THE ETHICAL CHALLENGES OF TELEMEDICINE IN THE FIELD OF ONCOLOGY IN SOUTH AFRICA

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Submitted to the Faculty of Health Sciences, University of Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree Master of Science in Medicine in Bioethics and Health Law.

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Dedication

To all the oncology patients in South Africa – may you never feel that you are alone in your journey.

Abstract

Cancer is a complex condition requiring a multitude of interventions by various healthcare professionals within the healthcare continuum. Its growing incidence, particularly in developing countries, has resulted in widespread debate around a generally accepted definition of ethical cancer care. The situation is more complex in South Africa due to the inadequate healthcare resources and the longstanding cultural, linguistical, and socio-economic diversity amongst the population. In these circumstances, challenges arise in cancer treatment from the need to provide it in an ethical, equitable and acceptable manner. Telemedicine has been proposed by many health regulatory bodies as a means of improving healthcare delivery and access. For an action to have ethical value in the South African health arena, it needs to incorporate the notion of “philosophical good” by being recognisable as a something which is both right and acceptable. When seen through the lens of ethics, telemedicine in the South African would appear to hold great that promise.

This report concentrates on one aspect of healthcare, namely oncology. This is a field which straddles a wide spectrum of care in which different levels can be defined. By consideration of the levels, an understanding can be developed to determine where telemedicine would possess ethical strengths and those where it has limitations. This evaluation of telemedicine in the broad field of oncology can present a viable argument for a hybrid model of cancer care in South Africa that would hold ethical value. However clear guidelines would need to be outlined to facilitate this amalgamation of care. The current telemedicine guidelines developed by the Health Professions Council of South Africa provide a generic framework on the ethical standard of practice expected by healthcare professionals. These guidelines however do not fully encompass the requirements expected of cancer treatment in general, nor are they entirely applicable to the particular circumstances arising from the different stages of the disease. To address this, while maintaining ethical integrity, the professional bodies affiliated to the field of oncology would need to expand on the current HPCSA guidelines and develop oncology specific telemedicine guidelines.

This research report is a descriptive analysis of ethical principles and theories of telemedicine in the field of oncology. Using this ethical framework, I will propose situations where telemedicine can be advocated and where it would fail. Oncology specific telemedicine guidelines would advise healthcare professionals on the particular ethical considerations needed to support a hybrid model of cancer care to the South African patient. This would give telemedicine ethical justification and value. Conscious of the requirement to maintain ethical integrity, the conclusion to this thesis includes a proposal to this effect.

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Thank you for teaching me to understand and appreciate the field of bioethics. I may not have grasped all the aspects of a philosophical argument, but I feel I now know enough to help me face ethical dilemmas with confidence and sound knowledge. With your guidance I managed to wrangle my way through research methodology to produce my research report.

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Chapter 1 An overview of the research project

1.1 Introduction

Telemedicine is the application of telecommunications and information technologies in the field of medicine (Kitamura, et al, 2010, p.17). The World Health Organisation defines telemedicine as the provision of healthcare services where distance is an impediment to patient care (WHO, 2010). This technology offers medical diagnostic, monitoring, and therapeutic services where distance, time, and infrastructure constraints separate patients from their health care providers (Ndlovu, et al, 2014, p. 8). The concept of telemedicine was initially developed to improve healthcare delivery, and it has enjoyed growing interest over the last four decades due to the improvements and innovations in information and communications technology (Bashshur, et al, 2013, p.339). In 2020, constraints imposed by the COVID-19 pandemic added impetus to the application of telemedicine, and it became a justifiable modality of care in almost all disciplines of medicine including oncology (O'Reilly, et al, 2021, p.1). South Africa, a country with grave healthcare challenges, has been criticised for the provision of suboptimal and substandard oncology care for patients afflicted with cancer (Lubuzo, 2021, p.1). Telemedicine may offer a lifeline to such patients, or it may increase the polarity in the current state of cancer care which arises from the diversities within society. An ethical assessment of telemedicine in the South African oncology context could assist in determining the role and value of its application.

1.1.1 Background, literature analysis and critique

The ethics of telemedicine have been widely investigated; with more than one thousand studies currently available on PubMed. A multitude of them were published in the last two years following the outbreak of the pandemic. They were conducted to ascertain if the quality, access, and cost of healthcare benefitted all populations and if the practice of telemedicine enhanced the doctor-patient relationship as well as patient wellbeing and safety. The World Health Organisation (WHO) published a series of reports on telemedicine in 2010. They acknowledged that telemedicine did hold promise in advancing accessibility and affordability of healthcare. However, they also noted the differing challenges facing their member countries. In developed countries, there were ethico-legal concerns which contrasted with the situation in developing countries where the main difficulties were inadequacies in infrastructure, coupled with a lack of equity and funding (Hazin and Qaddoumi, 2010, p. 204). Although South Africa is classified by the WHO as an upper middle-income country, many would argue that it is a developing country (Bakari, 2017).

The Department of Health of South Africa (DOH) established the Telemedicine System to deliver healthcare at a distance and to facilitate communication between the developed urban and underdeveloped rural health sector (Department of Health, 2012*).* Prior to this, the “Telemedicine Code of Ethics and Professional Conduct” were developed for the National Telemedicine System in 1999 (Jack, 2008). Despite having a vast rural population, and several telemedicine endeavours in various medical sectors in South Africa since 2001, its ready utilisation has been curtailed by issues of cost-effectiveness, technical, legal, and organizational challenges (Gulube and Wynchank, 2001, p. 47; le Roux, 2008). Practical issues such as South Africa’s planned electricity interruptions, cost of data and reimbursement by funders also present challenges to a seamless local telemedicine mode (Meyer and Nel, 2021). In other words, the same weaknesses noted by the WHO in developing countries were identified in South Africa’s low utilisation of telemedicine.

The Health Professions Council of South Africa (HPCSA), the body from which health professionals receive regulatory control, published guidelines on the use of telemedicine in only in 2017, having developed them in 2014 (HPCSA, 2014). The guidelines were criticised as being narrow because they applied exclusively to telemedicine with limited guidance on eHealth encounters (Townsend, et al, 2019). Further, they were prescribed equally for all medical disciplines. The presumption that the “one size fits all” approach has been challenged by some authors as being impractical (ibid). Healthcare practitioners who did not adhere to these rigid guidelines were considered by the HPCSA as displaying actions of unethical practice and this resulted in the use of telemedicine falling into disfavour (Richards, et al, 2021).

Oncology as a medical discipline covers a broad spectrum of patient care including preventative, active, and palliative cancer care. In essence, oncology straddles primary, secondary, and tertiary healthcare. An oncologist ideally requires the ability to exercise the skills of a scientist while applying the empathic finesse of a humanitarian. This in itself presents many ethical challenges. Oncologists from high income earning countries supported the use of telemedicine as they felt that it had the potential to enhance both the accessibility and quality of cancer care. Studies performed in Australia, the USA and Canada found that telemedicine provided patients with equitable and immediate access to cancer care (Sabesan, 2014, p. 200). In contrast, attempts at its introduction into low- and middle-income earning countries has been less successful due to the challenges that these less developed economies present. Heterogeneity in resource distribution, communication infrastructure and healthcare needs have been identified as major reasons for poor acceptance of telemedicine (Ndlovu, et al, 2014, p. 9).

Throughout the COVID-19 pandemic, telemedicine has gained popularity in many medical disciplines including oncology. PubMed published 646 papers between 2020 to 2021 evaluating the use of telemedicine in oncology. In terms of amendments to their guidelines, the HPCSA permitted doctors, including oncologists, to routinely use tele-consultations, as this was considered to be in the best clinical interests of their vulnerable patients. However, criticism has been levelled against the amended guidelines by several healthcare professional bodies because they felt that they had no rational basis. For example, the guidelines contained a condition that teleconsultation was only endorsed if a pre-existing relationship existed with the patient (HPCSA, 2020). An article released by the South African Medical Association (SAMA) detailed that, South African doctors practising telemedicine during the pandemic had raised several ethical concerns about the continuation of this practice into the future (ibid).

West, H although endorsing telemedicine, questioned its application to all aspects of oncology care (West, 2020). When seen through the lens of ethics, telemedicine could pose a viable option. However, in South Africa it can be argued that telemedicine could ethically either be a threat to the current oncology care, or it might provide an opportunity to revolutionize clinical practice.

1.1.2 Research question

What are the ethical strengths and limitations that are applicable to the practice of telemedicine in the field of oncology in the South Africa and what are the shortcomings in the current HPCSA guidelines that would need to be amended to reflect these issues?

1.1.3 Rationale for the Study

The global incidence of cancer is projected to double over the next 20 years with most cases occurring in developing countries (Hazin and Qaddoumi, 2010, p. 204). South Africa as a developing country faces similar challenges regarding the epidemiology of cancer and access to specialised cancer care. Given the diversity of our population as reflected in the variability of access to resources between different social groups, the marked differences in infrastructure between urban and rural settlements, the sheer variety of geographical locations and the number of distinct cultures, all coupled to language barriers and disparities in digital literacy, telemedicine faces an ethical challenge.

Telemedicine has shown utility in several fields of medical care, especially in resource-limited and rural settings. Although telemedicine has been beneficial during the COVID-19 pandemic, there are growing concerns around the ethical challenges and complexities it poses if its use continues into the future (SAMA, 2020). Nevertheless, with the rapidity of technological advancements and decreased cost of digital access, telemedicine would seem to be a means towards the reduction in South Africa’s healthcare delivery problems.

Oncology is a broad and complex field of medicine, and whilst telemedicine may be effective in some sectors of cancer care, in others it has less applicability and may sometimes even suffer from shortfalls in the desirable level of care. The regulatory role played by the HPCSA and other professional bodies in healthcare in South Africa, imposes on them a need to evaluate telemedicine through the differing perspectives of each medical discipline when formulating guidelines. The current telemedicine guidelines do not properly address the full range of cancer care in South Africa. Refinements of these guidelines by South African oncology professional bodies may allow conventional cancer care to coexist with telemedicine and provide a protocol that would be in the best interest of both patients and their healthcare practitioners.

1.1.4 Thesis statement

The use of telemedicine in oncology in the South African context has ethical challenges and the current HPCSA guidelines pertaining to telemedicine cannot be employed in their entirety by oncologists. The inapplicability arises in the area of acute stage cancer care where interactions require hands-on and face-to-face contact. Beyond the acute setting, telemedicine can be advocated with adjustments and additions made to the current guidelines. Amendments that are collectively created by both the HPCSA and oncology professional societies would give telemedicine ethical justification and value.

1.1.5 Research aim

To present the ethical challenges associated with telemedicine in the management of the South African oncology patient and to propose the context in which it would either add ethical value or fail to do so.

To propose a model of cancer care to the HPCSA, the regulatory authority body governing healthcare in South Africa, so that an amendment to their current telemedicine guidelines can be affected.

1.1.6 Research objectives

To give an account of the ethical concerns and challenges facing the practice of telemedicine in oncology and to highlight any limitations.

To normatively argue for why telemedicine can be effectively used in certain sectors of oncology and not in others.

To critically analyse the existing HPCSA guidelines of telemedicine with regards to its application in oncology.

To provide ethically permissible guidelines to the South African oncology medical communities regarding the use of telemedicine.

1.2 Research design

This research report is an ethical study using a descriptive analysis model of ethical principles and theories. A descriptive analysis of the ethical challenges of telemedicine expected in the field of oncology is presented through normative analysis and argument.

A detailed literature search of telemedicine, South African healthcare challenges, oncology as a discipline and ethics in the field of medicine was conducted using published literature both in the academic and non-academic environment. PubMed, Google Scholar, Academia.edu and published literature were utilised to retrieve relevant articles for this study. The reviewed studies examined the global use of telemedicine as a means to achieve fairness and equity in healthcare and these are presented in the first chapter. An overview of the ethical principles and moral theories that would have relevance to healthcare practice in the field of oncology follows. A discussion on the introduction of telemedicine in South Africa as a method to deliver healthcare at a distance is outlined. The healthcare challenges facing South Africa has been expanded on.

Thereafter, I demonstrate that oncology is a complex discipline which is dissimilar to other medical disciplines. A detailed analysis of the different sectors of oncology management is then presented. This sets the background for where telemedicine could effectively be utilised. As telemedicine is regulated by the HPCSA, I then review their guidelines in relation to the field of oncology. This is followed by a detailed analysis of the strengths and shortcomings of the guidelines using the ethical framework that was discussed in the preceding chapters. Finally, recommendations to amend the guidelines pertaining to oncology by the relevant regulatory bodies are made.

As a clinical oncologist who has practised in both the public and private sector in South Africa for more than two decades, my opinions and thoughts are included in my arguments regarding the ethical practice of cancer care.

1.3 Research method, argumentative strategy

My research report will attempt to describe the extent to which telemedicine can usefully be applied to oncology as well as the aspects to which it is not applicable. This will provide a basis for the revision of the HPCSA guidelines as they apply to this discipline. I will first argue that the telemedicine in the field of oncology requires ethical considerations that differ from those applicable to other disciplines of medicine. I will also argue that cancer care in South Africa is suboptimal, and that telemedicine can coexist with conventional cancer care on a platform that would suit both the patient and healthcare worker. I will employ the widely accepted Beauchamp and Childress's (Beauchamp and Childress, 2019) principles of medical ethics and the moral theories of deontology, utilitarianism, care ethics, virtue ethics and communitarianism to the different contextual situations in oncology.

I will argue that the uncensored use of telemedicine in the practice of oncology would be violating these principles. Autonomy will be discussed by analysing the extent of patient involvement in medical decision-making, the concept of paternalism and the protection of the patient’s dignity, privacy, and confidentiality. This will include an examination of the scope and applicability of informed consent in relation to the principle of autonomy. Beneficence would be ensured by upholding the highest attainable standard of cancer care, maintaining the doctor-patient relationship, addressing patient vulnerabilities, and improving accessibility for disadvantaged patients. Balancing the benefits, risks, and costs of the spectrum of cancer care interventions would support the principle of positive beneficence. The principle of non-maleficence is upheld when the ethical practice of medicine decreases the unintended burdens on patients already encumbered by their cancer. These burdens include their physical, social, and cognitive vulnerabilities, health illiteracy, and physical and financial inaccessibility to cancer care. Lastly, the potential for a hybrid model of oncology care will enhance access, social efficiency, and social equity among all categories of patients, thus fulfilling the “job of justice.” The incorporation of these principles when amending the current HPCSA guidelines would make the practice of oncology in South Africa ethically permissible by promoting equitable, affordable, and accessible oncology care.

The moral theories of deontology, utilitarianism, care ethics, virtue ethics and communitarianism will be applied to the different contextual situations in oncology. Using the consequentialist theory of utilitarianism, I will argue that telemedicine has benefits in primary and palliative healthcare that outweigh its shortcomings. The concept of utility will be applied to the argument that the judicious use of consultation between doctor and patient together in the same venue enhances their relationship in acute cancer care. Virtue ethics describes the character and personality traits that patients expect of their healthcare professionals. Care ethics plays a fundamental part in oncology, particularly concerning emotionally charged discussions about prognosis, goals of treatment and end-stage care. When seen through the lens of the patient and provider, this would be difficult to do via a virtual platform. Enhancing healthcare access and quality for all communities would uphold the ethical value of communitarianism. Furthermore, collaboration by healthcare authorities and workers with patients and their communities would fit well within the framework of ubuntu communitarianism (Rachels and Rachels, 2019; Metz, 2011).

Lastly, I will argue that for healthcare practice to be ethically justifiable, the relevant regulatory body publications would need to be effective, integrated, insightful, informative, and transparent. Revision of the HPCSA guidelines will fill the ethical gaps and help in reshaping the telemedicine landscape in the field of oncology.

1.4 Ethics

This research report is a normative study. Ethics approval is not needed.

1.5 Research outcomes

This research report may offer opportunities for publication in local journals e.g., South African Medical Journal or the South African Journal of Oncology. It can provide relevant information that the HPCSA can utilise when drafting guidelines pertaining to telemedicine in oncology. The findings of this research report can be presented at local oncology conferences.

1.6 Limitations

This is a normative study without an empirical component. The views of other oncologists in South Africa were not sought and this report is based on a normative analysis of cancer care in South Africa and the role of telemedicine in oncology. The findings of my research report may require a future observational study of tele-oncology by patients and healthcare workers in South Africa. The COVID-19 pandemic prevented face-to-face communication with my lecturers and fellow students in the current bioethics and health law class making discussions and arguments related to my topic a challenge.

Chapter 2 The development of telemedicine including a discussion of the ethical considerations with particular reference to oncology

2.1 Introduction to telemedicine

In this chapter, I will begin by describing the concept and development of telemedicine, together with an introduction to the ethical issues pertaining to its application. I will then discuss the way in which telemedicine has been utilised in the field of oncology in both developed and developing countries. Following this discussion, I will expand on the more general healthcare challenges facing South Africa, concentrating on the field of oncology. Thereafter I will discuss the development of telemedicine in South Africa and the role of the Health Professions Council of South Africa (HPCSA) in the regulation of its application. Lastly, I will address the adoption of telemedicine in the field of oncology during the COVID-19 pandemic, together with its sustainability post the pandemic.

2.2 An overview of telemedicine

Telemedicine is the use of information and communications technology by healthcare professionals to provide remote clinical care both among themselves as well as to their patients. (Bertucci, et al, 2019, p. 3). Simply, it is the practice of medicine over a distance using telecommunications systems (Gilstad, 2003, p. 126). A literal translation of the word telemedicine is “healing at a distance” (Chellaiyan, 2019, p. 1872). Telemedicine falls under the umbrella of telehealth and focusses on the delivery of clinical services (Thiessen, 2020, p. 2). In addition to those quoted above, there are a number of other definitions of telemedicine. The differences are more a reflection of the application of telemedicine within different areas of responsibility, rather than an indication of differences in approach or understanding. Some authors use the term telemedicine interchangeably with the term telehealth. They define it as the provision of medical care at a distance, involving a wide range of the telecommunication technologies that are utilised in the landscape of medical practice (Lopez, et al, 2021).

The World Health Organisation’s description of telemedicine includes both the interaction between two or more healthcare professionals in relation to the management of one or more patients, or to the communication between individual healthcare professionals and their patients. It goes on to explain that in the process, healthcare information is transmitted in an electronic format and that communication takes place on various devices. Forms of communication include text, audio, still images and video formatting. Devices include standard or mobile phones, smart devices, robotic systems, and computers (WHO, 2010). This broad description contrasts with that of the more limited and specific terminology of the HPCSA. Their definition of telemedicine is the electronic communication between healthcare practitioners in two separate locations to facilitate healthcare in the underserviced areas of South Africa (HPCSA, 2017).

Telemedicine applications occur in two main types. They are either performed in a synchronous approach, or in an asynchronous format. The synchronous approach is a virtual engagement between clinicians, or between the clinician and the patient, using fully interactive video technology in real time. This differs from the asynchronous method in which collection, storage, transmission or forwarding of clinical data takes place separately from and before its analysis. This store-forward approach includes academic literature, medical reports, images, and video recordings (Sirintrapun, and Lopez, 2018, p. 540). These two modes of telemedicine application both have relevance to my proposal of the viability of a hybrid model for the care of the South African oncology patient.

Telemedicine has a long and interesting history that has evolved over time (Lopez, A; et al, 2021). This is described in more detail in the next section. The integral roles of technology and communication in healthcare are well known; they form the foundation for the development of telemedicine (Bashshur and Shannon, 2009, p. 804). The American Telemedicine Association (ATA) defines telemedicine as “the natural evolution of healthcare in the digital world” (American Telemedicine Association, 2019).

2.3 History of telemedicine

The word telemedicine was coined by Thomas Bird in the 1970s and means “healing at a distance” (Strehle and Shabde, 2006; Chellaiyan, 2019). Its origin however dates back to 1870s with the use of the telegram detailing injuries on the wounded during war and strife (Mars, 2013). In 1906 tele-cardiograms were successfully transmitted through telephone wires (Einthoven, 1906, p. 132). Improvements and alternatives in communication and transmission technologies were adopted by telemedicine as they became available. The use of television widened during the 1950s, and it became popular in the clinical setting. In the 1960s, remote medical care began to be explored in the United States of America (USA) utilising telemedicine demonstration projects. The aim of these projects was to determine the feasibility of using interactive telecommunications to enable doctors to diagnose and treat patients who were in different and distant locations from them (Zundel, 1996). During the 1970s, telemedicine programmes were undertaken to improve healthcare delivery to prisoners, nursing home occupants and astronauts in space. The 1980s saw the advent of teleradiology where radiological images were sent and received for telemedicine consultations. A decade later, another innovation emerged which became the basis of digital connectivity in healthcare; the Internet (Rupp, 2017). With the further improvement of information and communication technology in the last three decades, telemedicine has become more widely practised, and its use in the advancement of healthcare began to be actively studied (Thiessen, 2020).

Telemedicine harnesses the power of technology to transmit the knowledge of a medical practitioner directly to a patient in need (Nitaari, et al, 2020). Studies demonstrated improvements in access to care in a number of medical specialities when tele-interactions were actively implemented. These disciplines included: radiology, neurology, general practice, nursing, psychiatry, dermatology, and geriatric medicine (Lopez, et al, 2021). The use of telemedicine in the field of oncology started in the 1970s, and most studies were conducted in developed countries. Following the successful utilisation of teleconsultation in Australia, Canada and the USA, interest grew in its use among people who lived outside urban centres. These included indigenous communities and those who lived in rural, remote areas, as well as those in straightened circumstances (Sabesan, 2014). In developing countries, a fair degree of success has been achieved with telemedicine initiatives in oncology through linkages between resource-rich facilities and resource-poor institutions (Hazin and Qaddoumi, 2010). However, since 2010 in Africa, there have been few sustained clinical service initiatives, although several large-scale tele-education programmes have been conducted in various fields of medicine (Mars, 2013). Oncology-related initiatives were conducted indirectly in the fields of tele-dermatology, tele-pathology and medical educational services (ibid). Tele-oncology programmes were few and mainly focussed on cervical and breast cancers, and lymphoproliferative disorders in a small number of Sub-Saharan African countries (Ferrari, et al, 2018).

2.4 Rationale for telemedicine

The motivation for the development of telemedicine was to advance the interests of patients and their communities by improving the quality, access, and equity of healthcare (Bertucci, et al, 2019). Rather than being a single technology, telemedicine encompasses a wider chain of care-rendering services (Roine, 2001). These include preventative medicine, diagnosis and treatment of illnesses, medical research, and the continuing education and clinical support of healthcare providers. Some healthcare providers were of the view that this chain of features could improve and enhance the quality, equity, and efficiency of healthcare (ibid). Ethical evaluation of telemedicine programmes has generally focussed on the assumptions of its ability to provide improved efficacy, efficiency, and clinical outcomes. Less research has been focussed on potential barriers to telemedicine including its negative, harmful, and unethical impact on healthcare service delivery and clinical practice (Mehta, 2014). If telemedicine is thought to have the potential to transform healthcare, its ethical acceptability will need to be grounded in ethical principles and moral theories.

2.5 Ethics of telemedicine

Edmund Pellegrino asserted that “medicine is a moral enterprise and has been so regarded since Hippocratic times” (Pellegrino, 2006, p. 65). As such, the practice of medicine must balance the good it provides to society against the potential harm it might cause to its members. It should avoid the unfair distribution of healthcare services, consider the risks and benefits of healthcare provision and it needs to maintain respect for patient rights and dignity (Jagsi and Lehman, 2004). The practice of telemedicine should meet similar moral obligations as stipulated by the World Medical Association (WMA) which sets a yardstick by which compliance can be measured. The WMA specifies that the delivery of telemedicine services should equate to traditional healthcare in terms of ethical practice.

Ethical evaluation of telemedicine began in the early 1980s at the same time as the rapid growth of communication technology (Langarizadeh, et al, 2017). It was thought that the development of new techniques in the practice of medicine, including telemedicine, would present novel challenges to our ethical and moral reasoning (Yeo, 2003). The question of whether the quality and practice of this modality of care would satisfy ethical norms and standards was put to the American Society of Bioethics and Humanities (ASBH) by the WHO in 2006. In answering it, the ASBH had to identify the pertinent ethical issues in medical practice (Townsend, et al, 2019). Ethical intentions and actions concerning technology-mediated medical practice and communication can be understood through the analysis based on ethical principles and moral theories. In the next chapter I will discuss the ethical principles and moral theories that are applicable to healthcare which could have particular relevance in the field of telemedicine.

2.6 Tele-oncology

Cancer is one of the leading causes of disability and death worldwide (Pareek, et al, 2020). A new pillar in oncology care, tele-oncology has been developed to address the particular challenges in this field (ibid). Tele-oncology is the application of telemedicine in the field of oncology to advance cancer care (Hazin and Qaddoumi, 2010, p. 205). It applies telemedicine methods to oncology services to diagnose, treat and follow-up patients using information and communication technologies (DiCarlo, et al, 2016). The overall aim of tele-oncology is to improve the accessibility to treatment and to enhance the results among under-resourced rural (remote) patients when compared to that available and achieved among affluent and urban-based patients. (ibid).

In the chapter on Better Outcomes for Cancer patients using Telemedicine, Riva, S et al, (2015), summarises telemedicine services in oncology as follows:

- Teleassistance: This refers to the use of communication technologies to deliver health-related services and information. It can be anything from a simple measure of two health professionals discussing a case over the phone to the supervision of home-based chemotherapy administration.
  Multi-disciplinary meetings would also fall into this category.

- Telephone follow-up: This would involve a consultation with a patient over the telephone to discuss results, symptoms, and concerns.

- Telediagnosis: A diagnosis made following the transmission and evaluation of data from instruments assessing and monitoring a patient in a remote location.

- Telemonitoring of patients with serious conditions: This involves remote monitoring of patients who are distant from the healthcare provider. Follow-up of treated patients through survivorship programmes and the provision of palliative care would fit into this category.

Telemedicine for cancer care has been adopted by many centres around the world to complement face-to-face services. In developed countries, telemedicine has been shown to be effective in addressing the disparity in cancer care and reducing healthcare expenditure (Hazim and Quaddoumi, 2010). Successful telemedicine programmes in oncology have been developed in Australia, Canada, the United States of America, and parts of Western Europe. Tele-oncology in these countries has provided cancer care to patients where distance and time separates them from their healthcare providers. Qualitative studies and questionnaire-based surveys have demonstrated benefits such as improved access to specialised services, reduced travel time and its economic consequences, and the maintenance of the doctor-patient relationship (Sabesan, et al, 2014).

Attempts to introduce tele-oncology into developing countries has met with challenges. Technology is less available in developing countries, and this presents an obstacle to the adoption and utilisation of tele-oncology. Other reasons include an inadequate number of healthcare professionals; shortcomings, or absence of healthcare services in rural areas; lack of healthcare development plans and funding; poor infrastructure, and a disparity between the private and state sector (Ferrari, et al, 2018). Africa has been slow in the adoption of telemedicine and random programmes have demonstrated sparse benefit. For example, cervical cancer screening programmes have been conducted in South Africa, Tanzania, Botswana, and Ghana. Also, Nigeria embarked on breast tele-oncology studies which assisted with patient education and treatment adherence. Beyond these, there have been limited and scattered tele-oncology programmes and studies, none of which have been sustainable (Combi, et al, 2016).

Telemedicine may be able to transform the traditional paradigm of healthcare delivery including cancer care, but its usage and sustainability depends on the relevant stakeholders. Before telemedicine can be integrated into oncology care in South Africa, it would be important to determine whether our healthcare system can support its application. Furthermore, its ethical value in the South African oncology environment will need to be established. I will now discuss the challenges in the South African health landscape.

2.7 South Africa’s healthcare challenges

There are three major problem areas for healthcare in South Africa. These are, firstly, a four-fold challenge of diseases, to which the results of widespread violence and concomitant injuries is added (WHO, 2018). The diseases include HIV and AIDS and multiple communicable and non-communicable diseases. Secondly, the challenges in constrained availability of healthcare resources, with urban-rural inequalities in service delivery and thirdly, the societal factors of poverty and unemployment (de Villiers, 2021). In addition, a range of structural and systemic challenges exist. South Africa has a pluralistic, two-tier healthcare system which is made up of a largely subsidised public sector and a high-quality private sector (Delobelle, 2013). Around 80% of the population exclusively utilises public healthcare (ibid). The public sector has critical shortages of facilities, equipment, infrastructure, and insufficient human resources. All of these disadvantages are exacerbated by the concentration of health professionals in the private sector in both urban centres and in the more populous provinces (Maphumulo and Bhengu, 2019).

Telemedicine was proposed by the Department of Health as a means to overcome the above challenges. Despite the initial interest through several projects under the guidance of the National Health Information System (NHIS/SA) a drawback has been the devolution of telemedicine to each of the nine provinces. The lack of co-ordination between the provinces led to the failure of these projects because of operational and budgetary constraints (Mars, 2013).

2.8 The challenges in the field of oncology

The current challenges facing South African oncology care mirror those of the country and are multifactorial. They also include inadequacies in healthcare resources, health system capacity and the human workforce (Schulz, 2020). Cancer services are highly specialised, expensive, and mainly exist at tertiary institutions attached to medical schools. There are thirteen public sector oncology facilities in South Africa which are all located in the urban regions (ibid). Likewise, oncology-related health professionals are concentrated in urban centres, which leaves vast rural areas and remote populations either underserved or unserved (van Rensburg, 2014). Many South Africans diagnosed with cancer have difficulties in obtaining treatment (Ho, 2021). The lack of sufficient trained medical personnel coupled with the insufficient availability of treatment centres is an unfortunate reality faced by those people who are dependent on the public sector for healthcare (Ngwa, et al, 2016).

In 2018, the WHO attributed an estimated forty-one million deaths globally to non-communicable diseases which include cancer. The global annual increase in newly diagnosed cancer cases is forecast to exceed twenty million by 2025. Of these, 70% are predicted to occur in the developing world (Ghose, et al, 2019). South Africa has also experienced this rise in cancer diagnoses, and a similar rapid increase has been recorded in cancer deaths. A perspective on this is gained from a report released by Discovery Medical scheme in 2018 that stated that more people died in South Africa of cancer than the combined losses attributable to HIV/AIDS, tuberculosis, and malaria (Hesse, 2018). In 2018 there were 107,467 newly diagnosed cancer cases and 57,373 cancer related deaths (WHO, 2020). A criticism levelled at the national cancer statistics (private and public sector) is that the National Cancer Registry has a backlog of 3 years. Furthermore, these statistics were based on disease pathology without providing relevant information on the affected population. One implication of this is that epidemiological analysis of high-risk groups or hotspots might be lacking (Schultz, 2020). This makes cancer a significant healthcare challenge in South Africa.

2.9 The development of telemedicine in South Africa

Despite evidence of value in telemedicine from its application in developed countries, only a slow and steady uptake of its usage has occurred throughout the rest of the world. In fact, telemedicine was merely trudging along until 2020 when the Covid-19 pandemic dramatically altered the medical landscape. This event prompted many clinicians to rapidly convert to virtual care (Bashshur, 2020). Many authors have considered and advocated a bright future for telemedicine post the COVID-19 pandemic, consequent upon the strides made on this platform of healthcare during its course. Simultaneously, the wide-spread implementation of telemedicine during the pandemic has led to the exposure of underlying inequities in virtual cancer care (Lopez, et al, 2021). The question arises as to whether telemedicine could be ethically motivated for remote cancer care in developing countries. South Africa, with its shortcomings in cancer care, is particularly well positioned to play a role in answering this question.

Governmental responsibility for the delivery of healthcare in South Africa is written into the Constitution (Stuckler, et al, 2011). Given that, the question to be put is whether the current status of healthcare provision can be remedied to ensure that this obligation is met. Public health in South Africa is overseen by The National Department of Health (NDOH). It is mandated by the Constitution and enabling legislation [The National Health Act (No 61 of 2003)] to create and maintain health policy and to coordinate activities in the public health sector (Van Rensburg, 2014). During 1998, in an attempt to improve access to healthcare, the NDOH embarked on a series of pilot projects in telemedicine (National Department of Health, 2011). Their plan was to implement three phases over 5 years with the objective being to deliver high-quality, cost-effective healthcare services to South African communities. The South African National Telemedicine System went further to develop ethical guidelines in 1999 with the “Telemedicine code of ethics and professional conduct” (Jack, 2008). Nationally several sites incorporating radiology, ophthalmology, pathology, and ante-natal care were developed but these have not translated into countrywide programmes. In addition to concerns over ethical and legal issues, and a failure of provincial departments to plan for the inclusion of telemedicine, there has been a resistance to change by healthcare providers. Further, it was noted that difficulties arose in both technical and organisational areas and that inadequate training had been provided (Jack and Mars, 2008).

Telemedicine was proposed as a means of addressing the inequity and inadequacies of healthcare access in South Africa as identified in the NDOH strategic plan referred to above. The HPCSA drafted guidelines in 2014 to help healthcare providers understand the concept and to regulate its practice. Despite being considered by some authors to be a panacea to address the South African healthcare challenges, not much has happened to promote telemedicine. Reference to the HPCSA definition in the introduction to this chapter will show that it emphasises the under-serviced areas of the country as being the market for telemedicine. During the pandemic, the guidelines were amended, but the changes attracted such a level of criticism that they were not readily employed by many healthcare practitioners (Coetzee, 2020). If it is the guidelines themselves that are the reason for the disinterest in telemedicine, then perhaps they need to be revised to make them more applicable to the different disciplines. Concerning tele-oncology, arguments can be made both for its use as well for its exclusion, dependant on the condition of the patient and the status of their disease.

The field of oncology faces many ethical challenges which are particular to it and unlike those faced by other disciplines in medicine. They arise from the aspects of the disease which do not often occur in other clinical settings. Healthcare workers involved in cancer care are frequently presented with a dilemma of how best to offer their patients’ equitable, optimal and effective treatment in all facets of their care. The role of telemedicine in such settings would require ethical theorising and moral deliberation which is addressed in the next chapter.

Chapter 3 The Ethics of Healthcare

3.1 Ethical theories and principles as they apply to the use of telemedicine

The basis on which a decision or selection of a choice is made in medical care rests on ethics; that is a set of moral principles, beliefs, and values. It is a multidisciplinary lens through which healthcare providers view complex health related issues and which enables them to make recommendations regarding the correct course of action pertaining to such issues (Vermont Ethics Network, 2021).

As my research report aims to argue that the practice of telemedicine has ethical challenges in the field of oncology in South Africa, I will start by describing the theoretical tools that would support my argument. These include the four widely known bioethical principles identified by Beauchamp and Childress, namely of respect for autonomy, beneficence, non-maleficence, and justice, and the moral theories of Kantian Deontology, Utilitarianism, virtue ethics, the ethics of care and ubuntu ethics (Beauchamp and Childress, 2019; Metz, 2011). I will briefly outline these principles and theories so that an understanding of them can be gathered prior to my argument in the next chapter. Overall, my report will be an examination of the necessary inclusions and exclusions for the case for the utilisation of telemedicine in the field of oncology in South Africa from a normative consideration.

The origin of moral principles is common morality which is considered to be a matter of general knowledge. It is the kind of morality most people rely on when making moral judgements (Gert, 1988). Every person is connected by the universally valid precepts of common morality (Khushf, 2004, p.8). Common morality includes several theories and principles within it. (ibid).

Martha Nussbaum views literature as a vast resource of moral knowledge and a means of sensitising people to responsibilities, challenges, and obligations of a full moral life (McCarthy, et al, 2010). This report is my personal contribution to that resource of moral knowledge and as such, it is aimed at addressing the ethical theories and principles as they are applied in the field of medicine for the purpose of determining guidelines for usage in clinical practice.

3.2 The moral theories

The traditional ethical theories of Deontology and Utilitarianism have been part of the canon of moral philosophy for a long time (McCarthy, et al, 2010, p. 41). Deontology describes the ethically moral correctness of an action without regard to its consequences (Mandal, et al, 2016, p. 5). Kantian deontology, introduced by the philosopher Immanuel Kant states that the morality of an action depends on the nature of the action, with a harmful act being unacceptable irrespective of its consequences (Ibid, p. 43). Modern Kantians rely on the “Formula of Humanity” – a Categorical Imperative that states that people are more than merely a means to an end, and as such, humanity has value (Packer, et al, 2019). For Kantians, the morally right action is to treat persons with respect and dignity and such rights and obligations are mandatory. Human beings have inherent dignity because they possess rationality and autonomy (Koali, 2020). In medical practice, by ensuring that the medical needs of a patient are met, a doctor would have met the required duties and obligations. The relationship between a doctor and his patient is deontological in its nature for two principal reasons. They are that medical teaching practices inculcate the tradition of duty to the patient, and that the practice of medicine by healthcare workers are governed by codes of ethics by their relevant regulatory bodies (Mandal, et al, 2016). Decisions based purely on a deontological approach may not result in a general benefit to society at large, despite being in the best interest of an individual patient. Thus, a deontological approach is patient centred.

Utilitarianism on the other hand is considered to be society-centred (Mandal, et al, 2016). It supports the notion that the action which benefits the majority in the best way is the most ethical action. To a utilitarian the most crucial factor in supporting an action is its consequences. Determining what would be the ethically correct action involves an evaluation of every possible outcome in relation to each individual or group that may be affected by it. Having performed such an evaluation, all the possible actions must be examined to identify which one would provide the widest general benefit (Kurtz and Burr, 2012.). If this approach were to be applied in healthcare, a dilemma may arise if the selected action might result in harm to some individuals, despite the majority enjoying the benefit (Garbut and Davies, 2010).

Some early philosophers identified virtue ethics as the basis for evaluation of correct behaviour (Kurtz and Burr, 2012). Healthcare practitioners are expected to have character and virtue beyond those of other people (ibid). Four virtues were identified by Beauchamp and Childress 1994, as being primary to the ethics of healthcare practitioners. They comprise compassion, discernment, trustworthiness, and integrity. The virtue of care is fundamental in actions, practices, and relationships in healthcare. A healthcare worker's trustworthiness and demonstration of care when faced with patients' needs, illnesses and vulnerabilities are integral to their professional moral lives (Beauchamp and Childress, 2019). Caring for the patient might add the necessary element to best clinical practice (Goldwyn, 2011). The notion of care is best described in the doctor-patient relationship. This has the potential for the individuals to socially connect, which enhances feelings of concern, empathy, and compassion (ibid).

The ethics of care emphasises traits that are conspicuous in intimate personal relationships such as empathy, sympathy, compassion, and fidelity. A healthcare worker interacting with a cancer patient is expected to display sensitivity and care and this should be an integral part of their profession (Beauchamp and Childress, 2019, p. 35). The ethics of care has specific applicability to situations in which people are interdependent and in which emotional responses can arise (ibid, p 37). The oncology patient is considered vulnerable and the doctor-patient relationship as such would be one of care, compassion, and empathy. Feeling for another and showing care towards them are vital aspects of a moral relationship with cancer patients (ibid: 37). Compassion and empathy are both acts of beneficence that attempts to alleviate the suffering or pain of another person (ibid, p 37).

Communitarianism places less emphasis on individual rights to privacy and more emphasis on communal decision making. South African ethicists have claimed that "African bioethics" is based on common morality (Coleman, 2017). An individual's moral worth sprouts from a common humanity (Van Norren, 2014). Ubuntu is a communitarian ethic, which places great value on the wellbeing of the community, and which values the community more than the individuals of which it consists (Chuwa, 2014; Tangwa, 1996). In ubuntu ethics, community rights take precedence and a person's value, or personhood is measured with reference to the social and communal context (van Breda, 2019**)**. The idea of human connectedness is thought to advance efforts for more efficacious and sustainable community health collaboration (Ngwa, et al, 2016). Emphasis is placed on protecting the vulnerable in society, preventing ill health and maintaining good health. Its aim is maximising human value (beneficence), while preventing harm and ensuring justice (Coleman, 2017).

3.3 The ethical principles

The foregoing brief descriptions demonstrate the differences between the theories, and how they align with the needs and expectations of and from a doctor, and more particularly, an oncologist. This lack of consensus on the most appropriate and universally applicable moral theory, led to an emphasis and appeal of ethical principles. No theory dominates bioethics because issues are defined by reference to commonly acceptable principles based on features of general moral theories (Khushf, 2004). However, it is remarkable that almost all theories yield insight into the general validity of the four bioethical principles. Principlism is an approach that provides an overview of the four ethical principles that are worthwhile in moral discourse (Momoh, 2018). According to Beauchamp and Childress, 2008, the four ethical principles serve as a foundation for analysing ethical situations and resolving ethical dilemmas in medical practice (Nortje, et al, 2018).

Respect for autonomy in medicine would include both patient and professional autonomy. Patient autonomy encompasses respecting and supporting patient's decision making regarding their care (ibid). It involves treating people as free moral agents irrespective of their capacities or capabilities and describes it as power being given to patients (Mill, 1859, p. 13). Informed consent forms the backbone of patient autonomy in the practice of medicine (Gross and Schmidt, 2020). "Respect for persons" is a very helpful moral principle. It underpins our human rights culture and forms the basis of the Bill of Rights in our Constitution. Professional autonomy would be displayed when healthcare practitioners give attention to the ethical justification of their practices in serving their patients and the common good (De Vries, et al, 2009). When healthcare professionals use their autonomy to set high standards of healthcare practice, their patients gain their trust (Bauer, 2002).

Beneficence is the ethical principle that has long been considered essential to the practice of medicine as it promotes the best interests of patients (Kinsinger, 2009). The patient's best interests are served when healthcare providers adhere to the principle of beneficence (Watt, 2000). Clinicians' actions are justified by the duty of beneficence and that would include respecting patients' autonomy (Rajani, 2013, p. 228). The guiding maxim of the principle of non-maleficence is: "First, do no harm" (Beauchamp and Childress, 2019). The principle of non-maleficence is conjoined to the notion of beneficence and promotes the avoidance of harm or hurt so that the best interest of the patient is secured. These two moral principles are supported by the Hippocratic Oath. Taking them as having equal standing, it demands that beneficence as well as non-maleficence must be always maintained (Gillon, 1994, p.

184). In the provision of healthcare, the prevention of harm to reach a beneficial outcome should be a worthy goal (Bashshur, 2020).

The principle of justice prescribes that all patients must be treated equally and fairly with equal distribution of resources. In situations where resources are scarce, justice prevails if these resources are distributed fairly and to those in need (Momoh, 2018). Martha Nussbaum’s “theory of capabilities” addresses issues of justice for the poor and incapacitated and states that these are essential for human dignity and flourishing (Beauchamp and Childress, 2019). The principle of justice and social responsibility supports the idea that healthcare practitioners should ensure that society benefits from their actions without discriminating any class of patients (Yeo, 2002). The application of fair or equitable standards in healthcare that is accessible, available, and efficient would fulfil the notion of distributive justice (Bauer, 2002). The criteria that should be applied to fair distributive justice requires ongoing evaluation of new developments in healthcare such as telemedicine (Packer, et al, 2020).

All the theories have self-standing principles however, for their useful application, they have to be taken together to determine the necessary balance and proportionality applicable to the particular action to which they are being applied (Packer, et al, 2019). The principles of beneficence and non-maleficence are put forward to capture the utilitarian concern about consequences, while the principle of respect for autonomy captures core deontological concerns. Justice can be utilitarian or deontological (Khushf, 2004, p.7.) As the application of specific principles or a moral theory in isolation can lead to contradictions, conflicts, and inconsistent conclusions, I will apply them in a way in which their complementary features are utilised. This will lead to a proper decision-making process regarding the application of telemedicine in the field of oncology.

Chapter 4

What are the strengths and limitations of telemedicine in the practice of oncology from an ethical viewpoint?

4.1 Introduction

In this chapter, I will argue why telemedicine poses ethical challenges in the field of oncology. Beginning with an expansion on the complexity that accompanies the discipline of oncology, I will follow with a breakdown of the field into two sectors based on the characteristics and management of the disease. The moral substance that applies to the practice of oncology, the vulnerability of the oncology patient, the doctor-patient relationship and medical paternalism will be discussed in detail. This will serve as a prelude to the application of telemedicine in the field of oncology. The ethical issues that would apply to the utilisation of telemedicine in a discipline as unique and challenging as oncology will also be discussed**.** Thereafter, as indicated in the close of chapter 2, the HPCSA telemedicine guidelines will be introduced in relation to the field of oncology. My research report will concentrate on the way in which cancer care is provided in the public sector in South Africa.

Medicine is the “most human of the sciences and most scientific of humanities” (Pellegrino,1979, p. 9). This statement would be most appropriate to the discipline of oncology which can be described as a blend of science and art (Riter, 2013). Science is the starting point of cancer care, but there follows an art to applying that science to each patient (ibid). It stands to reason that many philosophical issues would be expected at the heart of oncology theory and practice (Zaner, 1998, p. 65).

I will break down the field of oncology by first describing the scientific aspect and follow it with the humanitarian detail.

The rapid evolution of knowledge and increasing treatment complexities in medicine including cancer care is now a reality (Bertucci, et al, 2019, p. 1). The discipline of oncology includes diagnostic (pathology, laboratory, and radiology), therapeutic (surgery, radiation therapy and medical oncology) and supportive (psychological, allied medical, and palliative) care. Cancer is a complex and extremely heterogenous disease. There are over one hundred types of cancer and despite the complexity and variability of the disease, most cancers are still treated with the same generic therapies (Krzyszczyk, et al 2018, p. 80). However, these generic therapies require complex management that involves multi-disciplinary teams, trained staff, equipment, and infrastructures that would need to be integrated into local contexts (Ferrari, et al, 2018). Another ingredient which is added to this mix of complexities is the psychological effect that a cancer diagnosis has on a patient, and the concomitant impact on those close to him. A diagnosis of cancer can be a turbulent situation for patients, having to wrangle through new world of specialised vocabulary, hospitals, tests, treatments, symptoms, and side effects (Montgomery and Harris-Braun, 2008).

As oncology straddles such a wide range of care, it can be expected that ethical issues might arise. My argument proposes that the ethical challenges of telemedicine in the field of oncology in South Africa arise under two very different sets of circumstances. The differences arise from the relative necessity for face-to-face interaction. Some aspects of cancer care can be provided through a telemedicine interaction or channel. These include cancer screening, health education of both patient and provider, survivorship programmes and palliative care. However, the acute management of cancer care requires a face-face or personal interaction, and in that situation, telemedicine would fail in this interplay.

4.2 In which sectors of oncology can telemedicine usefully be applied?

The ongoing development of digital technologies in information and communication via the Internet has caused an interest in electronic healthcare management (Bertucci, et al, 2019). Its adoption has accelerated around the world with internet access now being widely available through many electronic devices (ibid). According to Digital 2020, South Africa had 103,5 million mobile connections in 2020 representing 176% of the total population. Internet penetration stood at 62% of the population and social media penetration at 37% (Kemp, 2020). However, there are challenges such as the patchiness in signal availability, high data prices, the sharing of devices and phone theft (Jack and Mars, 2014). These burdens would place significant challenges to the ready adoption of telemedicine, particularly in a field as complex as oncology. Yet telemedicine can have value in some aspects of cancer care without any ethical compromise if healthcare resources can be prudently allocated (Beauchamp and Childress, 2019, p. 305).

Primary healthcare, follow-up and survivorship, palliative care, and multidisciplinary team (tumour board) virtual meetings have been conducted successfully and shown to be effective when extended beyond the face-to-face clinical model (Sirintrapun and Lopez, 2018). It is in these circumstances that telemedicine would be a useful mechanism.

The HPCSA expands on the doctor-patient relationship but iterates makes it clear that telemedicine is not an alternative to traditional in person care, with the latter being preferable. My belief is that in a health resource challenged environment, selectively allowing acute cancer treatment to continue in the traditional manner whilst encouraging a telemedicine model in other settings would promote the principles of beneficence, non-maleficence and enhance utility. This approach would also enhance the notion of care, utilitarianism, and human dignity. In the South African context, the principle of justice and the notion of ubuntu ethics would be realised through a telemedicine platform for certain facets of cancer therapy. I will now expand on these options and argue why telemedicine would be a justifiable platform to promote such cancer care.

4.2.1 Would the use of telemedicine be an ethical approach to cancer screening and for health education?

Technology has become a major vehicle for delivering health information and education to people in developed countries (ASCO, 2020). There is growing consensus that information and communications technologies (ICTs) have the potential to catalyse national and local collaborations in cancer care, research, and education (Ngwa, 2016). In South Africa, there has traditionally been a lack of cancer knowledge, limited awareness of early symptoms and signs of cancer and mistrust of biomedical screening, which have all contributed to an increase in preventable cancer deaths (Oystacher, et al 2018). This problem is exacerbated by a strong social stigma associated with the disease which leads to silence and disinterest in seeking help (Ngwa, et al, 2016, p. 441).

The lack of cancer screening and patient health education are among the considerations arising from the prediction by the WHO of a significant increase in cancer diagnoses in developing countries (WHO, 2020). Martha Nussbaum's theory of social justice holds that at a minimum level all citizens should be entitled to the following "central human capability;" that is the right to a healthy life which will not be prematurely ended (Nussbaum, 2007). Justice in this theory considers the right to health and healthcare (Beauchamp and Childress, 2019, p. 278). Our Constitution declares the right of all citizens to basic healthcare which is in fact an attempt at social justice. Telemedicine has become an essential utility in cancer screening and public health education beyond South Africa and can thus be viewed as a means to ensure the practice of social justice (Bashshur, et al, 2013). I feel that a similar modality of health promotion and education in South Africa could uphold the principle of justice. Thus, telemedicine for cancer screening and promoting health education has an ethical grounding.

Criticism has been directed at cancer screening as not always benefitting large populations but rather a minority at greater risk (Plutynski, 2012). There are "social inequalities" that exist in access to early cancer detection (Shamsutdinova, et al, 2017). However, the economic effectiveness and harm-benefit ratio has also been debated. Cost-utility analysis is a strategy aimed at setting priorities for healthcare and public health (Beauchamp and Childress, 2019, p. 273). Health benefits arising in a population from cancer screening and health education programmes are anticipated to bring about gains improvements in health together with cost reductions measured in terms of healthcare expenditure (Curry, et al, 2003). This can be considered to be a utilitarian goal whereby the greatest health benefits are gained for the money spent (ibid, p 273). It can be argued that preventative measures in healthcare are more effective and more efficient in saving lives and reducing the future expenditure requirements for cancer care (ibid). The timely diagnosis of cancer is known to improve patient survival and their quality of life (Car, et al, 2016). Fostering healthcare at a community level is part of the notion of ubuntu ethics. Thus, it can be proclaimed that telemedicine is applicable and viable for these procedures and activities.

The South African population possesses diverse and heterogenous cultures (Coleman, AME; 2017). Azetsop (2011), advocated for the use of a communalism-based framework when advancing public health initiatives and health promotion for the people of South Africa (ibid). In some societies sickness in an individual constitutes communal sickness and this in turn prevents the community from flourishing (Murove, 2013). African thought shares the idea that healthcare resources should be equitably shared (Ujewe and van Staden, 2021, p. 139). The focus of duty to assist those in need has implications for distributive justice in healthcare. People residing in rural areas are more likely heed advice on cancer prevention, education, and awareness when it is received from community members who share a similar social fabric and cultural belief system (Ngwa, et al, 2016, p. 9). Fostering of improvements in self-care and wellness habits in the population can be facilitated by these local healthcare agents as they in turn contribute to awareness and behavioural change (Hazin and Qaddoumi, 2010). However, literature on ubuntu ethics and technology is lacking, Uanikheni (2018), authored an article on the CNN website describing how African entrepreneurs were driving the development of technology-based companies across Africa (Sopher, 2019). The improvement in health outcomes through telemedicine programmes that extend into remote communities, and which involve their collaboration would address primary level disparities in health education and awareness (Ngwa, et al, 2016). This would in turn promote the theory of utilitarianism. The human connection through ubuntu can advance a more efficacious and sustainable collaboration between the oncology affiliated healthcare workers and the community. Thus, it can be demonstrated that telemedicine that reaches out to the community would reinforce the notion of care and the moral theory of ubuntu ethics.

4.2.2 Can telemedicine offer benefit in cancer survivorship?

A practical application of telemedicine is survivorship care (Sirintrapun, 2018). In 2021, Silva et al noted that telemedicine can be seen as a means to facilitate the continuum of care when utilised for cancer survivorship. However, survivorship programmes present diverse and unexpected problems arising from clinical, individual, and socio-economic challenges (Jones, et al, 2018). An opportunity for these to be addressed with the immediacy unavailable in a face-to-face situation supports the use of telemedicine under such circumstances. Difficulties with access to health services, infrastructure and resources may both delay, and make follow-up of survivors difficult which would not be in their best interest. Despite possessing an admirable set of desired outcomes, healthcare in South Africa suffers from constraints which prevent adherence to the survivorship practice guidelines as regards follow-up (Schultz, 2020). This shortcoming has been noted in cancer survivors from minority communities who are more likely to suffer from post-treatment complications. Therefore, it becomes a necessity for survivorship interventions to be performed in culturally compassionate terms for them to add value to cancer care (Pham, et al, 2020).

Provision of follow-up to cancer patients around the world is increasingly being done through technology (Dickinson, et al, 2014). Studies have shown how successfully landline and mobile telephones have been utilised for this purpose. (ibid). According to the American Society of Clinical Oncology (ASCO), cancer patients have reported a high overall level of satisfaction with telemedicine in survivorship care planning (ASCO, 2020). Virtual care has emerged as a feasible method for delivery and receipt of follow-up care (ibid). In 2021, ASCO released standards on the use of telemedicine for cancer care and endorsed its role in survivorship visits (Zon, et al, 2021)

Telemedicine in cancer survivorship programmes would ensure healthcare continuity and thereby reinforce the principles of beneficence and justice and the moral theories of care and utilitarianism.

4.2.3 Does telemedicine add value to palliative care?

Palliative care has long been an underserved aspect of cancer care and yet it has a critical role to play in patient management. There are severe physical and psychological problems that arise in patients with advanced, metastatic cancer which worsen as their disease progresses (van Gurp, et al, 2015). There is limited availability of specialist palliative care in South Africa, but it is often needed when complex problems arise. It has been proposed that a “civilised” society cannot disregard the importance of palliative care that is required by hundreds of patients afflicted with and dying from cancer (Ahmed, et al, 2011). Telemedicine can effectively be applied in several areas of palliative care. The aim would be to ensure optimal professional help for afflicted individuals and their families at what is an exceedingly difficult time in their lives (Bashshur, 2021). Teleconsultation fits the practice of domiciliary palliative care (van Gurp, et al, 2015). In this situation telemedicine resulted in improvements in management of symptoms, as well as in comfort with care and in the satisfaction expressed by the patient and his family (Schoenmaekers, et al, 2020). A study performed in Australia revealed the value of teleconsultation in the hospice setting for patients with end-stage cancer (Whitten, P; et al; 2010). This was further confirmed by van Gurp, et al (2015), who reported that (palliative) care at a distance through telemedicine, could relieve patient and caregiver anxiety and contribute to their peace of mind. Palliative care professionals found that teleconsultations had a healing effect of their own because they created a feeling of personalised care in patients (ibid). Teleconsultation was considered a helpful instrument whereby a doctor could fulfil his obligation to help patients through their disease process (ibid). By means of a simple telephone consultation, the established chain of care would be kept intact for the oncology patient. In this way, the moral obligation of relieving the suffering through medical science and technology can be achieved (Ahmed, et al, 2011). Palliative care offered via telemedicine would promote the ethics of care and the virtues of the healthcare providers.

4.2.4 Can telemedicine contribute to the enhancement of medical education?

Tele-conferencing describes the use of technology by doctors during workshops, conferences, seminars, or continued medical education programmes in an environment of a virtual room (Chellaiyan, et al, 2019). Virtual tumour boards enable discussions between different specialists and have been shown to produce beneficial outcomes (Marshall, et al, 2014). The efficiency of tumour boards was found to be an important indicator for successful management of care in a study by van Huizen, et al in (2019). The study also noted additional benefits of continued medical education (CME) and the collaboration among geographically dispersed colleagues, as well as collegial interaction with skills training. The virtual platform facilitated and expedited care coordination and in turn improved the quality of cancer care (ibid). A further advantage from virtual tumour boards is their effect of raising the skills and knowledge of local healthcare providers who engage in cancer care, which would in turn enhance their professional autonomy (Hazin and Qaddoumi, 2010). This is a much-needed skill in developing countries.

Meetings of virtual multidisciplinary teams (MDT) mushroomed during the pandemic with favourable feedback from all medical participants (Curigliano, et al, 2020). COVID-19 has set the stage for virtual interaction and videoconferencing, and in the South African context would seem like an attractive option. Participating healthcare providers are enabled to share comprehensive health-related information online with specialists in all disciplines of cancer care. This enhances their knowledge and avoids the difficulties of travel imposed by the pandemic. MDTs via video conferences can be used to speed up the referral process, which is a much-needed feature of the healthcare system in general and for the oncology environment in particular. The Collegium Telemedicus model serves an example of telemedicine support for healthcare workers in resource-limited settings (Wootton and Bonnardot, 2015). This model would be useful to South Africa for improvement of the primary-speciality care interface. Acquisition of an expert oncology opinion via store-forward networks would have several benefits (ibid). A good example of asynchronous telemedicine was demonstrated 20 years ago by a medical team in the Eastern Cape using tele-dermatology (O' Mahoney, et al, 2002). Contemporary healthcare practice can utilise store-forward networks to acquire expert oncology opinions and this would offer several benefits. It would assist the clinician, be able to be applied in different cases and would save money (ibid).

4.2.5 Conclusion: Telemedicine provides benefits in certain sectors of oncology care without compromising ethical standards

Technology can play a role throughout the cancer care continuum, from prevention, through survivorship and to end-stage care. Telemedicine has demonstrated vigorous advances in health promotion and disease prevention in developed countries and aspects of this type of healthcare can be effectively utilised in South Africa (Pereanez, 2017). As regards continued medical education for the healthcare professional, the use of telemedicine has made a strong impact as a teaching technological resource (ibid). Even though telemedicine is not applicable to every cancer care challenge, it is an effective means of making a significant reduction of the burden on the healthcare system (Chellaiyan, et al, 2019). This makes telemedicine an ethically robust tool in ensuring healthcare access and equity. In oncology, it can pave the way and be the precursor of traditional management of an acute oncology patient. The ethical basis for this statement follows.

4.3 What are the ethical limitations of telemedicine in acute oncology care?

I will now argue why telemedicine would not be an ethical solution in the practice of acute cancer care, particularly in the South African context. My argument is based on three factors: the vulnerability of the oncology patient, the sanctity of doctor-patient relationship, and the acceptability of medical paternalism in cancer care. These three factors are reasons why conventional in person (face to face) care is appropriate and necessary in acute cancer care.

Although telemedicine studies conducted in developed countries have shown success in virtual care in the fields of psychiatry, oncology, and chronic disease management, I feel these findings cannot be extrapolated to the South African acute oncology environment. The fundamental differences between the attributes of the patient population, and between the resources and infrastructure available in developed countries when compared to South Africa mean that such comparisons cannot directly be made. The application of telemedicine in the acute setting in South Africa would challenge the four principles of healthcare ethics and the moral theories previously discussed. It would exacerbate the current inequities and thus not provide the required quality of care that a patient at the acute stage of the disease should receive. Overall, telemedicine will fail to produce the required clinical outcomes. The vulnerabilities that would ensue are dealt with in the next section.

4.3.1 Would telemedicine increase the vulnerability of the acute oncology patient?

The reputation of cancer as an incurable, disfiguring disease and the stigma which sometimes accompanies it means that the announcement of its diagnosis has a profound impact on the patient (Deshpande and Ghooi, 2017, p. 347). Cancer encompasses the whole person, upsets the physical and emotional wellbeing of patients, fractures the balance the patient has struck between aspirations and limitations, and distorts their relationship with their families and caregivers (Thomasma, 2004). This makes the acute oncology patient particularly vulnerable. In the biomedical context, vulnerable people are sometimes incapable of protecting their interests because of sickness (Beauchamp and Childress, 2019, p. 89). A serious, life-threatening illness such as cancer creates vulnerability in people, and this has a significant impact in their healthcare management (Boldt, 2019). Although the concept of vulnerability is largely confined to clinical research, it can be argued that cancer care as a whole is permeated by this phenomenon (ibid). Vulnerability in the South African oncology patient can be broken down into three causes: social, physical, and emotional. Telemedicine would exacerbate these vulnerabilities, and as such would have significant implications in delivering ethical cancer care.

Social vulnerability has to do with the social and economic circumstances of the oncology patient. Being socioeconomically impoverished adds to the potential for harmful outcomes (Beauchamp and Childress, 2019, p.89). Cancer causes the second highest number of deaths in the world, but a great divide exists in patients accessing any form of cancer care (Global disease burden, 2017). The most vulnerable patients are those with limited access to acceptable cancer care and they consequently have poorer outcomes (Arora and Hawk, 2017). Disparities in cancer outcomes for patients of lower socio-economic status are well known (Manz, et al, 2019, p. 91). Cancer carries a stigma in South African communities which in turn creates further marginalization, deprivation, and anxiety thus exacerbating social vulnerability (Oystacher, et al, 2018). Following a Medical Protection Society survey of telemedicine, a key concern for South African doctors is that the vulnerable patient groups will be overlooked and forgotten if telemedicine became a mode of care post the COVID pandemic. The reasons cited were disparities and differences in the availability of digital access and literacy, together with cultural and linguistic differences, and the extremes of socio-economic status in the South African patient population (MPS, 2020).

Physical vulnerability is created by illness and disease. A person who is seriously ill will deteriorate further if medical assistance is unavailable (Boldt, 2019). Physical vulnerability in oncology patients is often accompanied by emotional vulnerability. The uncertainty and loss of control which arise with the prospect of death can induce a mixture of negative emotions such as fear, anxiety, anger, and despair (Niedzwiedz, 2019, p. 2). Facing a severe diagnosis, the understanding of treatment options and the contemplation of one’s prognosis creates elevated levels of uncertainty and insecurity in patients. It can be described as a cognitive vulnerability (ibid). A patient in pain and privation may develop existential distress and lose the ability to cope. This would intensify their sense of vulnerability and make them worry about what might happen in the future (Franjic, 2020). Communication with a patient facing a serious illness would require a human touch. If the communication were to be conducted electronically, empathy would be absent and abandoned (Terry, et al, 2015). This would be considered an act of maleficence that would deviate from the notion of care.

Although studies have demonstrated success in the creation of virtual empathy in both the oncology and chronic disease spectrum outside our borders, the South African situation contains limitations which would prevent emulation of those results. Electronic and virtual communication facilities and services are neither universally available nor accessible in this country. Such resources are limited in the rural areas, the very places where telemedicine is likely to be more widely required. Thus, the achievement of meaningful virtual empathy is compromised. Eurocentric healthcare practice cannot be fully implemented in the South African public healthcare sector. Realistic patient management goals based on such practice would be unlikely to be achievable given the limitations of human and infrastructural resources in the local environment.

This phenomenon was noted amidst the COVID 19 pandemic. Vulnerable populations in the USA were less likely to access telemedicine after health institutions had shifted most of their care to remote platforms (Sachs, 2021). Vulnerable patients were unable to utilize sophisticated technology for their remote healthcare needs (ibid). Social disparities across multiple areas have created the problem of larger structural inequities which is expected to worsen after the pandemic. If extrapolated to the South African context, the quality of acute oncology care would deteriorate if telemedicine became a standard of care. Supporting this statement are the concerns that were raised by South African doctors that vulnerable patients are disadvantaged by factors such as lack of digital literacy and unavailability of internet access (MPS, 2020). It would be optimistic and probably unrealistic to expect every telemedicine interaction from a local hospital to a specialist oncology facility to be successful, considering the challenges experienced at primary healthcare facilities which were discussed earlier. These issues undermine the principle of justice and represent an impediment to ethical healthcare.

As the diagnosis of cancer creates vulnerability, there would be an expectation of a dependence on others for help. The human body is an important ethical sensor, which helps us to be aware of another person’s needs and their vulnerabilities (Sando, 2003). One way of addressing the three forms of vulnerability discussed above and their ethical significance would be to consider Kant’s view on the intrinsic worth of individuals. Kant asserts that every rational person has intrinsic worth and dignity which is the basis behind respect for persons (Sullins, 2012). His categorical imperative of helping humanity would fit in well with the need to help those afflicted with cancer. In acute cases of potentially curable cancer, their vulnerability calls for adequate forms of care.

Cartwright, M, et al concluded that home-based telehealth did increase the sense of isolation felt by vulnerable patients because of the lack of face-to face contact. In patients with chronic diseases telehealth was less effective and less efficacious compared with in-person care (Cartwright, et al, 2013). In a patient afflicted with a malignancy, their psychological well-being and quality of life would certainly be further exacerbated due to their sense of vulnerability. In the South African context telemedicine in the acute phase of cancer care would rob the patient of this personal interaction (between the doctor and patient) and worsen their vulnerabilities. Furthermore, technology that overwhelms a patient compounds their vulnerability (Pereanez, 2017). The provision of in person acute cancer care would thus fulfil the principles of beneficence, non-maleficence, and respect for persons and advance the ethics of care.

4.3.2 Why telemedicine leads to a breakdown of the doctor-patient relationship

This aspect will be addressed firstly by an examination of the ethical considerations of the doctor-patient relationship. Thereafter, I will discuss the practical implications during clinical care. These will be followed by an examination of medical paternalism.

4.3.2.1 The ethical considerations

For both patients and healthcare providers, the doctor-patient relationship is still considered to be the “moral core” of the healthcare experience (Bauer, 2002). Embedded in such a relationship are ethical meanings and imperatives during each encounter (Pellegrino, 2004). Dunn, M (2019), goes further and classifies it as one of the most ethically significant dimensions of good medical care. In the South African public healthcare arena, the doctor-patient relationship is almost always via face-to face consultation. In the setting of cancer care, the doctor-patient relationship is essential for the delivery of meaningful and beneficial healthcare (Koali, 2020). However, countervailing this notion is the fact that telemedicine can be criticised because the doctor is separated from the patient, thus creating larger asymmetries in oncology care (Pereanez, 2017, p. 116). The preceding discussion has shown that this criticism would be valid for patients who are acutely ill.

Oncology is a speciality that is fraught with many challenges. When their patients feel that their entire being and future is threatened, oncologists must provide them with the clearest possible estimate for survival and discuss the complexity of cancer treatment, the side effects of treatment, the unavailability of some drug therapies and even the futility of treatment (Fallowfield, et al, 2014). They also have to explain the various types of treatment to them (Almalki, et al, 2021). These include the treatment goals, its duration, and the expected complications of treatment. It is important that patients be made aware of and understands these issues to help them adhere to the treatment and thereby optimise their outcome (ibid).

It stands to reason that the relationship between the oncologist and patient is enduring and should be built on trust, empathy, and compassion. The principles of beneficence and non-maleficence and the fundamentals of the moral theory of care would be expected in such a relationship. Effective doctor-patient relationships would set the stage for improved health outcomes, patient safety, patient trust and physician satisfaction (Velez, et al, 2017). Trust is a fundamental part of the clinical encounter, and the achievement of successful medical interventions relies on trust. The virtues of compassion and trust are part of the telos of medicine (Pellegrino, 2004). It can be questioned whether telemedicine would undermine trust and pose a threat to such a relationship in the field of oncology.

The management of an oncology patient would involve the ethics of care. A diagnosis of cancer upends the hopes and expectations of a sick person (Pellegrino, 2004). An afflicted patient now becomes reliant on the oncologist's experience and training and his assessment of the patient's attitude towards the disease (ibid). The sick patient becomes dependent on someone else who possesses the knowledge and skill required for healing. This introduces a new state of dependency (ibid). Important elements of the doctor-patient relationship are hope, compassion and care. These are intuitive responses of the healthcare professional to the needs of the patient and in themself represent an inclination to offer the patient some degree of protection (Aggarwal, et al, 2014).

After receiving an oncology diagnosis, the patient who may either be naturally reticent, or who finds himself to be so overwhelmed by his situation, may appear to be no more than a passive person needing assistance. In other cases, the patient may take a more active and interested role in his treatment. The provider of assistance needs to tailor his approach to suit the individual patient (Boldt, 2019). Therefore, a comprehensive understanding of the patient's situation and patient participation in therapeutic decision making are both needed to ensure respect of autonomy and promotion of human dignity.

The conversation that ensues can be seen as a patient's cancer history. The most common feature of clinical situations is talking, and with it, active listening (Zaner, 1998, p. 68). This constitutes a dialogue with the patient narrating their story and it is the most faithful evidence and presentation of the clinical facts (ibid). People facing grievous illness such as cancer, which is accompanied by suffering and the thought of death, are suffused with a sense of wanting to know what their prognoses are and whether their lives are going to be worthwhile (ibid). A needful suffering human being would expect care. An obligation of care is expected when three conditions exist: there is a need for care, there is a relationship where care can be ensured and there is the ability to provide care (Manning, 1992). In the discipline of oncology, empathy with a patient is a "feeling process" that happens in the embodied, experiential meeting between two human beings – the doctor and his patient (Svenaeus, 2017). Empathy is primarily an attuned perception of experiences and understanding of the other person that surfaces in a personal interaction (ibid). Empathy in medical practice will therefore be difficult or near impossible if the meeting is conceptualised and enacted as the pure processing of information such as a telemedicine interaction. Telemedicine may sever the bond that forms between a doctor and his patient and violate the principles of beneficence and non-maleficence.

Virtual empathy has been utilised in developed countries and would be a feasible option in the South African private health sector (Debes, 2020). However, empathy using ICT would be a near impossible task for the public sector patient. It is neither just nor fair that further marginalization of cancer patients is allowed to continue and would defeat the principle of justice.

Although telemedicine does not replace the subjective experience of the doctor in communication with the patient (Pereanez, 2017), it also does not provide many of the information sources which are so useful in diagnosis and treatment. Among these shortcomings are the lack of verbal communication and the observation of non-verbal cues. This is thought to dehumanize the medical interaction (ibid). The absence of verbal exchanges with the patient, an increasing loss of his feelings and expressions and the lack of opportunity for cordial exchanges puts trust in the medical act at risk in a telemedicine interaction. Within the process there are limits to the human interaction which a medical doctor uses to garner symbolic information and he can only interpret it in a face-to-face manner. Tactile communication through a physical examination is also lost in telemedicine, and this is a major barrier to effective cancer care (ibid**).** Further, personal details about the patient become exposed in digital records which can be considered an act of maleficence. The ASCO telemedicine guidelines reiterate in-person consultations for physical examination for the diagnosis and follow up of active cancer patients unless facilities and tools are in place for virtual examination (Zon, et al, 2021). This would be a difficult task in South Africa's inefficient healthcare system (Rensburg, 2021).

In summary, specific aspects of the medical act, such as anamnesis of the patient's medical history, exploration, reflection, communication, and privacy are lost in a telemedicine interaction (Pereanez, 2017). Physical examination, a critical facet of acute oncology patient management will also not occur, and this could lead to patient distrust. If the best interests of the acute oncology patient are to be secured, the ethical duty of a doctor would be to ensure a personal, face-to-face interaction.

According to the American Medical Association (AMA, 2016) communication of unwelcome information should ideally be made face-to-face, with an electronic format being a doctor’s last choice. Using telemedicine to render such news when more personal alternatives are available would clearly be seen as an ethical error that places efficiency over compassion (Jacobs, 2016). It would constitute a failure to uphold the principle of beneficence because in so doing, the welfare of the patient becomes secondary to the desire for efficiency or convenience (ibid). In the South African healthcare environment, it is felt that medical personnel should do better when dealing with death and dying by balancing empathy and engaged communication (Ho, 2022). A doctor should create a suitable circumstance in which to give a patient first-hand information about his terminal diagnosis in order to provide the human touch. “Good character and virtue are central to the moral practice of medicine and the lack of appropriate emotional ties between the patient and provider can be construed as an unacceptable moral vice in clinical medicine” (Pellegrino and Thomasma, 1993).

Physical contact between the patient and healthcare professional is necessary to advance the notion of care and the principle of non-maleficence. Prioritising patient interests to preserve and enhance the doctor-patient relationship would be the essence of a good doctor (Galpin, 2021). An empathic, compassionate doctor would also promote virtue ethics in a world driven by human values (Humbyrd, 2019). In relation to the practice of oncology, telemedicine technologies that impede the development of empathy and compassion between patients and healthcare workers can ultimately harm patient care and their health outcomes (Bauer, 2002).

According to Atac, et al, (2013), “Telemedicine decreases the concept of trust between doctor and patient.” What ensues in a telemedicine interaction is that conversation is kept to a minimum, there is lack of a physical examination and a difficulty in establishing a diagnosis. These create a barrier to effective care. A physician who is not faced with a patient would not be able to initiate a dialogue. This results in decreased patient morale and confidence in the doctor-patient relationship (ibid). Anamnesis, a reflection of life, wants and thoughts through verbal communication which are part of a medical interaction is left without real presence in telemedicine (Pereanez, 2017). In a health resourced challenged environment where synchronous telemedicine is not possible, conventional in-person care would promote trust and confidence in the oncology patient.

Until recently, doctors enjoyed a social standing well above that of the average patient. Telemedicine has the potential to increase the power differential, especially in the oncology setting. The fact that behind the screen there is a suffering person, not a patient with a number that has to be attended to, makes it a necessity to reach out and help (Nittari, et al, 2020). Without this action by the doctor, there is a danger of an inappropriate asymmetry in the relationship becoming a reality (Boldt, 2019). Healthcare networks that proclaim that social justice is met when telemedicine is utilised, should note that there exists a risk of the doctor becoming a “medical automaton” forgetting the person behind screen (ibid). The danger of a slippery slope in automated medical care could ensue and be propagated.

Following the detailed discussion on the doctor-patient relationship in cancer care, I will now apply this to the current situation in South Africa.

4.3.2.2 The practical implications

Cancer care in the public sector in South Africa is rendered in tertiary institutions where complex transitions of care are the norm. Patients do not have the opportunity to choose their practitioners and are managed by multiple members of the clinical team. Acceptance of this care is expected and unchallenged (Chima, 2013). As has already been described, telemedicine is sub-optimal and potentially inappropriate in the acute setting of cancer care. The current telemedicine guidelines would not be feasible in an acute cancer care setting for the following reasons: chemotherapy and radiotherapy facilities are only available at tertiary institutions; oncologists are few in number and the management of cancer involves a multidisciplinary team with the oncologist taking the lead. The relationship between the doctor and patient would be difficult to simulate in a telemedicine platform. Further challenges include the cultural understanding of cancer, stigmatization associated with a cancer diagnosis and the lack of a medical vocabulary understood by patients (Almalki, et al, 2020). These are relevant issues that could be compounded if telemedicine were a medium of care. Assessments done in person might mitigate cultural differences as it would be easier to physically interact with such patients than through the use of a device (Goldberg, 2015). Multiple disadvantaged factors would create a situation of extraordinary vulnerabilities (Zaner, 1998, p. 66). When examining the doctor-patient relationship at its moral margins, any change in form and content of this relationship would raise ethical concerns (Dunn, 2019). Telemedicine therefore cannot overcome the inadequacies which make it unsuitable for use in the treatment of acute cases of cancer.

4.3.2.3 Is medical paternalism justifiable in oncology, in other than a face-to-face setting?

I will argue that soft medical paternalism is a permissible ethical principle in the field of oncology in South Africa. This implies that the concept of clinical “nudging” in acute oncology care, when used in a face-to face consultation would advance the patient’s best interests. Telemedicine when applied to the delivery of acute cancer care would act counter to this notion as it would promote hard paternalism.

Usage of the words soft paternalism reinforces the idea that benefit to the patient is the most important part of the doctor-patient relationship (Weis, 1985). Clinical nudging refers to the conversational or linguistic tactics practiced by doctors within clinical encounters to alter or influence patient’s behaviour and decisions (Dunn, 2019). According to Avitzour, et al, there is empirical evidence that most of the public supports nudging (Avitzour, et al, 2019, p. 183). Soft paternalism, unlike traditional paternalism does not interfere with the preferences of an individual but helps that individual to decide his needs in accordance with his values and goals (Kirchgassner, 2015). Soft paternalism is a way of presenting the available information in such a way that it encourages or induces individuals to feel as if they have come to the intended decision on their own (ibid). Contemporary healthcare ethics has been criticised for being too focussed on autonomy and utility (Svenaeus, 2017). By protecting elements of the doctor-patient relationship that have fundamental value, regardless of emphasis on patient autonomy, changing social values and scientific advances, would reinforce the moral foundation of this relationship (Dunn, 2019). Paternalistic physicians hold firm to the principle that their actions should bring about the maximum benefit to their patient, even at the expense of the patient's autonomy (Weiss, 1985). When the practice of soft paternalism in a clinical setting is appropriate, the principle of justice supports the paternalistic intervention (Ijoma, 2015).

It has been proclaimed that there is a moral justification for medical paternalism if medical action is in the patient's best interest (Bassford, 1982). According to Bassford, the application of the utilitarian principle of paternalism would entail a physician determining that there are no alternative non-paternalistic courses of action which will have the same results as an act of paternalism. This justifies the application of this intervention in particular clinical contexts such as cancer therapies. In the context of oncology, such a physician is in the same privileged position whether it is a non-medical consideration or a medical one. Medical paternalism is thus justified only when utilitarian considerations apply, and when they in turn do not violate personal rights or patient autonomy (ibid).

Paternalism has been criticised as an asymmetric clinical relationship between the doctor and patient with the power differential favouring the doctor (Chima, 2013). The principle makes the fundamental assumption that the doctor adopts a privileged position and determines what is best for the patient (Ijoma, 2015). It has been asserted that that the application of the principle of autonomy is not absolute but that it should function contextually (ibid). Hard paternalism is generally considered inappropriate for self-sufficient individuals (Kravtiz and Melnikow, 2001, p.584). Soft paternalism may be seen to be relevant for patients who may not be able to understand as well as balance the benefits and risks entailed in the prescribed treatment options given to them by healthcare providers (Koali, 2020). Would soft paternalism be considered morally wrong in an oncology setting?

Soft paternalism may be seen to be relevant for patients who may not be able to understand or balance the benefits and risks entailed in the prescribed treatment options. Therapeutic decisions need to be made after considering the special circumstances of the patient and with a full grasp the patient’s situation (Weiss, 1985). Being sick with a dreaded disease can create a temporary loss of patient autonomy that is mediated by vulnerability, fear, and physical and mental incapacity (Aggarwal, 2014). A diagnosis of cancer may affect a patient’s ability to make rational decisions. The oncology patient being particularly vulnerable, may in turn make poor choices that negatively affect their welfare (ibid). Patients are expected to be able to evaluate the relative importance of risks of survival with quality of life when deciding whether to proceed with treatment or not. They also experience an array of emotions which include fear and grief (ibid). In the realm of oncology, the patient is often a purely passive person in need of assistance, and the oncologist is the one who is able to provide it (Boldt, 2019). An intuitive response by the doctor to the needs of the patient represents a desire to guide the patient and protect him from harm and his own errors of judgement (Ijoma, 2015). People require help in situations where they lack experience or have a high regard for another person’s competence. In such circumstances, a paternalistic intervention might assist the individual to regain a degree of autonomy and ensure beneficence (Aggarwal, et al, 2014).

Providing patients with the means to make decisions which promotes their own welfare while maintaining their range of choices is a demonstration of asymmetric soft paternalism (Aggarwal, et al, 2014). Paternalism holds that physicians could, in the interest of the patient, exercise a considerable degree of discretion over the entire treatment process (Adesua, 2012). The physician with a greater knowledge and understanding of scientific and medical facts may find the practice of medical paternalism an act of moral propriety (Bassford, 1982). In some instances, the principle of paternalism also gives room for the physician to decide for and on behalf of the patient and immediate family (Aggarwal, et al, 2014). Convincing a patient what could be in their best interest would be in keeping with the notion of nudging, a part of soft paternalism (Dunn, 2019).

In healthcare, patients are deemed competent if they are able to assess the relevant information given to them and use it to make an informed decision (Sjostrand, et al, 2013, p. 711). Informed decision making, which is a form of patient autonomy is based on full disclosure of applicable information. Some patients may lack the ability to grasp these scientific facts, and this might lead to suboptimal decision making. With regard to oncology, this is especially likely. It would be rare and surprising to find a patient with the ability to hold themselves in greater objectivity than that by the physician (Weiss, 1985). A patient with a potentially life-threatening condition has difficulty in objectively processing information (Aggarwal, et al, 2014). Patients facing critical health conditions with an uncertainty about the outcome, and time limitations to make a treatment decision, experience psychological and physiological vulnerability (ibid). Patients in vulnerable positions may be unable to act on their decisions no matter how well-informed they may feel, and as such may require positive measures to be taken on their behalf (Koali, 2020). It is incumbent on doctors to identify and remedy illogical reasoning in their patients and a paternalistic sentiment would fulfil the notion of beneficence and principle of justice(ibid). Soft paternalism would be best practiced in a personal interaction as the nuances of care described above would be neglected in a telemedicine discussion.

The educational achievement level of the patient is a recognised contributory factor in their ability to provide informed consent and to understand the treatment plan associated with their disease (Janse van Rensburg, 2020). South Africa is a linguistically and culturally diverse country, yet English remains the most common spoken and written language in the public healthcare arena. Low health literacy scores, below that of school grade 8 level, were identified in patients attending South African primary healthcare facilities (ibid). Low health literacy levels have been linked to poor health outcomes as they led to non-adherence to medical treatment regimes, non-compliance with management strategies, increased morbidity, mortality, and hospitalisation (ibid). The presence of language barriers has been shown to increase patient dissatisfaction and poor compliance with care guidance (Woloshin, et al, 1995). A South African study revealed language limitations within the informed consent process are a common occurrence (Jack and Mars, 2013). A lack of comprehension of suggests that a formalistic requirement of a valid informed consent would be difficult to meet in the oncology context (Jack, et al, 2014).

Although in-person care assumes that the patient has consented to being treated, the issue of a valid informed consent remains a challenge. “Cultural brokerage” via nurses and other allied medical staff that are present during the consultation, fulfil the roles of translating, mediating, and advocating on behalf of the patients (ibid). In the South African healthcare environment, the practice of medicine through electronic means may be difficult to justify if the element of the informed consent remains an impediment to facilitating cancer care.

A doctor working in collaboration with the patient is important, but there fundamentally remains a duty of care and responsibility to the patient which cannot be overlooked (Aggarwal, et al, 2014). The extremes of autonomy and paternalism may not be compatible in a moral healthcare environment and thus some degree of compromise of these values may be considered acceptable (ibid). Cancer is a sensitive area, so doctors should remain open about the benefit-harm balance (Greenhalgh, 2016). Patient autonomy may be legitimately overruled for particular moral requirements including cancer care. If medical paternalism is undertaken with moral propriety, then undermining patient autonomy would not be seen as an act of non-maleficence. Paternalism may be necessary to save and protect the lives of individuals afflicted with cancer. This would fit in with the deontological view of the sanctity of life (Saravate, 2017). If the argument that soft paternalism is ethically permissible, it can be affirmed that telemedicine would alter this dynamic. Telemedicine would exacerbate the notion of hard paternalism, reinforcing an intrinsically unequal relationship.

4.3.2.4 Conclusion: – the ethical justification of face-to-face care in the acute oncology patient

The vulnerability of the oncology patient, the make-up of the doctor-patient relationship and the permissibility of soft medical paternalism would make the practice of medicine ethical when the patient is in a face-to-face situation. Telemedicine would exacerbate the vulnerability of the patient on the three levels discussed earlier. The uniqueness of the doctor-patient relationship in cancer care would be a reason why telemedicine would fracture this bond. Lastly, the personal communication via a paternalistic approach would fulfil the notion of beneficence and non-maleficence. I believe that all these factors would be in the best interest of the patient and would ensure that practice of acute oncology care is acceptable, equitable and ethical.

4.4 A restatement of the Oncology challenges in South Africa

When seen through the lens of ethics, oncology care in South Africa has several shortcomings. Oncology facilities are concentrated in the urban areas. This puts rural patients at a disadvantage by adding time and cost of travel to the reduced availability of cancer care. The lack of human and therapeutic resources further compounds the problem of access to cancer care. South Africa’s public sector capability for cancer care was already limited, and existing services were overwhelmed by annually increasing numbers prior to the COVID-19 pandemic. The pandemic had a devastating impact in South Africa and further exacerbated healthcare challenges in cancer care. When applying the ethical principles and moral theories mentioned earlier; quality, access, affordability, and equity in cancer care

are much needed. A novel approach would be to integrate telemedicine into traditional health care so that the oncology patient population can attain what could be considered ethical care. For this to be implemented, healthcare practitioners in South Africa would need guidance from regulatory bodies to direct them in the practice of telemedicine.

4.5 The Health Professions Council of South Africa and their telemedicine guidelines

The Health Professions Council of South Africa (HPCSA) is a statutory regulator of healthcare professionals in the country, created pursuant to powers granted in terms of the Health Professions Act No. 56 of 1974 (Townsend, et al, 2019). The mission of the HPCSA is to provide clinical and ethical guidance to registered healthcare professionals and to protect the public against abuse by such practitioners. Guidelines in the field of medicine are an essential part of clinical practice. They assist healthcare practitioners to provide care of a reasonable standard and quality and guidance on how to resolve ethical and practical dilemmas in the clinical setting. The HPCSA spent many years developing the “General ethical guidelines for good practice in telemedicine,” a process which was not without challenges (Kekana, et al, 2010). These guidelines were published in 2017. The HPCSA guidelines define telemedicine as:

“The practice of medicine using electronic communications, information technology or other electronic means between a healthcare practitioner in one location and a healthcare practitioner in another location. This is for facilitating, improving, and

enhancing clinical, educational, and scientific healthcare and research, particularly to the underserved areas in the Republic of South Africa."

The definition is quite broad. It proposes that the intention of the HPCSA telemedicine guidelines is to deliver healthcare services to people living in remote (rural) and under-serviced areas. The guidelines cover the issues related to the ethical delivery of telemedicine to such patients in both the public and private sectors. This would reduce the effect of the human resource shortage and would facilitate the interaction between the well-resourced urban sector and the underdeveloped rural areas. The objective of this activity would facilitate fairness, equality, and accessibility in the distribution of health services thus meeting the principle of justice. However, criticism has been directed at the guidelines by South African telemedicine proponents for being impractical to implement, counterproductive and out of date (Townsend, et al, 2019). According to the critics, patient dignity and rights may not necessarily be violated if the guidelines are amended to suit a South African model of healthcare wholly in line with national healthcare priorities.

The HPCSA iterates that "telemedicine should be utilised within the HPCSA ethical guidelines." If the guidelines are reviewed in relation to the Oncology context, it has both value and limitations. In the field of acute oncology care, the preferred modality of face-to face interaction between patient and provider would make sense given the preceding discussion. Beyond this aspect, telemedicine would hold great promise. A new set of guidelines, building on the current set may offer a solution that would be appropriate and effective.

With South Africa confronting a rising number of cancer diagnoses and inequity of cancer care, it can be asked if telemedicine can play a role in addressing these challenges. If oncology specific guidelines are developed that would ethically harness and improve the practice of oncology, it would benefit the South African patient. A utilitarian would look at furnishing rules and regulations in telemedicine that would achieve the best results for the greatest number of people. Deviation from the rules would not be a violation if it promoted access to care. Deontologists would act in accordance with moral duties and obligations, but these would need to be adapted for the South African setting. Acceptance of a paternalistic approach to telemedicine when utilised in rural settings for patients with low levels of understanding of their disease might be one such useful adaptation. Perhaps the African moral thought through ubuntu ethics may provide the answer.

I will attempt to answer this question in the next chapter by proposing a model of healthcare that aims to improve the quality of care and overall wellbeing of the South African oncology patient. If an individual’s moral worth is located in a common humanity, it becomes almost obligatory to provide ethical care to all South African patients afflicted with cancer (van Norren, 2021).

Chapter 5 A proposal to provide ethical oncology care in South Africa utilising a hybrid model of telemedicine and in-person care.

5.1 Introduction

In this chapter I plan to argue for a healthcare model that could aid in the equitable and ethical practice of oncology in South Africa. The preceding discussion on ethical principles and moral theories will be utilised to support my argument with an emphasis placed on the African moral theory of ubuntu. I will expand in which settings telemedicine can be utilised in the field of oncology in South Africa. I will also propagate that telemedicine is inappropriate for the management of acute cancer care. This is because a patient needing such disease management would benefit from face-to face, personalised medical care. A hybrid model of cancer care will be proposed to allow for an effective admixture of telemedicine and in-person care. The suggestions made in this chapter can be utilised by the HPCSA in the form of additions, modifications or extensions of the guidelines already published. The implementation of these guidelines would secure the best interests of the oncology patient and equally empower the relevant healthcare providers in the ethical practice of medicine. Overall, this will fulfil the notion of ubuntu with the potential for public good through an expression of the human right to science and humanity.

In "Closing the cancer divide: an Equity imperative," Knaul and Atun declared in relation to developing countries, "Cancer is a disease of both the rich and poor, yet it is increasingly the poor that suffer." Nelson Mandela proclaimed, "Health cannot be a question of income; it is a fundamental human right." According to Chuwa, "Caring for the sick is not charity but an ethical obligation in Sub-Saharan Africa." According to the WHO Cancer Country Profile, 107,467 South Africans were diagnosed with cancer in 2018, with 57, 373 people dying from their disease. This significant disease burden of patients diagnosed with and needing treatment (both active and palliative) for cancer indicates an ethical obligation to offering these patients some form of cancer care. However, in South Africa, cancer treatment in the public sector has been in crisis for many years (Green, 2017). The recently reported backlog in oncology services at the Charlotte Maxeke and Addington hospitals attests to this crisis (Ho, 2021). Following this, the Cancer Alliance of South African has questioned the inequitable and inefficient access to quality cancer care for patients (Cancer Alliance of South Africa, 2022). As discussed in chapter 3, ethics must be central to the practice of medicine in any healthcare system to ensure that its members receive respectful and beneficial care. If the quotes alluded to earlier in the paragraph were applied to the quality and availability of cancer care in South Africa, it can be proclaimed that there are significant ethical challenges in this respect.

5.2 Problems of access to care for oncology patients in South Africa

In the previous chapters I highlighted the challenges facing oncology patients in South Africa. The South African patient population is characterised by a high level of socio-economic deprivation, wide geographic dispersion, and by both ethnic and linguistic diversity (van Rensburg, 2014). The chronic shortage, and in some cases the lack of human and therapeutic resources, have both compounded access to basic healthcare for the vast majority of the population (ibid). Inequality of access to cancer care is a pervasive problem, and this together with inadequate resources, exacerbates the ethical challenges (Kleinsmidt, 2019). These encumbrances explain the state of cancer care and the Department of Health has long been under pressure to deliver cancer services more cost-effectively while responding to a rising need and demands of equitable care (Greenhalgh, et al, 2016). Despite the delivery of healthcare in South Africa being a constitutional obligation, the State has failed the oncology patient, thereby violating the principles of justice and non-maleficence (Stuckler, et al, 2011). A country that is supposedly the birthplace of ubuntu, a philosophy that emphasises humanity, compassion and social responsibility would lament the inequity in access to cancer care (Sambala, et al, 2020).

In contrast with a legacy of gross inequality and discrimination, the Constitution of South Africa, adopted after the political changes of 1994, promoted an egalitarian health care system where the right to basic healthcare became a constitutional obligation (Pillay, 2001). From the egalitarian perspective, all humans deserve to be treated equally as they possess a moral status and have inherent value (Madaka, 2019, p. 43). The egalitarian theory is a subtype of the general principle of justice with a leaning towards distributive justice (Beauchamp and Childress, 2019, p. 274-275). The basis of this theory is that social institutions directing the allocation of healthcare resources should allow each member in society to achieve a fair share of its resources. Egalitarianism is thought to be a misguided and mistaken moral and political ideal as society will not necessarily be able to provide absolute equality of treatment (Arneson, 2013). This is evident in the South African healthcare system. According to Beauchamp and Childress, each member of society should have an equal access to an adequate, although not maximal level of care. The actual level of access being contingent on that society’s available healthcare resources and legislation regulating healthcare funding (ibid). This would fulfil the principle of justice in healthcare. Although South Africa has fallen short of this expectation with regards to access to cancer care, a revision to the present method of provision of the current oncology-related healthcare may help to make this an attainable goal.

5.3 The ethical basis of telemedicine in South Africa

My proposal would be to stratify South African oncology care to a hybrid model; at one end, where telemedicine would be of value in addressing the existing challenges and at the other, where acute cancer care can be streamlined and improved upon by concentrating on the wellbeing and proper treatment of these patients. With this approach, the development of equitable interventions in cancer care can become an attractive ideal. I will be using aspects of the ethical principles and moral theories discussed earlier to serve as the foundation of my proposal. The ubuntu philosophy will be the dominant moral theory to reinforce my proposal. This in turn will seek to advise the relevant oncology regulatory bodies the course of action that would be needed for the ethical practice of telemedicine in the field of oncology.

I will now argue why telemedicine can be an effective modality of healthcare in the following sectors of oncology care in South Africa: health education and cancer screening, survivorship care and palliative care. By way of emphasis, the applicability is towards both providers of care and to patients. To understand this declaration, I will start by recapitulating the philosophy of ubuntu ethics and its relevance to healthcare in South Africa. The provision of equitable healthcare is after-all a social investment for a country (Madaka, 2019).

Ubuntu ethics seeks to enhance the well-being of all members of society so that there is an equal benefit to everyone (van Breda, 2019, p. 439). The dominant theme of this theory is that the life of another person is at least as valuable as one's own (ibid). The respect for dignity of every person is integral to this concept, regardless of their health status (Van Norren, 2014). Social harmony is created by making decisions that would impact on and benefit the entire community and not just the individual (Behrens, 2018). The exclusion of a certain members by separating them for whatever reason, seems to contradict to the idea of interlinkage which is the essence of ubuntu (van Norren, 2014). The discrimination and devaluation against people with cancer and the labelling of patients seems to contradict the notion of ubuntu ethics (Oystacher, et al, 2018). Moral and ethical considerations, especially that of confidentiality, under a philosophy of ubuntu are addressed for circumstances which can on face value appear to conflict with conventional understanding of autonomy and disclosure (Koali, 2020). These factors have implications in the discussion that follows.

5.4 Health Education and Cancer Screening being facilitated by telemedicine in South Africa

Norman Daniels, in 2007 asserted that the purpose of justice in preventing disease and disability with effective healthcare services is of central moral importance. The prevention and treatment of disease would ensure the preservation of human life (ibid). Afro-communitarian theory considers it a moral duty to promote the welfare of others and consider their sickness to be indispensable to the well-being of others (Murove, 2013). Public health education involves spreading information among people on a preventative and promotive basis before a disease manifests itself

(Madaka, 2020). This is particularly relevant in the South African context where many patients with cancer are diagnosed at a late stage of their disease with most of the prodromal symptoms going undetected or being mistaken for other diagnoses (Capello, 2015, p.48). Sickness that afflicts the individual becomes a communal sickness and as such, its treatment is indispensable to the well-being of the community (Murove, 2013). Therefore, Ubuntu ethics would ensure that the community is at the core of public health education and screening (Madaka, 2019).

The identification of the goods and benefits that should be available to most individuals in society is a form of distributive justice (Ijoma, 2015). To achieve the reality of equity in healthcare education and screening would entail the focused delivery of technologically appropriate and culturally sensitive solutions in line with South Africa’s healthcare needs (Scott and Mars, 2015, p. 27). Determining what are the common cancers and directing health education and screening appropriately would ensure better outcomes for the South African patient population. Cancer awareness in the general population is essential and the basis on which a cancer control programme can be constructed (Ahmedin and Brawley, 2019). Elements that should form part of such a programme for control and prevention efforts include knowledge of the problem and its solutions and the available resources (ibid). An example of this is the major benefits observed from cervical cancer screening. This has resulted in a substantial reduction of unnecessary referral costs and in improved patient outcomes (Wootton and Bonnardot, 2015). An investment in cancer screening services and health education is projected to increase the number of South African lives saved by 350% within this decade (WHO, 2020).

In the previous chapter, I discussed how cancer screening and health education can be achieved through telemedicine. Several studies have demonstrated the power that digital tools can bring to bear on the advancement of oncology education, care, and medical research all over the world (Asana, et al, 2021). Telemedicine has proven to be a useful adjunct to conventional care in underserved communities facing a shortage or absence of basic clinical care (Nittari, et al, 2020). With technological help in healthcare, barriers of distance, time and costs can be overcome (Riva, et al, 2015). The implementation of telemedicine systems, based on basic and simple ICT devices, have been shown to contribute to broadening of health education and adherence to healthier lives, as well as to ensuring continuity of care for patients diagnosed with cancer (McNamara, 2007). Today, mobile phones and connecting devices are readily available even in low-income settings allowing the implementation of basic clinical care (Capello, 2015). In a study performed on mobile phone use in Kwa-Zulu Natal, it was found that 24% of the participants interviewed shared their phone with others and more than half received health-related messages for other people (Jack and Mars, 2013). With South Africa having a 176% mobile phone penetration, this represents a robust and viable platform for health education with respect to cancer screening and public health education (Digital, 2020). As only generalised information regarding health promotion and prevention is posted, there would be no threat to individual confidentiality, privacy, and security of personal and clinical data (Jack and Mars, 2013).

5.5 Survivorship programmes via telemedicine

Despite most patients presenting with advanced cancer, a fair number of patients do achieve cure of their cancer. Survivorship programmes are thus necessary in the care of follow-up patients. In spite of acute cancer care facilities having good intentions, the current model of healthcare in South Africa has limited capacity, and the time required to provide comprehensive follow-up is sadly lacking. Telemedicine can play a role in ensuring the wellbeing and continuum of care for these survivors. This service can be a collaboration between oncology-trained personnel and community healthcare workers.

As a means of reducing the effect of the shortage of qualified human resources in South Africa, an oncology nurse can facilitate a telemedicine interaction, thus ensuring the smooth running of survivorship programmes. In traditional medical practice, oncology nurses provide the “hub of cancer care safely embedded in the interdisciplinary team” (Paterson, et al, 2020). Oncology nurses have traditionally dealt with different complexities in cancer care providing a holistic service to their patients (ibid). They can be seen as the backbone of cancer care and as such can provide a significant contribution in the telemedicine interaction. The benefits of health system integration (acute and palliative care) were demonstrated by Pham, et al, whose nurse-led virtual prostate cancer survivorship clinic was found to be cost-effective and patient acceptable, while also improving survivorship needs (Pham, et al, 2021). It stands to reason that in the setting of survivorship, the tele-consultation between a patient, his support system and an oncology nurse would not erode the traditional doctor-patient relationship but rather enhance it. This would promote the ethics of care and in turn enhance professional autonomy of the oncology nurse.

Cultural and linguistic diversity should be analysed and reported in the validation of virtual care models. In other words, if telemedicine is to be a part of healthcare, language and culture needs to be incorporated during communication with patients. The incorporation of informal caregivers (e.g., partners, parents, children, community members) within the telemedicine circle of care confirms the phrase “cancer is a family affair.” Survivorship researchers have strongly advocated such involvement of informal caregivers to ensure the sustainability of survivorship programmes (Dickinson, et al, 2014). When human beings are dependent on another, persons who recognise their worth and value, allow them to achieve their goals (Koali, 2020). In oncology, this goal is survival; and survivorship done through telemedicine articulates the ubuntu notion of interconnectedness and interdependence (Ramose, 1999).

5.6 Palliative care through a telemedicine platform

In South Africa, palliative care, the abandoned child of oncology care can also be achieved through telemedicine. As discussed in the previous chapter, it has achieved improvements in symptom management, comfort with care and increased patient and family satisfaction. Teleconsultation was found to be a valuable instrument, allowing healthcare professionals to fulfil their obligation to help patients through their disease process (van Gurp, 2013). Technology can be used to bring patients and families in contact with each other. Simultaneously, it can also enable members of the healthcare team to be “closer” to the patient and the family (Lowe, et al, 2013).

In South Africa telemedicine could help to reinforce the notion of ubuntu. Under this moral theory, patient’s sufferings are also regarded as integrally connected with family members and the community (Koali, 2020). Ubuntu calls on people to believe and feel that “your pain is my pain” (Nussbaum, 2003, p. 21). Munyaka and Motlhabi (2009), expanded on the solidarity that people have towards others facing distress. Ubuntu allows for the expression of compassion to make life more humane for others, particularly the sick (Munyaka and Motlhabi, 2009, p. 71). Through a sharing of healthcare resources with those who do not have as many, a sense of security and belonging would be created (Madaka, 2019, p. 78). Telemedicine can keep families connected and involved in times of challenging healthcare situations (Luini and Gatti, 2015). This includes the ability to provide a higher standard of palliative care (Capello, 2015). Reinforcement of the essence of ubuntu ethics during a telemedicine interaction, would help to improve the overall well-being of patients, especially those afflicted with cancer. It would also present a sustainable solution to the ethical challenges facing healthcare professionals involved in oncology care.

5.7 Utilisation of telemedicine in selected areas of cancer care in South Africa

South Africa is well-positioned to utilise telemedicine for the following indications: health education and cancer screening, survivorship, and palliative care. For reasons which have been described earlier, many patients are only directed to a specialist oncology centre at a late stage of their disease, and when the probability of cure is minimal (Capello, 2015). Major contributory factors to this situation are poor patient education and a lack of cancer screening (ibid). Solutions to the cancer crisis could be achieved through the use of telemedicine to facilitate patient and public education. Patients who have undergone acute cancer treatment and who need follow-up would benefit from survivorship programmes. These can be easily implemented via a telemedicine platform that would promote continuity of cancer care. At the end of the spectrum, palliative care can continue unhindered through collaboration with healthcare professionals via a virtual or electronic format. The advantages of this modality of care are that cancer patients are not excluded from mainstream care. Implementation of telemedicine in these three areas would help the constrained oncology healthcare environment to reduce inequities in access to cancer care. Remote care would not disadvantage patients as telemedicine would not violate the ethical principles discussed earlier. The cost-utility benefit would ensure that justice is served, and utilitarians would agree with this model of care that promotes the provision of maximum benefit to the largest number of people. This would also fulfil the notion of the distributive version of the principle of justice. Furthermore, a relationship between patient and provider which involves sympathetic altruism, helpful behaviour, care and consideration and improvement of others' quality of life would enhance the notion of ubuntu ethics (Ewuoso, 2020).

Following this lengthy discussion as to on the management of oncology patients outside the acute setting, I will expand on why acute cancer care should be performed in person. Measures need to be created for the facilitation of patient access to acute cancer treatment centres.

5.8 How telemedicine can streamline the referral process to tertiary cancer care facilities

As has been noted above, oncology patients are referred to a specialist oncology centre following a diagnosis of their cancer. Many patients are directed to these centres at a late stage of their disease, when the probability of cure is minimal (Capello, 2015). Currently the waiting period to access cancer care in the public sector in South Africa is prolonged due to a poor referral stream. Patients in the publicly funded hospitals in KwaZulu Natal can wait between five and twelve months to see an oncologist, and up to a further eight months to receive chemotherapy or radiotherapy (Schultz, 2020). It can be argued that special measures need to be adopted for oncology patients who are socially invisible to standard health and social care, to enable them to access acute cancer care at a relevant institution (Silva, et al, 2021). Utilising ICTs to enable high-impact collaborations may help in the referral process in response to the growing burden of cancer cases in South Africa.

In Kenya, a country not dissimilar to South Africa in social and economic terms, telemedicine facilitated a more streamlined referral process for a large rural patient pool (Mbunya, et al, 2018). A similar action could enhance the referral process of patients to oncology units in South Africa. The benefit of access to care by a larger number of oncology patients, would ensure a net outcome of maximum benefit, ensuring utility. The availability of telemedicine programmes in many countries has resulted a reduction in the number of referrals both directly and indirectly to off-site facilities and a reduction in unnecessary patient transfers (WHO, 2010). Stratification of such patients and directing the acute cases to a tertiary unit would ensure their best outcome. Telemedicine interactions between a doctor and other allied healthcare workers would support optimum utility for many oncology patients. Involving a multidisciplinary team in managing such patients would also demonstrate care and concern. A strong sense of connection between healthcare workers who want to contribute to accessible and equitable healthcare represents the solidarity that is part of ubuntu.

5.9 How telemedicine can be utilised for the continuing medical education of healthcare professionals

“Telemedicine creates a university without borders that fosters academic growth and professional autonomy” (Zbar, 2001, p. 460).

Telemedicine has further applications that can optimise cancer care: such as interdisciplinary team meetings (MDTs) and continuing medical and nursing education. More than 92% of South African health professionals have access to desktop computers, laptops or other technology that allows them to participate in online education/communication (Asana, et al, 2021). Asynchronous learning allows for downloaded contents to be repeatedly replayed. Many mobile phones are able to support asynchronous learning options (ibid). It can also improve the level of education of the population and the training of health professionals who engage in cancer care (Hazin and Qaddoumi, 2010). This can be accomplished by raising the skills and knowledge of local healthcare providers which in turn would enhance their professional autonomy. By establishing skills, healthcare providers and health system leaders can be guided towards appropriate policies and training opportunities that support high quality oncology care (Galpin, et al, 2021). Communication technology has increased the “connectedness” between healthcare workers which in turn will advance efforts towards closing the cancer divide (Ngwa, et al, 2016).

While much of the foregoing is valid for oncology patients regardless of the stage to which their disease may have progressed, some aspects are not as effective for the treatment of a person who is acutely ill. I will deal with these differences in the next section.

5.10 Why telemedicine is inappropriate for the care of patients with acute cancers in South Africa

“It is important to point out that the tele-consultation process can never replace the real physical encounter between clinician and patient. The warm touch, the hug, the wiping away of tears can never be performed remotely. Neither can it be conducted by proxy, nor will it ever be anywhere close to real physical touch and the presence of a human being.” (Lowe, et al, 2013)

I will now argue why telemedicine would not be an ethical model of care in the management of South African patients needing acute cancer care. The previously mentioned concept of patient vulnerability, fragmentation of the doctor-patient relationship and soft paternalism will be briefly discussed in relation to the South African oncology patient. This will reinforce the statement by the HPCSA in their telemedicine guidelines that face-to face consultation and physical examination is the preferred if not the necessary modality of care, even in a telemedicine interaction.

The main beliefs of ubuntu, centre around inclusiveness, tolerance, transparency, and consensus-building. In the interplay between human values and the solutions to health problems, the consideration and enactment of these values embedded in ubuntu are important (Ngondo and Klyueva, 2021). These values have relevance in the acute management of the oncology patient.

Illness can be a physically challenging and emotionally exhausting experience for many patients, especially when their diagnoses are serious and life-threatening (Ho, 2008, p.129). Patients already burdened by their cancer and the unfamiliar medical culture may feel overwhelmed by the situation they are in. With low health literacy levels present in the South African oncology patient, they may feel as if they are trapped in a medical maze. This raises the three vulnerabilities discussed in the previous chapter: namely physical, social, and cognitive vulnerability. Consequently, a dependency on healthcare professionals is bound to occur. In such situations, the ubuntu concept of relationalism whereby a healthcare provider sees a patient as worthy of help and understands their needs would need to be fulfilled (Ewuoso, 2020). It can be claimed that such patient vulnerability is the most important aspect to be taken into account, and that all therapeutic options must converge to improve this new experience in a patient’s life (Naimoli, et al, 2015). When seen through the lens of ethics, face-to-face care would fulfil the principles of beneficence and non-maleficence. Furthermore, the acute management of oncology patients would almost demand the implementation of aspects of care ethics and, to a large extent, of ubuntu ethics.

Ubuntu ethics describes how a persons' well-being should be viewed within a web of relationships and responsibilities (Ho, 2008, p. 131). The main beliefs of ubuntu centre around inclusiveness and Metz feels that to some degree an individual's illness becomes a collective affair (Metz, 2010, p. 279). In the doctor-patient relationship, ubuntu complements the existing relationship between patients and healthcare professionals. Patient vulnerability is recognised, and clinical nudging and soft paternalism is accepted when patients make decisions that cannot be in their best interests (Koali, 2020). Ubuntu takes cognizance that healthcare professionals are not just care providers serving their patients, but they are also connected in social relationships whereby they feel morally obligated to care for others' welfare (ibid) Ubuntu ethics also takes into account all the patient's interests beyond him as an individual and extends to family, social and community networks (ibid).

As noted earlier, the notion of the doctor-patient relationship is a cardinal element of medicine that promotes the rights and welfare of the patients (Koali, 2020). Studies have shown that doctors who communicated face-to-face had better communication skills, were found to display more compassion, and were regarded as being more professional (Fuerst, 2017). In ubuntu, tolerance is understood through dialogue especially when embracing another's concerns and struggles (Ngondo and Klyueva, 2021). Dialogue through a personal interaction articulates ubuntu's notion of interconnectedness and inter-relatedness (Koali, 2020). Having a good rapport with patients can be extremely beneficial for their health (ibid). It has been determined that good quality communication by doctors enhances patients' motivation to actively engage in personal healthcare, thus ensuring commitment to and compliance with treatment (Jiang, 2019). In the South African context, this is a necessity because patients often either default, or delay their treatment due to poor understanding of the needs of the treatment or the consequences of non-adherence (Odhiambo and Mars, 2018, p. 2). The provision of tangible help for dealing with emotions such as anxiety, depression, and psychological distress, as well as the expression of empathy, compassion, and reassurance by a doctor towards a patient form part of non-verbal communication that takes place during a personal interaction (ibid). In terms of the moral theory of ubuntu, there is a requirement for moral persons to display the virtues of compassion, empathy, and care. The effect of this on another person would enable the recipient to flourish. Thus, oncologists conducting face-to-face interactions utilising the aforementioned virtues would be displaying solidarity and care in their relationships with their patients.

For most patients, the primary goal in interacting with health practitioners is to receive the healthcare that would help them; not to revise their moral values (Secker, 1999, p. 54). Bearing in mind that the majority of (oncology) patients in South Africa are unlikely to be capable of grasping the nuances of treatment options, or of remembering the list of possible side-effects from cancer treatment, questions concerning patient autonomy and shared-decision-making may have a secondary role in their management. Soft paternalism may be ethically acceptable when it is applied to patients that are overwhelmed and incapable to decide on their own. Situations such as the comprehension of risk-benefit ratios in prescribed treatment options may need an aspect of clinical nudging. These scenarios cannot be replicated in a telemedicine platform and are pertinent to the ethical care of an acute patient.

A substantial part of the medical treatment in the discipline of oncology is enabling the patient to identify with others and exhibit solidarity with them (Koali, 2020). Oncology patients find comfort and companionship with fellow patients particularly when seated together in a waiting room or at a chemotherapy facility. Ubuntu ethics projects the belief that people need to be in solidarity with one another especially during times of tribulations (Munyaka and Motlhabi, 2009, p. 71). This reinforces the notion that people are integrally interconnected and inter-relational with each other (Koali, 2020).

“A good moral rule is one that can bring people together rather than divide them” (Ewuoso, 2020). Half of the South African population live in poverty and a lack of electricity, or a stable power supply prevails in many households. The creation of health interventions that are sensitive to South African cultural, economic and literacy needs are important. The demographic profile of South Africa does not lend itself well to a Western-style method of healthcare. The use of a euro-centric model of telemedicine may widen the current disparity between the urban and rural and between rich and poor. The inclusivity of ubuntu with its respect for all humans will be abandoned if health inequity is perpetuated (Ngondo and Klyueva, 2021). It is thus not possible to assume that programmes that have been successfully implemented in developed countries are equally likely to work in a health constrained setting. It would increase the cancer divide.

I will now address some of the telemedicine issues which go beyond ubuntu and arise in the collection, distribution, and publication of patient information relevant to acute oncology cases. New digital technologies can empower healthcare professionals and patients, but they can also be intrusive (Ewuoso, 2020). A lack of personal contact in an ICT mediated environment can lead to trust issues and concern about information protection (Jiang, 2019). The process of disclosing information to an oncology patient should conform with the principle of beneficence because it raises the possibility of causing harm to patients (Koali, 2020). It is imperative that challenges presented by the introduction of a new healthcare tool be addressed, and that means are developed to ensure that misuse cannot undermine the indisputable benefits of telemedicine (ibid). Information privacy and security are a big issue in telemedicine especially due to the extensive use of new communications technologies such as wireless networks. An oncology patient's records contain very sensitive information on a particularly difficult disease which should not be made accessible to unauthorized persons. A security or privacy threat can cause immense damage to a patient which can be construed as an act of maleficence (Das and Mukhopadhyay, 2011, p. 22). These challenges are overcome by a face-to-face consultation. Face-to-face patient-provider communication has fewer problems related to data safety and issues of patient privacy and confidentiality (Mehta, 2014).

The Protection of Personal Information Act (POPI) of South Africa is vocal about patient confidentiality. It contains strict guidelines for the control and the disclosure of confidential information within different clinical scenarios (POPI 2021). Paper records are expected to comply with the POPI act. Patients have the option of choosing to disclose medical information in any medical interaction but may feel threatened by electronic data insecurity. This may be particularly prevalent when dealing with patients who are separated by the digital divide for lack of access or knowledge.

South Africa, with its technical challenges in the digital platform may be at particular risk of data safety. However, with asynchronous communication between healthcare providers, especially in the aforementioned sectors of oncology care, patient consent can be acquired in advance. In such settings, the risk of data safety may not be less of a problem.

Another important barrier to electronic communication in the medical setting is the validity of the patient’s informed consent. The informed consent process is the cornerstone of ethical practice, especially when technology and treatment options are new and complex (Odhiambo and Mars, 2018). As discussed previously, informed consent serves as the basis of respect for autonomy. Cancer consultation involves sharing highly personal and sensitive information hence the harm-benefit balance should always be considered (Greenhalgh, et al, 2016). Thus said, this process would be difficult to achieve in South Africa, a country that has significant levels of health and technological illiteracy. A recent South African study revealed that only 7% of isiZulu speakers understood the consent process involved in telemedicine (Jack, et al, 2014). The ethical issue of not obtaining a valid informed consent translates into a violation of respect for autonomy. This fact would be circumvented in a personal, face-to face interaction where implied consent is inferable from the patient’s actions of seeking help at a health institution (Beauchamp and Childress, 2019, p. 108). However, the HPCSA states that all patients that are referred to an oncology facility are expected to sign consent for treatment. Given South Africa’s public sector health challenges, it would be easier and practical to obtain consent from a patient who is in physical contact with a healthcare professional and his team so that literacy challenges can be addressed and overcome. This would enhance the element of trust that a vulnerable patient has with their healthcare provider.

The words of Reich (2001) echo the sentiment about the necessity of in-person care in the acute oncology setting. "*Caring relationships are a moral necessity that precede other moral concerns. If people don't have a concern about other people and their needs, then no moral principles, like beneficence, justice or autonomy will make a difference.*"

Oncology patients want their doctors to talk to them directly (Fuerst, 2017). Therefore, a personal interaction is necessary in the acute care of cancer patients. Transparency is a foundational value of ubuntu. Honesty and integrity should be values displayed by any healthcare regulatory body to yield credibility to both patient and provider. Health regulatory bodies and stakeholders involved in cancer care would need ethical direction to promote and foster ethical compliance with normative healthcare standards (Townsend, et al, 2019). The existing HPCSA telemedicine guidelines although having a strong ethical basis have conceptual and operational shortcomings in relation to the practice of oncology. A formulation of discipline specific guidelines is needed. I will now expand on these issues.

5.11 How can the current HPCSA telemedicine guidelines be amended and extended? Some proposals for consideration as they apply to oncology

Guidelines exist to assist the utilisation of best practice in telemedicine (Thiessen, et al, 2020). In the practice of medicine, guidelines can be clinical and ethical. This report addresses ethical guidelines, as distinct from the clinical variety. Whether clinical or ethical, guidelines provide advice to healthcare professionals for the conduct of their duty of care in managing patients, and as such are considered to be deontological in nature. Deontology is also about following the rules as laid down, thus the current HPCSA telemedicine guidelines are believed to be deontological in nature.

Worldwide, there has been a shift in the manner in which healthcare is practiced. People have become more interconnected through technology and healthcare access through ICTs present an attractive solution particularly to remote and underserved communities (WHO, 2010). Developing countries, like South Africa have experienced barriers to telemedicine arising from high costs, underdeveloped infrastructure, and lack of technical expertise to be barriers to telemedicine, yet these can be addressed (Gulube, and Wynchank, 2001). In their report on the second global survey on eHealth, the WHO made the following suggestion regarding telemedicine in developing countries; “One such step is creation of national agencies to coordinate telemedicine and eHealth initiatives, ensuring that they are appropriate to local contexts, cost effective, consistently evaluated, and adequately funded as part of integrated health service delivery. Ultimately, telemedicine initiatives should strengthen – rather than compete with – other health services” (WHO, 2010). In the field of oncology, it remains a potentially viable option in the three areas mentioned earlier in the chapter: cancer screening and health education, survivorship, and palliative care. The challenges that need to be addressed to allow these aspects of cancer care to be successfully implemented will now be addressed.

The telemedicine guidelines are largely based on WMA's 2007 "Statement on the ethics of telemedicine" and remained unchanged until 2020 when transient changes were made in an attempt to address the challenges imposed by the COVID-19 pandemic. Criticism was levelled at this action because it largely ignored local cultural and contextual sensitivities (Townsend, et al, 2020). The adoption of a euro-centric model of care, while being appropriate elsewhere, seems impractical and inappropriate in the South African context (ibid).

If guidelines are developed without a thorough analysis of possible unintended consequences, nor of the range of barriers and knowledge gaps they could hinder implementation in South Africa. It is important to identify such shortcomings and to better understand the ethical barriers that surround the deployment of telemedicine technologies (Fong, et al, 2010). Technological advancements can bring about significant opportunities for medical science and healthcare that would benefit both practitioners and patients, especially in the field as diverse as oncology (ibid). It is important to know where these advances can make an ethical difference to cancer care.

In 1999, South Africa developed the "Telemedicine Code of Ethics and Professional Conduct" giving ethical guidelines for the practice medicine. In 2014, the current telemedicine guidelines developed by the Health Professions Council of South Africa provided a generic framework on the ethical standard of practice expected by healthcare professionals. The "one size fits all" approach of clinical guidelines would seem inappropriate in a discipline as complex as oncology. Medical fields and specialities have become segmented, and care cannot be offered exclusively by generic guidelines. Guidelines specific to the different fields of medicine are required, and they should be developed by the applicable learned group within the association. The World Health Association and the American Medical Associations have both advocated that speciality disciplines and professional bodies should develop their own telemedicine guidelines. Consensus-building in ubuntu involves deliberations where all stakeholders participate in achieving an outcome. Focussing on humanity, empathy and respect for persons would allow guidelines that add value to the South African oncology community. As discussed in the previous chapters, telemedicine can play a valuable role in some aspects of cancer care but can be unsuitable and ill-considered in others. This can only be determined when the ethical challenges and complexities are understood and reflected on by relevant healthcare professionals.

Beyond the hybrid model of care that I have proposed, oncology specific guidelines should take into account the following factors: use of social media platforms and telemedicine beyond the oncologist.

The definition of telemedicine is broad and includes a wide array of electronic healthcare services. A whole spectrum of electronic health services including mobile and text messaging and various social media platforms are available for providers. The mobile phone has become a ubiquitous tool in everyday life of the healthcare practitioner (Harwood, et al, 2011). Instant messaging has been readily utilised by healthcare workers in the clinical arena to facilitate access to medical information and communication with colleagues (Meyer, et al, 2021). Mobile phone messaging or phone calls have been increasingly used by community- based health workers and social media has also become a common work tool in the healthcare environment (Jack, et al, 2014). Sharing information in clinical settings, seeking second opinions from colleagues, and communicating with patients are commonly used by healthcare professionals (Kubheka, 2017). In most district hospitals in South Africa, there are no specialists present and there is anecdotal evidence of informal WhatsApp based telemedicine within and between doctors at these hospitals and with specialists at tertiary institutions (ibid). That said, as there is a critical shortage of specialist oncology care in district or primary care facilities, WhatsApp communication can be effectively utilised. Clinicians have argued that they have the patients’ best interests in mind when indulging in this mode of communication. With widespread use of electronic platforms, failure to uphold ethical standards can undermine the principles of beneficence and non-maleficence and violate patient autonomy. Despite the HPCSA having drafted guidelines on the use of social media, discipline-specific regulatory bodies ought to develop policies guiding professionals on how to use such platforms so that their actions are morally defensible. This form of good governance would ensure beneficence and secure the best interest of the oncology patient.

Telemedicine can be practiced in South Africa by various healthcare practitioners. Professional councils such as South African Nursing Councils and Allied Health Professions Council, physiotherapy and occupational therapy societies do endorse the practice of telemedicine. Oncology as a discipline encompasses the care of multiple specialities including, nurses, para-medical staff, allied medical and spiritual practitioners. In light of the shortages of oncologists, task-shifting in allowing allied medical partners to manage some aspects of cancer care may be a solution to improve healthcare access in cancer patients. These disciplines should not be constrained from practicing telemedicine if the patient consents to its use and should be adequately reimbursed for their service. Furthermore, the care of the oncology patient should not be limited to registered healthcare workers but should include characters outside of this realm. This would also support the principle of utility with maximum wellbeing to many individuals.

There is very little debate today about the central role played by the oncology nurse in coordinating care, assisting the patient, and providing ongoing valuable support. Asynchronous telemedicine using mobile technology provides an opportunity for monitoring and support through a minimally burdensome, maximally accessible approach via an oncology trained nurse (Kaye, et al, 2020). The HPCSA should endorse those practitioners not registered under their network and allow them the opportunity to practice telemedicine with registered healthcare workers. By allowing a degree of flexibility in the medical management of patients, the principle of beneficence would be enhanced. In light of the shortages of oncologists, task-shifting in allowing allied medical partners to manage some aspects of cancer care may be a solution to improve healthcare access in cancer patients. This would support the principle of utility with maximum wellbeing to many individuals.

Oncology specific guidelines should stipulate that cancer care in the acute setting should not be performed in a telemedicine interaction. The previous chapter details the challenges faced by oncology patients on active cancer treatment and the need for personalised care. Issues such as a valid informed consent, the sanctity of the doctor-patient relationship and need for “good practice” by professionals supports the HPCSA’s general ethical guidelines for healthcare practice. These ethical issues when applied to the provision of acute cancer care would not support the practice of telemedicine as it would have two pitfalls: it would not be in the best interests of the patient and healthcare professionals would fail in their professional duty of providing ethical care.

In addressing the ethical challenges in the field of oncology in South Africa, it can be stated that electronic health solutions will need to be integrated into patient treatment pathways and in health care team practices for optimal care in oncology in line with appropriate guidelines. When seen through the lens of ethics, telemedicine initiatives would need to strengthen rather than compete with other services. Adherence to health ethics guidelines can be viewed as checklist, but healthcare providers ought to act benevolently towards their patients and the community at large (Koali, 2020). The relevant regulatory bodies overseeing the field of oncology can ensure that this can be achieved. These bodies can utilise the expertise of telemedicine proponents, oncology related healthcare workers and community members to bridge the interface between traditional and telemedicine in South Africa. The creation of guidelines that builds on the core foundation of oncology care will entrench the virtues that healthcare professionals and patients find morally valuable and ethically sound.

Chapter 6 Conclusion

As medical knowledge and technology increases so should options of healthcare. Scientific, technical, and most importantly clinical knowledge should be used to promote human welfare by improving healthcare and reducing human suffering. The ethical practice of medicine should involve a more rational, practical, and humane healthcare system. Oncology being a blend of art and science would need an even more ethically sound formula. South Africa with its healthcare challenges, particularly in the field of oncology, would benefit from a traditional and technological interface regarding cancer care.

The challenge posed by the exponentially growing cancer burden in South Africa is both daunting and urgent. The ethical challenges facing telemedicine in the field of oncology in South Africa are multifactorial and have been outlined in the previous chapters. However, if each oncology patient could be offered an equal access to an adequate level of care, the role of distributive justice would be fulfilled. Access to the wide spectrum of cancer care services should be contingent on the available healthcare resources, a challenging task in any developing country. This could be attained by dividing the available healthcare services into two different healthcare models: acute and non-acute cancer care. Telemedicine can then find its proper place while allowing traditional medicine to continue unimpeded. Overall, this can have an impact on health access, health equity, quality, and outcomes towards optimizing cancer care in South Africa.

The practice of telemedicine in oncology, while relatively new in South Africa has the potential to be a useful conduit of healthcare given the country's healthcare challenges. However, its ethical implications would need to be thoroughly evaluated and clear ethical guidelines should be established for its use. When used in the three areas of cancer screening and health education, survivorship and palliative care, telemedicine can have ethical value. All the aforementioned ethical principles would be fulfilled when telemedicine is utilised in these areas. Furthermore, the moral theories of utilitarianism and ubuntu ethics would be accommodated and realized.

With regard to cancer care in the acute setting, a personalised healthcare approach would be ethically justifiable. The doctor-patient relationship long considered the heart of medicine would be an essential element to support this notion of care in a field as complex as oncology. Care is a central concern of human life and there is a moral responsibility to be concerned about the welfare of the vulnerable oncology patient. Healthcare providers need to be integrally connected with such patients and this can only be achieved in a personalised healthcare environment. In the South African acute oncology context, telemedicine would affect the patient's wellbeing, sense of security and overall care. The widening of already existing healthcare disparities could be further extended, and this would not be in the best interest of either the patient or the provider. It is time that we begin to change the actions of our regulatory healthcare bodies to reflect this truth.

My proposal is that the HPCSA telemedicine guidelines be updated, expanded, and modified to take into account both the full gamut of available and applicable technologies as well as the ethical considerations as detailed in this research report. With regard to oncology, I propose that telemedicine be utilised for patients other than those needing acute care. For the latter category, I propose that the traditional medical approach would be the most desirable. The relevant regulatory authorities ought to recognise these issues and include them in a revision of their guidelines pertaining to oncology care. This would ensure that the medical care of the oncology patient becomes a “moral enterprise.”

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