

Telemedicine: a South African legal perspective

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1 Introduction

The provision of healthcare services has changed rapidly and extensively over the past century, from what we now believe to be the cruel and inhumane treatments of the past, to the brilliant advances in technology currently available and the promise by medical scientists of even greater developments in the near future. However, despite this growing range of new and improved treatments, medicines and techniques, the provision of healthcare services is still hindered by problems regarding the high cost of healthcare, access to healthcare services for all and the quality of healthcare that is generally available. In developing countries in particular, one of the greatest challenges of healthcare services is to ensure that quality services are also provided in rural and isolated areas and that these services are accessible to all, including the very poor. This article focuses on telehealth and more specifically telemedicine, a development in the healthcare industry which is incorporated into various levels of service provision and which may address some of the current problem areas in the industry. The article aims to provide the reader with some insight into the development and use of telemedicine services and, more importantly, the legal consequences thereof and the potential influence of telemedicine services on the South African healthcare industry.

Telehealth and telemedicine actually do not present a new trend in the healthcare industry: as technology advanced, telehealth was slowly incorporated into traditional healthcare systems and everyday services from the 1950s. There are many claims to the first incidence of telemedicine, which include a closed-circuit telephone system that connected seven state hospitals in four states in the United States of America,¹ and NASA's use of telemedicine communication in the 1960s to monitor the health of astronauts in space.² The beginning of cybersurgery was in July 2000, when the US Food and Drug Administration approved the first surgical robot, namely Intuitive Surgical's Da Vinci Surgical System,³ while the first long-distance transatlantic surgery using a remote control robot took place on 20 September 2001 when surgeons in New York city removed the gall bladder of a patient in Strasbourg, France.⁴ However, despite all these advances and the new possibilities e-health has to offer, it can generally be observed that e-health services still remain outside the mainstream of most healthcare systems.

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¹ Bradham "The information superhighway and telemedicine: applications, status, and issues" 1995 *Wake Forest Law Review* 145 149; Lim, Egerton and Shumack "Australian teledermatology: the patient, the doctor and their government" 2000 *Australasian Journal of Dermatology* 8.

² Rannefeld "The doctor will e-mail you now: Physicians' use of telemedicine to treat patients over the internet" 2004/2005 *Journal of Law and Health* 75 77.

³ McLean "Cybersurgery – an argument for enterprise liability" 2002 *Journal of Legal Medicine* 167 169.

⁴ Mendelsohn "A piece of the puzzle: telemedicine as an instrument to facilitate the improvement of health care in developing countries?" 2004 *Emory International Law Review* 151 164.

The first section of this article will provide the reader with definitions of the basic terms and different classifications in e-health, including telehealth, telemedicine (teledermatology, teleradiology, telepathology, real-time vs store-and-forward facilities, telehomecare or telemonitoring), cybermedicine and cybersurgery. This article will focus mainly on telemedicine. After the brief introduction to the field of e-health and in particular telemedicine, the article will continue to examine the use of telemedicine services in South Africa, followed by a brief consideration of the advantages and disadvantages of the use of telemedicine, especially the difficulties currently encountered with reimbursement, registration, jurisdiction, liability and the applicable standard of care. The establishment of a doctor-patient relationship in the telemedicine industry will then be discussed with specific reference to South African law.

2 Definitions

The term “e-health” is not that widely used but is a very broad term that encompasses all telehealth activities, including medical informatics, public health and business for the purpose of providing health services and information through the internet and related technologies.⁵ Telehealth is a term commonly used to describe the electronic transfer of health information for the purposes of medical education, training, health promotion, public health, health services management and medically related research.⁶

Cybermedicine involves the distribution of health information and non-supervised communication between an anonymous doctor and patient via the internet without any previous or ongoing doctor-patient relationship.⁷ Patients can also obtain online prescriptions in this manner. Typically this would entail a website where a particular medical practitioner or group of practitioners offer their services to other internet users. Such clients have to provide some general information regarding their medical history and background, whereafter they can communicate with the practitioner online, whether it be via e-mail or a real-time chat service. This type of telecommunication, although popular, is the most problematic and concerns questions regarding the quality of the diagnosis, the treatment, misrepresentation by either the practitioner or the patient, the potential for fraud, abuse, neglect and inconsistency of the system and the potential abuse of the availability of online pharmaceutical drug prescriptions.⁸

Cybersurgery refers to surgery across a distance, making use of modern technologies. Although cybersurgery has the potential to change the healthcare industry dramatically by making it possible for medical practitioners to perform surgery across the globe without travelling, and providing access to quality healthcare offered by experts to patients in rural areas or underdeveloped countries, this particular e-health innovation is still in its infancy due to some concerns regarding liability and of course its inherent complexity.⁹ Not only is the hardware, e-connections and other technical aspects of this service extremely complex, techno-

⁵ Erwell “Telemedicine: overcoming obstacles on the road to global health care” 2003 *International Trade Law Journal* 68 69.

⁶ Erwell (n 5) 69.

⁷ Venable “A call to action: Georgia must adopt new standard of care, registration, reimbursement and privacy laws for telemedicine” 2005 *Emory Law Journal* 1183 1185.

⁸ Erwell (n 5) 69.

⁹ Erwell (n 5) 69.

logically advanced and sometimes expensive to establish, but concerns also exist, given all the different parties involved in a cybersurgery, about who will be liable should something go wrong. The parties involved in such an instance include the manufacturer of the hardware, who is liable should the equipment be defective; the service provider could be liable should the connection fail mid-surgery or should something go wrong due to a poor connection, for example time lags; and the practitioner stationed with the patient to assist the operating practitioner who could be liable for negligence.¹⁰

The term “telemedicine” is used in various contexts and quite a few definitions attempt to describe this technology. The World Health Organization defines it as:

“The delivery of healthcare services, where distance is a critical factor, by healthcare professionals using information and communications technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of healthcare providers, all in the interest of advancing the health of individuals and their communities.”¹¹

The reader should also take note of the definition of telemedicine that was adopted by NHIS/SA, the National Health Information System of South Africa: “The practice of medical care using interactive audio, visual and data communications; this includes medical care delivery, consultation, diagnosis and treatment, as well as education and the transfer of medical data.”¹²

It is clear from the above definitions that the field of telemedicine covers various aspects of e-health and that telemedicine is actually not a separate technology, like cybersurgery for instance, but “rather a technique for delivering care remotely”.¹³ The incidences of telemedicine can be classified in four distinct categories: doctor–doctor exchanges, remote clinical, diagnostic and monitoring services, direct provision of patient care and, lastly, the outsourcing of hospital administration and claims-management functions.¹⁴ Teledermatological and teleradiological services are already very popular and since the technical equipment and other hardware are not that expensive or complex they are widely used. They can be particularly helpful to hospitals in rural areas. Hospitals can now e-mail scans or digital photos (with the help of store-and-forward telemedicine facilities) to specialists for their comments and assistance. Telepathology works on the same principles. Telehomecare or telemonitoring, although not that widely used yet, can be extremely useful in rural areas if the required equipment is installed in patients’ homes, hospices or even nursing homes, enabling practitioners to monitor the health of the frail, terminally ill and others in need of continuous care.

3 *Telemedicine in South Africa*

It is clear from the above exposition that the use of e-health and telemedicine in particular can revolutionize the healthcare system of any country and can be especially

¹⁰ Also remember that these particular risks should be communicated to the patient; see below for a discussion on jurisdiction and the doctor-patient relationship; Rannefeld (n 2) 85; Schöne “Telemedizin – Juristische Aspekte” 2005 *Herzschrittmachertherapie und Elektrophysiologie* 143 145-146.

¹¹ Venable (n 7) 1184-1185.

¹² <http://www.doh.gov.za/programmes/tele/july01.html> (13-04-2004).

¹³ Barnes “Telemedicine: a conflict of laws problem waiting to happen – how will interstate and international claims be decided?” 2006 *Houston Journal of International Law* 492 496-497.

¹⁴ Mendelsohn (n 4) 163.

useful in underdeveloped countries by providing quality expertise to patients in rural, poor areas who otherwise would not have had access or the means to obtain such quality care. A developing country that has already bought into this relatively new service is India, which today captures 2% of the United States of America's healthcare market.¹⁵

It is important, when considering the potential of telemedicine services in South Africa, to take note of the particular importance which is placed on socio-economic rights in the Constitution of the Republic of South Africa of 1996. In chapter two of the constitution various socio-economic rights are entrenched. Section 27(1)(a) is concerned with healthcare and states that everybody has the right to have access to healthcare services, including reproductive care. Telemedicine could provide a great socio-economic benefit for a country like South Africa. Unfortunately, most studies on telemedicine have thus far focused on its technological feasibility, specialist clinical interest, implementation costs and estimated cost savings, even though the socio-economic benefit to patients, families, providers and the healthcare system in general is vast.¹⁶ Possible socio-economic benefits include increased access to health services, cost-effectiveness, enhanced educational opportunities, improved health outcomes, better quality of care, better quality of life and enhanced social support.¹⁷

The ministry of health of South Africa also recognized the potential benefits of the incorporation of telemedicine into the established healthcare systems and took the first steps in 1998 by convening a National Telemedicine Task Team to co-ordinate the introduction of telemedicine into the healthcare services of South Africa. Various role-players were involved, including the Medical Research Council, the department of communications, Telkom and representatives from the department of health.¹⁸ The National Health Information System of South Africa (NHIS/SA) was established to oversee all activities in this regard, and this body is still active in the telemedicine projects of South Africa today.¹⁹ The primary focus of these projects was to provide access to quality healthcare which is also affordable to patients in rural areas and furthermore to ensure that the development gap between the "haves" and the "have-nots" does not increase.²⁰ The possible improvement of medical and health provision education was also seen as an important goal.

The National Telemedicine Project was implemented in three phases over five years: phase I was set for April 1999 to March 2001 and required that 28 pilot sites be established over six provinces to offer services in teleradiology, tele-ultrasound, telepathology, tele-ophthalmology and the establishment of a National Telemedicine Research Centre. The second phase was set for April 2001 to March 2002 and involved the development of an effective telemedicine connection between 75 sites divided into various provincial networks for management purposes. The final and third phase of the project was set for April 2002 to March 2004 and required that ad-

¹⁵ McLean "The future of telemedicine and its Faustian reliance on regulatory trade barriers for protection" 2006 *Health Matrix Journal of Law-Medicine* 443-444; Mendelsohn (n 4) 186-188.

¹⁶ Jennett *et al* "The socio-economic impact of telehealth: a systematic review" 2003 *Journal of Telemedicine and Telecare* 311-312.

¹⁷ Jennett *et al* (n 16) 318-319; Mendelsohn (n 4) 152; Poe "Telemedicine liability: Texas and other states delve into the uncertainties of health care delivery via advanced communications technology" 2001 *The Review of Litigation* 681 682; Ozuah and Reznik "The role of telemedicine in the care of children in under-served communities" 2004 *Journal of Telemedicine and Telecare* 78 79.

¹⁸ <http://www.doh.gov.za/programmes/tele/july01.html> (13-04-2004).

¹⁹ <http://www.doh.gov.za/programmes/tele/july01.html> (13-04-2004).

²⁰ <http://www.doh.gov.za/programmes/tele/july01.html> (13-04-2004).

ditional sites be established to meet rural healthcare needs. In this final stage a transformation from a pilot project to a clinical and operational stage was required.²¹

The Medical Research Council conducted an evaluation of the South African telemedicine system (NTS) after the successful implementation of the first phase.²² Despite some technical problems and the relatively long time it took to establish these sites, the overall response was very positive: access to specialist opinions was now possible where previously scans and x-rays were transported to specialist radiologists and an opinion was received only after some five to seven days. This reduced the overall isolation many practitioners in rural areas experienced. Fewer patients were referred or transferred to other hospitals and clinicians noted that the opportunities for education and training had increased at every level of healthcare providers: doctors, nurses and medical students.²³ Telemedicine services across the different provincial borders in South Africa is now active and continually developing but South Africa has yet to explore telemedicine services offered by practitioners from abroad – practitioners not stationed or licensed in South Africa – to South African citizens, for example cybermedicine, cybersurgery or any other e-health service including telemedicine.

Current telemedicine projects, coordinated by the South African Medical Research Council, include the South Africa-China Bilateral Agreement. The main focus of this agreement is the founding of a pan-African telemedicine network by identifying and adapting technologies from the People's Republic of China for use in South Africa.²⁴ The Mindset Health Channel was launched in 2003 and is a health broadcast channel that disseminates information about HIV/AIDS in South Africa. Patients at healthcare centres usually have to wait for long hours for their medical treatment; now with the help of the Mindset Health Channel they can watch this broadcast, learning important information about HIV/AIDS and TB while waiting for medical care.²⁵ And finally there is also the Rapid Deployment Field Hospital, also known as the Mobile Pathlab. This is a stand-alone unit housed in a modified shipping container deployed in remote areas to provide medical care for rural communities.²⁶

It is important to emphasize that the integration and development of technological advances in the healthcare industry, such as telemedicine, are slow processes and not always without obstacles, especially technical difficulties, as is clear from the South African example. The various role-players in the South African telemedicine project, however, are committed to adapting and assimilating new knowledge, skills and equipment related to telehealth for the South African healthcare industry while the Medical Research Council and the ministry of health continue to view telemedicine as a priority in South Africa.²⁷ This article will now turn to a discussion of the advantages and disadvantages of telemedicine in a South African context, focusing on particular problem areas.

²¹ <http://www.doh.gov.za/programmes/tele/july01.html> (13-04-2004).

²² <http://www.mrc.ac.za/telemedicine/reports.htm> – Mathatho and Wynchank “South African national telemedicine evaluation report” 2001-2002 MRC (12-12-2006).

²³ <http://www.mrc.ac.za/telemedicine/reports.htm> – Mathatho and Wynchank (n 22).

²⁴ <http://www.mrc.ac.za/telemedicine/projects.htm> (14-03-2007).

²⁵ (n 24).

²⁶ <http://www.mrc.ac.za/telemedicine/projects.htm> (12-12-2006).

²⁷ <http://www.mrc.ac.za/about/MRCSETIReview.pdf> (14-03-2007); <http://www.hst.org.za/publications/index.php> (14-03-2007).

4 *Advantages, disadvantages and particular problem areas of telemedicine*

Probably the most important advantage of telemedicine is that it addresses the three main concerns in healthcare: access to healthcare, the cost of healthcare and the quality of healthcare.²⁸ Through the use of telemedicine more people, especially those in rural areas, now have access to specialized healthcare. While patients from rural areas usually had to travel and take leave from work to visit specialists in a nearby urban area at a high cost, they now have access to quality care in their own area/district. For the government, which has the responsibility of providing affordable, quality healthcare for all citizens, the use of telemedicine could lead to lower cost of healthcare since it is unnecessary, when using telemedicine, to upgrade all hospitals and to build more hospitals in rural as well as urban areas to provide healthcare services to all. Through telemedicine geographical boundaries are eliminated.²⁹ The quality of care is also improved since it is now possible for practitioners in isolated areas to consult with specialists and thereby diminish the possibility of errors when diagnosing or treating patients. Through such consultation continuous education becomes a reality without government having to establish more education facilities.³⁰

Another use of telemedicine which could be valuable in the South African context is the use of telemedicine in prisons – to provide quality healthcare to prisoners without compromising security.³¹ Yet another area is improved access to information for health professionals and patients³² – not only for the purpose of creating, updating, digitizing and centralizing medical records and information, but also for research and education purposes.

However, many patients prefer to see the treating physician in person and choose conventional methods of medical care rather than any e-health options, because they feel more comfortable with the known conventional methods. They feel that the use of telemedicine may lead to a breakdown of the relationships between practitioners and between doctors and their patients, due to factors like the depersonalization of the relationship or difficulties in performing a consultation or referral.³³ It can therefore not be assumed that the new mode of communication between practitioners and patients which e-health services offer will be to the advantage and positive development of the healthcare sector. Some patients may also fear that particular aspects of telemedicine might not protect some of their interests, like their right to privacy. Several practitioners also prefer conventional methods of medical care rather than e-health for fear of possible malpractice suits or increased competition in the particular healthcare service. The initial cost of equipment and set-up costs may also be a deterrent.

Furthermore, healthcare providers will now have to be informed about aspects of transnational law, should they decide to provide e-health services in another jurisdiction.³⁴ And, more importantly, healthcare providers should also have a thorough knowledge and understanding of the particular community in which they plan

²⁸ Smolensky “Telemedicine reimbursement: raising the iron triangle to a new plateau” 2000 *Health Matrix Journal of Law-Medicine* 371, 374, 385-398.

²⁹ Smolensky (n 28) 397-398; Walz *et al* “Teleradiology requirements and aims in Germany and Europe: status at the beginning of 2000” *European Radiology* 1472 1476.

³⁰ Venable (n 7) 1188-1190; Walz *et al* (n 29) 1472.

³¹ Erwell (n 5) 75.

³² Hjelm “Benefits and drawbacks of telemedicine” 2005 *Journal of Telemedicine and Telecare* 60.

³³ Hjelm (n 32) 60.

³⁴ McLean (n 15) 398.

to provide their services, the possible language barriers and other culture-specific aspects of importance.³⁵ It is clear that any telemedicine initiative will only be successful if sufficient efforts were made to first understand the established healthcare structure and the community which it will serve. Especially in South Africa, a clear understanding of the cultural traditions and the particular language which the general community uses will be of the utmost importance. Problems like these strengthen the fear that telemedicine initiatives are market-driven and not actually user-driven.³⁶

The discussion will now turn to the particular problem areas in telemedicine in relation to the South African context and law. It will be clear from this discussion that in most jurisdictions very few legal precedents, rules and literature on telemedicine exist and furthermore, that the traditional constructs of medical law have not kept pace with technological advances.

4.1 Registration

One of the problem areas identified in the practice of telemedicine is the registration of medical practitioners in the field. Each jurisdiction usually has its own requirements with regard to the registration of the members of its medical profession and it is generally accepted that one cannot practise medicine in a particular jurisdiction if one is not registered for the particular vocation in that jurisdiction. It is trite that such strict regulation is necessary for an authority to maintain the quality control over their medical profession and in doing so ensure the safety of its citizens and other patients making use of healthcare services in that particular area.

The requirement of registration, although imperative for the good standing of the medical profession in a particular jurisdiction, is also one of the greatest stumbling blocks for telemedicine. If a practitioner wants to provide services in another country, state or jurisdiction, he or she will probably not be allowed to do so until he or she meets all the requirements for registration in that jurisdiction and register him- or herself for the particular service with that authority. This process of registration can take time and is an administrative burden that most practitioners would rather avoid. Also, the question remains whether a practitioner using telemedicine should be registered with the jurisdiction where the patient resides or with the jurisdiction where the practitioner generally practises medicine.³⁷

Europe, Australia and the United States of America have experienced similar issues with regard to registration in the context of telemedicine. Although the different states in North America and the different countries of Europe generally recognize their neighbouring states or countries' medical qualifications, such a qualification does not give the holder the automatic right to practise medicine in another state or country.³⁸ Registration requirements like these, although imperative to the medical profession of a particular jurisdiction, may deter practitioners from investigating the possibilities offered by telemedicine.

A few suggestions to address this problem of registration include mutual recognition of licences across all borders or a system of limited licensing whereby telemedicine practitioners are still required to register with the particular author-

³⁵ Russell, Jones, Clarke and Malcolm "The effect of culture on telemedicine" 2004 *Journal of Telemedicine and Telecare* 100; Mendelsohn (n 4) 188-189.

³⁶ Hjelm (n 32) 68-70.

³⁷ Rannefeld (n 2) 90; McLean (n 15) 462 and 503.

³⁸ <http://www.ehtel.org/SHWebClass.ASP?WCI=ShowDoc&DocID=5153&LangID=1> (22-03-2007) 22; Venable (n 7) 1196-1197; Lim, Egerton and Shumack (n 1) 11.

ity but that a different set of prerequisites and administration processes apply to them for a less cumbersome registration with the limitation only to practise as a telemedicine practitioner within that jurisdiction.³⁹ An example of this is the Telemedicine Act of Malaysia, which was enacted in 1997 and which requires medical practitioners to apply to the Malaysian Medical Council for a certificate which would allow them to practise telemedicine in Malaysia. Practitioners may only practise telemedicine in Malaysia if they are registered medical practitioners the country or if they applied to the council and were authorized with the required certificate.⁴⁰ The limitations set by a system of limited licensing may also include that practitioners are only allowed to treat specific illnesses or perform specific functions.⁴¹ It should also be investigated whether practitioners from other jurisdictions should be allowed to treat patients via telemedicine provided that the service is rendered through practitioners who are registered with that particular jurisdiction where the patient resides and that all patient care is controlled by the registered practitioners from that jurisdiction.⁴²

In South Africa a medical practitioner may practise his/her profession if registered and licensed for the particular occupation with the Health Professions Council of South Africa (HPCSA). This is a statutory body established in terms of the Health Professions Act 56 of 1974 and consists of twelve professional boards which represent the main acknowledged disciplines of the South African medical profession. The registration requirements for each professional board differ and it is with these boards that prospective practitioners should register if they wish to practise their particular vocation in South Africa.⁴³ Prospective practitioners from abroad who are not already registered with the HPCSA and who wish to practise in South Africa via telemedicine will therefore also be required to meet the prerequisites as set out by the particular professional board and register with the HPCSA. The HPCSA has jurisdiction over all medical practitioners registered with one of its professional boards, even if a medical practitioner resides and practises his/her profession outside the Republic of South Africa.⁴⁴

Strict registration requirements for foreign medical practitioners, as set by the HPCSA in South Africa, will not improve the establishment and use of telemedicine in South Africa. Potential limited registration for such practitioners, or other means making it more user-friendly for foreign practitioners to offer their services in South Africa via telemedicine, is necessary for the field of telemedicine to develop and reach its full potential, especially with regard to the potential socio-economic benefits for South African citizens.

4.2 Reimbursement

In Europe and the United States of America, where telemedicine services have been actively used and explored for some years now, the need for recognition of the particular services practitioners offer via telemedicine and the concurrent appropriate reimbursement still exists, although some insurers recently began reimbursing par-

³⁹ Venable (n 7) 1199-1205.

⁴⁰ Mendelsohn (n 4) 181-182.

⁴¹ Rannefeld (n 2) 92-93.

⁴² Rannefeld (n 2) 89-93, 102-103; Erwell (n 5) 71-72.

⁴³ <http://www.hpcsa.co.za/hpcsa/default.aspx?id=143> (10-01-2007).

⁴⁴ *Phathela v Chairman, Disciplinary Committee, South African Medical and Dental Council* 1995 3 SA 179 (T).

ticular telemedicine claims under limited circumstances.⁴⁵ Owing to a lack of information on the cost and quality of and access to telemedicine, insurers question the possibility of duplicate claims, the quality of the healthcare provided and the possibility of stimulating an unnecessary demand for telemedicine services.⁴⁶ As the use of telemedicine services does away with the limitations of geographical boundaries, medical insurers will also be confronted with the possibility of claims against practitioners in other jurisdictions with different fee structures. An example of this is found in the Dutch cases of *Müller-Faurè v Onderlinge Waarborgmaatschappij OZ Zorgverzekeringen UA* and *EEM van Riet v Onderlinge Waarborgmaatschappij ZAO Zorgverzekeringen*.⁴⁷ In both cases the court had to decide whether the Zwijsendrecht Fund and the Amsterdam Fund had to reimburse the medical cost incurred by Dutch citizens in Germany and Belgium respectively. In both cases it is also important to remember that the Dutch healthcare system and insurance funds are operated by a strict national social security system, while in other countries most of these functions have been privatised. In both cases the court found that the funds are not liable for the specific services and that prior authorization of medical services in other jurisdictions is required. Only if prior authorization was given would the funds be liable to reimburse.

While telemedicine services in South Africa are not that widely used yet – they are confined to a few state hospitals and perhaps some private institutions – it will be difficult to assess the influence of telemedicine services on the cost of healthcare, access to healthcare and the quality of care provided. Without empirical data on these aspects insurers will remain hesitant to reimburse such claims. However, with the introduction of telemedicine services in state hospitals via the government's National Telemedicine Task Team, practitioners, patients and other interest groups will gradually be introduced to this new technology and the possibilities it holds. In time more patients will demand that telemedicine services be accepted and reimbursed and insurers will find that telemedicine might be the most efficient treatment method in a particular situation.

The organizational structure of healthcare provision in South Africa will certainly also change as telemedicine services become more popular.⁴⁸ Since the use of telemedicine eliminates the limitations of geographical boundaries, it is also expected that it will lead to the combined management of healthcare institutions or even the merging of some institutions. Specialization of physicians (especially with regard to those in rural areas) will also be possible since a broader population and client base is now available to specialists. Interaction between medical practitioners, patients and their doctors as well as the procedures of insurers will also change with the use of telemedicine, ultimately leading to a change in the organizational structure of healthcare.⁴⁹

4.3 Jurisdiction

The rules regarding jurisdiction are quite clear in any legal action between a doctor and patient, if both reside in South Africa and if the telemedicine service was performed within the borders of the Republic of South Africa. South African law

⁴⁵ Smolensky (n 28) 375-384; Ranefeld (n 2) 91.

⁴⁶ Smolensky (n 28) 384; Erwell (n 5) 72.

⁴⁷ case C-385/99.

⁴⁸ Smolensky (n 28) 401.

⁴⁹ Smolensky (n 28) 401-411.

will apply and the appropriate court where the defendant resides will decide on the matter. This is in contrast to the situation in other countries like the United States of America, where serious problems with regard to interstate jurisdiction in telemedicine matters exist, since each state within the United States has its own particular system and rules to navigate such matters.⁵⁰

What will happen, though, when dealing with a telemedicine case where the practitioner performing the service and the patient being treated find themselves in different countries with different systems of law? First it has to be decided which court will have jurisdiction and then which law will apply to the matter. Various solutions have been suggested, which include that the state where the practitioner is licensed has the appropriate jurisdiction over the practitioner, that the patient is viewed as being electronically transported to the jurisdiction of the practitioner and that jurisdictional issues should always be dealt with at the patient's location since the practice of medicine is a personal service.⁵¹ It is clear, though, that if an acceptable solution for both parties is not reached, such questions with regard to jurisdiction could prove to be a serious barrier to the development of telemedicine services in any country.

Very little literature and few rules dealing with the jurisdictional issues and questions in telemedicine cases exist. Two countries that have made provision for these concerns are Germany and Switzerland. In German law any jurisdictional issues and questions regarding the applicable law in a particular telemedicine contractual agreement should always be in accordance with the *Einführungsgesetz zum BGB*, which contains the German private international law rules.⁵² If, however, a contractual agreement does not indicate which legal system, court or arbitrator will preside over a dispute, it is accepted that the legal system of the country/state where the medical practitioner resides should apply to the dispute and have jurisdiction over the dispute, since the patient in this context is regarded as the active party explicitly seeking the services of a foreign medical practitioner and therefore implicitly accepting the jurisdiction of the foreign country in any disputes which may arise.⁵³ In delictual claims where the particular jurisdiction and legal system to apply were not agreed upon, the *lex loci delicti commissi* will apply.⁵⁴ The legal system of the place where the delict took place will be applied. According to Swiss law, article 2 *IPRG*, if the defendant's main place of residence is in Switzerland, Swiss authorities have jurisdiction.⁵⁵ And if the defendant's main place of residence is not in Switzerland, residents from Switzerland may still use article 113 of the *IPRG* if the treatment took place in Switzerland.⁵⁶

In the United States of America an interesting case with regard to personal jurisdiction in the telemedicine context was decided in 1999 – *Bradley v Mayo Foundation, United States of America*.⁵⁷ Mayo Clinic, based in Minnesota, had no offices in the state of Kentucky but treated Bradley after a visit to the clinic and prescribed drugs for him. Bradley was referred by his treating physician in Kentucky to a specialist at the Mayo Clinic. After two initial visits to the clinic further treatment and

⁵⁰ Barnes (n 13) 504-505.

⁵¹ Venable (n 7) 1195.

⁵² Hoppe "Telemedizin und internationale Artzhaftung" 1998 *MedR* 462 464.

⁵³ Hoppe (n 52) 465.

⁵⁴ Hoppe (n 52) 465; *EGBGB* art 38.

⁵⁵ Eckhardt, Keel and Schönenberger "Studie des Zentrums für Technologiefolgen Abschätzung" *TA Swiss* 49/2004 (92).

⁵⁶ Eckhardt, Keel and Schönenberger (n 55) 92.

⁵⁷ No 97-204 1999 US Dist Lexis 17505 (ED Ky); McLean (n 15) 471.

prescriptions took place via telephone and mail in conjunction with the providers based in Kentucky. Bradley wanted to institute legal action against Mayo Clinic, for reasons which are not relevant to this discussion. To ensure that the action be dealt with by an appropriate court in Kentucky, Bradley had to establish that the correspondence and contact Mayo Clinic had with local providers in Kentucky was sufficient minimum contact with the state of Kentucky to ensure general jurisdiction over this matter. The case was dismissed, however, as the court found that the correspondence between the plaintiff and the defendant, which included telephone calls and letters, was insufficient to establish jurisdiction over the defendant and this correspondence was only incidental to the general work of the practitioner in treating this particular patient. Writing prescriptions, sending letters to confirm a previous diagnosis and telephone consultations are all routine functions performed by a medical practitioner and the court warned that the writing of prescriptions, sending letters, telephonic conversations and the confirmation of a diagnosis previously made are routine functions irrespective of the distance between doctors and their patients. More importantly, this correspondence with local providers did not establish jurisdiction either. With regard to this particular case, however, it is also important to note that if a practitioner offering telemedicine services in another country/state is registered as a practitioner in that particular country/state or also has other ties to that jurisdiction and with the patient, this would provide sufficient ties to allow that particular authority to assert jurisdiction, should a legal action arise.⁵⁸

It is difficult to predict how similar telemedicine cases will be dealt with by South African courts, but it is clear from the discussion thus far that it would certainly be best if parties to a telemedicine agreement regulate the service with a strict contractual agreement, also indicating which court will have jurisdiction and which law will apply should a dispute arise. In delictual claims with no prior agreement on jurisdiction and applicable legal system the *lex loci delicti commissi* should apply.

4.4 The standard of care

Healthcare is based on a unique doctor-patient relationship, reflecting a professional and personal paradigm and tradition rather than an institutional paradigm.⁵⁹

This conventional system will be challenged by the use of new technologies like telemedicine and many of the current constructs and ideological building blocks of the healthcare system may be found outdated or not well suited.

The first construct which might prove to be problematic in telemedicine is the standard of care. The applicable standard of care in any malpractice action is the standard of care as ordinarily exercised by the average medical practitioner under the same or similar conditions in comparable circumstances. The applicable standard of care is influenced by considerations like the following: whether the medical practitioner is a specialist or a general practitioner; whether the medical practitioner is based in a rural or urban area (since this also indicates the type of resources available to the practitioner); and, finally, it is required of the medical practitioner to perform with the general level of skill and diligence as acquired and exercised at the time by members of the branch of the profession to which the practitioner belongs. The plaintiff should first prove the existence of a doctor-patient relationship, and demonstrate that the doctor therefore had a duty to act according to the generally

⁵⁸ Poe (n 17) 699.

⁵⁹ Terry "A medical ghost in the e-health machine" 2004 *Health Matrix* 225 227.

accepted standard of care, that there was a breach of this standard and that this breach of the standard of care caused the patient harm. Telemedicine, however, adds new complexities to these standard elements, especially when considering which standard of care should apply in a telemedicine matter across foreign borders and also whether a doctor-patient relationship was ever established.

With regard to the standard of care in telemedicine services, the following considerations are important: not all jurisdictions have the same standard of care; some authorities apply a lower standard of care than others. But the standard of care in a particular jurisdiction for telemedicine services should always be the same as it is for other medical procedures in that jurisdiction, like face-to-face consultations.⁶⁰ The standard of care may actually also increase as access to information becomes easier with the use of the internet, especially since medical practitioners also have the duty to stay informed about their science and current developments.⁶¹ And as technology advances and e-health services become generally more available the use of telemedicine services may also become the necessary standard practice expected of physicians.⁶²

Practitioners who decide to make use of telemedicine services should firstly also have the required skill and knowledge of the applicable systems and procedures involved in such a telemedicine service. When a medical practitioner allows another to assist him in treating a patient or associates with such treatment (in a telemedicine context) and the assistance is not of the required standard and causes the patient harm, that practitioner will be liable if, under the circumstances, it was reasonably foreseeable. This responsibility arises from the practitioner's duty of care towards his/her patient.⁶³ This principle also applies to hospital administrators and the practitioners in their employ and it will also apply to practitioners working together with other practitioners in telemedicine services. The liability incurred will be direct and not vicarious, since the primary practitioner should apply reasonable care and attention when allowing others to assist him in treating a patient.⁶⁴ Medical practitioners who therefore decide to make use of telemedicine services should take additional precautions to ensure that the other practitioners or assistants with whom they elect to work – and who will also most probably be situated in another city, town, state or country – are reliable and possess the required knowledge, skill and work ethic as required of other comparable practitioners in the field. Once a practitioner is thus satisfied that he/she will provide a telemedicine service together with other individuals or institutions, the different parties to this venture will not be held liable for each other's separate and specialized duties, since they are not employed

⁶⁰ Svantesson "Legal liability for internet based cross-border provision of medical advice, information and products" 2003 *9th Greek-Australian Legal and Medicine Conference* Rhodes Greece <http://www.lmconference.com.au/papers/2003/svantesson.html> (22-03-2007); <http://www.ehtel.org/SHWebClass.ASP?WCI=ShowDoc&DocID=5153&LangID=1> (22-03-2007) 25.

⁶¹ Venable (n 7) 1192-1196; Rannefeld (n 2) 82; Poe (n 17) 693.

⁶² Poe (n 17) 693.

⁶³ Gordon, Tuner and Price *Medical Jurisprudence* (1953) 125; *Wasserman v Union Government* 1934 AD 228 231; *Manderson v Century Insurance Co Ltd* 1951 1 SA 533 (A); *King v Phillips* 1953 1 All ER 617 (CA); *Farmer v Robinson Gold Mining Company Ltd* 1917 AD 501 522; *Dube v Administrator Transvaal* 1963 4 SA 260 (W) 261; *St Augustine's Hospital (Pty) Ltd v Le Breton* 1975 2 SA 530 (D); *Lower Umfolosi District War Memorial Hospital v Lowe* 1937 NPD 31.

⁶⁴ Gordon (n 63) 125; *Lymbery v Jefferies* 1925 AD 236; *Byrne v East London Hospital Board* 1926 EDL 128; *Rodgers v Canfield* (Mich) 262 NW 409; 1936-40 MLC 35; *Wiley v Wharton* (Ohio) 41 NE (2d) 255; *Bolles v Kinton* (1928) 83 Colo 147; *Michael v Linksfield Park Clinic (Pty) Ltd* 2001 3 SA 1188 (SCA).

by one another nor are they agents of each other.⁶⁵ This is so since each party to the telemedicine service usually has a separate and very specialized function of his/her own. This is especially true in cases where the technical equipment used in a telemedicine service is faulty and causes the patient harm.

4.5 The doctor-patient relationship

It is also very important in the context of telemedicine to determine exactly at what time or instance a doctor-patient relationship is established during a telemedicine interaction and furthermore who the parties to such a relationship are, seeing that in cybersurgery and some forms of telemedicine services various healthcare professionals may be involved. In general it can be said that the doctor-patient relationship is regarded to exist between a patient and doctor if both parties have come to an agreement (usually an implicit agreement after a consultation) that the doctor will accept the person as his/her patient and will treat the patient. There is no implicit agreement to cure the patient, unless the practitioner committed to this explicitly.

No South African case law dealing specifically with matters related to telemedicine exists and other literature on the topic is quite limited. Furthermore, while ample literature and case law on the doctor-patient relationship in the South African legal context exists, no notable discussion exists on the formation of a doctor-patient relationship in South African law or the exact moment on which such a relationship is regarded to come into being. I will consequently not discuss the doctor-patient relationship in the South African context since I am of the opinion that the formation of the particular relationship and exact moment on which such a relationship is established is of more relevance in the context of telemedicine.⁶⁶ There are, however, a few cases from the United States of America dealing specifically with the establishment of a doctor-patient relationship in a telemedicine context. A short discussion of some of these cases which may be relevant to the South African context now follows.

In *Clanton v Von Haam*,⁶⁷ Eldrige J from the Fulton superior court ruled that when a physician who previously treated a patient for a different ailment returns this patient's phone calls about another condition and listen to the symptoms, a doctor-patient relationship was not created. In this particular case the court also based its decision on the fact that the patient herself interpreted the conversation as a refusal of medical services. However, not all patients would interpret this situation as a refusal of medical treatment and it is clear from the judgment that the question whether a doctor-patient relationship was established with a telephonic enquiry would largely depend on the particular circumstances of each case. In *Bienz v Central Suffolk Hospital*⁶⁸ the question was raised "whether a telephone call to a physician's office for the purpose of initiating treatment is sufficient to create a

⁶⁵ Gordon (n 63) 128; *Collins v Herts CC* 1947 KB 598; *S v Kramer* 1987 1 SA 887 (W).

⁶⁶ For more information on the doctor-patient relationship in the South African legal context see *Correia v Berwind* 1986 4 SA 60 (ZH); *Magware v Minister of Health NO* 1981 4 SA 472 (Z); *Friedman v Glicksman* 1996 1 SA 1134 (W); *Louwrens v Oldwage* 2006 2 SA 161 (SCA); *Broude v McIntosh* 1998 3 SA 60 (SCA); *Pringle v Administrator, Transvaal* 1990 2 SA 379 (W); *Castell v De Greef* 1994 4 SA 408 (C); *Blyth v Van den Heever* 1980 1 SA 191 (A); *Esterhuizen v Administrator, Transvaal* 1957 3 SA 710 (T); *Van der Walt v De Beer* 2005 5 SA 151 (C); *Mukheiber v Raath* 1999 3 SA 1065 (SCA); *Buls v Tsatsarolakis* 1976 2 SA 891 (T).

⁶⁷ *Clanton et al v Von Haam* 70991 (177 Ga App 694) (340 SE2d 627) 1986.

⁶⁸ *Bienz v Central Suffolk Hospital* 163 AD 2d 269, 557 NYS 2d 139.

physician-client relationship”.⁶⁹ The court clearly indicated here that it is important to know what advice or information the physician gave the patient during such a telephone conversation and what reliance the patient placed on such a conversation. Whether a telephone conversation between a doctor and patient establishes a doctor-patient relationship will therefore be a question of fact which will depend on the particular circumstances of each case.

Another interesting case dealing with the formation of a doctor-patient relationship but which does not deal with any particular aspect of telemedicine is *Dougherty v Gifford*.⁷⁰ This case is important and relevant in this context, though, since it deals with the establishment of a doctor-patient relationship where there is no physical contact between the doctor and the particular patient. The court found here that the absence of physical contact between a patient and medical practitioner does not preclude the formation of a doctor-patient relationship. In this particular case the court found that a doctor-patient relationship did exist between the patient, Gifford, and the pathologist whom the treating physician, Dougherty, contracted to perform laboratory work, because the pathologist’s work benefited the patient. The pathologist furthermore not only performed the services for the patient’s benefit but also with both the treating physician’s and the patient’s implied consent. The pathologist was therefore bound by the duty stemming from a doctor-patient relationship to communicate the correct test results to the treating physician, Dougherty, who would communicate the result to the patient (Gifford). It is important to note that the court placed special emphasis on the fact that the services performed by the pathologist were to the benefit of the patient. This fact contributed to its finding that a doctor-patient relationship between the pathologist and the patient did indeed exist, although they had no physical contact.

In *Lotspeich v Chance Vought Aircraft*,⁷¹ Lotspeich worked for Chance Vought Aircraft on two occasions and for each term of employment had to undergo a physical examination, according to company policy, by company doctors on company premises. These examinations included x-rays of her chest. Three years after her last employment at the company she was told that an x-ray of her chest revealed active tuberculosis and that this was already visible on her chest x-rays taken three years earlier by the particular company doctors. Lotspeich felt that the company and the company doctors had a duty to discover her tubercular condition and had a duty to disclose this information to her. The court found that there was no doctor-patient relationship between the appellant and the company doctors and that the doctors consequently had no duty to diagnose or to disclose to the appellant. The company doctors acted only on the orders and for the benefit of the company and they only had a duty towards the company to perform the functions the company had employed them to do. The patient in this matter had no choice as to which doctor were to examine her, nor did she ask for a report after the examination.

A final consideration of case law with regard to the formation of the doctor-patient relationship is whether a doctor-patient relationship is established when the treating physician contacts another specialist for an opinion on a particular patient. Here again it seems that it would depend on the degree of contact the patient has with the consulting specialist and the amount of independent judgment the treating physician uses in accepting or rejecting the specialist’s opinion. In *Lopez v Aziz*⁷² the state required the following three elements for the formation of a doctor-patient

⁶⁹ *Biens* (n 68).

⁷⁰ 826 SW2d 668 674-75 (Tex App – Texarkana 1992); *Rannefeld* (n 2) 81.

⁷¹ 369 SW2d 705.

⁷² 852 SW2d 303 305-307 (Tex App – San Antonio 1993, no writ); *Rannefeld* (n 2) 82.

relationship: the physician should agree directly or indirectly to counsel the patient, there should be a medical evaluation of the symptoms and the patient should rely on the physician's opinion. Where a particular patient's case is referred to another physician for an opinion it does not matter who contracted for the service but rather whether it was contracted for with the express or implied consent of the patient or for the patient's benefit. In *Fenley v Hospice in the Pines*⁷³ it was found that a doctor-patient relationship existed between the patient and the director of the institution although he has never seen the patient but solely because he signed a document allowing for reimbursement of the hospice. In German law the degree of contact between the patient and the third party in such instances seems not to be the decisive factor. A separate doctor-patient relationship is formed between the patient and the third party if the primary physician asks a third party for advice or assistance in the patient's specific case. In situations where the particular patient does not know about, or did not directly consent to, the third party being involved or providing assistance in the particular case it is generally believed that a doctor-patient relationship is also formed in such an instance.⁷⁴

These cases illustrate how important it is in the context of telemedicine, maybe even more so than in the milieu of traditional medicine, to determine if a doctor-patient relationship exists between parties, how this relationship was formed and at what moment this relationship was established.

5 Conclusion

It is clear that the advances in technology and the incorporation of related skills, knowledge and equipment in the healthcare industry will provide for new and exciting possibilities with great benefits for the poor and isolated citizens in developing countries. In South Africa in particular, the innovative use of telemedicine services may address the specific needs of patients and may be the ideal tool for government to increase access to healthcare services and to provide affordable, quality healthcare to all. This evolution in medicine, although advantageous in the public health sector, will also compel legislators and other policymakers in the medico-legal field to rethink the traditional constructs on which medical law is based. Particular problem areas and challenges to existing legal constructs, as discussed in this article, include the standard of care, the doctor-patient relationship, registration, jurisdiction and reimbursement. Case law and literature from other countries that are already making more use of e-health services are instructive.

The recognition of international treaties on telemedicine like the Draft International Convention on Telemedicine and Telehealth⁷⁵ and the World Medical Association's Statement on Accountability, Responsibilities and Ethical Guidelines in the Practice of Telemedicine⁷⁶ may also serve as an impetus for the further development of e-health services across boundaries and the increased recognition and implementation of such services.

⁷³ 4 SW3d 476, 479-480 (Tex App 1999).

⁷⁴ Hoppe (n 52).

⁷⁵ <http://www.ehto.org/legal/draftconvention.doc> (14-12-2006).

⁷⁶ <http://www.wma.net/e/policy/a7.htm> (14-12-2006).

SAMEVATTING**TELE-GESONDHEIDSDIENSTE IN SUID-AFRIKA: 'N REGSPERSPEKTIEF**

Tele-gesondheid word al hoe meer in die gesondheidsdienste gebruik, byvoorbeeld by verskeie en uiteenlopende mediese dienste, behandelings en verbandhoudende mediese bedrywighede. Hierdie tegnologie word ook gebruik om mediese ingrepe oor groot afstande moontlik te maak, deur die gebruik van die internet in mediese optrede en verbandhoudende werksaamhede. In Suid-Afrika word tele-gesondheidsintervensies in 'n beperkte mate gebruik. Dit is duidelik dat die voordele wat hierdie ontwikkeling vir veral ontwikkelende lande soos Suid-Afrika inhou, beduidend is. Die gebruik van tele-gesondheidsdienste bevorder die algemene toegang tot gesondheidsdienste en die kwaliteit van dienste gelewer. Dit verseker ook meer bekostigbare gesondheidsdienste vir 'n groter groep van die bevolking. Benewens hierdie sosio-ekonomiese voordele het dit duidelik geword dat die tradisionele beginsels van die mediese reg nie altyd die regs vrae wat met die gebruik van tele-gesondheidsintervensies mag ontstaan, kan aanspreek nie. 'n Paar probleemareas wat in hierdie artikel bespreek word, sluit in kwessies rondom die lisensiëring van mediese praktisyns, jurisdiksie, die vergoeding van praktisyns deur mediese versekeraars, die besondere dokter-pasiënt-verhouding en die toepaslike graad van sorgsaamheid wat gewoonlik van mediese praktisyns vereis word. Die bespreking poog om waar moontlik kommentaar te lewer op die wyse waarop hierdie probleemassepekte spesifiek in 'n Suid-Afrikaanse konteks aangespreek kan word. Dit verwys ook waar toepaslik na Amerikaanse, Duitse, Switserse en Nederlandse bronne.