption of e-health.*

A participant gave an example of healthcare seekers looking for sexual health assistance. If one sends a picture to the doctor, they need to feel safe knowing that no one else will see these images and that all their health data is safe with one person. The participant posed these three questions: How do I know who is on the other side of the telephone conversation? Is the doctor alone in the room during consultation for the confidentiality of the patient? Is the call recorded or not? For these questions to be answered and for the concerns of the healthcare seekers to be met, there is a need to put careful consideration of privacy in the administration of telemedicine. Under the ethical theory of consequentialism, if telemedicine fails to meet this unfavourable consequence and satisfy the needs of the healthcare seekers, then it cannot be deemed as ethical. However, for privacy concerns to be met, there is a need for policies and regulations which state what is permissible and ethical concerns can be addressed in the use of telemedicine. Telemedicine is administered through platforms such as WhatsApp, and with WhatsApp now having more access to people's information, there is now a concern especially with medical data which is confidential. Put simply,

when one goes to a healthcare facility, they are required to sign indemnity forms. On these forms, it is made clear that patients are aware that their medical information will be managed only in ways which they have consented to. By signing these forms, healthcare seekers are letting the administrators know that they have read the conditions and they agree with how their medical data will be managed. However, this is not the case when one access healthcare using telemedicine.

6.2.5 Lack of regulatory policies for conducting telemedicine

The study found that the concern amongst healthcare seekers regarding privacy is valid as there are no regulations for telemedicine in Zimbabwe. In a study conducted by Tsiko in 2019, he made findings which highlighted that there is a need for a regulatory framework in telemedicine in the Zimbabwean setting (2019). A year after the study by Tsiko was published, Zimbabwe went into lockdown due to the COVID-19 pandemic. What I am alluding to with this argument is that given the period between that study and this current study, there are still no regulations for telemedicine and its use in Zimbabwe and this could pose many different challenges. Based on the history of the country and the way in which the government of Zimbabwe operates, it would be impossible for a framework for the regulations of telemedicine to have been set up, agreed upon and passed within one year. This would take many months (possibly years) of planning with the different stakeholders which will be affected to produce regulations which are favourable for every party involved.

The healthcare seekers concern for privacy is supported by Ngwenya, Mushawarima and Ncube who highlight that the lack of policies and regulations in the telemedicine space in Zimbabwe poses the risk of unauthorised access to information which results in various ethical implications. (2016:34). The researchers further argue that this is a result of the interconnectedness of the healthcare system in Zimbabwe. To put this into context, if a healthcare seeker uses telemedicine, they need to consent over who has access to their information so that in a situation where they find out that medical data was accessed by the wrong person, they have formal documents such as policies and procedures, standard operating procedures (SOPs), which have formal guidelines which tells them how this can be handled and to protect their confidentiality. When there are no rules, it means that anything can be done, and this can raise many ethical concerns. Ngwenya and others argued that there is a risk of unauthorised access to information due to the interconnectedness of the healthcare system in Zimbabwe (2016:34).

Having regulations and guidelines in the administration of telemedicine will promote standardisation and this will not only be beneficial for the healthcare seekers, but for the healthcare professionals and other users of this tool in the medical systems across Zimbabwe thus improving the favourable consequences of telemedicine. In a study conducted by Tsiko in 2019, he made findings which highlighted that budget constraints are a major limiting factor for telemedicine in Zimbabwe and argues that there is a need for a regulatory framework in telemedicine in the Zimbabwean setting (2019). There has been no formal legalised framework since the findings by Tsiko were brought forward which further raises many ethical questions about the administration of telemedicine in Harare. Maintaining confidentiality requires safeguarding the information that an individual has disclosed in a relationship of trust and with the expectation that it will not be disclosed to others without permission, except in ways that are consistent with the original disclosure. The confidentiality of information that could identify subjects should be protected, respecting the privacy and confidentiality rules in accordance with the applicable regulatory requirements.

6.3 Conclusion

This chapter has presented an analysis of the findings of the study and further gave an analysis under the tenets of the theory of consequentialism. It went into detail to give an in-depth analysis of telemedicine as a tool in a fractured healthcare system and how it can also be beneficial given the challenges faced by the transport system in Harare. The chapter went on to give an ethical analysis of the healthcare seekers' reservations about telemedicine. The cultural changes presented by telemedicine, connectivity issues experienced in Harare ,high data costs and inconsistent electricity supply, the concern for privacy in the use of telemedicine are some of the findings which were all analysed in this chapter. The analysis of the findings of this study under the ethical theory of consequentialism lead to recommendations for more studies to be done in the field of telemedicine in Harare, and across the African continent at large. These recommendations and the conclusion will be presented in the next chapter.

CHAPTER SEVEN
SUMMARY, RECOMMENDATIONS AND CONCLUSION OF THE STUDY

The previous chapter gave an analysis of the findings of the study under the tenets of the ethical theory of consequentialism. It presented the findings of this study under different themes and went into details giving an ethical analysis under each theme. The following chapter will give a summary of the study, recommendations based on findings from this study and lastly, give a conclusion for the complete study. It will start by giving a summary of each chapter as presented in this research report. It will then go on to give recommendations based on the finings which came up from this study. Lastly, it will give a conclusion which highlights how this study adds to the body of knowledge which exists in Harare, and the African continent at large, when it comes to telemedicine studies. The conclusion will also bring forward the need for more work to be done in this discipline to improve the experiences of the healthcare seekers who currently use telemedicine and those who will use telemedicine in the future.

7.1 Summary of the Study

Chapter 1 gave background to the research topic and laid the foundation for what is to come in the study. It paused the key research question which was “What ethical issues should be considered when engraining the experiences of healthcare seekers in the emerging practice of telemedicine services in Harare, Zimbabwe? This chapter also presented the sub-research questions which would help further unpack the key research question.

Chapter 2 was a thematic review of literature which first provided insight on face-to-face healthcare and then went further to explore some of the existing thoughts in telemedicine.

From this review of literature, a gap was identified which highlighted that the research which exists focuses a lot on the data collection and disease surveillance in telemedicine. This means that there

is little research on the experiences of healthcare seekers with telemedicine and thus raising ethical concerns when telemedicine is critically analysed under the ethical theory of consequentialism.

Chapter 3 introduced the ethical theory which was used as the lens under which the findings of this study were analysed. It gave definition for the theory of consequentialism which is a normative theory which states that the moral thing to do is that which results in the most positive consequences. Therefore, to improve the morality of an action, there is a need to maximise the pleasurable consequences. The chapter also outlined how this theory would be used to guide the study in the analysis of the findings.

Chapter 4 presented the research design, research methodology and the methods which were used to gather the data in this study. It explored the research design which were explained under the sub-headings: research methodology, population samples and reliability. The qualitative descriptive methodology was used, and qualitative descriptive studies are characterized by simultaneous data collection and analysis. The first method of data collection was done through literature and search engines which include Google Scholar, Research Gate and Ebscohost, which were used to collect data from various dissertations, theses, and journal articles. Due to the COVID-19 pandemic, most libraries were inaccessible during this study making it difficult to access books and other resources which were not available online. The second method of gathering data for this study was empirical and this was done by conducting interviews. The sampling methods which were used were non-probability and snowballing sampling and this helped the researcher gather participants for this study.

Chapter 5 presented the findings of this study from the interviews which were conducted with thirteen participants across Harare. The data gathered in this study showed that while the movement from face-to-face healthcare to telemedicine has countless benefits, it also has various limitations for different populations. The findings from this study showed that healthcare seekers in Harare believe that the movement from face-to-face healthcare can be a vital tool in the healthcare system in Harare. This is because telemedicine allows for healthcare to be accessed remotely and removes the costs which are associated with traveling to a healthcare facility. The study found that accessing face-to-face healthcare poses many challenges for healthcare seekers in Harare and this includes a shortage of healthcare professionals, dilapidated healthcare infrastructure, unavailability of resources at healthcare facilities and transports challenges and costs to and from healthcare facilities. These challenges result in healthcare seekers spending hours

to and at healthcare facilities before they get medical attention and not being able to get proper medical assistance due to the lack of resources.

The study also found that while the healthcare seekers had several challenges with the face-to-face healthcare system, they have some benefits which they have been accustomed to which do not come with the use of telemedicine. One of the benefits highlighted by healthcare seekers is that the face-to-face healthcare system allows for healthcare seekers to have a physical relationship with the doctor which most healthcare seekers believed is beneficial in the healing process. Another benefit of the face-to-face healthcare system which was found in this study is that in cases where the healthcare seekers are unable to articulate themselves properly, the doctor can use other methods to give an accurate diagnosis. The healing properties of physical contact in face-to-face healthcare were echoed throughout this study. However, there was an acknowledgement of telemedicine and the endless opportunities it brings in the healthcare system in Harare. Eradicated transportation costs, reduced time waiting in queues at hospital facilities and medical attention available at any time were some of the added benefits of telemedicine which were found in this study. However, data gathered by this study raised some ethical concerns by the healthcare seekers in Harare in the movement from face-to-face healthcare to telemedicine. These ethical concerns were considered in Chapter 6 where an analysis of the findings was done using the framework of the ethical theory of consequentialism.

Chapter 6 presents an argument for a pragmatic approach for the successful and ethical implementation of telemedicine which will improve the experiences of healthcare seekers. The analysis of the findings showed that healthcare seekers in Harare agree with the benefits of telemedicine which were discussed in the literature review and how this tool presents more benefits for those in Harare. The deteriorating healthcare systems and the lack of public transportation in the city has presented many challenges for healthcare seekers in the Zimbabwean capital and the use of telemedicine creates a bridge which allows all to access healthcare. The lack of regulations and policies for telemedicine is highlighted in this chapter and this led to the concern for privacy in the use of telemedicine amongst healthcare seekers. Furthermore, the chapter reports on the cultural shift which will be brought about by telemedicine and the change which will be brought about by telemedicine in the movement from the traditional way of accessing healthcare; it also analysed how the culture amongst the people in Harare can have an impact on their acceptance of an innovation such as telemedicine.

7.2 Recommendations

By drawing from the experiences of the healthcare seekers in the movement from face-to-face healthcare to telemedicine, this study was able to critically analyse these experiences. From these experiences, the researcher proposes recommendations based on the findings of this study.

7.2.1 Information and Communication Technology Education

The need for ICT education is evident from this study because some of the healthcare seekers highlighted that they are not fully aware of how telemedicine operates. While the younger generations might be able to adapt to the use of telemedicine quickly, the elderly healthcare seekers would not be able to use this tool efficiently. There is a wide gap in the technological literacy rates amongst the different healthcare seekers and when carefully considered under the ethical theory of consequentialism, which argues that a moral action is that which has the most favourable outcomes for everyone, these are the genuine consequences brought about by telemedicine. For telemedicine to be used effectively, and efficiently, there needs to be an understanding of how this system works especially from those who must use it and work with it. While this can be achieved through specialised programs and intentional advertisements, such as use of flyers and installation of billboards at and on strategic places specifically aimed at helping people understand how telemedicine operates, there is a need to improve the overall understanding of ICT across the different populations in Harare. This would help all healthcare seekers to understand telemedicine better and improve their overall experience with this system in understanding it better. Thus, the implementation of ICT education in Zimbabwe could help the populations navigate the digital world better. The use of digital platforms has increased across the globe and there is a need to improve how African countries are equipped to manage the rapidly changing world of ICT.

ICT education can help bridge the gap between the digital natives and digital immigrants while also bridging a bigger gap in the global space which sees developing countries lagging compared to developed countries who are more advance in ICT and have learnt to use it more efficiently. This is evident in the ways in which telemedicine has been used effectively in the healthcare systems in developing countries while in most developing countries, it is only in its pilot stages with a generous portion of the populations not being aware of what telemedicine is. This leads me, the researcher, to the argument that when introducing ICT education, there is a need to carefully consider the population in question. For example, in countries such as Zimbabwe there are still populations which have never been exposed to any technological devices. In some cases, in the rural populations, there are populations who have cell phones but the most they can do is make a

call or receive a call. What seems like a mundane task such as recharging airtime or data to a cell phone is an overly complex task for some populations.

Improving ICT knowledge will improve the overall experience with telemedicine and produce more favourable results. Under the ethical theory of consequentialism, telemedicine is deemed moral when it presents more desirable consequences than undesirable ones for those who must use it. ICT education is one of the ways in which this can be done because allowing healthcare users to be more knowledgeable about telemedicine will improve their experiences when they use this tool when seeking healthcare. There is a Shona idiom which says that *"Kudzidza hakuperi,"* which means that education is a continuous perpetual process. There is no point in life when one knows everything. So, every occasion is an opportunity to gain experience s and learn something new. If this is applied in the education and acceptance of telemedicine, healthcare seekers of all ages will be better equipped to use this tool and improve their experiences when accessing healthcare.

7.2.2 Improve Accessibility

There are a range of factors which influence accessibility in the movement from face-to-face healthcare to telemedicine. One of these factors is the digital divide which was discussed in the literature review. The digital divide leads to a digital gap between the healthcare seekers who understand technology and those who do not. This then leads to gap in the accessibility to telemedicine for these various healthcare seekers. To ensure that accessibility is the same for all healthcare seekers who use telemedicine, there is a need to educate them. The need for education was explained above and can be further emphasised here because it will improve the accessibility of healthcare seekers when they want to access healthcare using telemedicine. Improving the accessibility for all healthcare seekers who will use telemedicine will improve their experiences thus providing more good consequences.

7.2.2.1 Reliable internet connection

The findings of this study highlighted that connectivity is an issue which is experienced by healthcare seekers when they are trying to access healthcare using telemedicine. Connectivity issues can lead to the accessibility to telemedicine for healthcare seekers being compromised. Connectivity in this study was divided into two: the availability of network services which allow healthcare seekers to access the internet and the availability of data and airtime which allow also allows healthcare seekers to access the internet and make the necessary phone calls which make

the use of telemedicine possible. The ways in which these two limitations can be addressed vary but one way to address the problem of access to reliable internet is more consistent network service providers. However, reliable sources of electricity could improve the experiences of healthcare seekers with telemedicine. Healthcare seekers will be able to make use of the tool as they please and do not have to worry about connectivity when they have a reliable source of power.

7.2.2.2 Reduced data costs

Another finding which came from this study is that the price of data and airtime can be a limiting factor in accessing healthcare through telemedicine. The participants of this study collectively agreed that being able to access healthcare needs one to have airtime or data and these can be very pricey for the average Zimbabwean considering that the country has some of the highest data and airtime costs in the Sub-Saharan region. There are numerous ways in which this can be addressed but asking that network providers lower their costs might be an exceptionally long and fruitless mission. Therefore, a system which does not need healthcare seekers to buy data or airtime before they can access healthcare should be developed which should assist anyone, anywhere to be able to access healthcare without the concern of buying airtime or data. Systems such as these have been developed before and they have proven to be effective. Generating a system that requires little to no data would be beneficial for the users of telemedicine. If the costs of buying data or airtime are eliminated or reduced, this will increase accessibility and improve the overall experience of telemedicine for healthcare seekers thus creating more good consequences for telemedicine.

7.2.2. 3 Mass education through various media platforms

With this argument, I would like to propose the need for public education which will help the users of telemedicine to understand it better. The proposal for public education related to the use of telemedicine will help in reducing the digital divide which was discussed in the literature review. There are various cost-effective ways in which this can be used to reach a larger audience. The use of television, radio, medical fliers/pamphlets, billboards, and public engagements can be used as a medium of communication to spread awareness on the use of telemedicine and help people understand it better with the assurance and security from the administrators and regulators of it. However, this is not the only reason these modes of communication should be used. There is a need to consider the generation which was sampled for this study. While younger generations can verify information through the quick use of the internet, this is not the case for older generations.

For example, for the digital natives, verifying the correctness of information can easily be done by browsing the different online platforms available to them. This is something that can be done by a major number of digital natives. However, this is not the case amongst older generations. While there might be a considerable amount of those in the age-gap considered as the digital natives who understand how to navigate the mobile space and get access to information, this is not the same for the majority, especially those found in the geographic region of the study area. While the literacy rate in Zimbabwe sits above average, this does not directly translate to the technological literacy. If the healthcare seekers who will be exposed to a system such as telemedicine understand technology better, then they can use this tool in accessing healthcare much easily. To create a community in which telemedicine is used effectively and ethically, there is a need to ensure that all who are exposed to it have been properly equipped to this movement from accessing healthcare physically to a more virtual space. By taking these factors into consideration, favourable consequences are increased, and telemedicine can be deemed ethical when assessed under the tenets of the ethical theory of consequentialism.

One of the questions in the interviews for this study asked to healthcare seekers was if they knew what telemedicine is. The responses showed that those who indicated that they do not know telemedicine, later found out that they infact knew what it was but were not familiar with the term itself. This could be because of language barriers and limitation in the technological language and in some cases, there is little effort which has been put into helping healthcare seekers assimilate with this tool which is being used in healthcare. For this learning process to be improved, there is a need to invest in community programmes which not only explains telemedicine to healthcare seekers, but also helping them on how they can use it as a tool to access healthcare. There are various programmes which exist around the country which have helped people to improve their healthcare and be knowledgeable in different medical spaces. For example, like many African countries, Zimbabwe faces a sizeable percentage of its population living with HIV/AIDS. When this virus started, countless people lost their lives and one of the reasons for this was that people were not properly informed on how the ARV treatment could help them. Finding out that one is HIV positive almost felt like a death sentence and many Zimbabwean families lost family members to this virus. The country invested in the education of HIV/AIDS to save many lives. People were taught about how the use of antiretroviral (ARVs) could save their lives and they could live healthily for many years and the possibility of having a child without transmitting the virus to them. The education for HIV/AIDS was everywhere on billboards, posters, the news, the radio, and any other communication platform one can think of, and done in different languages to reach all the masses. This helped immensely in the country as more people were no longer ashamed to

seek help and suddenly this virus did not feel like a death sentence anymore. The same approach can be used to help bridge the gap which exists in technological literacy when it comes to the use of telemedicine. However, in developing countries, from the total allocation given to healthcare investments, only 1% of that allocation is invested in healthcare information technology (Turan & Palvia, 2014:58). This has hampered the growth of telemedicine in these countries, particularly in Africa. The lack of investments in tools such as telemedicine means while it presents many different benefits, these will not be accessed properly especially in a country like Zimbabwe where the use of telemedicine has not been fully developed and utilised due to the various constraints faced by the healthcare system.

7.2.3 Implement regulatory policies for the use of telemedicine

The concern for privacy over the use of telemedicine was highlighted several times by the participants of this study. Literature which exists on the regulations and policies for telemedicine in Zimbabwe showed that there are no policies or guidelines which have been put in place for the telemedicine system and its use in the healthcare sector of the country. The challenges which can be caused by the lack of policies or guidelines which regulate the use of telemedicine are endless and these can both be experienced from the healthcare seekers' perspective and the healthcare administrators as well. Accessing medical attention virtually is a tool in healthcare which is spreading rapidly and will continue to grow as it assists in the fight to limit the spread of the COVID-19. Lack of policies or guidelines can present many problems in the future in the use of telemedicine as the use of telemedicine continues to grow with the current COVID-19 pandemic which the world is currently experiencing. When people's lives are involved and their confidential information is at stake, there is a need to create boundaries and restrictions under which data that has been gathered and collected from patients should be protected and managed. Maintaining confidentiality requires safeguarding the information that an individual has disclosed in a relationship of trust and with the expectation that it will not be disclosed to others without permission, except in ways that are consistent with the original disclosure. The concern of privacy can be addressed with the implementation of policies such as the Protection of Personal Information Act (POPIA) which was introduced in South Africa in 2021. This is an important regulation in the telemedicine space and can improve the experiences of healthcare seekers in their use of telemedicine as the health seekers will have the comfort of personal information security and confidentiality.

The confidentiality of information that could identify subjects should be protected, respecting the privacy and confidentiality rules in accordance with the applicable regulatory requirements. This

will therefore require having proper data management systems which are rightly regulated. This helps to create trust between the healthcare seekers and the healthcare professional who assists them virtually. Healthcare seekers need to be made aware of the fact that their privacy will be respected, and their data will be protected and kept confidential for them to feel that they can trust using telemedicine in place of face-to-face healthcare. Medical data is extremely sensitive and the lack of trust with regards to privacy from the healthcare seekers can result in unpleasant experiences for the healthcare seekers and reputational damage to the healthcare industry. The need for regulations and policies for telemedicine and its use in the healthcare system in Harare will improve the experiences of healthcare seekers which increases the favourable experiences of telemedicine thus deeming telemedicine ethical under the ethical theory of consequentialism.

7.2.4 Further research on the impact of a change to telemedicine

A study done to conduct the contextualisation of innovations in Africa found that institutions of higher education play a vital role in the development, acceptance, and experiences of various innovations (Hooli, et al 2019). These institutions have various resources which can be instrumented in the innovation process and the continuity of research adds to the numerous bodies of knowledge which exist in a particular discipline. The findings of this study showed that for the experiences of the telemedicine experiences for healthcare seekers to be improved, there is a need for different role players to come together. These include the different healthcare professionals who have play a part in the administering of healthcare. Taking the experiences into account and improving their circumstances will have direct impact on the experiences of healthcare workers in Harare. If those who administer healthcare in both face-to-face and telemedicine are working under better condition, this improves their ability to perform their job better and in-turn, improves the experiences of those who seek healthcare at these facilities.

There is a large gap in the technological advancements and thus a gap in the technological literacy. The research which exists mostly of telemedicine experiences is Eurocentric. Since telemedicine has been gradually introduced in various parts of the world, its starting points were developed countries. Since telemedicine has been used in these countries for many years now, it has had time to not only be modified, but it also has been around for long enough for those exposed to it to understand it better and therefore be comfortable with its use. This further widens the gap in literature when we want to consider the telemedicine experiences in healthcare seekers in African countries. This means that while there might be regulatory systems which have been put in place for telemedicine in developed countries, this might not be the case for developing countries who

were thrown in the deep end by the COVID-19 pandemic which demanded for a virtual system to be set up and active almost immediately to curb the spread of the virus.

The presence of inter-disciplinary research in the telemedicine experiences will give the field an in-depth understanding of what needs to be done to improve the experiences of all those who are exposed to this system. More ethical research needs to be conducted to get more detail on how we can improve the positive consequences in the use of telemedicine, not only for the healthcare seekers, but those who administer this tool as well. Research studies should consider more socially inclusive research, better innovation policies and guidelines, and contextualised solutions which are relevant to the social system which is being considered.

7.3 Conclusion

This chapter outlined the various chapters in this study and gave a summary of what was covered in every chapter. The aim of the study was discussed and a review of the existing body of knowledge according to literature was given. Interviews were conducted which gathered data about the experiences of healthcare seekers in the movement from face-to-face healthcare to telemedicine. The methods and methodology which were administered in the data collection of this study were presented in earlier chapters and an insight into the ethical theory of consequentialism was also given. A presentation of the findings was given which led to an analysis through the ethical theory of consequentialism.

The research objectives for this study were as follows: to explain the nature and scope of telemedicine; to explore the notable differences in the experiences of face-to-face healthcare seekers and patrons of telemedicine; to analyse of the implications of healthcare seekers' experiences in their shift from face-to-face healthcare to telemedicine and lastly, to analyse the ethical implications of the shift to telemedicine under the ethical theory of consequentialism. While literature exists on the implications of the movement from face-to-face healthcare to telemedicine is plenty, it is predominantly from a Eurocentric perspective. The lack of quality infrastructure and efficient healthcare facilities in some parts of the African continent means that they are less advanced in their healthcare systems thus creating a dearth in research in telemedicine as it is not widely used. Another factor which has limited the research available is that telemedicine projects in Africa are often begun but there are many of them which get neglected without being fully implemented. There are several reasons which contribute to the neglection of these projects which

limited the availability of data for this study as it was difficult to measure the success of failure of these projects when they are not been followed through.

The various definitions of telemedicine which were given all noted that it is a way of accessing healthcare virtually without the extra burden of physically going to a healthcare facility. The healthcare seekers in Harare indicated that seeking healthcare through the face-to-face system has notable advantages which include familiarity and comfortability when one must explain themselves to a healthcare professional. Healing properties associated with physically seeing a doctor were discussed and healthcare seekers believe that there is some benefit in the doctor being able to see, touch and smell you which aids in the diagnostic process. It was also noted that the state of healthcare facilities and the resources available have resulted in many challenges for the face-to-face healthcare system as healthcare seekers are often unable to get the help they require. The unavailability of healthcare professionals due to a shortage experienced across the country is one of the reasons healthcare seekers in Harare have lost trust in the face-to-face healthcare system and the costs related to accessing these facilities has resulted in many seeking alternative ways of seeking healthcare which includes traditional healers. Due to the various limitations with the face-to-face healthcare systems, it was found that healthcare seekers in Harare believe that a tool such as telemedicine is vital in making healthcare accessible to all.

The findings of the telemedicine experiences of healthcare seekers in Harare found that healthcare seekers believe that there are some notable favourable consequences of telemedicine and they summarised as reduced time spent at healthcare facilities, saving in transport cost, increased accessibility, the ability to exchange medical records electronically, increased confidence during consultation and limited contact at healthcare facilities, which is vital in a world that is currently experiencing the COVID-19 pandemic. Healthcare seekers in Harare believe that being able to access healthcare virtually will assist with the various challenges experienced within the healthcare system and improve the overall experience associated with seeking healthcare in the city which often gets interrupted by issues related to both the administrators of healthcare and the facilities at which healthcare seekers go to. Telemedicine presents several opportunities for healthcare seekers in Harare who often wait long hours before they can get medical assistance and experience endless transportation issues due to the limited public transport services.

An ethical analysis of the healthcare seekers' experiences under the ethical theory of consequentialism considered both the favourable and unfavorable consequences. The unfavorable consequences which were found in this study were presented as reservations about telemedicine

and were thematically presented under the following sub-topic which considered the change in healthcare culture, which was explained as the shift in the movement to digital healthcare which is not the norm for healthcare seekers in Harare; concerns of compromised privacy, this was the concern for the lack of policies and regulations in the administration of telemedicine; and lastly, low levels of connectivity across the city which can have an impact on the accessibility of telemedicine which relies on the use of various digital platforms. The change in healthcare culture, as those in Harare know it, was also discussed as one of the limitations for healthcare seekers in their movement to telemedicine. Healthcare seekers are venturing into the unknown by using this tool and there is uncertainty which comes with that. The way in which things are done is influenced by the culture in a particular area and the belief system can influence how well an innovation such as telemedicine is accepted. There is a need to consider those who set the standard for morality and the factors which influence the behaviours and norms within the social system under which telemedicine is being administered. In Harare, just like many other African cities, there is a strong regard for elders as they are considered the custodians of morality. Being able to listen to them and their guidance is particularly important for all members of society, and this highlights a need for this age group to be well-informed on telemedicine, how it operates and its numerous benefits for its acceptance to increase in African societies.

There is a need for inclusive education which allows for people to understand and use the tool effectively as the older generations are *digital immigrants* and often take longer to adjust to modern technologies. Intentional programs should be implemented which make the transition to telemedicine easier and the necessary concerns which include the lack of policies and guidelines should be addressed. People assimilate better with technologies which they understand and with the endless opportunities presented by telemedicine, educating the healthcare seekers will increase the favourable consequences of this tool.

This study has contributed to the body of knowledge which exists on telemedicine in Zimbabwe and the experiences of healthcare seekers. It highlighted the benefits which have come with the movement to seeking healthcare virtually and further highlighted the need for more work to be done to improve the favourable consequences and reduce the reservations in the use of this tool in healthcare administration.

BIBLIOGRAPHY

Adeleke, I.T., Salami, A.A., Achinbee, M., Anamah, T.C., Zakari, I.B. and Wasagi, M.H., 2015. ICT knowledge, utilization, and perception among healthcare providers at National Hospital Abuja, Nigeria. *American Journal of Health Research*, *3*(1), pp.47-53.

Alshenqeeti, H., 2014. Interviewing as a data collection method: A critical review. *English linguistics research*, *3*(1), pp.39-45.

Agrawal, A. and Chhatre, A., 2011. Against mono-consequentialism: Multiple outcomes and their drivers in social–ecological systems. *Global Environmental Change*, *21*(1), pp.1-3.

Anscombe, G.E.M., 1958. Modern moral philosophy. *Philosophy*, *33*(124), pp.1-19.

Atherton, H. and Ziebland, S., 2016. What do we need to consider when planning, implementing, and researching the use of alternatives to face-to-face consultations in primary healthcare? *Digital health*, *2*, pp.1-13.

Bagayoko, C.O., Müller, H. and Geissbuhler, A., 2006. Assessment of Internet-based tele-medicine in Africa (the RAFT project). *Computerized Medical Imaging and Graphics*, *30*(6-7), pp.407-416.

Bales, R.E., 1971. Act-utilitarianism: account of right-making characteristics or decision-making procedure? *American Philosophical Quarterly*, *8*(3), pp.257-265.

Bashshur, R.L., Reardon, T.G. and Shannon, G.W., 2000. Telemedicine: a new health care delivery system. *Annual review of public health*, *21*(1), pp.613-637.

Bennett, S., Maton, K. and Kervin, L., 2008. The 'digital natives' debate: A critical review of the evidence. *British journal of educational technology*, *39*(5), pp.775-786.

Berg, B.L., 2004. Methods for the social sciences. *Qualitative Research Methods for the Social Sciences, 191*, pp 195-208.

Blavin, F.E. and Buntin, M.B., 2013. Forecasting the use of electronic health records: an expert opinion approach. *Medicare & medicaid research review*, *3*(2).

Bogdan, R.C. and Biklen, S.K., 1998. Foundations of qualitative research in education. *Qualitative research in education: An introduction to theory and methods*, *1*, pp.48.

Brant, H., Atherton, H., Ziebland, S., McKinstry, B., Campbell, J.L. and Salisbury, C., 2016. Using alternatives to face-to-face consultations: a survey of prevalence and attitudes in general practice. *British Journal of General Practice*, *66*(648), pp. 460-466.

Chawurura, T., Manhibi, R., van Dijk, J., and van Stam, G., 2019. eHealth in Zimbabwe, a case of techno-social development. *International Conference on Social Implications of Computers in Developing Countries*, pp. 15-26.

Chetley, A., Davies, J., Trude, B., McConnell, H., Ramirez, R., Shields, T., Drury, P., Kumekawa, J., Louw, J., Fereday, G. and Nyamai-Kisia, C., 2006. *Improving health, connecting people: the role of ICTs in the health sector of developing countries-a framework paper*, pp. 1-65.

Chinye-Nwoko, F., Effiong, U., Ani, N., 2020. *Challenges and opportunities for telemedicine in Africa*. South Africa: Mail and Guardian. Available from: https://mg.co.za/africa/2020-07-28-challenges-and-opportunities-for-telemedicine-in-africa/ [Accessed on 03November 2020].

Chowdhury, M.F., 2014. Interpretivism in aiding our understanding of the contemporary social world. *Open Journal of Philosophy*.

Cilliers, L. and Flowerday, S.V., 2013. Health information systems to improve health care: A telemedicine case study. *SA Journal of Information Management*, *15*(1), pp.5.

Cocking, D. and Oakley, J., 1995. Indirect consequentialism. friendship and the problem of alienation. *Ethics* 106(1), pp 86-111.

Creswell, J.W., Plano Clark, V.L., Gutmann, M.L. and Hanson, W.E., 2003. Advanced mixed methods research designs. *Handbook of mixed methods in social and behavioral research*, *209* (240), pp.159-196.

De Lazari-Radek, K. and Singer, P., 2010. Secrecy in consequentialism: A defence of esoteric morality. *Ratio*, *23*(1), pp.34-58.

Denzim, N.K., 1970. The research act in sociology. *London: Butterworths*, *63*(12), pp. 5788.

Eggleston, B. and Mulgan, T., 2009. The Demands of Consequentialism. *Utilitas*, *21*(1), pp. 123.

Einterz, E.M., 2001. Telemedicine in Africa: potential, problems, priorities. *CMAJ*, *165*(6), pp.780-781.

Foot, P., 1985. Utilitarianism and the Virtues. *Mind*, *94*(374), pp.196-209.

Furusa, S.S. and Coleman, A., 2018. Factors influencing e-health implementation by medical doctors in public hospitals in Zimbabwe. *South African Journal of Information Management*, *20*(1), pp.1-9.

Gyekye, K., 1992. Person and community in African thought. *Person and community: Ghanaian philosophical studies*, *1*, pp.297-312.

Goldberg, D.G., Mick, S.S., Kuzel, A.J., Feng, L.B. and Love, L.E., 2013. Why do some primary care practices engage in practice improvement efforts whereas others do not? *Health services research*, *48*(2), pp.398-416.

Harris, J., 1974. Williams on negative responsibility and integrity. *The Philosophical Quarterly*, *24*(96), pp.265-273.

Hassibian, M.R. and Hassibian, S., 2016. Telemedicine acceptance and implementation in developing countries: benefits, categories, and barriers. *Razavi International Journal of Medicine*, *4*(3).

Holst, C., Sukums, F., Radovanovic, D., Ngowi, B., Noll, J., and Winkler, A.S., 2020. Sub-Saharan Africa—the new breeding ground for global digital health. *The Lancet Digital Health*, *2*(4), pp.160-162.

Hooli, L., Jauhiainen, J.S., Jarvi, A., Nkonoki, E., Taajamaa, V. and Kayhko, N., 2019. Contextualizing innovation in Africa: Knowledge modes and actors in local innovation development. *IST-Africa Week Conference (IST-Africa)*, pp. 1-9

Hooker, B., 2002. *Ideal code, real world: A rule-consequentialist theory of morality*. Oxford: Oxford University Press.

Hutchinson, S.A., Wilson, M.E., and Wilson, H.S., 1994. Benefits of participating in research interviews. *Image: The Journal of Nursing Scholarship*, *26*(2), pp.161-166.

Jacobson, D., 2008. Utilitarianism without consequentialism: the case of John Stuart Mill. *Philosophical Review*, *117*(2), pp.159-191.

Jahoda, G., 2012. Critical reflections on some recent definitions of "culture." *Culture & Psychology*, *18*(3), pp.289-303.

Kifle, M., Mbarika, V.W. and Datta, P., 2006. Telemedicine in sub-Saharan Africa: The case of teleophthalmology and eye care in Ethiopia. *Journal of the American Society for Information Science and Technology*, *57*(10), pp.1383-1393.

Kothari, C. R., 2004. *Research methodology: Methods and techniques*. India: New Age International.

Kumar, R., 2018. *Research methodology: A step-by-step guide for beginners*. London: Sage.

Lakshmi, S. and Mohideen, M.A., 2013. Issues in reliability and validity of research. *International journal of management research and reviews*, *3*(4), pp.2752.

Lambert, V.A., and Lambert, C.E., 2012. Qualitative descriptive research: An acceptable design. *Pacific Rim International Journal of Nursing Research*, *16*(4), pp.255-256.

Lin, A.C., 1998. Bridging positivist and interpretivist approaches to qualitative methods. *Policy studies journal*, *26*(1), pp.162-180.

Loewenson, R., Masotya, M., Mhlanga, G. and Manangazira, P., 2014. Assessing progress towards equity in health Zimbabwe. *Training and Research Support Centre and Ministry of Health and Child Care, Harare: Zimbabwe, in the Regional Network for Equity in Health in East and Southern Africa (EQUINET)*.

Mackenzie, N. and Knipe, S., 2006. Research dilemmas: Paradigms, methods, and methodology. *Issues in educational research*, *16*(2), pp.193-205.

Mapesa, N.M., 2016. *Health information technology implementation strategies in Zimbabwe*. Walden University.

Marufu, C. and Mabo, K.A., 2017. Utilisation of mobile health by medical doctors in a Zimbabwean health care facility. *health sa gesondheid*, *22*, pp.228-234.

Mars, M., 2013. Telemedicine and advances in urban and rural healthcare delivery in Africa. *Progress in cardiovascular diseases*, *56*(3), pp.326-335.

Martínez, A., Villarroel, V., Seoane, J. and Pozo, F.D., 2004. Rural telemedicine for primary healthcare in developing countries. *IEEE Technology and Society Magazine*, *23*(2), pp.13-22.

Mason, E., 2009. What is Consequentialism? *Think-Philosophy for Everyone*, *8*(21), pp.19.

Mbiti, J. S., 1969. *African religions and philosophy*. East African Educational Publishers.

Menachemi, N., Burke, D.E. and Ayers, D.J., 2004. Factors affecting the adoption of telemedicine—a multiple adopter perspective. *Journal of medical systems*, *28*(6), pp.617-632.

Meyers, T., 2020. *As Zimbabwe Doctors' Strike Drags On, Hospital Hallways Fall Silent*. Direct Relief.

Mill, J.S., 2016. Utilitarianism. *Seven masterpieces of philosophy*, pp. 337-383.

Moyo-Nyede, S. and Ndoma, S., 2020. *Limited Internet access in Zimbabwe a major hurdle for remote learning during pandemic.*

Mulgan, T., 2001. *The demands of consequentialism.* Oxford: Clarendon Press, pp. 289-296

Nagel, T., 1986. *The view from nowhere*. Oxford: Oxford University Press.

Neuman, W. L., 2000. Social research methods: qualitative and quantitative approaches. 4th ed. Boston: Allyn and Bacon.

Nittari, G., Khuman, R., Baldoni, S., Pallotta, G., Battineni, G., Sirignano, A., Amenta, F. and Ricci, G., 2020. Telemedicine practice: review of the current ethical and legal challenges. *Telemedicine and e-Health*, *26*(12), pp.1427-1437.

Ndoma, S. and Moyo-Nyede, S., 2020. *COVID-19 lockdown a crisis for informal traders disadvantaged by government inaction.* Afrobarometer Dispatch.

Ngwenya, B., Mushawarira, T., Ncube, F., 2016. Acceptance of Electronic Health Administration Systems among Medical Practitioners in the Private Practice in Harare Central Business District and the Avenues area, Zimbabwe. *International Journal of Engineering Research and Management, 3,* pp. 31-38

Nguefack, E.G.A., Essommba, A.A., Ndiparah, G. and Nana, A.R., (2020) Ethics in Telemedicine and Telehealth: A Literature. *Research Journal of Advanced Engineering and Science*, *5*(4), pp.67-70.

Nkohla-Ramunenyiwa, T. (2017) *Virtual ontology, moral responsibility, and agency: the ethical implications of mobile communication technology use on parenting style in Pietermaritzburg, South Africa*.

Okyere-Manu, B., and Morgan, S.N., 2022. Exploring the ethics of Ubuntu in the era of COVID." *Religion and the COVID-19 Pandemic in Southern Africa*. pp, 25-36.

Okyere-Manu, B., Morgan, S.N. and Antwi, J.K., 2022. The Ethical Implications of Religio-Cultural Healing Practices on Ghana's Environment: An Ethno-medical Interrogation. *Re-imagining Indigenous Knowledge and Practices in 21st Century Africa: Debunking Myths and Misconceptions for Conviviality*, pp.133-147.

Prensky, M., 2001. Digital natives digital immigrants. *On the Horizon* 9(5), pp. 1-6.

Ramos, V., 2010. Contributions to the history of Telemedicine of the TICs. *Second Region 8 IEEE Conference on the History of Communications*, pp. 1-5.

Rogers, E.M., 2010. *Diffusion of innovations*. Simon and Schuster.

Scheffler, S., 1988. *Consequentialism and its Critics*. Oxford: Oxford University Press on Demand.

Scott, R.E. and Mars, M., 2015 Telehealth in the developing world: current status and future prospects. *Smart Homecare Technology and TeleHealth*, (*3),* pp.25-37.

Scott Kruse, C., Karem, P., Shifflett, K., Vegi, L., Ravi, K. and Brooks, M., 2018. Evaluating barriers to adopting telemedicine worldwide: A systematic review. *Journal of telemedicine and telecare*, *24*(1), pp.4-12.

Seidman, I.E., 1991. Seidman, IE, Interviewing as Qualitative Research: A Guide for Researchers in Education and the Social Science. New York: Teachers College Press.

Shrihari, T. G., 2017. Quantum healing–A novel current concept of holistic healing. *International journal of complementary and alternative medicine*, 10(2), pp. 329.

Sosa, D., 1993. Consequences of consequentialism. *Mind*, *102*(405), pp.101-122.

Tansey, O., 2007. Process tracing and elite interviewing: a case for non-probability sampling. *PS: Political Science and Politics*, *40*(4), pp.765-772.

Terrasse, M., Gorin, M. and Sisti, D., 2019. Social Media, E-Health, and Medical Ethics. *Hastings Center Report*, *49*(1), pp.24-33.

Tschaepe, M., 2013. A humanist ethic of ubuntu: understanding moral obligation and community. *Essays in the Philosophy of Humanism*, *21*(2), pp.47-61.

Townsend, B.A., and Scott, R.E., 2019. The development of ethical guidelines for telemedicine in South Africa. *South African Journal of Bioethics and Law*, *12*(1), pp.19-26.

Tsiko, S. (2019). *Telemedicine revolutionises Zim healthcare*. [Online]. Zimbabwe: The Herald. Available from: https://www.herald.co.zw/telemedicine-revolutionises-zim-healthcare/ [Accessed on 01 November 2020]

Turan, A.H. and Palvia, P.C., 2014. Critical information technology issues in Turkish healthcare. *Information & Management*, *51*(1), pp.57-68.

Vaismoradi, M., Turunen, H., & Bondas, T., 2013. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nursing & health sciences*, *15*(3), pp 398-405.

Van Norden, B., 2007. *Virtue ethics and consequentialism in early Chinese philosophy*. Cambridge: Cambridge University Press.

Vehovar, V., Toepoel, V. and Steinmetz, S., 2016. Non-probability sampling. *The Sage handbook of survey methods*, pp.329-345.

Wernhart, A., Gahbauer, S. and Haluza, D., 2019. eHealth and telemedicine: Practices and beliefs among healthcare professionals and medical students at a medical university. *PLoS One*, *14*(2).

Wootton, R., Craig, J. and Patterson, V., 2017. *Introduction to telemedicine*. CRC Press.

Zhou, X., Snoswell, C.L., Harding, L.E., Bambling, M., Edirippulige, S., Bai, X., and Smith, A.C., 2020 The role of telehealth in reducing the mental health burden from COVID-19. *Telemedicine and e-Health*, *26*(4), pp.377-379.

APPENDICES

APPENDIX 1: Letter requesting consent

December 30, 2020

Dear Sir/Madam

My name is Media Rufaro Mukarati. I am Masters candidate at the University of KwaZulu-Natal in South Africa. I am doing research on the experiences of telemedicine in Zimbabwe. I would like to ask you some questions just to get your thoughts on telemedicine and your experiences or expectations. This project will be conducted under the supervision of Dr Beatice Okyere-Manu (UKZN).
I am hereby seeking your consent to interview you on the above-mentioned subject. My interviews will be done telephonically, and I have attached the interview questions which will guide our conversation around telemedicine. Follow-up questions might arise from our discussions. I look forward to speaking with you.

If you would like any further information or have any questions, please do not hesitate to contact me on my number/email below:
Cell phone number: +27814404869
Email Address: rufaromeddymukarati@gmail.com

You can also confirm my credentials with my supervisor as well as my college research office. The details are as follows:

Supervisor:
Dr Beatrice Okyere-Manu
Telephone number: +27 (033) 260 5582
Email: okyere-manu@ukzn.ac.za.

HSSREC Research Office:
Ms Phumelele Ximba
Telephone Number: 031 260 3587
Email: ximbap@ukzn.ac.za

Thank you for your cooperation.

Yours truly,
Media Rufaro Mukarati

School of Religion, Philosophy and Classics
Postal Address: Private Bag X01, Scottsville 3209, South Africa
Telephone: +27 (0) 33 260 5540 Facsimile: +27 (0) 33 260 5858 Email:Mchunua@ukzn.ac.za Website:www.ukzn.ac.za

APPENDIX 2: Informed Consent

INFORMED CONSENT

Title: The movement from face-to-face healthcare to e-health services: Assessing the accessibility of telemedicine in Harare, Zimbabwe
Name of Researcher: Media Rufaro Mukarati
Email: rufaromeddymukarati@gmail.com

For the participant:

- I agree to participate in the above research that the researcher has informed me about. The researcher has explained the research and I understand what I will be partaking in.
- I am partaking because I have freely decided to partake.
- I am aware that the researcher will interview me and record the interview/make notes as I talk.
- I agree that the researchers informed me about this research before the interview schedule I have with her
- I have been informed by the researcher that my identity will remain anonymous
- I understand that the information I will give the researcher is strictly for research purposes and will be used in a moral way
- I understand that if I feel uncomfortable to continue with the interview I can stop at any time and the information gathered at the time of my withdrawal will not be used.
- I understand that there will be no monetary implications in agreeing to be interviewed
- I understand that I can call/email the researcher at any time after the interview
- I understand that I can keep this consent form
- I understand the above information and agree to participate in this research

Signature of interviewee..... Date.....

For researcher:

I have explained the content of this consent form to the interviewee and ensured that the interviewee understands the content of this form.

Signature of interviewer..... Date.....

APPENDIX 3: Interview Questions

- What is the distance from your residential area to your nearest healthcare facility?
- How do you travel to visit the healthcare facility?
- Describe to me the nature of the healthcare professionals at the healthcare facility i.e., the number of nurses or doctor.
- Describe to me the state of the healthcare facility.
- Have you ever heard, or do you know anything about telemedicine? (If not, I will explain what it is).
- Have you used any telemedicine services? If not, would you use telemedicine?
- Would you be comfortable using telemedicine in place of face-to-face healthcare? Explain
- Do you have consistent internet connection in your area?
- If you have internet connection, what kind of devices do you have which could connect you to the internet?
- Do you experience any issues with electricity? If yes, how often do you experience power outages?
- Basing on our discussion and my explanations, would you have any concerns about introduction and use telemedicine in your area?

APPENDIX 4: Translated Letter Requesting Consent

Tsamba yekukumbira Mvumo

December 30, 2020

Dear Sir/Madam

Zita rangu ndinonzi Media Rufaro Mukarati. Ndirikuita Masters Degree pa University of KwaZulu-Natal (UKZN) iri muSouth Africa. Ndirikuita wongororo (Research) pamusoro pechirongwa chinonzi telemedicine muZimbabwe. Ndirikudawo kubvunza mibvunzo kuti ndinzwewo mafungiro nemanzwisiro pachirongwa che telemedicine. Wongororo (Research) yandirikuita ichange ichizowongororwa nekumakwa nemudzisi wangu vanonzi Dr Beatice Okyere-Manu vepa UKZN.

Ndirikukumbirawo mvumo yekuti ndibvunzwewo kwamuri pamusoro pe nyaya yezve telemedicine zvandataura. Mibvunzo yangu ichange ichiitwa pama phone asi ndichaisa mibvunzo yakanyorwa pasi ichange ichitibatsira pahurukuro yedu pamusoro penya ye telemedicine.

Ndinotarisira nguva yakanaka pahurukuro dzangu nemi.

Kana paine vane mibvunzo kana kuti kana pane zvimwe zvamungade kuziva pa wongororo yandirikuita makasununguka kutaura neni pa number ne email zvandanyora pasi izvo.

Cell phone number: +27814404869
Email Address: rufaromeddymukarati@gmail.com

Kana pane zvamugade kuziva pamusoro pangu makasununguka kutaura nemurairidzi wangu kana kuti neveku office yeku University ku college research pa phone number nema email akanyorwa pasi ayo.

Supervisor:
Dr Beatrice Okyere-Manu
Telephone number: +27 (033) 260 5582
Email: okyere-manu@ukzn.ac.za.

HSSREC Research Office:
Ms Phumelele Ximba
Telephone Number: 031 260 3587
Email: ximbap@ukzn.ac.za

Ndinokutendai nekushanda pamwechete neni.

Ndini Wenyu,
Media Rufaro Mukarati

Telephone: +27 (0) 33 260 5540 Facsimile**:** +27 (0) 33 260 5858
Email**:**Mchunua@ukzn.ac.za Website**:**www.ukzn.ac.za

APPENDIX 5: Translated Informed Consent

Informed Consent: Translated

Tsamba yekukumbira Mvumo

Musoro wenyaya: The movement from face-to-face healthcare to e-health services: An ethical exploration of the telemedicine experiences for health seekers in Harare, Zimbabwe
Zita rangu: Media Rufaro Mukarati
Email: rufaromeddymukarati@gmail.com

Mubvunzwi:

1. Ndinobvuma kuve mumwe wevari kubatsirana ne wechirongwa chaandiudza ichi. Mutsvakurudzi akanditsanangurira pamusoro pechirongwa ichi ndikachinzwisisa.
2. Ndiri kupinda muchirongwa ichi nekuda kwekuti ndabvumirana nazvo.
3. Ndinotenderana nekuti muwongorori uyu achange achindibvunza achitapa nekunyora zvatinenge tichitaura.
4. Ndinotenderana nekuti muwongorori uyu akandiudza pamusoro pewongorori yake asati atanga bvunzuridzo dzake.
5. Mutsvakurudzi akandiudza kuti achachengetedza zita rangu zvisingazivikanwi.
6. Ndinozvinzwisisa kuti zvandichaudza mutsvakurudzi zvichange zviri zve wongororo chete saka hazvizoshandiswi mune zvisina kunaka.
7. Ndinozvinzwisisa kuti kana ndisinganzwi kusununguka pamusoro pewongorori iyi ndakasununguka kusaenderera mberi nehurukuro yacho zvichireva kuti zvese zvatinenge tataura hazvizoshandiswi muwongororo iyi.
8. Ndinozwinzwisisa kuti hapa mubhadharo wemari pachirongwa chewongorori iyi.
9. Ndinozvinzwisisa kuti ndinogona kutaura nemuwongorori pa phone kana pa email chero nguva tapedza hurukuro yedu.
10. Ndinozvinzwisisa kuti ndinogona kuchengeta consent form iri.
11. Ndinonzwisisa zvese zviri pamusoro nekuwirirana nekuita hurukuro yewongorori iyi.

Signature of interviewee (Mubvunzwi)..... Date.....

For researcher: (Mutsvagurudzi)

I have explained the content of this consent form to the interviewee and ensured that the interviewee understands the content of this form.

Signature of interviewer (Mutsvangurudzi)…… Date.....

APPENDIX 6: Translated Interview Questions

Mibvunzo

1. Pane mufambo wakareba zvakaitase kubva pamunogara kusvika pachipatara chiripedyo?
2. Munofamba nei kuti mukwanise kusvika kuchipara ichi?
3. Munganditsanangurirewo here kuti vashandi vakaita sema nurse kana madhokotera vepachipatara ichi vanhu vanoshandika navo zvakaitasei nekuti vakawanda zvakadii?
4. Munganditsanangurirewo here kuti chipatara ichi chakamira sei nekuti munobatsirikana zvakadii?
5. Munoziva zvakadii kana kuti makambonzwa here shoko rinonzi Telemedicine pachirungu. (kana musingarizivi ndokutsanagurirai zvazvinoreva)?
6. Makamboshandisa chirongwa che telemedicine here? Kana musati mungade kuishandisa here?
7. Mungasununguke here kushandisa telemedicine pachinzvimbo chekuti vanhu varambe vachienda kunorapwa kuzvipatara pavanenge vachinosangana nana chiremba uso neuso? Munganditsanangurirewo here.
8. Munzvimbo dzamunogara munobatawo masaisai emumhepo here ekuti mugone kutataura nekuntorerana nevari kure, yatinoti Internet pachirungu?
9. Mungandiudzewo here kuti kana masayisayi achibata munzvimbo yamunogara. munoshandisa mudziyo upi wamuno kubata masayisayi aya?
10. Hamunawo here dambudziko nenyaya yemagetsi munzvimbo yamunogara? Kana muine dambudziko regagetsi, anoenda zvakadii munzvimbo yenyu.
11. Sekukurukura kwataita nekutsanangura kwandaita pamusoro pechirongwa chekurapwa ichi, munochionawo sei mumafungiro enyu, uye zvakare munochitambira here munharaunda yenyu?

APPENDIX 7: Counsellor's Letter

CHADCOMBE SEVENTH DAY ADVENTIST CHURCH

3 Bideford road
Chadcombe
Harare
Zimbabwe

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25 February 2021

Dear Sir/Madam

This letter serves to inform you of my provision of counselling services which I am prepared to offer to participants during or after Ms. M.R. Mukarati's interviews conducted as part of her research program, in case if there is any form of harm or damage caused.

I, Pastor Clayton Maurede, is prepared to offer my counselling services to all participants involved in this research study when there will be any need. I understand that the study is an interrogation of health seekers' experiences with telemedicine in Harare. In the case of any emotional, psychological, or mental distress because of the interviews, there are counselling services available to all participants which I will be available to provide.

If you would like to use my services because of any distress experienced because of the interviews conducted, please do not hesitate to contact me using the below stated details:

Pastor Clayton Maurede
East Zimbabwe Conference
Seventh Day Adventist

12 Bideford Road Chadcombe
Harare, Zimbabwe
Call/ WhatsApp: +263 773 249 538
Email: jussclay@gmail.com