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**The widespread impact of poor infection prevention and control policies and bad prescribing practices on hospital-acquired infections: who is liable?**

by

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## SUMMARY

Hospital-acquired infections, also known as nosocomial infections, are defined as an infection acquired in hospital by a patient who was admitted for a reason other than that infection. There are three main methods in which nosocomial infections may be transmitted to the patient, namely through direct physical contact, droplet spread and through airborne microorganisms. Infection control and prevention strategies are pivotal in the containment of nosocomial infections in healthcare establishments. The emergence and persistence of nosocomial infections are aided by inadequate infection control and prevention policies. Healthcare establishments must implement standard precautions to minimise the risk of infection transmission, these precautions include hand hygiene, disinfection, sterilization, protective equipment and injection safety.

Antimicrobial resistance is an increasing threat to the successful treatment of nosocomial infections. Antimicrobial resistance is associated with the excessive use of antimicrobial agents. Measures such as antimicrobial de-escalation, the use of local epidemiology and antibiotic susceptibility patterns and shortening the duration of antibiotic therapy have the potential to reduce antimicrobial resistance.

The World Health Organisation places a duty on all health care providers to prevent the transmission of infection and provides specific responsibilities for all healthcare workers. The South African health care system is regulated by the Constitution, legislation, precedents, medical ethics and the Health Professions Council of South Africa which place a duty on a medical practitioner to exercise his or her duties with a certain degree of care and skill. A medical practitioner and/or healthcare establishment may be held legally liable for the harm caused by a medical practitioner who does not exercise the degree of care and skill required of him or her.

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# CHAPTER ONE

## THE LEGAL FRAMEWORK OF THE SOUTH AFRICAN HEALTH SYSTEM

### 1. Introduction

The national health system<sup>1</sup> in South Africa consists of both a public and a private healthcare sector. Currently, South Africa does not have a national health insurance system.<sup>2</sup> Consequently, the majority of the population in South Africa are public healthcare users. The private healthcare users are those within the population who are members of a medical scheme, or those who can afford to pay for the private healthcare services without being a member of a medical scheme.<sup>3</sup>

All public and private healthcare establishments are governed by the National Health Act, 61 of 2003.<sup>4</sup> This Act places an obligation on the Minister of Health to prescribe the expected standard of healthcare services to be provided to healthcare users.<sup>5</sup> Accordingly, the Minister of Health is responsible for the promotion, protection, improvement and maintenance of the health of the people in South Africa, subject to the available resources.<sup>6</sup>

The Health Professions Act 56 of 1974<sup>7</sup> establishes the Health Professions Council of South Africa (HPCSA) and the professional boards that have control over the education, training and registration of all practising healthcare professionals.<sup>8</sup> The HPCSA endeavours to improve the quality of healthcare services in South Africa by setting the standard for training, education,

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<sup>1</sup> The National Health Act 61 of 2003 (hereafter referred to as The National Health Act) s 1 defines a national health system as ‘a system in the Republic, whether within the public or private sector, in which the individual components are concerned with the financing, provision or delivery of health services.’

<sup>2</sup> The revised White paper: National Department of Health- National health Insurance Policy (2017) 12, 12, 31; The proposed National Health Insurance (NHI) is geared towards providing quality health services for all people within South Africa. The NHI is a ‘health care financing system that is designed to pool funds to actively purchase and provide access to quality, affordable personal healthcare services for all South Africans based on their health needs, irrespective of their socioeconomic status. NHI is intended to move South Africa towards Universal Health Coverage (UHC) by ensuring that the population has access to quality health services and that it does not result in financial hardships for individuals and their families.’ The NHI strives to achieve a quality of care that is ‘safe, effective, patient-centered, timely, efficient and equitable provision of healthcare services to achieve desired health outcomes. It takes into account patient safety, meaning the prevention of harm to patients and it employs clinical governance processes to assure quality.’

<sup>3</sup> Carstens and Pearmain (2007) *Foundational Principles of South African Medical Law* LexisNexis: Durban (hereafter referred to as Carstens and Pearmain (2007) )229.

<sup>4</sup> The National Health Act (note 1 above).

<sup>5</sup> Carstens and Pearmain (2007) (note 3 above) 229.

<sup>6</sup> The National Health Act (note 1 above) s 3(1)(a); *Government of the Republic of South Africa v Grootboom* 2001 (1) SA 46 (CC) (hereafter referred to as *Grootboom*); *Minister of Health v Treatment Action Campaign (No 2)* 2002 (5) SA 721 (CC).

<sup>7</sup> Hereafter referred to as The Health Professions Act.

<sup>8</sup> The Health Professions Act (note 7 above) s 2.



and discipline of all healthcare professionals registered with the HPSCA to ensure that the medical profession is competent and compliant with the standards set by the council.<sup>9</sup> Unless a medical practitioner is registered under the Health Professions Act,<sup>10</sup> they may not practise as a healthcare practitioner in South Africa.<sup>11</sup>

## 2. The Constitution of the Republic of South Africa

The Constitution of the Republic of South Africa, 1996<sup>12</sup> is the supreme law of the Republic and therefore, any law or conduct which is inconsistent with the Constitution is invalid and the obligations imposed by the Constitution must be fulfilled.<sup>13</sup> The Bill of Rights is the cornerstone of democracy in South Africa and protects the human rights of all people of South Africa.<sup>14</sup> The right to life<sup>15</sup> is the most fundamental right in the Bill of Rights and without the right to life, the rights associated with the right to health would be meaningless.<sup>16</sup> The right to human dignity, which is to be respected and protected,<sup>17</sup> is associated with one's quality of life, and therefore, when a patient's quality of life is diminished, the right to dignity is infringed upon.<sup>18</sup> The right to physical and psychological integrity includes the right of control over one's own body.<sup>19</sup> Therefore, a competent patient with the necessary capacity may refuse medical treatment and may not be forced to receive treatment against their will.<sup>20</sup> The Constitution also grants a person the right to access to an environment that is not harmful to one's health or well-being.<sup>21</sup> The right to have access to healthcare services<sup>22</sup> is a socio-economic right<sup>23</sup> which does not *per se* imply the right to health; however, when one interprets the entirety of the rights enshrined in the Bill of Rights it could be construed as a broader right to health.<sup>24</sup>

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<sup>9</sup> Carstens and Pearmain (2007) (note 3 above) 251.

<sup>10</sup> The Health Professions Act (note 7 above) s 17 (1).

<sup>11</sup> The Health Professions Act (note 7 above) s 17(a).

<sup>12</sup> Hereafter referred to as the Constitution.

<sup>13</sup> The Constitution (note 12 above) s 2.

<sup>14</sup> The Constitution (note 12 above) s 7.

<sup>15</sup> The Constitution (note 12 above) s 11.

<sup>16</sup> Carstens and Pearmain (2007) (note 3 above) 27; *S v Makwanyane* 1995 (3) SA 391 (CC) 507; the right to life may not be associated with the right to die; *Stransham-Ford v Minister of Justice and Constitutional Services and Others* [2015] 3 ALL SA 109 (GP).

<sup>17</sup> The Constitution (note 12 above) s 10

<sup>18</sup> Carstens and Pearmain (2007) (note 3 above) 29.

<sup>19</sup> The Constitution (note 12 above) s 1.

<sup>20</sup> *Minister of Safety and Security v Xaba* 2003 (2) SA 703 (D); Carstens and Pearmain (2007) (note 3 above) 31.

<sup>21</sup> The Constitution (note 12 above) s 24 (a); Carsten and Pearmain (2007) (note 3 above) 33-34; this right implies a right to health as opposed to a right to access to health care services.

<sup>22</sup> The Constitution (note 12 above) s 27 (1)(a).

<sup>23</sup> Carstens and Pearmain (2007) (note 3 above) 38.

<sup>24</sup> Carstens and Pearmain (2007) (note 3 above) 36.

The right of access to healthcare prohibits healthcare establishments from refusing emergency medical treatment to healthcare users. This prohibition protects one's right to life which is an essential element to the right to health.<sup>25</sup> The right to access to healthcare places a positive duty on the state.<sup>26</sup> The healthcare services provided must not only be curative, but should also be preventative of disease, or protective of existing health.<sup>27</sup> Socio-economic rights must all be read together in the setting of the Constitution as a whole.<sup>28</sup> The rights in the Bill of Rights are not absolute and may be limited by the law of general application, provided that such limitation is reasonable and justifiable.<sup>29</sup>

The South African courts, in interpreting the Bill of Rights 'must consider international law and may consider foreign law.'<sup>30</sup> In *Carmichele v Minister of Safety and Security*<sup>31</sup> the court imposed a duty on the courts to develop common law when such law is not in line with the spirit, purport and objects of the Bill of Rights, as well as the constitutional values of human dignity, equality, and freedom<sup>32</sup>.

### **3. The National Health Act 61 of 2003**

The object of the National Health Act is to regulate the South African national healthcare system to ensure that all healthcare services offered in South Africa, both by public and private service providers, are uniform.<sup>33</sup> The National Health Act regulates the rights and responsibilities of healthcare providers, healthcare establishments, healthcare workers, and healthcare users.<sup>34</sup> It ensures that the rights of the people of South Africa are protected, respected, and fulfilled, and it ensures the progressive realisation of the constitutional right of access to healthcare services and an environment that is not harmful to one's well-being.<sup>35</sup>

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<sup>25</sup> Carstens and Pearmain (2007) (note 3 above) 34.

<sup>26</sup> Carstens and Pearmain (2007) (note 3 above) 38.

<sup>27</sup> Carstens and Pearmain (2007) (note 3 above) 39

<sup>28</sup> *Grootboom* (note 6 above) 24; Carstens and Pearmain (2007) (note 3 above) 38.

<sup>29</sup> Constitution (note 12 above) s 36 (1); *Dawood v Minister of Home Affairs*; *Shalabi v Minister of Home Affairs*; *Thomas v Minister of Home Affairs* 2002 (1) SA 997 (C) 34; Carstens and Pearmain (2007) (note 3 above) 120; *Soobramoney v Minister of Health, Kwazulu-Natal 1998* (1) SA 765 (CC) 43, 57.

<sup>30</sup> Constitution (note 12 above) s 39 (1)(b) and (c).

<sup>31</sup> 2002 (4) SA938 (CC).

<sup>32</sup> Constitution (note 12 above) s 39 (1)(a) and (2).

<sup>33</sup> The National Health Act (note 1 above) s 2(a).

<sup>34</sup> The National Health Act (note 1 above) s 2 (b).

<sup>35</sup> The National Health Act (note 1 above) s 2 (c).

#### **4. The Health Professions Council of South Africa**

The HPCSA is a ‘statutory body that is the main regulator together with twelve professional boards that operate under its jurisdiction to, *inter alia*, promote the health of the South African population, determine standards of professional education and training, and set and maintain standards of professional practice.’<sup>36</sup> The HPCSA is thus a regulatory authority, motivated by the values entrenched within the Constitution, to ensure that the healthcare services provided to all South Africans comply with the standard set by the council to protect the public and guide the medical profession.<sup>37</sup>

The aims of the HPSCA include, but are not limited to, the promotion and regulation of interprofessional liaison between healthcare professionals in the interest of the public, to assist in the promotion of the health of the South African population, to determine strategic policy with regard to the professional boards and registered professions for matters such as ethics and professional conduct, disciplinary proceedings and education, and to ensure that healthcare professionals treat healthcare users in a manner that respects their rights to human dignity, physical and psychological integrity and equality, and that disciplinary action is taken against those healthcare professionals who fail to respect the constitutional rights of any healthcare user.<sup>38</sup>

##### **4.1 The establishment of professional boards**

The professional boards are established by the Minister of Health on recommendation of the HPCSA.<sup>39</sup> The aims of the professional boards are, among others, to assist in the promotion of health of the South African population, to guide the healthcare professions, to protect the public, to maintain and improve the dignity of the healthcare professions, as well as to maintain and improve the integrity of all registered healthcare professionals, to make recommendations to the HPCSA and the Minister of Health regarding matters of public importance, and to promote the standard of education and training in South Africa.<sup>40</sup>

These professional boards have the power to remove and/or restore a registered healthcare professional from the register of healthcare professionals, or to suspend such healthcare professional from practising, pending instituting a formal enquiry into the conduct of any such

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<sup>36</sup> Carstens and Pearmain (2007) (note 3 above) 250.

<sup>37</sup> Carstens and Pearmain (2007) (note 3 above) 251.

<sup>38</sup> The Health Professions Act (note 7 above) s 3.

<sup>39</sup> The Health Professions Act (note 7 above) s 15 (1).

<sup>40</sup> The Health Professions Act (note 7 above) s 15A (b), (d), (f), (g) and (h).

professional.<sup>41</sup> The professional boards are authorised to institute an enquiry into any complaint, allegation or charge of professional misconduct against a healthcare practitioner registered with the HPCSA.<sup>42</sup>

## 5. The World Health Organisation

The World Health Organisation (WHO), of which South Africa is a member, places an obligation on all member countries/states to comply with the principles that are elementary to the happiness and harmonious relations and security of all people. These principles are in line with the Charter of the United Nations. The WHO's Constitution states that the highest possible attainable standard of health is one of the fundamental rights of all human beings.

This right should be free of any distinction between race, religion, political belief, gender, and economic or social condition.<sup>43</sup> The WHO defines health as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity'.<sup>44</sup> The main objective of the WHO is to make the highest possible levels of health attainable to all people.<sup>45</sup> The governments of member countries/states are responsible for the health of their people, which can only be achieved by provision for adequate healthcare and social measures.<sup>46</sup>

## 6. Medical ethics

The Hippocratic Oath is the first written document on medical ethics, and embodies the concept of *primum non nocere* which means 'above all, do no harm'.<sup>47</sup> Medical ethics strive to provide an individual with an environment wherein the individual is treated in an ethical, human and dignified manner.<sup>48</sup> This is achieved by adherence to strict ethical codes of conduct, which include principles such as honesty, integrity, autonomy, equity and fairness.<sup>49</sup>

### 6.1. Principalism

The principalist approach to medical ethics, involves the application and interaction of four principles namely, patient autonomy, beneficence, non-maleficence and justice, which

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<sup>41</sup> The Health Professions Act (note 7 above) s 19.

<sup>42</sup> The Health Professions Act (note 7 above) s 41.

<sup>43</sup> Constitution of the World Health Organization adopted by the International Health Conference in New York from 19 June to 22 July 1946 by the representatives of 61 states and entered into force of 7 April 1948 (hereafter referred to as the Constitution of the WHO) preamble.

<sup>44</sup> Constitution of the WHO (note 43 above) preamble.

<sup>45</sup> Constitution of the WHO (note 43 above) Art 1.

<sup>46</sup> Constitution of the WHO (note 43 above) preamble.

<sup>47</sup> Moodley (ed) (2017) *Medical ethics, law and human rights: A south African Perspective* 2<sup>nd</sup> edition (hereafter Moodley) 3.

<sup>48</sup> Moodley (2017) (note 47 above) 46.

<sup>49</sup> Moodley (2017) (note 47 above) 46.

represent ‘common morality’.<sup>50</sup> Ethical problems often involve conflict between these four principles and various factors will be considered to determine the dominant principle.<sup>51</sup>

### **6.1.1. Patient autonomy**

The principle of patient autonomy is the self-rule principle, which means that every patient has the right to decide for themselves. This means that the patient has the right to make the final decision about their treatment after they have been provided with all the necessary information about their health status.<sup>52</sup> The self-rule principle only applies to patients who have the necessary mental capacity. Infants, young children, drug-dependent persons and people with severe psychiatric illnesses, therefore do not have the mental capacity to decide for themselves.<sup>53</sup> The principle of respect for patient autonomy creates four obligations. The first obligation is the obligation to obtain informed consent from the patient, the second is confidentiality, the third is to tell the patient the truth, and the final obligation is to effectively communicate with the patient in such a way that the patient fully understands.<sup>54</sup>

### **6.1.2. Beneficence**

The principle of beneficence means that a medical practitioner must do good and actively promote goodness, kindness and charity.<sup>55</sup> ‘All doctors have a responsibility to provide beneficial treatment and to avoid and minimise harm.’<sup>56</sup> The rules of beneficence are to protect the rights of others, protect others from harm, remove conditions that will cause others harm, help persons with disabilities, and to rescue persons in danger. Therefore, beneficence implies that all medical practitioners have a duty of care towards their patients.<sup>57</sup>

### **6.1.3. Non-maleficence**

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<sup>50</sup> Herring (2010) *Medical Law and Ethics* third edition Oxford University Press: New York (hereafter referred to as Herring) 24.

<sup>51</sup> Moodley (2017) (note 47 above) 53.

<sup>52</sup> Moodley (2017) (note 47 above) 54; Beauchamp and Childress (2014) *Principles of Biomedical Ethics* Oxford University Press: London (hereafter referred to as Beauchamp and Childress) 13,99; Dhai and McQuoid-Mason (2011) *Bio-ethics, Human Rights and Health Law: Principles and Practice* Juta: Claremont (hereafter referred to as Dhai and McQuoid-Mason) 14.

<sup>53</sup> Moodley (2017) (note 47 above) 54; Beauchamp and Childress (note 52 above) 99-100; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>54</sup> Moodley (2017) (note 47 above) 55; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>55</sup> Moodley (2017) (note 47 above) 71; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>56</sup> Moodley (2017) (note 47 above) 71; Beauchamp and Childress (note 52 above) 197; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>57</sup> Moodley (2017) (note 47 above) 71-72; Dhai and McQuoid-Mason (note 52 above) 14.

The principle of non-maleficence means ‘above all do no harm’, and reflects the principle of *primum non nocere*.<sup>58</sup> Non-maleficence places an obligation on medical practitioners to not impose risks of harm.<sup>59</sup> Avoiding or minimising harm to patients is a fundamental obligation to all medical practitioners. The rules of non-maleficence are: do not kill, do not cause pain and suffering to others, do not incapacitate others, do not cause offence to others and do not deprive others of the benefits of life.<sup>60</sup> The principle of non-maleficence evaluates how medical errors should be resolved. The principle of non-maleficence is an important principle for the South African Office for Health Standards Compliance, which was established in terms of the National Health Amendment Act,<sup>61</sup> which strives to protect and promote the health and safety of patients in healthcare facilities.<sup>62</sup>

#### 6.1.4. Justice

The principle of justice refers to fairness, which involves the fair, equitable and reasonable treatment of patients. The principle of justice is significant<sup>63</sup> when considering the allocation of medical resources. This principle creates three obligations: legal justice, which involves the respect for morally-acceptable laws; rights-based justice, which demands respect for people’s rights; and distributive justice, which entails the fair distribution of limited resources.

## 6.2. Ubuntu

The African principle of *Ubuntu*, which means humanness embodies the notion that ‘a person is only a person through other people’. The fundamental values of *Ubuntu* are compassion, respect, human dignity, humanistic orientation, group solidarity, and collective unity. *Ubuntu* embraces concern for human welfare and humanness.<sup>64</sup> *Ubuntu* is a ‘theory of right action’,<sup>65</sup> which requires one to respect human life.<sup>66</sup>

## 7. Conclusion

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<sup>58</sup> Beauchamp and Childress (note 52 above) 149; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>59</sup> Beauchamp and Childress (note 52 above) 153; Dhai and McQuoid-Mason (note 52 above) 14.

<sup>60</sup> Moodley (2017) (note 47 above) 79; Beauchamp and Childress (note 52 above) 153.

<sup>61</sup> 12 of 2013 s 77 (1) and 78 (a) and (b); The Office of Health Standards Compliance (OHSC) is a juristic person established by the National Health Act. The role of the OHSC is to ensure that all health establishments in both the public and private health sectors comply with the National Quality Standards. The object of the OHSC is to protect and promote the health and safety of the users of health services by ‘monitoring and enforcing compliance by health establishments with norms and standards prescribed by the Minister in relation to the national health system; and ensuring consideration, investigation and disposal of complaints relating to non-compliance with prescribed norms and standards in a procedurally fair, economical and expeditious manner.’

<sup>62</sup> Moodley (2017) (note 47 above) 80-81.

<sup>63</sup> Herring (note 50 above) 28.

<sup>64</sup> Moodley (2017) (note 47 above) 43.

<sup>65</sup> Moodley (2017) (note 47 above) 45.

<sup>66</sup> Moodley (2017) (note 47 above) 45.

The legal framework for the South African health system is patient centred. The rights afforded by the Bill of Rights are echoed in the National Health Act and the Health Professions Act. The HPSCA ensures that patients' rights are respected and protected and that all medical practitioners perform their duties in line with the guidelines provided in the National Health Act and the Health Professions Act, as well as the ethical rules published by the HPSCA and the ethical rules of medical law. The national health system is not uniform across South Africa, although the National Health Act and the Minister of Health work towards this end. The WHO places a positive duty on the National Department of Health to provide the population with the highest attainable level of healthcare services. However, the healthcare services provided in the South African public healthcare sector are subject to the resources available to the sector.

## CHAPTER 2

### HOSPITAL-ACQUIRED INFECTIONS IN HEALTHCARE ESTABLISHMENTS

#### 1. Introduction

Nosocomial infections, also known as hospital-acquired infections, are defined as ‘an infection acquired in hospital by a patient who was admitted for a reason other than that infection. An infection occurring in a patient in a hospital or other healthcare facility in whom the infection was not present or incubating at the time of admission. This includes infections acquired in hospital, but manifesting after discharge, and also occupational infections among staff of the facility.’<sup>67</sup>

Nosocomial infections are considered to be one of the leading causes of death in hospitalised patients. Healthcare facilities providing medical care to patients range from highly-equipped clinics and technologically-advanced hospitals, to healthcare establishments with basic facilities only. Nosocomial infections affect patients worldwide, including both the poorly-resourced countries and developed countries with cutting-edge technology and resources.<sup>68</sup>

Hospital-acquired infections affect a patient’s emotional health and ability to function effectively, which could possibly lead to disabling conditions which reduce the patient’s quality of life.<sup>69</sup> Furthermore, a patient is economically burdened with the costs associated with prolonged hospitalisation and the inability of the patient to work during the period of hospitalisation.<sup>70</sup>

Notwithstanding the progress made in public health over many centuries, hospitalised patients are nevertheless susceptible to hospital-acquired infections. The most common nosocomial infections are urinary tract infections, lower respiratory tract infections and infections of surgical wounds.<sup>71</sup> The intensive care units, orthopaedic wards and acute surgical wards in healthcare establishments experience the highest manifestations of hospital-acquired infections. A patient’s decreased immunity, the transmission of antimicrobial-resistant microorganisms and inadequate infection-control and prevention practices promote the transmission of nosocomial infections among hospitalised patients.<sup>72</sup>

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<sup>67</sup> World Health Organisation Prevention of Hospital-Acquired Infections: A Practical Guide 2<sup>nd</sup> edition Geneva: World Health Organisation, 2009 (hereafter referred to as WHO: Prevention of hospital-acquired infections: A practical Guide (2002)1; Carstens and Pearmain (2007) (note 3 above) 813; McQuoid-Mason, D ‘Hospital-acquired infections - when are hospitals legally liable? (2012) 102 (6) *South African Medical Journal* 353 (hereafter referred to as McQuoid-Mason (2012) 353.

<sup>68</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 1.

<sup>69</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 1.

<sup>70</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 1.

<sup>71</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 1.

<sup>72</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 1.



## 2. Methods of transmission of hospital-acquired infections

There are three predominant modes in which hospital-acquired infections are transmitted to patients or healthcare workers.

### 2.1 Transmission through contact

The transmission of nosocomial infections through contact may involve either direct or indirect contact. The transmission of nosocomial infections through direct contact involves skin-to-skin contact or the direct physical transfer of microorganisms from one patient to another, or to or from a healthcare worker. The direct transfer of infecting microorganisms to hospital patients occurs, for example, during physical examinations and bathing of patients by healthcare workers who may be infected or who may be a carrier of the infecting microorganisms.<sup>73</sup>

The transmission of nosocomial infections through indirect contact occurs when infecting microorganisms are initially transferred to objects and surfaces within the healthcare establishment, and then to other patients or healthcare workers. The objects commonly associated with the indirect transfer of infecting microorganisms include bedpans, furniture, urinals, bedlinen, thermometers, stethoscopes and blood pressure cuffs.<sup>74</sup> The pathogens which are commonly transmitted to a patient through direct or indirect contact are *methicillin resistant staphylococcus aureus* (MRSA), *vancomycin resistant enterococci* and *clostridium difficile*.<sup>75</sup>

### 2.2 Transmission through droplet spread

Hospital-acquired infections may be transmitted to patients or healthcare workers through respiratory droplets containing pathogens, which are produced during coughing, sneezing, talking, or during respiratory therapy, and procedures such as bronchoscopy.<sup>76</sup> Respiratory droplets that are greater than five microns in diameter do not remain suspended in the air for a long period of time, and due to their size, only travel short distances of two meters or less, and therefore require close contact with patients or healthcare workers for the successful

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<sup>73</sup> Dusè 'Infection control in developing countries with particular emphasis on South Africa' (2005) 20(2) *The South African Journal of Epidemiology and Infection* 37 (hereafter referred to as Dusè (2005)) 37; Brink and others 'Guideline for the Management of Nosocomial Infections in South Africa' (2006) 21 (4) *The South African Journal of Epidemiology and Infection* 152 (hereafter referred to as Brink and others (2006)) 153; Naidoo 'A review of nosocomial infections: epidemiology, transmission and control measures' (2017) 84(5) *The South African Pharmaceutical Journal* 60 (hereafter referred to as Naidoo (2017)) 61.

<sup>74</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006) (note 73 above) 153; Naidoo (2017) (note 73 above) 61.

<sup>75</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006) (note 73 above) 153; Naidoo (2017) (note 73 above) 61.

<sup>76</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006) (note 73 above) 153; Naidoo (2017) (note 73 above) 61.

transmission of the pathogens. The pathogens transmitted via droplet spread are *neisseria meningitidis*, *streptococcus pneumoniae*, and viral infections caused by the *influenza virus*.<sup>77</sup>

### **2.3 Transmission through airborne microorganisms**

Hospital-acquired infections may be transmitted by airborne pathogens that are produced by infected patients or healthcare workers while coughing, sneezing, talking, during respiratory therapy, and procedures such as suctioning and bronchoscopy.<sup>78</sup> Airborne pathogens that are fewer than five micron in diameter remain airborne for an extended duration and have the ability to travel large distances, which enables the microorganism to infect a patient or healthcare worker who is several meters away from the infected host producing the respiratory droplets.<sup>79</sup> The pathogens of *mycobacterium tuberculosis*, the *Rubella virus* (German measles) and *Varicella-zoster virus* (chicken pox) are spread by airborne pathogens.<sup>80</sup>

### **2.4 Transmission through other methods**

Other modes through which hospital-acquired infections may be transmitted to patients or healthcare workers include the contamination of water supply, equipment, solutions, needles, multidose vials, or other articles used by more than one patient.<sup>81</sup>

## **3. Factors influencing the development of nosocomial infections**

There are four factors that influence the development of nosocomial infections namely, the microbial agent, the patient's susceptibility to infection, environmental factors and bacterial resistance.

### **3.1 The microbial agent**

During hospitalisation patients are exposed to a wide variety of microorganisms, such as bacteria, viruses, parasites and fungi. A patient may be exposed to these microorganisms through cross-infection with another patient, by the patient's own flora, which is also known as an endogenous infection, or through contact with contaminated inanimate objects, also known as an environmental infection.<sup>82</sup> For transmission of the microbial agent to occur, the pathogen must remain viable in the environment until contact with the host has been adequate

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<sup>77</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006)( note 73 above) 153; Naidoo (2017) (note 73 above) 61.

<sup>78</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006)( note 73 above) 153; Naidoo (2017) (note 73 above) 61.

<sup>79</sup> Dusè (2005) (note 73 above) 38; Brink and others (2006)( note 73 above) 153; Naidoo (2017) (note 73 above) 61.

<sup>80</sup> Duse (2005) ( note 73 above) 38 Naidoo (2017) (note 73 above)61; Brink and others (2006) (note 73 above) 153.

<sup>81</sup> Dusè (2005) (note 73 above) 38.

<sup>82</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.

to allow infection.<sup>83</sup> For the microbial agent to survive in the environment, the microbial agent must possess certain intrinsic or genetically-determined properties which enables the microbial's survival.<sup>84</sup>

### **3.2 Antimicrobial resistance**

A vast number of these organisms may be treated with antimicrobial agents. The over-use of antimicrobial agents promotes the emergence of antimicrobial-resistant microorganisms. The widespread use of antimicrobials has resulted in less-effective treatment of certain microorganisms and multidrug-resistant microorganisms.<sup>85</sup> Antimicrobial resistance 'is particularly critical in developing countries where the more expensive second-line antibiotics may not be available.'<sup>86</sup>

### **3.3 The susceptibility of the host**

The age, immune status, underlying disease, diagnostic and therapeutic interventions received,<sup>87</sup> vaccination status, occupation and behaviour<sup>88</sup> all play a vital role in the susceptibility of a patient to acquire a nosocomial infection. Infants and elderly patients are extremely vulnerable to infections. Patients suffering from chronic illnesses, such as malignant tumours, leukaemia, renal failure or acquired immunodeficiency disease (AIDS) are also vulnerable to infection due to their compromised immune system. Diagnostic and therapeutic interventions, such as biopsies, catheterisation, intubation and surgical procedures also increase a patient's susceptibility to infection.<sup>89</sup>

### **3.4 The environment**

Hospitalised patients receive medical treatment in an environment where both infected people and people who are at risk of acquiring an infection come into contact with one another. Therefore, patients who are infected or who are carriers of the infecting microorganisms may be potential sources of infection to the patients and staff of the healthcare establishment. The hospital environment affects the development of nosocomial infections because of the crowded environment of the healthcare establishments, the continuous transfer of patients from one

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<sup>83</sup> Archibald and Hierholzer Junior 'Principles of infectious diseases epidemiology' Mayhall (ed) *Hospital Epidemiology and Infection Control* 1999 Second Edition 3 (hereafter referred to as Archibald and Hierholzer 'Principles of Infectious diseases epidemiology') 9.

<sup>84</sup> Archibald and Hierholzer 'Principles of Infectious diseases epidemiology' (note 83 above) 9. These intrinsic or genetically determined factors include the microbial ability to resist the effects of heat, drying ultraviolet light and chemical agents which include antimicrobials.

<sup>85</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.

<sup>86</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.

<sup>87</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.

<sup>88</sup> Archibald and Hierholzer 'Principles of Infectious diseases epidemiology' (note 83 above) 9.

<sup>89</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.

ward to another, and the concentration of vulnerable patients in one ward, such as intensive care units.<sup>90</sup> The objects, surfaces and medical devices in the hospital environment also affects the development of nosocomial infections.<sup>91</sup>

#### **4. The classifications of nosocomial infections**

Hospital-acquired infections are categorised according to the location of the infection. Urinary tract infections are the most common type of hospital-acquired infection, and are associated with the use of bladder catheters. Surgical site infections are infections that are usually acquired by the patient during an operation, either externally from the air, medical equipment, and/or medical practitioners, or internally from the flora on the patient's skin.<sup>92</sup> Nosocomial pneumonia occurs most frequently in patients on ventilators in intensive care units. Nosocomial pneumonia occurs when microorganisms colonise the stomach, airway or bronchi and cause an infection in the patient's lungs. Alternatively, a patient may develop an infection because of contaminated medical equipment. Ventilator-associated pneumonia is linked to a high fatality rate.<sup>93</sup> Nosocomial bacteraemia is a rare, but fatal infection that occurs at the skin entry site of an intravascular device, or in the subcutaneous path of the catheter (tunnel infection).<sup>94</sup> Other nosocomial infections include skin and soft tissue infections that manifest in open sores, sinusitis infections, infections of the eye and conjunctiva, and infections of the reproductive organs following childbirth, and endometritis. The most common nosocomial infection that is acquired by children is gastroenteritis.<sup>95</sup>

#### **5. Conclusion**

Nosocomial infections are one of the leading causes of death in hospitalised patients and affects not only the poorly-resourced medical facilities but also the technological-advanced ones. Nosocomial infections are classified according to the infection site and can be transmitted through direct or indirect contact, airborne transmission or droplet spread. The other less common modes of transmission occur through needles, multidose vials, medical equipment and other items used by more than one patient. The risk of transmission depends on the patient's susceptibility to infection, the microbial agent, the hospital environment and the possible antimicrobial resistance of the microorganism.

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<sup>90</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.  
<sup>91</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 2.  
<sup>92</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 5.  
<sup>93</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 5.  
<sup>94</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 6.  
<sup>95</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 6.

## CHAPTER THREE

### INFECTION CONTROL AND PREVENTION

#### 1. Introduction

A high occurrence of nosocomial infections in a particular healthcare establishment is evidence of poor quality healthcare services and leads to unavoidable costs.<sup>96</sup> Infection-control and prevention programmes are pivotal in the containment of nosocomial infections in healthcare establishments.<sup>97</sup> The infection-control and prevention programmes in South African health establishments range from excellent to virtually non-existent. In fact the majority of the health care establishments have extremely poor infection-control and prevention programmes.<sup>98</sup>

All medical professionals who are involved in offering healthcare services to patients have a responsibility to prevent hospital-acquired infections. This includes all the medical professionals providing primary treatment to patients, such as nurses and doctors, as well as the healthcare facility's management staff, pharmacists, microbiologists, food service employees, and housekeeping and laundry service employees.<sup>99</sup>

#### 2. The South African National infection and prevention control policy and strategy

This policy is applicable to all healthcare practitioners and healthcare establishments within the public sector with the aim to provide a safe healthcare environment for all patients and staff. Good infection-control and prevention practices are established to prevent the negative outcomes of morbidity, mortality, increased healthcare costs and possible litigation. The objectives of the policy are to encourage and improve infection control and prevention and the management of nosocomial infections; to control and minimise the transmission and colonisation of resistant microorganisms; and to improve infection surveillance.<sup>100</sup> The policy establishes the National Department of Health, directorate: infection control and prevention with the office of standards compliance and the infection-prevention and control advisory committee. Each province must have an infection-prevention and control committee and each

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<sup>96</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

<sup>97</sup> Dusè (2005) (note 73 above) 38.

<sup>98</sup> Dusè (2005) (note 73 above) 38.

<sup>99</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

<sup>100</sup> National Department of Health The National Infection Prevention and Control Policy and Strategy (2007) (hereafter referred to as NDoH National Infection Prevention and Control Policy and Strategy (2007) 6 -8; Wenzel, (1981) *Handbook of Hospital Acquired Infections* CRC Press: Florida 36 Surveillance is the beginning of infection control because it enables infection control practitioners to identify major risks for patients within the health care establishment and subsequent solutions.

health district must have a district infection-prevention and control committee.<sup>101</sup> The policy necessitates that the national department develops monitoring and surveillance policies, quality-improvement policies and provides responsibilities for each of the offices and healthcare personnel involved in providing healthcare services.<sup>102</sup>

### **3. The Occupational Health and Safety Act 85 of 1993**

The Occupational Health and Safety Act imposes a positive duty on all employers to provide and maintain, as far as reasonably practical, a working environment that is safe and without risk to its employees.<sup>103</sup> Therefore, employers must take all reasonable steps to eliminate or minimise any potential hazard to the safety and well-being of its employees.<sup>104</sup> An employer must ensure that all its employees receive the necessary instructions, training and education to ensure their health and safety and to ensure that all its employees are aware of all precautionary measures with regard to those hazards.<sup>105</sup> Each employee must ensure that they take reasonable care of their health and safety and of the health and safety of all those people who may be affected by the employee's acts or omissions.<sup>106</sup>

### **4. Guidelines of the World Health Organisation**

The national health authorities of member countries/states are responsible for implementing a national programme designed to support hospitals in reducing the risk of transmission of hospital-acquired infections. For infection-control programmes to be effective, the programme must be comprehensive, and therefore must include staff training and surveillance and prevention activities.<sup>107</sup>

Such national programmes must: set national objectives that are consistent with other national health objectives; develop and continually update the guidelines for healthcare surveillance, prevention and practice; develop a national system to monitor selected infections and to assess the effectiveness of the intervention guidelines prescribed by the programme; facilitate access to materials and products which are essential for hygiene and safety; to harmonise training

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<sup>101</sup> NDoH National Infection Prevention and Control Policy and Strategy (2007) (note 100 above)10-11.

<sup>102</sup> NDoH National Infection Prevention and Control Policy and Strategy (2007) (note 100 above)11-26.

<sup>103</sup> The Occupational Health and Safety Act 85 of 1993 (hereafter referred to as the Occupational Health and Safety Act) s 8 (1).

<sup>104</sup> The Occupational Health and Safety Act (note 103 above) s 8 (2)(b) –(c).

<sup>105</sup> The Occupational Health and Safety Act (note 103 above) s 8(2)(e) and 13 (a).

<sup>106</sup> The Occupational Health and Safety Act (note 103 above) s 14 (a).

<sup>107</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

programmes provided to healthcare workers; and to encourage healthcare facilities to monitor hospital-acquired infections.<sup>108</sup>

The risk prevention efforts should be mainly focused on hospitals and other healthcare establishments and facilities. The prevention guidelines to reduce the risk of transmission of hospital-acquired infections to patients and healthcare workers is a matter of importance to all within the healthcare environment. It is important that the infection-control programme is supported at senior administration level of the facility.<sup>109</sup>

#### **4.1. The infection-control responsibility**

The guidelines of the WHO provide specific responsibilities for each of the individuals involved in providing healthcare services to patients in healthcare establishments.

##### **4.1.1. The infection-control committee**

The infection-control committee is a multidisciplinary cooperation that reviews and approves infection-prevention and surveillance programmes. The committee must have a direct relationship with either the healthcare establishment's administration, or directly with the healthcare workers.<sup>110</sup> The committee must assess and promote the improvement of infection-control and surveillance programmes, ensure that the healthcare workers are appropriately trained in infection control and safety, review the possible risks associated with new technologies and monitor the infectious risks associated with the new technology prior to such product and devices being approved by the health establishment's administration, and to cooperate with other committees within an establishment that share a common interest.<sup>111</sup>

##### **4.1.2. Infection-control professionals**

Every healthcare establishment must have access to specialists in infection control, epidemiology and infectious diseases, including infection-control physicians and infection-control practitioners.<sup>112</sup> The infection-control professionals are responsible for the day-to-day functioning of infection control and prevention in healthcare establishments.<sup>113</sup>

##### **4.1.3. Hospital management**

Hospital administration and management must support the infection-control and prevention programme. They are responsible for establishing the multidisciplinary infection-control

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<sup>108</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

<sup>109</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

<sup>110</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9.

<sup>111</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 9 - 10.

<sup>112</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 10.

<sup>113</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 10.

committee, ensuring that all healthcare workers at the healthcare establishment receive adequate education and training in disinfection and sterilisation techniques in order to give effect to the infection-control programme and to continually review the status of nosocomial infections and intervention techniques to contain the nosocomial infections.<sup>114</sup>

#### **4.1.4. The physician**

Physicians are responsible for the primary and direct medical treatment of patients, and must therefore ensure that the medical practices used to treat patients minimise infection and do not increase patients' risk of infection. Physicians must follow the appropriate hygiene practices implemented by the infection-control committee. They must notify the infection-control professionals of any possible cases of hospital-acquired infections.<sup>115</sup> Physicians must inform visitors, staff and patients of all practices that prevent the transmission of nosocomial infections. They must also ensure that they comply with the recommendations of the antimicrobial committee when administering antimicrobials to treat patients with hospital-acquired infections.<sup>116</sup>

#### **4.2. Nosocomial infection surveillance**

The infection rate of nosocomial infections in healthcare establishments is an indicator of the quality and safety of the healthcare services provided to patients in a particular healthcare facility. The first step in identifying local problems and priorities, and in evaluating the effectiveness of the current infection-control and prevention programmes is to develop infection surveillance<sup>117</sup> to monitor nosocomial infection rates in the healthcare establishment.<sup>118</sup>

The main purpose of nosocomial infection surveillance is to reduce the infection rate of nosocomial infection in the healthcare facility and to reduce the healthcare costs associated with nosocomial infections. The infection surveillance also aims to improve the awareness of the health facility's staff about nosocomial infections, antimicrobial resistance and its prevention; to monitor incidences, prevalence and distribution of nosocomial infections with

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<sup>114</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above)10.

<sup>115</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above)11.

<sup>116</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above)11.

<sup>117</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above)16; Nosocomial infection surveillance must be flexible, consistent, acceptable, sensitive, specific and must minimize health care cost and workload.

<sup>118</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above)16.



other healthcare establishments; to identify the need for new or intensified prevention programmes; and to identify areas for improvement in patient care.<sup>119</sup>

### 4.3. The prevention of nosocomial infections

The prevention of nosocomial infections requires an infection-control and prevention programme that is integrated, continually monitored and emphasises the importance of limiting the transmission of microorganisms between patients and staff through the implementation of standard precautions (such as hand-washing, using gloves, aseptic practices, isolation, sterilisation and disinfection<sup>120</sup> and controlling the environmental risk of infection in the healthcare establishment), staff education, infection surveillance and enhancing patient care practices.<sup>121</sup>

Standard routine precautions must always be followed by all healthcare workers when treating any patient in the healthcare establishment. The aim of the standard precautions is to limit the healthcare workers' and patients' contact with all secretions, bodily fluids, skin lesions, mucus membranes and blood.<sup>122</sup>

Nosocomial infections that are transmitted through direct contact can be minimised by practising appropriate hand hygiene.<sup>123</sup> Healthcare workers must ensure that their hands are washed before and after contact with infective material or patients, clean up spills of infective material, and when possible, make use of no-touch techniques. Healthcare workers must ensure that they wear gloves when in contact with a patient that could lead to contamination. All waste

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<sup>119</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 16.

<sup>120</sup> Naidoo (2017) (note 73 above) 62; Disinfection uses chemical on surfaces at room temperature to kill disease causing microorganisms. Disinfection does not kill all microorganisms but does decrease the microbial count on surfaces. Sterilization is a process used to kill all possible microorganisms. Sterilization requires specialized equipment and is vitally important to clean surfaces.

<sup>121</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 30.

<sup>122</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 44.

<sup>123</sup> Naidoo (2017) (note 73 above) 61; Hand hygiene is one of the cheapest yet most important methods of infection control and prevention. The WHO has developed guidelines on this method of infection control and prevention. Hand hygiene requires simple steps of washing hands under running with the use of antiseptic products and drying techniques. Health care workers must have knowledge on the correct procedures for hand hygiene. Many health care facilities provide hand sanitizers for use by medical personal and visitors. The effectiveness of hand hygiene in the reduction of infection transmission is linked to knowledge and frequency of use.

must be handled appropriately<sup>124</sup> and all patient care equipment must be sterilised and disinfected.<sup>125</sup>

Healthcare workers treating patients infected with nosocomial infections that are transmitted through airborne organisms must ensure that patients' rooms are adequately ventilated<sup>126</sup> and that all healthcare workers in contact with such patients must wear high-efficiency masks.<sup>127</sup>

Healthcare workers treating patients infected with nosocomial infections that are transmitted through droplet spread must, where possible be placed in their own room with restricted circulation and when patients leave their rooms they must wear a mask. All healthcare personnel treating such patients must wear high-efficiency masks.<sup>128</sup>

Healthcare workers treating patients infected with nosocomial infections that are transmitted through direct or indirect contact, or who have skin lesions that cannot be contained, or who have uncontrollable diarrhoea, must wear gloves and a gown. Healthcare workers must wash their hands before and after contact with infected patients. The movements of infected patients outside of their rooms must be restricted and the appropriate sterilisation and disinfection practices must be followed.<sup>129</sup>

## 5. Conclusion

A high occurrence of nosocomial infections in healthcare facilities is indicative of the quality of the healthcare services. Infection-control and prevention programmes are essential to contain nosocomial infections. The South African national infection and prevention control policy and strategy encourages healthcare establishments and professionals to practise good infection control and prevention. The Occupational Health and Safety Act also places an obligation on employers to provide their employees with a working environment that is safe and without risk.

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<sup>124</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 53-54; Health care waste requires appropriate handling. There are different categories of health care waste, namely: infectious waste (waste suspected to contain pathogens); pathological waste (human tissues or fluids); sharp waste (needles, scalpels, knives, blades and broken glass); pharmaceutical waste (waste containing pharmaceuticals); cytotoxic waste (waste containing genotoxic properties); chemical waste (waste containing chemical substances); waste containing high contents of heavy metals (batteries); pressurized containers (gas cylinders); and radioactive waste. These different categories of waste must be disposed of and stored in separate containers in a designed room with restricted access. Containers which contain infectious waste must be marked with the international symbol for infectious waste.

<sup>125</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 44.

<sup>126</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 49; adequate ventilation requires that fresh filtered air is circulated throughout the health care establishment. The ventilator must dilute and remove the airborne microorganisms and eliminate foul odors, specifically in high-risk areas such as operating theaters, intensive care units, burn units and nurseries. The ventilation system must be cleaned and maintained continuously.

<sup>127</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 45.

<sup>128</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 45.

<sup>129</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 45.

The WHO provides member countries/states with guidelines that should be implemented in order to achieve good infection-control and prevention policies. The guidelines provided by the WHO stipulate the role and duty of each and every healthcare worker within an establishment. The guidelines further provide for nosocomial surveillance routine precautions which need to be incorporated into an infection-prevention and control programme. The standard precautions must be followed by all healthcare workers when treating all patients to minimise the transmission of nosocomial infections.

## CHAPTER FOUR

### ANTIMICROBIAL-RESISTANT MICROORGANISMS

#### 1. Introduction

The discovery of antimicrobial agents such as penicillin in the years between 1950 and 1970, known as the ‘golden age’ for antimicrobial discovery, resulted in many infections which were once considered serious and potentially fatal to be treated and cured. The successful treatment of these infections encouraged the over-use and misuse of antimicrobial agents. Currently many microorganisms have become resistant to certain antimicrobial agents, and some microorganisms have become resistant to almost all antimicrobial agents.<sup>130</sup> Bacterial and fungal antimicrobial resistance<sup>131</sup> is an increasing threat to the successful treatment of hospital-acquired infections and is an intricate, international public health problem that presents a direct threat to the safety of the South African population.<sup>132</sup> The existence of antimicrobial-resistant microorganisms occurs throughout the world and is not restricted to poor or developing countries.<sup>133</sup>

Antimicrobial resistance is a ‘process that involves the natural selection of microorganisms that contain either naturally-occurring gene mutations or those acquired from other microorganisms by horizontal gene transfer that allows microorganisms to survive in the presence of an antimicrobial agent.’<sup>134</sup> Antimicrobial-resistant microorganisms continue to evolve and some microorganisms that were once considered routine to treat are now resistant to almost all antimicrobial agents.<sup>135</sup>

#### 2. The inappropriate use of antimicrobial agents

Antimicrobial resistance is fuelled by excessive and/or inappropriate use of antimicrobial agents, as well as inadequate compliance with infection-control and prevention standards.<sup>136</sup>

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<sup>130</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 56.

<sup>131</sup> Brink ‘Antimicrobial resistance in nosocomial infections’ (2005) 20 (2) *The Southern African Journal of Epidemiology and Infection* 42 (hereafter referred to as Brink (2005) 42; Bacterial and fungal resistance may result from ‘mutations at the target site; permeability changes in the bacterial cell wall restricting access to target sites; biosynthesis of enzymes that cause degradation of drugs; or ....., as a result of extrusion of antibiotics from cell interior by multi-drug efflux pumps, and resistance may also be attributable to a combination of these resistance mechanisms.’

<sup>132</sup> National Department of Health – Antimicrobial Resistance background document (hereafter referred to as NDoH- Antimicrobial resistance background document) 5

<sup>133</sup> Bjerrum and Llor ‘Antimicrobial resistance: risk -associated with antibiotic overuse and initiatives to reduce the problem (2014) 5 (6) *Therapeutics Advances in Drug safety* 229 (hereafter Bjerrum and Llor) 230.

<sup>134</sup> NDoH- antimicrobial resistance background document (note 132 above) 6

<sup>135</sup> Brink (2005) (note 131 above) 42.

<sup>136</sup> Brink (2005) (note 131 above) 42.

Antimicrobial resistance impacts every hospital or medical facility in varying degrees.<sup>137</sup> A causal relationship between antimicrobial use and resistance of nosocomial microorganisms has been established on evidence of constant associations of the occurrence of resistant strains with the concurrent use of antimicrobial agents by the population over time.<sup>138</sup> The risk factors for inappropriate use of antimicrobial include: failing to use ‘local epidemiological and antibiotic susceptibility data; the use of broad-spectrum antibiotics when not absolutely necessary; treatment of contamination or colonisation<sup>139</sup> rather than an invasive infection; inappropriate surgical prophylaxis; excessive antimicrobial treatment, i.e. continuing to use or administer antimicrobials when the infection is cured; and treating colonisation aggressively especially in patients.... without any additional evidence of infection.’<sup>140</sup>

Excessive and/or inappropriate use of antimicrobials and inadequate compliance with infection-control and prevention standards are enhanced by government’s failure to implement country-wide policies to regulate the prescription and use of antimicrobial agents.<sup>141</sup> The inappropriate and uncontrolled use of antimicrobial agents includes ‘overprescribing, administration of suboptimal doses, insufficient duration of treatment, and misdiagnosis leading to the inappropriate choice of drugs.’<sup>142</sup>

There are three factors increasing the prevalence of antimicrobial-resistant microorganisms in South African hospitals, including ‘the selection of resistant mutants by antibiotic exposure, the transfer of genetic determinants of resistance between bacterial strains, and the clonal spread of resistant bacteria among hospitalised patients in and between institutions.’<sup>143</sup>

### **3. The impact of inappropriate antimicrobial usage**

Over-prescription and over-use of antimicrobial agents lead to increased incidences of antimicrobial resistance. A patient who is infected with an antimicrobial-resistant microorganism is susceptible to severe illness, increased duration of diseases, increased mortality rates, increased risks of complications and admission to hospital.<sup>144</sup> A patient infected

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<sup>137</sup> Brink (2005) (note 131 above) 42.

<sup>138</sup> Duse (2005) (note 73 above) 37.

<sup>139</sup> Archibald and Hierholzer ‘Principles of Infectious diseases epidemiology (note 83 above) 5; Colonization is defined as ‘the multiplication of a microorganism at a body site or sites without any overt clinical expression or detected immune reaction in the host at the time that the microorganism is isolated. Colonization may or may not be a precursor of infection, Colonization may be a firm of carriage and is a potential source of transmission.’

<sup>140</sup> Brink (2005) (note 131 above) 42.

<sup>141</sup> Brink (2005) (note 131 above) 42.

<sup>142</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 56.

<sup>143</sup> Brink (2005) (note 131 above) 42.

<sup>144</sup> Bjerrum and Llor (note 133 above) 230.

with a microorganism that is antimicrobial-resistant leads to a patient being burdened with increased healthcare costs. The social and financial costs of treating antimicrobial-resistant microorganisms place a substantial burden on society.<sup>145</sup> Due to the scarce inventive or new antimicrobial agents being developed, the WHO describes the future of healthcare as a post-antibiotic era which will eradicate the improvements in healthcare made in the last century that have increased the life-expectancy of the population in most parts of the developed and developing countries and that will inevitably result in simple infections becoming unmanageable to treat and consequently becoming potentially fatal.<sup>146</sup>

The over-prescription and use of antimicrobials also increase a patient's risks to adverse effects associated with the use of antimicrobial agents, some being life threatening.<sup>147</sup> Over-prescription and use of antimicrobial agents are also associated with increased patient re-attendance due to infectious diseases.<sup>148</sup>

Many medical practitioners over-prescribe antimicrobial agents due to diagnostic uncertainty and to avoid situations of under-treatment. They want to avoid the responsibility of withholding treatment from a patient who subsequently deteriorates, especially if such a patient is hospitalised.<sup>149</sup> This practice is known as defensive medicine.<sup>150</sup> This ultimately affects the doctor-patient relationship. Medical practitioners may also over-prescribe antimicrobial agents due to socio-economic factors, such as economic incentives or pressure from pharmaceutical industries.<sup>151</sup>

Antibiotics play a fundamental role in the management of bacterial infections, reducing morbidity and preventing mortality.<sup>152</sup> Antibiotics are estimated to increase the life-expectancy of the population by twenty years, but the excessive use of antibiotics ultimately results in

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<sup>145</sup> NDoH- Antimicrobial resistance background document (note 132 above) 6.

<sup>146</sup> Bjerrum and Llor (note 133 above) 320.

<sup>147</sup> Bjerrum and Llor (note 133 above) 321; some of the adverse effects include allergic reactions, gastrointestinal, neurological and psychiatric disorders. The majority of the adverse effects are mild, but some may be life threatening such as hepatotoxicity.

<sup>148</sup> Bjerrum and Llor (note 133 above) 321.

<sup>149</sup> Bjerrum and Llor (note 133 above) 231.

<sup>150</sup> Carstens and Oosthuizen (2015) 'Medical Malpractice: The extent, consequence and cause of the problem' *THRHR* 78 269 278; Defensive medicine is defined as the 'deviation from sound medical practice that is induced primarily by threat of liability.' The threat of liability is avoided by the medical practitioner engaging in assurance or avoidance behavior. This assurance or avoidance behavior includes the over-ordering of diagnostic tests, unnecessary patient referrals and the over-prescription of antimicrobials which are wasteful, expensive and expose a patient to unnecessary risks, which may either improve or reduce the quality of healthcare services rendered. Defensive medicine has a negative effect on the doctor-patient relationship and may raise the expected legal standard of care.

<sup>151</sup> Bjerrum and Llor (note 133 above) 232.

<sup>152</sup> NDoH- Antimicrobial resistance background document (note 132 above) 6.

antibiotic resistance and is therefore threatening to reverse the ‘life-saving’ power of antimicrobial agents.<sup>153</sup>

A national study performed at both the public and private healthcare establishments in South Africa estimated that 55% of all antimicrobial agents prescribed by medical practitioners are unnecessary because either no infection exists, or the infection is not caused by a bacterium (for example, antibiotic prescribed by a medical practitioner for the common cold, combinations or antibiotics with overlapping action are prescribed to treat the same infection or antibiotics are prescribed for a longer period than recommended).<sup>154</sup>

The pharmaceutical industry is continuing its efforts to develop new antimicrobial agents or to modify the chemical structure of existing antimicrobial agents in an attempt to avoid antimicrobial resistance.<sup>155</sup>

#### **4. Current efforts to address antimicrobial resistance in South Africa**

##### **4.1. The Global Antibiotic Resistance Partnership in South Africa (GARP-SA)**

GARP is an international initiative to slow down the transmission of antimicrobial-resistant organisms without limiting the access to antimicrobial agents when appropriate. South Africa is one of the four target countries of the initiative and the local work group together with the Centre for Infectious Disease Dynamics, Economics and Policy have developed measures that can be implemented in South Africa and that are tailored to local conditions. The measures which are to be implemented are two-fold; the first step is to target the use of antimicrobials in humans and livestock and the second step is to reduce the demand for antimicrobial agents by reducing the incidence of infections in healthcare establishments. The aim of GARP-SA is to curb antimicrobial resistance in both the public and private sectors.<sup>156</sup>

##### **4.2. The South African Antibiotic Stewardship Programme (SAASP)**

The SAASP was formed in 2012 with the sponsorships of the Federation for Infectious Diseases Societies of Southern Africa (FIDDSA). The SAASP consists of members from both the private and public healthcare sectors and builds on the GARP-SA model by bring together a wide range of healthcare professionals, such as infectious disease physicians, microbiologists, infection-prevention and control practitioners, surgeons, pharmacologists, epidemiologists and

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<sup>153</sup> NDoH- Antimicrobial resistance background document (note 132 above) 6.

<sup>154</sup> Paruk and Others (2012) ‘Antibiotic prescription practices and their relationship to outcome in South African intensive care units: Findings of the Prevalence of Infection in South African Intensive Care Units (PISA) Study’ *The South African Medical journal* 102 (7) 613; NDoH- Antimicrobial resistance background document (note 132 above) 7.

<sup>155</sup> Duse (2005) (note 73 above) 37.

<sup>156</sup> Gelband and Winters (2011) ‘Part 1. The Global Antibiotic Resistance Partnership (GARP)’ *The South African Medical Journal* 101 (8) 556-557.

quality-improvement experts. The aim of the SAASP is to promote appropriate antibiotic prescription and education with the support of the National Department of Health to work on antimicrobial resistance. The SAASP provides all medical professionals with an antibiotic prescription chart.<sup>157</sup>

The public sector has a restricted formulary to varying extent and may require some form of pre-authorisation for selected antimicrobials.<sup>158</sup> The private sector has no formal governance systems in place to control prescribing practices other than the systems that have been put in place for quality improvement. One strategic plan to control antimicrobial prescription should be applied to both the private and the public sector.<sup>159</sup>

#### **4.3. National Antibiotic Surveillance Forum (NASF)**

This Forum was introduced to monitor antimicrobial resistance patterns in medical facilities and to provide guidance on antimicrobial susceptibility testing and the appropriate use of antimicrobials. However, the monitoring of antimicrobials in non-rural, primary and secondary healthcare facilities and academic hospitals in South Africa has been neglected.<sup>160</sup>

### **5. Trends in the antimicrobial management of nosocomial infections**

It is generally-accepted medical practice that initial appropriate empirical antibiotic therapy for hospital-acquired infections reduces mortality of infected patients. However, when an infected patient receives inappropriate initial antibiotic therapy, even a delay of as little as six hours can be associated with increased mortality of patients.<sup>161</sup> Therefore, in order to avoid this outcome, medical practitioners utilise broad-spectrum initial empirical therapy until the infecting microorganism is identified. However, this practice results in the increased use of antimicrobials and the inevitable increase in antimicrobial resistance.<sup>162</sup> Subsequently, various measures or strategies have emerged which could possibly balance microorganisms and clinical efficiency with the emergence of antimicrobial resistance.<sup>163</sup>

In order to offset the escalation of multiantimicrobial-resistant microorganisms, developing countries need to implement an effective and integrated programme that is realistic and adaptable in accordance with the limited resources available in developing countries. This

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<sup>157</sup> NDoH- Antimicrobial resistance background document (note 132 above) 10-11.

<sup>158</sup> NDoH- Antimicrobial resistance background document (note 132 above) 11 certain district hospitals require medical practitioners to complete an antimicrobial motivation form in order to control antimicrobials.

<sup>159</sup> NDoH- Antimicrobial resistance background document (note 132 above) 11.

<sup>160</sup> Duse (2005) (note 73 above) 39.

<sup>161</sup> Brink (2005) (note 131 above) 42.

<sup>162</sup> Brink (2005) (note 131 above) 42.

<sup>163</sup> Brink (2005) (note 131 above) 42.



involves antimicrobial resistance surveillance, a rational antimicrobial-use programme and infection control.<sup>164</sup>

### **5.1. Antimicrobial de-escalation**

This is also known as ‘antibiotic streamlining’. The aim of antimicrobial de-escalation is for medical practitioners to prescribe patients with an antimicrobial regimen that will cover the microorganisms that are most likely to be associated with the infection. The medical practitioner must then de-escalate the antimicrobials to a narrow spectrum antimicrobial agent once the infecting microorganism is identified.<sup>165</sup> The medical practitioner’s choice of initial antimicrobial therapy should be based on local surveillance. Many hospitals, in particular the intensive care units in South Africa, are confronted with multiantimicrobial-resistant bacteria so that de-escalation to a narrow spectrum antimicrobial agent is not always possible. Nevertheless, if no microorganism or a less resistant microorganism is identified, it should be mandatory for the medical practitioner to consider discontinuing the initial antimicrobial therapy or to de-escalate and prescribe the patient with a narrow spectrum antimicrobial agent.<sup>166</sup>

### **5.2. The use of local epidemiology and antibiotic susceptibility patterns**

The initial broad-spectrum antibiotic therapy prescribed by a medical practitioner to the patient should be based on ‘unit-specific antibiograms’. This requires hospitals and medical facilities to perform weekly routine surveillance cultures. However, the isolation of a bacterium from surveillance cultures from patients in a medical facility without evidence of infection is not an indication as such for antibiotic treatment.<sup>167</sup> Medical practitioners who do not make use of local epidemiology and antibiotic susceptibility data increase the possibility of inappropriate use and prescription of antimicrobials.<sup>168</sup>

### **5.3. Shortened duration of therapy**

The ideal duration of treatment of hospital-acquired infections is unknown, but evidence suggests that shorter courses of antimicrobial agents would be sufficient. ‘It is a well-known fact that newly-acquired colonisation and subsequent infection with more resistant bacteria occurring during the second week of therapy, and that such excessive antibiotic therapy has an adverse influence on outcome, antibiotics that are continued after an infection has resolved are

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<sup>164</sup> Duse (2005) (note 73 above) 37.

<sup>165</sup> Brink (2005) (note 131 above) 42.

<sup>166</sup> Brink (2005) (note 131 above) 42 -43.

<sup>167</sup> Brink (2005) (note 131 above) 43.

<sup>168</sup> Brink (2005) (note 131 above) 43.

harmful in that they predispose to superinfection with more resistant bacteria.<sup>169</sup> Therefore, decreasing the overall duration of empirical antimicrobial use can reduce the occurrence of nosocomial superinfections with multiantimicrobial resistance and concurrently reduce antibiotic pressure.<sup>170</sup>

## 6. World Health Organisation guidelines

Every healthcare establishment should have an antimicrobial use programme that is implemented through the antimicrobial use committee to ensure the effective prescription of antimicrobial agents to minimise the selection of resistant microorganisms. The committee is a multidisciplinary committee that includes infectious diseases practitioners, infection-control nurses, pharmacists, microbiologists<sup>171</sup> and hospital administration.<sup>172</sup>

The programme must ensure that when antimicrobial agents are prescribed by a medical practitioner it must be justified on the basis of clinical diagnosis and the infecting microorganism must be known or expected.<sup>173</sup> Medical practitioners must obtain appropriate specimens prior to instituting an antimicrobial treatment. When selecting an antimicrobial agent, medical practitioners must consider the nature of the disease, the sensitivity pattern of the microorganism, a patient's tolerance, the appropriate dosage to treat the infecting pathogen and the cost of the antimicrobial agent. When possible, the medical practitioner should use narrow spectrum antimicrobial agents and avoid prescribing a patient with a combination of antimicrobial agents.<sup>174</sup> The programme must also provide a list of antimicrobial agents that are to be unrestricted,<sup>175</sup> restricted or reserved,<sup>176</sup> or excluded.<sup>177</sup>

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<sup>169</sup> Brink (2005) (note 131 above) 43.

<sup>170</sup> Brink (2005) (note 131 above) 43.

<sup>171</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59; Microbiology laboratory has a major role with regard to antimicrobial resistance. The Microbiologists perform antimicrobial resistance susceptibility testing, monitor and report trends in prevalence of bacterial resistance to antimicrobial agents, determine which antimicrobials have been tested and/ or reported for each microorganism and notify infection control of any unusual antimicrobial resistance patterns.

<sup>172</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59.

<sup>173</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 57.

<sup>174</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 57.

<sup>175</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59; an unrestricted antimicrobial is considered to be effective, safe and inexpensive.

<sup>176</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59; 'restricted or reserved antimicrobial agents are considered to be used only in special situations by selected practitioners with expertise, for severe infection, with particular pattern of resistance.'

<sup>177</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59; excluded antimicrobials are preparations without additional benefit to others.

‘Hospitals should have a simple, flexible and regularly-updated antibiotic prescription policy on a disease-specific basis, relying, whenever possible, on knowledge of prevailing antibiotic-sensitivity patterns and controlled use of reserved antibiotics.’<sup>178</sup>

## **7. Conclusion**

The discovery of antimicrobials resulted in illnesses that were once considered fatal, to be treated and cured. The excessive and inappropriate prescription and use of antimicrobials have led to antimicrobial resistance, which is a threat to the health of the global population. The excessive and inappropriate use of antimicrobials are due to government’s failure to implement national policies to regulate the prescription and use of antimicrobials. The spread of antimicrobial-resistant microorganisms is fuelled by inadequate infection-control and prevention policies or programmes. Antimicrobial resistance has a wide range of effects on the population, such as increased duration of illness, severe illness, increased mortality rates and increased risk of complications.

The current efforts to control and address antimicrobial resistance in South Africa include GARP-SA, SAASP and the NASF which all aim to reduce the rate of antimicrobial resistance. However, South Africa currently does not have a single national policy to control and address antimicrobial prescription and use. The WHO provides guidelines and specific responsibilities for each of the role players in healthcare service delivery.

The current measures that may be implemented to manage antimicrobial-resistant nosocomial infections include antibiotic de-escalation, the use of local epidemiology and antibiotic susceptibility patterns and shortened duration of antimicrobial therapy.

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<sup>178</sup> WHO: Prevention of hospital-acquired infections: A practical Guide (2002) (note 67 above) 59.

## CHAPTER FIVE

### MEDICAL NEGLIGENCE IN SOUTH AFRICA

#### 1. Introduction

The fiduciary doctor-patient relationship is integral to the existence of the duty of care owed by a medical practitioner to his or her patient. A medical practitioner's duty of care is the duty to take all reasonable steps, which includes the duty to commence treatment, where appropriate, for the proper medical treatment of the patient.<sup>179</sup> The doctor-patient relationship has changed significantly; in the past the doctor-patient relationship was one characterised by a paternalistic system, because the medical practitioner was the dominant party and the patient was expected to only ask questions and do as he or she was told by the medical practitioner.<sup>180</sup> However, presently the doctor-patient relationship is mutual, as the medical practitioner is encouraged to view patients as having expertise and ultimately have the last say with regard to their treatment.<sup>181</sup>

All healthcare workers owe their patients a duty of care, which is said to be one single indivisible duty.<sup>182</sup> This duty to care commences as soon as medical treatment is undertaken by a medical practitioner.<sup>183</sup> A medical practitioner's duty of care is breached when they fail to provide care that conforms to the standard expected of a reasonable medical practitioner.<sup>184</sup>

#### 2. The law of delict

The role of the law of delict in the South African legal system is to 'indicate which interests are recognised by law, under which circumstances they are protected against infringement, and how such disturbance in the harmonious balance of interests may be restored.'<sup>185</sup> Therefore, the law of delict determines the circumstances in which a person is liable to bear the damage caused to another person.<sup>186</sup> In order for a delictual claim to be successful, one must prove that the harm suffered was due to the wrongful and capable acts of the wrongdoer.<sup>187</sup> Medical

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<sup>179</sup> Lewis and Buchan (2012) *Lewis and Buchan: Clinical Negligence a Practical Guide* Seventh edition Bloomsbury Professional: West Sussex (hereafter Lewis and Buchan: *Clinical Negligence* (2012)) 96.

<sup>180</sup> Herring (note 50 above) 10.

<sup>181</sup> Herring (note 50 above) 10.

<sup>182</sup> Khan, Robson and Swift (2002) *Clinical Negligence Second Edition* (hereafter referred to as *Clinical Negligence*) 71, 79.

<sup>183</sup> *Clinical Negligence* (note 182 above) 76.

<sup>184</sup> Lewis and Buchan: *Clinical Negligence* (2012) (note 179 above) 106.

<sup>185</sup> Neethling and Potgieter (2010) *Visser Law of Delict* sixth edition (hereafter referred to as Neethling and Potgieter (2010) (note 185 above) 3.

<sup>186</sup> Neethling and Potgieter (2010) (note 185 above) 3.

<sup>187</sup> Neethling and Potgieter (2010) (note 185 above) 4.

negligence claims are founded in the law of delict.<sup>188</sup> When a medical practitioner is accused of being negligent, such practitioner is ‘blamed for an attitude or conduct of carelessness, thoughtlessness or imprudence because, by giving insufficient attention to their actions, they failed to adhere to the standard of care legally required of them.’<sup>189</sup>

Consequently, in order for a patient to prove medical negligence, the patient must prove the following elements of delict: conduct,<sup>190</sup> wrongfulness,<sup>191</sup> fault,<sup>192</sup> causation<sup>193</sup> and damages.<sup>194</sup>

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<sup>188</sup> Carstens and Pearmain (2007) (note 3 above) 599 In South Africa the term medical negligence is used as opposed to medical malpractice because the term medical negligence incorporates medical malpractice but also includes ‘all forms of professional misconduct, committed either intentionally or negligently, including confidentiality and the fiduciary doctor-patient relationship, thereby reflecting a broader conception of the field.’

<sup>189</sup> Neethling and Potgieter (2010) (note 185 above) 131.

<sup>190</sup> Neethling and Potgieter (note 185 above) 25 – 29; Conduct is defined as the voluntary human act or omission. Therefore, only the act or omission of a human being may be regarded as conduct for the purposes of delictual claims. The acts or omission must have been performed voluntarily, in other words, the wrongdoer must have had sufficient mental ability to control his muscular movements. Voluntary conduct does not imply that the conduct must be willed or desired. A juristic person acts through its organs and may be held delictually liable for the action of its organs. A person who acts in a state of automatism, does not act in a voluntary manner as he is unable to control his bodily movements and as a result thereof his conduct is involuntary in nature. An omission is a form of conduct and occurs when a person fails to take certain steps or measures when such a person has a duty to take certain steps and measures.

<sup>191</sup> Neethling and Potgieter (note 185 above) 33 - 50; ‘An act which causes harm to another is in itself insufficient to give rise to a delictual liability.’ Neethling and Potgieter (note 185 above) 33; Harm must be caused in a manner which is legally reprehensible or unreasonable. The establishment of wrongfulness requires an objective dual investigation. The initial investigation requires one to determine whether a legally recognised interest has been infringed. The second investigation requires one to determine whether the legally recognised interest has been infringed upon in a legally reprehensible or unreasonable manner. Therefore, a violation of a legal norm must have occurred. In order to determine whether a legally recognised interest was infringed in an unreasonable manner, one must take into account the *boni mores* of the community. The *boni mores* test is an objective test which takes into account the legal convictions of the community in light of the circumstances which were present when the harm occurred.

<sup>192</sup> Neethling and Potgieter (note 185 above) 123 - 154; Fault may be present in two forms: either intention or negligence. Intention and negligence refer to ‘the legal blameworthiness or reprehensible state of mind or conduct of someone who acted wrongfully.’ The element of fault is subjective in nature as it refers to the wrongdoer’s attitude of disposition. The test for negligence however, is objective in nature. A person acts intentionally when his will is directed at a result while conscious of the wrongfulness of his actions. Negligence is determined objectively by using the reasonable man yardstick. Therefore, the wrongdoer will be negligent if the reasonable person in the same circumstances would foresee the possibility of harm occurring and would have taken the reasonable steps to avoid or prevent the possibility of harm from occurring. When determining the negligence of an expert the yardstick test will be elevated to the reasonable expert test.

<sup>193</sup> Neethling and Potgieter (note 185 above) 175 - 210; in order for a delictual claim to be successful, one must prove that there is a causal nexus between the conduct and the harm. The element of causation requires that the conduct must be the factual cause and the legal cause of the harm. The element of causation will be discussed further later in this chapter.

<sup>194</sup> Neethling and Potgieter (note 185 above) 211 - 225; Damage is defined as the ‘detrimental impact upon any patrimonial or personality interest deemed worthy of protection by the law.’ Damage includes both patrimonial loss and non-patrimonial loss. The once and for all rule applies to the law of delict and therefore implies that when one claims compensation for loss or damage suffered as a result of a wrongful and culpable act, one must claim for all damage already suffered as well as all damage to be expected in future.

The patient must prove that the medical practitioner's acts fell below the required standard of care that will be determined by the facts of each the case.<sup>195</sup> The court will take into consideration a number of factors in order to determine whether a medical practitioner's conduct fell below the required standard of care and skill.<sup>196</sup> A medical practitioner may, therefore, be held liable for negligence when their conduct falls outside of the usual and accepted practices of the medical profession.<sup>197</sup>

### 3. The reasonable medical practitioner

The case of *Lee v Schönberg*<sup>198</sup> is the starting point in South African law in terms of the assessment of professional medical negligence. The court relied on the English case of *Lamphier v Phipos*<sup>199</sup> which held that a medical practitioner, like any other professional, is expected to perform their professional duties with a reasonable amount of skill and care and when a medical practitioner does not perform their duties with reasonable care and skill, such practitioner shall be liable in damages to the patient.<sup>200</sup>

This means that a medical practitioner is not expected to perform their professional duties with the highest possible degree of professional skill, but is rather expected to perform their duties with *reasonable* skill, diligence, knowledge, experience, ability and care.<sup>201</sup> The court will take into account the general level of skill and diligence possessed and exercised by members of the specific field to which the medical practitioner belongs, in order to determine whether the medical practitioner performed his duties with reasonable skill and care.<sup>202</sup> The standard of care and skill required by a medical practitioner will be dependent on the facts of each case,

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<sup>195</sup> Clinical Negligence (note 182 above) 155.

<sup>196</sup> Clinical Negligence (note 182 above) 157; the magnitude of the risk because when there is a greater risk involved, a medical practitioner is required to exercise greater precautions; the availability and practicality of precautions which should be taken into account in order to prevent a patient from suffering harm; and the usual and accepted practices of the medical profession.

<sup>197</sup> Clinical Negligence (note 182 above) 171.

<sup>198</sup> (1877) 7 Buch 136 (hereafter referred to as *Lee v Schönberg*); The patient in the case alleged that the medical practitioner performed his professional duties in a negligent manner.

<sup>199</sup> Case citation

<sup>200</sup> *Lee v Schönberg* (note 198 above)123; Carstens and Pearmain (2007) (note 3 above )619, 657,659; *Mitchell v Dixon* 1914 AD 519 (hereafter referred to as *Mitchell v Dixon*) 525; *S v Kramer* 1987 (1) SA 887 (W) (hereafter referred to as *S v Kramer*) 893; *Van Wyk v Lewis* 1924 AD 438 (hereafter referred to as *Van Wyk v Lewis*) 444; *Dube v Adminsitrator, Transvaal* 1963 (4) SA 260 (W); *Blyth v Van Den Heever* 1980 (1) SA 191 (A)

<sup>201</sup> *Mitchell v Dixon* (note 200 above) 525; *S v Kramer* (note 200 above) 893 *Van Wyk v Lewis* (note 200 above) 444.

<sup>202</sup> *S v Kramer* (note 200 above) 893; *Van Wyk v Lewis* (note 200 above) 444; *Mitchell v Dixon* (note 200 above) 525.

and thus the test for medical negligence cannot be disentangled from the particular circumstances of each case.<sup>203</sup>

When determining the standard of care and skill required of a medical practitioner, one must bear in mind that the standard of care and skill required of a general medical practitioner differs from the standard of care and skill required of a medical specialist.<sup>204</sup> The yardstick test then for a general medical practitioner is the reasonable general medical practitioner in the same circumstances. The yardstick test is upgraded when determining the negligence of a specialist medical practitioner to the reasonable specialist medical practitioner in the same field of specialisation.<sup>205</sup> The Ethical Rules of Conduct for Practitioners registered under the Health Professions Act state that all medical practitioners must act in the best interests of their patients, maintain the highest standards of personal conduct and integrity, keep his or her professional knowledge and skills up to date and respect the choices and dignity of their patients.<sup>206</sup>

#### 4. The test for medical negligence

A profession is defined as a ‘vocation or occupation requiring special, usually-advanced education and skill and that the labour and skill involved in the profession is predominately intellectual rather than physical or manual.’<sup>207</sup> The medical profession is one that requires specific education, training, expertise and skill.

The test for negligence is a two-prong test requiring both reasonable foreseeability and reasonable preventability of harm which are considered in light of the unique facts of each case.<sup>208</sup> Liability for negligence, in any given situation, arises if a *diligens paterfamilias*<sup>209</sup> in the same circumstances as the defendant or accused would have foreseen the possibility that his conduct would cause another to suffer an injury to his person or his property, therefore

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<sup>203</sup> *R v Meiring* 1927 AD 41, 45; Carstens and Pearmain (2007) (note 3 above) 639; This is known as concrete negligence.

<sup>204</sup> Carstens and Pearmain (2007) (note 3 above) 623; *Van Wyk v Lewis* (note 200 above).

<sup>205</sup> Carstens and Pearmain (2007) (note 3 above) 623.

<sup>206</sup> Health Professions Act, 1974 Act No. 56 Of 1974 Ethical Rules of Conduct for Practitioners Registered under The Health Professions Act, 1974 No. R 68 of 2 February 2009 (hereafter referred to as Ethical Rules of Conduct for Practitioners Registered under The Health Professions Act) s 27A.

<sup>207</sup> Carstens and Pearmain (2007) (note 3 above) 606.

<sup>208</sup> Neethling and Potgieter (note 185 above 145-147.

<sup>209</sup> *S v Burger* 1975 (4) SA 877 (A); Carstens and Pearmain (2007) (note 3 above); ‘One does not expect of a *diligens paterfamilias* any extremes such as solomonic wisdom, prophetic foresight, chameleonic caution, headlong haste, nervous timidity, or the trained reflexes of a racing driver. In short a *diligens paterfamilias* treads life’s pathway with moderation and prudent common sense.’

resulting in patrimonial or non-patrimonial loss, and such *diligens paterfamilias* would have taken reasonable steps to avoid or prevent the harm from materialising.<sup>210</sup>

Professional medical negligence occurs when a medical practitioner has failed to foresee the possibility of harm occurring to their patient in circumstances where the reasonable medical practitioner in the same circumstances would have foreseen the possibility of harm occurring to the patient, and taken the necessary steps to avoid or prevent the harm from occurring to the patient.<sup>211</sup> Notwithstanding the elements of a subjective evaluation, the test for medical negligence is primarily of an objective nature.<sup>212</sup> The negligence of a medical practitioner is measured with reference to the reasonable expert yardstick as opposed to the reasonable man yardstick.<sup>213</sup>

### **5. *Imperitia culpa adnumeratur***

The maxim of *imperitia culpa adnumeratur* means that a lack of knowledge, training, skill, competence, diligence or experience is deemed to be negligence.<sup>214</sup> The South African legal system does not recognise mere ignorance as negligence. However, if a healthcare professional ‘undertakes an activity for which expert knowledge is required while such person knows or should reasonably know that he or she lacks the requisite expert knowledge,’<sup>215</sup> such healthcare professionals may not hide behind their inexperience and their actions may amount to negligence. The maxim does not apply in emergency situations.<sup>216</sup>

In the case of *Coppen v Impey*<sup>217</sup> the maxim of *imperitia culpa adnumeratur* was invoked for the first time in South African law. The court held that the unskilfulness of a medical practitioner is equivalent to negligence and the medical practitioner is liable to the patient for the harm sustained by the patient.<sup>218</sup> This maxim also applies to situations where a general practitioner professes or pretends to be a specialist practitioner.<sup>219</sup>

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<sup>210</sup> *Kruger v Coetzee* 1966 (2) ALL SA 490 A (hereafter referred to as *Kruger v Coetzee*); Carstens and Pearmain (2007) (note 3 above) 621.

<sup>211</sup> Carstens and Pearmain (2007) (note 3 above) 621; *Kruger v Coetzee* (note 210 above).

<sup>212</sup> Carstens and Pearmain (2007) (note 3 above) 621. *S v Kramer* (note 200 above).

<sup>213</sup> *R v Van der Merwe* 1953 (2) PH H 24 ‘a man who practices a profession which requires skill holds himself out as possessing the necessary skill and he undertakes to perform the services required from him with reasonable skill and ability. That is what is expected of him and that is what he undertakes, and therefore he is expected to possess a degree of skill which corresponds to the ordinary level of skill in the profession to which he belongs.’

<sup>214</sup> Carstens and Pearmain (2007) (note 3 above) 586.

<sup>215</sup> Carstens and Pearmain (2007) (note 3 above) 586; *Dale v Hamilton* 1924 WLD 184;

<sup>216</sup> Carstens and Pearmain (2007) (note 3 above) 586 fn 231, 628.

<sup>217</sup> 1916 CPD 309.

<sup>218</sup> *Coppen v Impey* 1916 CPD 309; Carstens and Pearmain (2007) (note 3 above) 629.

<sup>219</sup> *McDonald v Wroe* unreported case number 7975/03 (CPD) 6 March 2006 (hereafter referred to as *McDonald v Wroe*); Carstens and Pearmain (2007) (note 3 above) 628, 634; ‘irrespective of whether



The court in *Van Wyk v Lewis*<sup>220</sup> confirmed that mere ignorance does not amount to negligence because the ‘reasonable person has no special skill and a lack of skill or knowledge is not *per se* negligence. It is, however, negligent to engage voluntarily in any potentially dangerous activity unless one has the skill and knowledge usually associated with the proper discharge of the duties connected with such an activity.’<sup>221</sup> This rule is further confirmed by the court in *McDonald v Wroe*<sup>222</sup> which held that a medical practitioner will be negligent if he or she undertakes work that requires specialist skills.<sup>223</sup> The *imperitia culpa adnumeratur* rule is particularly important in the public health sector due to the constant shortages of healthcare professionals.<sup>224</sup>

This maxim is paralleled in the Ethical Rules of Conduct for Practitioners registered under the Health Professions Act, ‘A practitioner shall perform, except in an emergency, only a professional act for which he or she is adequately educated, trained and sufficiently experienced, and under proper conditions and in appropriate surroundings’.<sup>225</sup>

## 6. The locality rule

The locality rule stipulates that the standard of care and skill expected of a medical practitioner may be influenced by the location where the medical practitioner practises.<sup>226</sup> Currently, there is uncertainty on whether the locality rule has an application in the South African legal system. In the case of *Van Wyk v Lewis*<sup>227</sup> Judge Innes states that a medical practitioner must perform their professional duties with the same degree of care and skill, regardless of the practitioner’s locality.<sup>228</sup> ‘The fact that several incompetent or careless practitioners happen to settle at the same place cannot affect the standard of diligence and skill which local patients have the right to expect.’<sup>229</sup> However, Acting Judge Wessels was of the opinion that the locality of where a medical practitioner performs their professional duties should be taken into account when

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one applies the yardstick test of the ‘reasonable’ general practitioner or the yardstick of the reasonable medical specialist in the same circumstances’ a general medical practitioner in the same circumstances would not have performed the functions of a specialist and would have referred the patient to a specialist; Carstens and Pearmain (2007) (note 3 above) 636.

<sup>220</sup> *Van Wyk v Lewis* (note 200 above).

<sup>221</sup> Carstens and Pearmain (2007) (note 3 above) 588.

<sup>222</sup> *McDonald v Wroe* (note 219 above) 6.

<sup>223</sup> *McDonald v Wroe* (note 219 above) 6.

<sup>224</sup> Carstens and Pearmain (2007) (note 3 above) 588.

<sup>225</sup> Ethical Rules of Conduct for Practitioners Registered under The Health Professions Act (note 206 above) s21.

<sup>226</sup> Carstens and Pearmain (2007) (note 3 above) 636.

<sup>227</sup> *Van Wyk v Lewis* (note 200 above) 444.

<sup>228</sup> Carstens and Pearmain (2007) (note 3 above) 636; *Van Wyk v Lewis* (note 200 above) 444.

<sup>229</sup> *Van Wyk v Lewis* (note 200 above) 444; Carstens and Pearmain (2007) (note 3 above) 636.

determining whether a medical practitioner has exercised the standard of care and skill required by a medical practitioner.<sup>230</sup> Acting Judge Wessels' opinion has never been rejected by the courts, although it seems that the courts prefer Judge Innes's point of view. In South Africa medical training is uniform, which should allude to the inapplicability of the locality rule in the South African legal system.<sup>231</sup> The mere fact that a medical practitioner practises in a remote rural area does not imply that the medical practitioner does not have to perform their professional duties in accordance with the standard of care and skill required.<sup>232</sup> Regardless of a medical practitioners locality, a medical practitioner has a duty to perform their duties according to the degree of skill and care required by the profession.<sup>233</sup>

The principle of concrete negligence is a rule of circumstance and hence refers to the locality principle. Therefore, the court needs to consider the locality of where the medical treatment was performed, the facilities available at the medical establishment, the financial recourses of the medical establishment, the difficulties experienced during the treatment of patients and the predispositions of patients.<sup>234</sup>

## **7. Medical mishaps and professional errors of judgement**

The courts accept that medical practitioners are human beings and not machines. Therefore, medical mishaps and professional errors of judgement are bound to occur and do not necessarily amount to negligence. Due to the risks and dangers involved in medical procedures, the liability for an error of judgement or medical mishap will depend on whether the medical mishap or error of judgement is reasonable or unreasonable.<sup>235</sup> The courts will have to determine whether or not a medical practitioner in the same circumstance and acting with the same degree of care and skill, might have made the same error of judgement. No liability will be attached to a reasonable error of judgement.<sup>236</sup> However, if a medical mishap or error of judgement is considered to be unreasonable, the medical practitioner will be liable for this negligence.<sup>237</sup>

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<sup>230</sup> *Van Wyk v Lewis* (note 200 above) 457; Carstens and Pearmain (2007) (note 3 above) 636.

<sup>231</sup> Carstens and Pearmain (2007) (note 3 above) 637.

<sup>232</sup> Carstens and Pearmain (2007) (note 3 above) 638.

<sup>233</sup> Carstens and Pearmain (2007) (note 3 above) 638.

<sup>234</sup> *Webb v Isaac* 1915 EDL 273; Carstens and Pearmain (2007) (note 3 above) 639.

<sup>235</sup> Carstens and Pearmain (2007) (note 3 above) 640.

<sup>236</sup> Carstens and Pearmain (2007) (note 3 above) 640.

<sup>237</sup> Carstens and Pearmain (2007) (note 3 above) 640; *Esterhuizen v Adminsitrator, Transvaal* 1957 (3) SA 710 (T)

The English court in *Whitehouse v Jordan*<sup>238</sup> held that ‘an error of professional judgement may or may not be negligent; it depends on the nature of the error. If it is one that would have been made by a reasonably competent professional man professing to have the standard and type of skill that the defendant held himself as having, and acting with ordinary care, then it is negligent. If, on the other hand, it is an error that a man taking usual care might have made, then it is not negligence.’<sup>239</sup> The South African courts in *Pringle v Administrator, Transvaal*<sup>240</sup> adopted the principle set out in the English case and held that an unreasonable error of professional judgement amounts to medical negligence.<sup>241</sup>

## 8. Causation in medical negligence

In order for a patient to be successful in a claim for medical negligence, the patient must prove that on a preponderance of probabilities that the damage was caused by the healthcare worker.<sup>242</sup> In terms of the law of delict, causation refers to the ‘causing of damage through conduct.’<sup>243</sup> Therefore, in order to be held delictually liable, a causal nexus must exist between the conduct and the damage. Determining whether a causal nexus exists between the conduct and damage is a question of fact that is to be answered by the facts of each case, the available evidence, and the relevant probabilities.<sup>244</sup> The delictual element of causation requires two elements to be met. The first requirement is factual causation which requires the damage-causing event to be the factual cause of the damage.<sup>245</sup> Thus, if the damage-causing event is not the factual cause of the damage then there can be no further question of legal liability. The second requirement is legal causation, which requires the damage-causing event to be the legal cause of the damage. In order for causation to be established, the damage-causing event must be both the factual cause and the legal cause of the damage.<sup>246</sup>

### 8.1. Factual causation

If an aggrieved party is unable to prove that the wrongdoer’s conduct was the factual cause of the harm, the wrongdoer cannot be held liable for the harm caused. In order to determine whether or not the damage-causing conduct is the cause of the harm depends on the conclusions

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<sup>238</sup> [1981] 1 ALL ER (HL) (hereafter referred to as *Whitehouse v Jordan*).

<sup>239</sup> Carstens and Pearmain (2007) (note 3 above) 654.

<sup>240</sup> 1990 (2) SA 379 (W) (hereafter referred to as the *Pringle v Administrator, Transvaal*).

<sup>241</sup> Carstens and Pearmain (2007) (note 3 above)

<sup>242</sup> Pattison (2006) *Medical Law and Ethics* Thomson Sweet and Maxwell: London (hereafter referred to as Pattison) 79.

<sup>243</sup> Neethling and Potgieter (note 185 above) 175.

<sup>244</sup> Neethling and Potgieter (note 185 above) 175 - 176.

<sup>245</sup> Carstens and Pearmain (2007) (note 3 above) 509.

<sup>246</sup> Neethling and Potgieter (note 185 above) 176.

drawn from the available facts and relevant probabilities.<sup>247</sup> The courts are in favour of using the *conditio sine qua non* test<sup>248</sup> to determine the existence of factual causation in the given circumstances of each case, which requires a mental process of reasoning and elimination.<sup>249</sup> The *conditio sine qua non* test involves the mental elimination of the wrongdoer's wrongful conduct from the circumstances prevailing at the time when the harm occurred, in order to determine whether the harm would still have occurred in the absence of the wrongdoer's conduct. If the harm would nevertheless have occurred despite the elimination of the wrongdoer's conduct, then the wrongful conduct is not the factual cause of the harm suffered. However, if the harm suffered would not have occurred but for the wrongdoer's conduct, then the conduct is considered to be the factual cause of the harm suffered.<sup>250</sup> When the wrongdoer's conduct is a positive act or commission, the *conditio sine qua non* test requires that the positive act be eliminated in the mind in order to determine whether the harm would have still resulted.<sup>251</sup> In cases where the wrongdoer's conduct was an omission, the *conditio con qua non* test requires one to insert a hypothetical positive act into the circumstances of the case in order to enable the courts to determine whether the wrongdoer's omission was the cause of the damage or harm.<sup>252</sup>

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<sup>247</sup> Neethling and Potgieter (note 185 above) 176.

<sup>248</sup> Neethling and Potgieter (note 185 above) 180 – 184. Although the *conditio sine qua non* test is generally accepted, there are some points of logical criticism regarding this test. The first point of criticism is that the test is based on a clumsy and indirect process of thought that results in circular logic, which does not always provide a solution. The next point of criticism is the test completely fails in cases of cumulative causation, where more than one act causes harm. The test is rather an ex post facto method of expressing a predetermined causal link rather than a test for causation. The test offers no solution in instances where there is no prior knowledge of what caused the harm, therefore only once one has determined the causal link between the conduct and the harm is it possible to apply the *conditio sine qua non* test.

<sup>249</sup> Neethling and Potgieter (note 185 above) 177; One must bear in mind that the *conditio sine qua non* test is not the only test available to determine the existence of factual causation. The courts generally will also establish factual causation by assessing the available evidence and relevant probabilities of each unique case. When harm or loss is caused as a result of an omission, the test to determine factual causation is known as the *conditio con qua non* test.

<sup>250</sup> Neethling and Potgieter (note 185 above) 178-179

<sup>251</sup> Neethling and Potgieter (note 185 above) 179.

<sup>252</sup> Neethling and Potgieter (note 185 above) 179; The Constitutional Court in *Carmichele v Minister of safety and security (centre for Applied Legal Studies Intervening)* 2001 4 SA 938 (CC) 696 stated that the hypothetical positive act that is to be inserted into the circumstances of the case must be objective, therefore the positive act to be inserted must be that of a reasonable person in the same circumstances as the wrongdoer. However, Acting Judge Harms in the Supreme Court of Appeal was of the opinion that the courts when applying the *conditio con qua non* test must be both subjective and objective. The *conditio con qua non* test may in certain instances cause confusion between the elements factual causation and negligence. The court therefore, must first determine whether the wrongdoer could have acted positively to prevent the harm from occurring and then only may the courts determine whether the reasonable person in the same circumstances of the wrongdoer would have taken steps to prevent the harm from occurring; (Neethling and Potgieter (note 185 above) 179.); *S v Van As* 1967 (4) SA 594 (A).

The aggrieved party is not required to establish an irrefutable causal link between the wrongdoer's actions and the damage, but is rather required to prove that the wrongdoer's conduct was a probable cause of the damage. Therefore, a reasonable retrospective investigation of what would probably have occurred is required which is based on the available evidence and what can be expected to transpire in the ordinary course of human affairs.<sup>253</sup>

## 8.2. Legal causation

Once it has been established that the wrongdoer's conduct is the factual cause of the harm, one must also establish that the wrongdoer's conduct is the legal cause of the harm. In other words, one must determine for which wrongful and culpable acts the wrongdoer should be liable.<sup>254</sup> The test for legal causation requires the court to determine whether the causal nexus between the conduct and the harm is sufficiently close or direct for legal liability to ensue, or whether the harm is 'too remote'.<sup>255</sup> The question of legal causation involves the limits of legal liability.<sup>256</sup> This test is a judicial problem in which legal policy considerations play a prominent role. A wrongdoer may not be held delictually liable for harm which is found to be 'too remote' from the conduct.<sup>257</sup>

There are numerous theories available to a court in order to determine legal causation, a court is not bound to a single, specific theory, but has the freedom to apply the theory which serves reasonableness and justice in the circumstances of each case, taking into account policy considerations.<sup>258</sup> The following are the best-known theories to determine legal causation: the flexible-approach-based-on-policy consideration, reasonableness, fairness and justice,<sup>259</sup> the

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<sup>253</sup> *Minister and Safety and Security v Van Duivenboden* 2002 6 SA 431 (SCA) 449; Neethling and Potgieter (note 185 above) 179 fn 24.

<sup>254</sup> Neethling and Potgieter (note 185 above) 188

<sup>255</sup> Neethling and Potgieter (note 185 above) 188 fn 82.

<sup>256</sup> Carstens and Pearmain (2007) (note 3 above) 509.

<sup>257</sup> Neethling and Potgieter (note 185 above) 188.

<sup>258</sup> Neethling and Potgieter (note 185 above) 192.

<sup>259</sup> Neethling and Potgieter (note 185 above) 190; *S v Mokgethi* 1990 (1) SA 32 (A); the court held that there is no single and general criterion for legal causation which is applicable in all instances. Therefore, the court suggested that a flexible is to be followed. The court is tasked with determining 'whether there is a close enough relationship between the wrongdoer's conduct and its consequence for such consequences to be imputed to the wrongdoer in view of policy considerations based on reasonableness, fairness and justice.'

theory of adequate causation,<sup>260</sup> the direct consequences criterion,<sup>261</sup> the theory of fault,<sup>262</sup> and reasonable foreseeability.<sup>263</sup>

### 8.3. Medical negligence as a *novus actus interveniens*

A *novus actus interveniens* (a new intervening event) is ‘an independent event which, after the wrongdoer’s act has been concluded, either caused or contributed to the consequence concerned.’<sup>264</sup> Where a *novus actus interveniens* eliminates the causal nexus between the conduct of the wrongdoer and the harm or loss, the wrongdoer is no longer the factual cause of the harm or loss caused and therefore cannot be held legally liable for such harm or loss.<sup>265</sup> When determining the presence of a *novus actus interveniens*, a court must take into account policy considerations, reasonableness, fairness and justice.<sup>266</sup>

An event is considered to be a *novus actus interveniens* if the event is an ‘unsuspected, abnormal or unusual event, in other words, one which, according to general human experience, deviates from the ordinary course of events.’<sup>267</sup> The courts must determine whether a subsequent event **qualifies** as a new intervening event so that the preceding event no longer may be considered as the cause of the harm or loss. The court in *S v Grotjohn*<sup>268</sup> stated that a subsequent event may only be considered as a new intervening cause and thus breaking the

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<sup>260</sup> Neethling and Potgieter (note 185 above) 193 – 294; According to this theory, harm or loss which has been caused by the wrongdoer is imputed to the wrongdoer if the harm or loss is adequately connected to the conduct. The connection will be adequate if human experience, in the normal course of events, the conduct is inclined to bring about the harm or loss.

<sup>261</sup> Neethling and Potgieter (note 185 above) 195 -197; According to this theory, the wrongdoer is liable for all the direct consequences of his negligent conduct. Therefore, liability is not limited to the reasonable consequences of the conduct. The finding of a direct nexus of not necessary because the theory does not require that the exact course of events be reasonable. This theory is not a general test to determine legal causation but is a subsidiary rest to establish legal causation in terms of the flexible approach.

<sup>262</sup> Neethling and Potgieter (note 185 above) 197-198; according to this theory ta wrongdoer is only liable for the harm or loss in respect of which he has fault, therefore a wrongdoer is only liable of the harm or loss which is fault imputed to him. ‘Liability must therefore be limited to the consequences willed by a person whilst aware of their wrongfulness, and the wrongful consequences that he reasonably should have foreseen and prevented.’

<sup>263</sup> Neethling and Potgieter (note 185 above) 204 -206; This theory is considered as a subsidiary approach to the flexible approach. According to this theory, it is not necessary that all the consequences of the wrongdoer conduct should be reasonably foreseeable but rather only the harm or loss which actually occurred must have been reasonably foreseeable.

<sup>264</sup> Neethling and Potgieter (note 185 above) 206.

<sup>265</sup> Neethling and Potgieter (note 185 above) 206; Synman(2014) *Criminal Law* sixth edition LexisNexis: Johannesburg (hereafter referred to as Synman 86; a *novus actus interveniens* is considered to be a negative test for causation because a novus actus implies that a causal nexus between the conduct of the wrongdoer and the harm or loss is lacking.

<sup>266</sup> Neethling and Potgieter (note 185 above) 207.

<sup>267</sup> Snyman (note 265 above) 86.

<sup>268</sup> *Ex Parte Minister of Justice: S v Grotjohn* 1970 (2) SA 335 (A).

causal nexus only if the subsequent event is an independent act.<sup>269</sup> The court in *S v Tembani*<sup>270</sup> held that medical negligence will only be considered as a *novus actus interveniens* if the negligence is overwhelming, implying that the medical practitioner deviated from the universally accepted practices of the medical profession.<sup>271</sup> The courts in the case of *S v Ramsonya*<sup>272</sup> held that medical negligence will only be considered as a new intervening cause if the medical negligence is intentional or gross.<sup>273</sup> The decisions of the abovementioned cases imply that medical treatment does not necessarily have the effect of breaking the causal nexus between the original injury and the death of the patient.<sup>274</sup> The courts are reluctant to consider medical treatment as a *novus actus interveniens*, as this would be contrary to the *boni mores* of the community and constitutional values, to hold a medical practitioner liable for the death of a patient as a result of unsuccessful medical treatment of a preceding injury caused by another.<sup>275</sup> However, medical treatment may be considered by the courts as an *novus actus interveniens* if there is reasonable evidence that would justify that the medical treatment itself caused the death or injury of a patient and the original injury would not have led to the same result.<sup>276</sup>

## 9. Proof of medical negligence

### 9.1. Onus of proof

The onus of proving the medical negligence of a medical practitioner in civil cases rests on the patient. The patient must prove the liability of the medical practitioner on a preponderance of probabilities.<sup>277</sup> In criminal cases the onus of proving the medical negligence of a medical practitioner rests on the prosecution. The criminal liability of the medical practitioner resulting from negligence must be proved beyond reasonable doubt.<sup>278</sup> In proceedings before an inquest court, the magistrate will make a finding on a preponderance of probabilities.<sup>279</sup> In disciplinary proceedings before the disciplinary committee of the HPCSA,

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<sup>269</sup> Snyman (note 265 above) 87.

<sup>270</sup> 1991 (1) SACR 192 (W).

<sup>271</sup> Carstens and Pearmain (2007) (note 3 above) 848.

<sup>272</sup> 2000 (2) SACR 257 (T).

<sup>273</sup> Carstens and Pearmain (2007) (note 3 above) 850.

<sup>274</sup> Carstens and Pearmain (2007) (note 3 above) 514.

<sup>275</sup> Carstens and Pearmain (2007) (note 3 above) 514.

<sup>276</sup> Carstens and Pearmain (2007) (note 3 above) 514.

<sup>277</sup> Carstens and Pearmain (2007) (note 3 above) 857.

<sup>278</sup> Carstens and Pearmain (2007) (note 3 above) 857.

<sup>279</sup> Carstens and Pearmain (2007) (note 3 above) 857.

the complaint of unprofessional conduct has to be proved against the medical practitioner on a preponderance of probabilities.<sup>280</sup>

## 9.2. Res ipsa loquitur

The maxim *res ipsa loquitur* means that the facts speak for themselves.<sup>281</sup> The South African courts, although reluctant to apply the maxim to cases of medical negligence, treat the maxim as inferential reasoning that requires careful scrutiny and gives rise to an inference of negligence as opposed to a presumption of negligence.<sup>282</sup>

The South African courts in *Van Wyk v Lewis*<sup>283</sup> held that the maxim *res ipsa loquitur* does not find application in cases of alleged medical negligence. The courts in *Pringle v Administrator, Transvaal*<sup>284</sup> refused to apply the maxim *res ipsa loquitur* because the plaintiff bears the onus of proving that the medical practitioner performed his duties negligently. Furthermore, the maxim could only be invoked where the negligence alleged depends on absolutes.<sup>285</sup> Therefore, the maxim can only be invoked in instances where the ‘alleged medical negligence depends on absolutes and the evidence shows that a particular result would not have followed but for the alleged negligence.’<sup>286</sup>

The court in *Goliath v MEC*<sup>287</sup> held that the maxim is used to describe the proof of facts which are sufficient to support an inference that the defendant was negligent and thereby establishes a *prima facie* case against him. The maxim is a form of inferential reasoning that merely implies that the plaintiff has discharged his or her onus to prove the negligence of the defendant.<sup>288</sup> The maxim should be invoked in circumstances where the ‘only known facts, relating to the negligence, consists of the occurrence itself – where the occurrence may be of such a nature as to warrant an inference of negligence.’<sup>289</sup>

‘A conclusion of negligence can be drawn from a particular set of facts, but is not itself is not fact, but rather evidence, and the presence or absence of negligence is not a fact; it is a conclusion of law to be drawn by a court in all circumstances of the specific case.’<sup>290</sup> A patient

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<sup>280</sup> Carstens and Pearmain (2007) (note 3 above) 858.

<sup>281</sup> 2015 (2) SA 97 (SCA) (hereafter referred to as *Goliath v MEC*) 10; The maxim of *res ipsa loquitur* is a permissible inference which a court may use upon the facts if it appears justified.

<sup>282</sup> Carstens and Pearmain (2007) (note 3 above)

<sup>283</sup> *Van Wyk v Lewis* (note 200 above)

<sup>284</sup> *Pringle v Administrator, Transvaal* (note 240 above).

<sup>285</sup> Carstens and Pearmain (2007) (note 3 above) 574; *Pringle v Administrator, Transvaal* (note 240 above).

<sup>286</sup> Carstens and Pearmain (2007) (note 3 above) 859.

<sup>287</sup> *Goliath v MEC* (note 281 above).

<sup>288</sup> *Goliath v MEC* (note 281 above) 11.

<sup>289</sup> *Goliath v MEC* (note 281 above) 10, 12.

<sup>290</sup> *Truter v Deysel* 2006 (4) SA 168 (SCA); Carstens and Pearmain (2007) (note 3 above) 860.



needs to have a prima facie case of medical negligence against a medical practitioner which must be proven by way of expert medical testimony and not by way of an inference. Therefore, *res ipsa loquitur* can be a valuable tool to even out the playing field of the doctor-patient relationship. If a patient suffers harm that is unexplained, occur unless there has been negligence, the court is entitled to infer that it was caused by the medical negligence of the medical practitioner.<sup>291</sup>

### 9.3. The different schools of thought in medical practice

Medical practitioners are expected to perform their duties with reasonable knowledge, ability, experience, care, skill and diligence as opposed to the highest possible degree of professional care and skill.<sup>292</sup> The standard of care and skill expected of a medical practitioner may be influenced by the schools of thought or opinions in the medical profession.<sup>293</sup> ‘The court must ascertain from the medical profession what is the usual practice adopted in modern hospitals in this country; the court cannot prescribe a general rule of practice for the profession. It must assume that the generally-adopted practice is the outcome of the best experience and that, which is best, suited to attain the most satisfactory results.’<sup>294</sup> The court may refuse a universal medical practice if the court is of the opinion that the practice is unreasonable and dangerous and consequently contrary to public policy.<sup>295</sup> It is accepted that when a universal trade or norm of a universal application is adopted by a profession, a professional who performs his duties within such a profession is bound by the norms or practice of the profession.

However, a medical practitioner who makes use of a medical practice that differs from the universal practice, does not warrant an inference of negligence merely because the medical practitioner deviated from the universal practice.<sup>296</sup> The court must bear in mind that the medical profession is inherently risky and that the rigid application of guidelines may hinder the effective improvement or development of new medical practices.<sup>297</sup> In instances where there are numerous legitimate, acceptable and recognised medical practices available to a reasonable medical practitioner, such practitioner cannot be impugned for using a medical practice which is less commonly used by the medical profession.<sup>298</sup> The court is of the opinion that a reasonable medical practitioner does not necessarily use the ‘most well-worn paths’ but

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<sup>291</sup> Carstens and Pearmain (2007) (note 3 above) 567.

<sup>292</sup> Carstens and Pearmain (2007) (note 3 above) 640.

<sup>293</sup> Carstens and Pearmain (2007) (note 3 above) 640; this is the case specifically with regard to applicable and accepted therapeutic and diagnostic procedures.

<sup>294</sup> Carstens and Pearmain (2007) (note 3 above) 641; *Van Wyk V Lewis* (note 200 above).

<sup>295</sup> Carstens and Pearmain (2007) (note 3 above) 641.

<sup>296</sup> Carstens and Pearmain (2007) (note 3 above) 642; Pattison (note 242 above)72.

<sup>297</sup> Carstens and Pearmain (2007) (note 3 above) 642;

<sup>298</sup> Carstens and Pearmain (2007) (note 3 above) 642.

instead uses the medical practice which in his professional judgement has the greatest prospect of success.<sup>299</sup>

#### 9.4. Expert medical evidence

In medical negligence claims a plaintiff is required to present expert medical evidence in support of the alleged negligence. Therefore, expert medical evidence is of paramount importance in order to support or defend claims of medical negligence.<sup>300</sup>

The function of expert evidence is to guide the court with issues and topics within the expert's field of specialisation, in order to enable the court to reach a decision which is reasonable and just.<sup>301</sup>

'The testimony of experienced members of the [medical] profession has the greatest values in questions of this kind. But the decision of what is reasonable under the circumstances is for the court; it will pay high regard to the views of the profession, but it is not bound to adopt them.'<sup>302</sup>

Ultimately, the decision about the reasonableness and negligence of a medical practitioner is one for the court itself to determine, based on the evidence and opinions provided by the medical experts.<sup>303</sup> An inference of medical negligence is not warranted simply due to the different schools of thought, alternative methods of medical treatment and the contrary expert medical opinions on the reasonableness of the practice adopted by the medical practitioner.<sup>304</sup>

The weight which a court attaches to the evidence of a medical expert will depend on the expert's qualifications, skill and level of experience, as well as the ability of the court to assess the expert evidence.<sup>305</sup> The court in *Michael v Linksfeld*<sup>306</sup> provided general principles that need to be considered by a court assessing the evidence of an expert witness. The court, when determining reasonableness and negligence, does not take cognisance of the creditability of the expert but rather examines the evidence of the expert based on the expert's logical reasoning, in order to arrive at a conclusion.<sup>307</sup> A court is not bound to absolve a medical practitioner from liability solely based on the fact that the expert's evidence indicates that the conduct of the medical practitioner coincided with sound medical practice.<sup>308</sup> The evidence given by an expert

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<sup>299</sup> Carstens and Pearmain (2007) (note 3 above) 642.

<sup>300</sup> Carstens and Pearmain (2007) (note 3 above) 860.

<sup>301</sup> Carstens and Pearmain (2007) (note 3 above) 863.

<sup>302</sup> *Van Wyk v Lewis* (note 200 above) 447-448; Carstens and Pearmain (2007) (note 3 above) 861.

<sup>303</sup> *Michael and Another v Linksfeld Park Clinic (Pty) Ltd and Another* 2001 (3) SA 1188(SCA) (hereafter referred to as *Michael v Linksfeld*) 34.

<sup>304</sup> Carstens and Pearmain (2007) (note 3 above) 862-863.

<sup>305</sup> Carstens and Pearmain (2007) (note 3 above) 861.

<sup>306</sup> *Michael v Linksfeld* (note 303 above).

<sup>307</sup> *Michael v Linksfeld* (note 303 above) 34.

<sup>308</sup> *Michael v Linksfeld* (note 303 above) 35 -39; A court may find a medical practitioner's actions unreasonable and negligent regardless of the expert medical evidence in favour of the medical

must have be a logical, defensible conclusion taking into account the comparative risks and benefits in order for a court to be satisfied with such evidence.<sup>309</sup>

A court must also take cognisance of the fact that medical expert witnesses tend to assess likelihood in terms of scientific certainty and not in terms of a balance of probabilities.<sup>310</sup> ‘A court must not be seduced into a position where it applies to the expert evidence the standards which the expert himself will apply to the question of whether a particular thesis has been proved or disproved – instead of assessing, as a judge must do, where the balance of probabilities lies on a review of the whole of the evidence.’<sup>311</sup>

## 10. Conclusion

Medical negligence entails professional misconduct that is committed intentionally or negligently and that causes harm or death to the patient. Medical negligence is a breach of the fiduciary doctor-patient relationship. The patient bears the risk of proving the claim of medical negligence on a preponderance of probabilities. The patient must prove the requirements for delictual liability, i.e. conduct, wrongfulness, fault, causation and damages. The test for negligence is two-fold and requires both foreseeability and preventability. The medical practitioner’s conduct must fall below the level of care and skill required by the medical profession. The reasonable medical practitioner in the same circumstances must have foreseen the possibility of harm occurring and taken the reasonable steps to prevent the harm from occurring. The court in *Van Wyk v Lewis*<sup>312</sup> confirms that the maxim of *imperitia culpa adnumeratur* is applicable in our law and that the medical practitioner is negligent if he or she undertakes work for which he or she does not possess the required skill or expertise. The medical practitioner’s conduct must be causally linked to the injuries suffered by the patient. It must be the factual and legal cause of the patient’s harm. Medical negligence must be proved by way of expert medical testimony. The court, however, has the ultimate discretion to make

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practitioner, if the evidence provided by the medical experts are not based on logical reasoning and therefore unreasonable. The Court will find the evidence of a medical expert unreasonable if the expert’s evidence or opinion overlooks an obvious risk that could have been guarded against regardless if such opinion is universally held. The court will on a rare occasion find a medical expert’s evidence to be unreasonable because ‘the assessment of medical risks and benefits is a matter of clinical judgment which the court would not normally be able to make without expert evidence and it would be wrong to decide a case by simple preference where there are conflicting views on either side, both capable of logical support.’

<sup>309</sup> *Michael v Linksfield* (note 303 above) 35.

<sup>310</sup> *Michael v Linksfield* (note 303 above) 40; Carstens and Pearmain (2007) (note 3 above) 862.

<sup>311</sup> *Michael v Linksfield* (note 303 above) 40; *Dingley v The Chief Constable, Strathclyde Police* 200 SC (HL) 77 89D; Carstens and Pearmain (2007) (note 3 above) 862.

<sup>312</sup> *Van Wyk v Lewis* (note 200 above)

an order about the question of a medical practitioner's negligence. The patient must not rely on the maxim of *res ipsa loquitur* but must provide the court with the proof of the facts to support an inference of a prima facie case of negligence.

## CHAPTER SIX

### WHO IS LIABLE?

#### 1. Introduction

Wrongfulness is a question of public policy and is informed by the values and principles of the Constitution. The test for wrongfulness requires a judicial value judgement whereby the infringed interests of the aggrieved party is in accordance with the *boni mores* of the community.<sup>313</sup> The court will make a value judgement by taking into account the facts of each case and the values of reasonableness, justice, good faith, and fairness.<sup>314</sup> A medical practitioner has a duty to act in the best interest of his or her patient. The South African Law commission recognises that professionals operate in circumstances in which success is not always feasible and even when vital factors are within the professional's control, he or she cannot guarantee success.<sup>315</sup>

#### 2. The State Liability Act 20 of 1957<sup>316</sup>

The Act acknowledges that 'any claim against the state that would, if the claim has arisen against a person, be the grounds for an action in any competent court, shall be cognisable by such court, whether the claim arises out of any...wrong committed by any servant of the state acting in his capacity and within the scope of his authority as such servant.'<sup>317</sup> Therefore, the state may be held delictual liable for delictual acts, including vicarious liability for wrongful acts of the state's employees.<sup>318</sup>

#### 3. Vicarious liability

Vicarious liability is defined as the strict liability of one person for the delicts of another.<sup>319</sup> Vicarious liabilities are only applicable in situations where there is a particular relationship between two persons, for example, an employer-employee relationship.<sup>320</sup> An employer may be vicariously liable for the delictual acts committed by an employee, while such employee is

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<sup>313</sup> Carstens and Pearmain (2007) (note 3 above) 518.

<sup>314</sup> Carstens and Pearmain (2007) (note 3 above) 519.

<sup>315</sup> Carstens and Pearmain (2007) (note 3 above) 522.

<sup>316</sup> Hereafter referred to as the State Liability Act.

<sup>317</sup> The State Liability Act (note 316 above) s 1; Carstens and Pearmain (2007) (note 3 above) 495.

<sup>318</sup> Carstens and Pearmain (2007) (note 3 above) 495

<sup>319</sup> Neethling and Potgieter (note 185 above) 365; Lewis and Buchan: Clinical Negligence (2012) (note 179 above) 58.

<sup>320</sup> Neethling and Potgieter (note 185 above) 365.

acting in the scope of his or her employment.<sup>321</sup> Fault is not required on the part of the employee and therefore, vicarious liabilities are strict liabilities. Thus, in the context of the medical profession vicarious liability refers to legal liability that will be incurred by a healthcare establishment (as a corporate entity) or a healthcare practitioner for the wrongful and negligent conduct of other healthcare professionals in its service and employment in terms of the doctrine of *respondeat superior* (the superior must answer).<sup>322</sup>

The rationale behind the principle of vicarious liability is that when an employer allocates work to its employees, certain risks of harm are created for which an employer will be liable on the grounds of fairness and justice for the injured or aggrieved third party.<sup>323</sup> There are three requirements that must be present for an employer to be held vicariously liable for the delicts committed by its employee. The first requirement is that an employer-employee relationship must exist when the delict was committed. The second requirement is that the employee must commit the delict, and the final requirement is that the delict must have been committed within the scope of the employee's employment.<sup>324</sup>

### **3.1. The requirements for vicarious liability**

#### **3.1.1. An employer-employee relationship at the time when the delict was committed**

An employer-employee relationship exists when an employee, in terms of an agreement or employment contract, makes his working capacity available to his employer for remuneration and the employer exercises authority or control over the employee.<sup>325</sup> Therefore, a contract of employment must exist. The contract of mandate occurs when one person undertakes to render services to another for remuneration, but without being subject to the contract of the other person. The principle of vicarious liability does not find application in a contract of mandate involving an independent contractor.<sup>326</sup>

To determine if the delict was committed by an employee or an independent contractor, the court must consider the control over the wrongdoer, which must be interpreted to mean the 'capacity (power) or right to control', taking into account the relevant factors and circumstances of each unique case.<sup>327</sup>

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<sup>321</sup> Lewis and Buchan: Clinical Negligence (2012) (note 179 above) 58; Clinical Negligence (note 182 above) 86.

<sup>322</sup> Carstens and Pearmain (2007) (note 3 above) 865.

<sup>323</sup> Neethling and Potgieter (note 185 above) 366

<sup>324</sup> Neethling and Potgieter (note 185 above) 366.

<sup>325</sup> Neethling and Potgieter (note 185 above) 366.

<sup>326</sup> Neethling and Potgieter (note 185 above) 366.

<sup>327</sup> Neethling and Potgieter (note 185 above) 367.

### **3.1.2. The employee must commit a delict**

For an employer to be held vicariously liable for the delictual acts committed by the employee, the employee of the employer must be delictual liable for the wrongdoing. The employer and the employee are in principle joint wrongdoers against the aggrieved party, but a right of recourse is only available to the employee.<sup>328</sup>

### **3.1.3. The employee must act within the scope of his employment when the delict is committed**

The acts of an employee are considered to be within the scope of the employee's employment, if the employee acts in execution or fulfilment of his duties in terms of the employment contract. An employee acts outside the scope of his employment when such employee disengages him- or herself from the employment and promotes his/her own objectives or interest exclusively, and consequently, the employer cannot be held vicariously liable for the acts of the employee. The standard test used to determine if an employee has acted within the scope of his or her employment is both subjective and objective.<sup>329</sup> According to the standard test, if the acts of an employee are performed exclusively for the employee's own personal interests, although elicited by the employee's employment, they might be considered to be outside the scope of the employee's employment.<sup>330</sup> The court will apply the subjective test by taking into account the intention of the employee in order to determine whether the acts are within the scope of his or her employment. However, in terms of the objective test, if there is a 'sufficiently close link' between the employee's acts performed in pursuit of his/her own personal interests and the business of his/her employ, the employer may still be considered to be liable for the delict of the employee. An employer may nevertheless be liable for the unauthorised acts performed by the employee, as long as the acts are linked to the acts which the employer authorised the employee to perform.<sup>331</sup>

When the services of healthcare workers, such as anaesthetists, radiologists or nurses are utilised by a medical practitioner, the medical practitioner will not be liable for the negligent conduct of such fellow healthcare workers.<sup>332</sup> The courts have held that anaesthetists, radiologists or nurses should perform their services as independent contractors and not as employees of medical practitioners or healthcare establishments. Private and public healthcare establishments may under certain circumstances be liable for the wrongful or unlawful conduct

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<sup>328</sup> Neethling and Potgieter (note 185 above) 368.

<sup>329</sup> Neethling and Potgieter (note 185 above) 368.

<sup>330</sup> Neethling and Potgieter (note 185 above) 369.

<sup>331</sup> Neethling and Potgieter (note 185 above) 369.

<sup>332</sup> Carstens and Pearmain (2007) (note 3 above) 865.

of medical practitioners and nurses while performing their professional or administrative duties.<sup>333</sup> The degree of control and supervision exercised by a healthcare establishment over the medical practitioner or nurse is not the only factor that the court will consider in order to ascertain whether the medical practitioner is an employee or independent contractor. The key factor that a court will take into account is the intention of the medical practitioner or nurse, which will be determined by the facts of each case.<sup>334</sup>

A healthcare establishment will incur legal liability where a medical practitioner or nurse is an employee of the healthcare establishment's authority and acted within the scope of his or her employment; the healthcare establishment ordered or authorised or intentionally participated in wrongful or unlawful conduct of its medical professionals; the healthcare establishment exercised negligent choice by utilising the services of incompetent or inexperienced medical professionals; or the healthcare establishment itself was negligent by providing defective medical equipment.<sup>335</sup>

'Hospitals are vicariously liable for the unlawful acts if its employees commit wrongful acts or omissions during the course and scope of their employment. Hospitals will be liable even though their employees have negligently disobeyed instructions or protocols, or the employees' acts or omissions amount to intentional wrongdoing – provided that the employees' conduct falls within the course or scope of their employment.'<sup>336</sup> Therefore, if a patient contracts a harmful infection as a result of a healthcare worker not washing their hands or sterilising instruments as required by hospital protocol, the hospital may still be held vicariously liable for the damages suffered by the patient. Nonetheless, a medical practitioner may in certain instances be held personally liable for the damages sustained by a patient, and depending on the healthcare worker's employment contract, may be liable to reimburse his or her employer for any damages which have been paid out to an injured patient.<sup>337</sup>

Hospitals may be held vicariously liable even though such facilities and managers have introduced practices for infection control and prevention and these practices and protocols have been negligently or intentionally ignored by their employees.<sup>338</sup> However, the failure by a hospital or medical facility's administration to introduce infection-control and prevention

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<sup>333</sup> Carstens and Pearmain (2007) (note 3 above) 867.

<sup>334</sup> Carstens and Pearmain (2007) (note 3 above) 867.

<sup>335</sup> Carstens and Pearmain (2007) (note 3 above) 867.

<sup>336</sup> McQuoid- Mason (2012) (note 67 above) 354.

<sup>337</sup> McQuoid- Mason (2012) (note 67 above) 354.

<sup>338</sup> McQuoid-Mason (2012) (note 67 above) 354.



practices and protocols in order to prevent hospital-acquired infections, should be regarded on *prima facie* evidence of negligence on the part of the hospital or medical facility in question.<sup>339</sup>

#### **4. Can negligence be excluded contractually?**

In order to avoid incurring legal liability, hospital admission forms contain exemption clauses which exclude liability for medical negligence.<sup>340</sup> The court in *Afrox Healthcare Bpk V Strydom*<sup>341</sup> held that exemption clauses should be interpreted restrictively.<sup>342</sup> The court further held that contracts entered into freely and seriously by parties who have the required capacity, in the interest of public policy, should be enforced.<sup>343</sup> Exemption clauses are enforceable provided that the clause is unambiguous. However, an exemption clause is not enforceable in circumstances where the medical professional's conduct amounted to intentional or gross negligence. In such instances the courts will hold that the exemption clause is contrary to *boni mores* and is therefore, null and void.<sup>344</sup> When a patient signs a contract without reading the contract, the patient does so at their own risk and is bound by the duly signed contract. Exclusionary clauses are standard practice in healthcare contracts and the healthcare establishments and facilities are not obligated to point out the exemption clause to the patients signing the contract.<sup>345</sup>

#### **5. Disciplinary proceedings of the Medical and Dental Professional boards**

The Medical and Dental Professional Board is exclusively responsible for dealing with all registered medical and dental practitioners. The aim of the professional board is to maintain and enhance the dignity of the medical profession and the integrity of all practising medical professionals.<sup>346</sup> The professional boards guide the medical profession and protect the interest of the public. The aims of the professional boards are similar to the aims of the HPCSA.

The professional boards have broad powers that include the power to remove and/or restore a registered healthcare professional from the register, or to suspend a medical professional from practising his or her profession pending the institution of a formal inquiry into the conduct of the medical professional.<sup>347</sup> The professional boards are empowered to institute an enquiry into

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<sup>339</sup> McQuoid-Mason (2012) (note 67 above) 354.

<sup>340</sup> Carstens and Pearmain (2007) (note 3 above) 868.

<sup>341</sup> 2002 (6) SA 21 (SCA) (hereafter referred to as *Afrox v Strydom*).

<sup>342</sup> *Afrox v Strydom* (note 341 above) 9 - 10.

<sup>343</sup> *Afrox v Strydom* (note 341 above) 17.

<sup>344</sup> Carstens and Pearmain (2007) (note 3 above) 868.

<sup>345</sup> *Afrox v Strydom* (note 341 above).

<sup>346</sup> The Health Professions Act (note 7 above) s15A (g) and (h); Carstens and Pearmain (2007) (note 3 above).

<sup>347</sup> The Health Professions Act (note 7 above) s 19 (1), (5) and s19A.

any complaint, charge or allegation of ‘unprofessional conduct’ against any registered medical practitioner.<sup>348</sup>

The concept of unprofessional conduct is defined as ‘improper or disgraceful or dishonourable or unworthy conduct which, when regard is had to the profession of a person who is registered in terms of the Act, is improper or dishonourable or dishonest or unworthy.’<sup>349</sup> The onus of proof is on the complainant to prove on a preponderance of probabilities that the conduct of the medical professional concerned amounted to ‘improper conduct’. The professional boards have the exclusive discretion to determine exactly what conduct would amount to improper or disgraceful conduct.<sup>350</sup> Improper or disgraceful conduct may be divided into four separate categories, namely medical malpractice,<sup>351</sup> improper or disgraceful behaviour concerning patients,<sup>352</sup> improper or disgraceful conduct concerning fellow medical practitioners,<sup>353</sup> and other improper or disgraceful conduct unbecoming to the medical practitioner.<sup>354</sup>

The disciplinary procedures of the professional boards are initiated when a complaint is submitted in writing to the registrar. Accordingly, the registrar will peruse and analyse all the complains it receives. The registrar will categorise the complaints according to the significance and seriousness of the complaints.<sup>355</sup> Each complaint received by the registrar will be recorded

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<sup>348</sup> The Health Professions Act (note 7 above) s41 (1).

<sup>349</sup> The Health Professions Act (note 7 above) s 41; Carstens and Pearmain (2007) (note 3 above) 262; Section 42 (1) of the Health Professions Act does not make reference to ‘unprofessional conduct’ but makes reference to improper or disgraceful conduct. Therefore, this leads one to infer that a medical practitioner registered with the HPCSA may be charged with ‘unprofessional conduct’ but an inquiry held by the professional board is obliged to make a finding of either improper or disgraceful conduct in relation to the medical practitioner’s profession.

<sup>350</sup> *Meyer v SA Medical and Dental Council* 1982 (4) SA 450 (T); Carstens and Pearmain (2007) (note 3 above) 263- 264 and 267; The HPSCA together with the professional boards have from time to time drawn up ethical codes of conduct in an attempt to promote the ethical conduct of the medical profession. Although the South African Courts are not bound by the ethical codes, the ethical codes of the medical profession will be an important consideration in order to determine what constitutes medical malpractice. Therefore, the Code of Ethical Rules and the Rulings of the HPCSA are an important source to determine which transgressions constitute ‘unprofessional conduct’.

<sup>351</sup> Carstens and Pearmain (2007) (note 3 above) 263; Medical malpractice refers to the treatment of patients which can be regarded as negligent, improper and not in accordance with the accepted medical practices.

<sup>352</sup> Carstens and Pearmain (2007) (note 3 above) 263, 268; this refers to the improper or disgraceful behavior cornering patients and refers to acts which are contrary to the accepted ethical practices of the medical profession, for example, rape or murder; ‘Every registered practitioner who, either before or after registration, has been convicted of an offence by a court of law may be dealt with by the professional board in terms of the Act, but only if the professional board is of the opinion that such an offence constitutes unprofessional conduct.’

<sup>353</sup> Carstens and Pearmain (2007) (note 3 above) 263; this refers to situations where a medical practitioner takes over the treatment of patients who is being treated by another medical practitioner.

<sup>354</sup> Carstens and Pearmain (2007) (note 3 above) 263; this refers to conduct which does not relate to the medical profession itself or to the treatment of patients or fellow medical practitioners but refers to conduct which is ‘not becoming to a medical practitioner.’

<sup>355</sup> Carstens and Pearmain (2007) (note 3 above) 271.

against the name of the respondent medical practitioner. Minor transgressions are referred to the ombudsman for mediation. The registrar must notify the medical practitioner (respondent) against whom the complaint is made and request that the respondent submit a written response to the registrar. The complaint together with the respondent's written response will be referred to the preliminary committee of inquiry.<sup>356</sup> The committee will then decide whether it accepts the respondent's response and believes that there are no grounds for the complaint, or that there are grounds for an inquiry into the respondent's unprofessional conduct.<sup>357</sup>

If the preliminary committee determines that there are sufficient grounds for a professional misconduct inquiry, the registrar must notify the respondent with a notice to appear at the inquiry at least 60 days prior to the date of inquiry. The notice must be served on the respondent by hand or by registered post at the respondent's registered address.<sup>358</sup>

The professional conduct inquiry functions for all intents and purposes as a court. The inquiry procedure is quasi-judicial in nature and is not as formal and the rules of admissibility of evidence are not applied so strictly. The respondent is given the opportunity to address the court, lead evidence and re-examine witnesses after cross-examination.<sup>359</sup> The professional conduct inquiry committee will take all the evidence into account and make a finding. The committee can either hold that the respondent is guilty of 'unprofessional conduct' or the committee can hold that the respondent's conduct indicates poor performance and the matter will be referred to the performance assessment committee.<sup>360</sup>

The Health Professions Act provides the Medical and Dental Professional Board with the power to institute inquiries into complaints, allegations or charges of unprofessional conduct against a registered medical practitioner. If the professional board at the conclusion of the inquiry finds that the medical practitioner is guilty of unprofessional conduct, the professional board may impose any of the penalties provided for in the Health Professions Act, which it considers fair and just.<sup>361</sup> The following penalties may be imposed by the Medical and Dental Professionals Board: a caution or a reprimand and a caution;<sup>362</sup> a suspension for a specified period from practising or performing acts specially pertaining to their profession;<sup>363</sup> removal

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<sup>356</sup> Carstens and Pearmain (2007) (note 3 above) 271.

<sup>357</sup> Carstens and Pearmain (2007) (note 3 above) 272.

<sup>358</sup> Carstens and Pearmain (2007) (note 3 above) 272.

<sup>359</sup> Carstens and Pearmain (2007) (note 3 above) 274-275.

<sup>360</sup> The Health Professions Act (note 7 above) s 41A (8).

<sup>361</sup> Carstens and Pearmain (2007) (note 3 above) 268.

<sup>362</sup> The health Professions Act (note 7 above) s42 (1)(a); Carstens and Pearmain (2007) (note 3 above) 268.

<sup>363</sup> The health professions Act (note 7 above) s42 (1)(b); Carstens and Pearmain (2007) (note 3 above) 268.

from the register;<sup>364</sup> a fine not exceeding R10 000;<sup>365</sup> a compulsory period of professional services as may be determined by the professionals board;<sup>366</sup> or the payment of the costs of the proceedings, or a restitution, or both.<sup>367</sup>

## 6. Conclusion

Vicarious liability is the liability of one for the delict of another. In order for an employer or the state to be held vicariously liable for the delictual acts of its employee, an employee-employer relationship must exist, the employee must have committed a delict and the delict must have been committed within the scope of the employee's employment. Medical facilities may be held vicariously liable for the delictual acts of its employee in circumstances where the employee negligently disobeys the employers' instructions or protocols. The court in *Afrox v Strydom* held that exclusionary clauses in contracts which exclude the negligence of its medical professionals remain valid, provided that the conduct of the medical professionals does not amount to gross negligence.

The HPSCA establishes professional boards that have the power to investigate any complaint of unprofessional conduct against a medical practitioner registered with the HPCSA. Unprofessional conduct is any conduct which is improper or disgraceful or dishonourable or unworthy. The complainant must prove their allegation of unprofessional conduct on a preponderance of probabilities. If the professional board finds the medical practitioner's conduct to be unprofessional, the professional board has the discretion to impose any of the penalties provided for in the Health Professions Act.

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<sup>364</sup> The Health Professions Act (note 7 above) s42 (1)(c); Carstens and Pearmain (2007) (note 3 above) 268.

<sup>365</sup> The Health Professions Act (note 7 above) s42 (1)(d); Carstens and Pearmain (2007) (note 3 above) 268.

<sup>366</sup> The Health Professions Act (note 7 above) s42 (1)(e); Carstens and Pearmain (2007) (note 3 above) 268.

<sup>367</sup> The Health Professions Act (note 7 above) s42 (1)(f); Carstens and Pearmain (2007) (note 3 above) 268.

## CHAPTER SEVEN

### CONCLUSION

The South African health care system currently consists of a public and private healthcare sector. Both the public and the private healthcare systems are governed by the National Health Act which places an obligation on the Minister of Health to prescribe the expected standards of healthcare services. Ultimately, it is the responsibility of the Minister of Health to promote, protect, improve and maintain the health of the people of South Africa. The HPCSA is a regulatory body motivated by the Constitution of the Republic of South Africa, which is established by the Health Profession Act. It endeavours to improve the quality of healthcare services in South Africa by setting standards for training, education and discipline of all medical professionals to ensure that the medical profession is competent and compliant with the standards set by the council and that the public is protected. The professional boards of the HPCSA were created to assist in the promotion of health of the population and to protect the public's interest. These professional boards also have disciplinary powers to conduct inquiries into the alleged unprofessional conduct of medical professionals. The HPCSA's professional boards are responsible for the disciplinary proceedings of all registered medical professionals whose conduct amounts to unprofessional conduct. The professional boards have the power to remove or restore a medical practitioner from the register, and to suspend a medical practitioner. The professional boards have the authority to institute an inquiry into the allegation of unprofessional conduct by the medical practitioner. If professional boards find the medical practitioner guilty of unprofessional conduct, the board has the discretion to impose a prescribed punishment at the conclusion of the inquiry.

One of the leading causes of death in hospitalised patients is nosocomial infections. Nosocomial infections are those infections that are acquired by patients in a healthcare facility, that was not present or incubating when the patient was admitted into the facility. Nosocomial infections may be transmitted from one patient or healthcare worker to another healthcare worker or patient by means of contact, droplet spread, airborne microorganisms or by other means, such as the use of contaminated needles, equipment and water supplies. The development of nosocomial infections is influenced by the microbial agent, the patient's susceptibility, the hospital environment and the antimicrobial resistance of the microorganism. Nosocomial infections affect not only the poorly-resourced healthcare establishments, but also healthcare establishments with cutting-edge technology and resources. A patient who has been infected by a nosocomial infection suffers in more ways than the mere inconvenience of

contracting an infection; they may also suffer from emotional stress and/or the ability to function effectively due to the disabling conditions that may reduce the patient's quality of life. Furthermore, the patient and his or her family may suffer economically due to the patient's inability to work due to hospitalisation and the economic burden of the medical costs that are associated with the prolonged hospitalisation.

A high incidence of nosocomial infections at a healthcare establishment is evidence of poor healthcare service delivery. Infection-control and prevention policies and programmes are essential to ensure the containment of nosocomial infections within a healthcare establishment. Sadly, within the South African healthcare system, the practise of infection-control and prevention policies range from excellent to non-existent. In fact, the majority of the healthcare establishments within South Africa practise extremely poor infection-control and prevention. The National Department of Health established the National Infection Prevention and Control Policy and Strategy, which is only applicable to healthcare establishments within the public sector, with the aim to provide the people of South Africa with a safe healthcare environment. Therefore, the National Department of Health creates uncertainty as to the national standard of infection control and prevention by only establishing a policy which is applicable to the public sector. The World Health Organisation, however, places a positive duty upon its member countries/states to implement a national programme designed to reduce the risk of nosocomial transmission. The infection-control and prevention programme must be effective and comprehensive by including staff training, surveillance and prevention activities. The World Health Organisation places specific responsibilities on all medical professionals and management staff to prevent nosocomial infections. The management of healthcare establishments are responsible for establishing a multidisciplinary infection-control and prevention committee to give effect to the infection-control programme. The committee must see to it that all staff members are adequately educated and trained in infection control and prevention. Every healthcare establishment must have access to an infection-control specialist who is responsible for the day-to-day functioning of the infection-control and prevention policies.

The key component in identifying the effectiveness of infection-control and prevention programmes is infection surveillance. The primary aim of infection surveillance is to reduce the rate of infection in the healthcare establishment and the medical costs associated with the nosocomial infections.

The WHO further provides member countries/states with standard precautions that should be implemented for the prevention of nosocomial infections. These routine standard precautions include hand-washing, using gloves, aseptic practices, isolation, sterilisation and disinfection, and must be followed by all healthcare workers when treating any patient. The Occupational Health and Safety Act also places a positive duty on employees to ensure that the work environment is safe and without risk to its employees.

The discovery of antimicrobial agents resulted in the successful treatment of many infections previously considered fatal. However, the successful treatment of infections by antimicrobial led to the over-use and misuse of antimicrobial agents which has inevitably resulted in the development of antimicrobial-resistant microorganisms. Antimicrobial-resistant microorganisms coupled with inadequate infection-control and prevention policies, result in international public health problems that present a direct threat to the safety of the South African population. The inappropriate use of antimicrobial agent leads to increased incidences of antimicrobial resistance, therefore causing increased duration of diseases, increased mortality rates, increased risk of complications and increased admissions to hospital, increased medical costs and increased susceptibility to severe illness. The WHO describes future healthcare as a post-antibiotic era, thus eliminating the fundamental role that antimicrobials have had on reducing the mortality rates and life-expectancy of the population, as well as threatening to reverse the life-saving power of antimicrobial agents.

The current efforts to address antimicrobial resistance in South Africa include GARP-SA, SAAP and NASF. These policies and efforts have been introduced to monitor antimicrobial resistance patterns in healthcare establishments, to provide guidance on antimicrobial susceptibility testing, to promote appropriate antimicrobial prescription and to reduce the use of antimicrobial agents. These policies, however, are in my opinion, inadequate as they do not effectively encourage the appropriate use of antimicrobials. The policies also neglect to provide consequences for those medical professionals and facilities who do not actively monitor antimicrobial resistance and appropriate prescription practices. There are alternative trends that may be implemented to encourage the management of antimicrobial-resistant nosocomial infections. These trends include antimicrobial de-escalation, the use of local epidemiological and antibiotic susceptibility patterns and a reduced duration of therapy. The guidelines of the WHO encourage healthcare facilities to establish antimicrobial-use programmes that are implemented through the antimicrobial committee to ensure the effective prescription of antimicrobial agents with the intent to minimise antimicrobial-resistant microorganisms. The

programme must prescribe that all antimicrobial prescriptions must be justified on the basis of a clinical diagnosis. The medical practitioner must also take into account when prescribing antimicrobial agents: the nature of the disease, the sensitivity pattern of the antimicrobial agent, the patient's tolerance, the appropriate dosage and the cost of the antimicrobial agent.

Medical practitioners over-prescribe antimicrobial agents due to diagnostic uncertainty and to avoid situations of under-treatment. Medical practitioners also attempt to avoid responsibility for withholding treatment from a patient, therefore practising defensive medicine.

The fiduciary doctor-patient relationship is integral to the existence of the duty of care owed by a medical practitioner to his or her patient. A medical practitioner's fiduciary duty is further strengthened by the ethical principle of principlism and the Hippocratic Oath. Principlism requires a medical practitioner to respect a patient's autonomy and to uphold the principles of beneficence, non-maleficence and justice. This duty of care is breached when a medical practitioner fails to provide medical treatment which conforms to the standard that is expected of a reasonable medical practitioner. The breach of a medical practitioner's duty of care is an infringement of the rights awarded by the Constitution of the Republic of South Africa's Bill of Rights and could possibly be regarded an occurrence of medical negligence. In the South African legal system, a healthcare worker is deemed negligent when the healthcare worker does not perform his or her duties with reasonable care and skill, and such healthcare worker shall be liable to the patient for damages.

In terms of the law of delict the onus of proving a delictual claim of medical negligence rests with the patient. The patient must prove, on a balance of probabilities, the requirement of delictual liability: conduct, wrongfulness, fault, causation and damage. In order for the requirement of fault to be present, the patient must use the test for medical negligence as established by the case of *Van Wyk v Lewis*. A court must establish whether the conduct required by the medical practitioner was in line with the standard of skill and care required by the medical profession in light of the circumstance of each unique case. This test is one of foreseeability and preventability.

However, the court in *Pringle v Administrator, Transvaal* recognised that medical practitioners are human beings and that it is only human for an error of professional judgement to occur from time-to-time. The court will determine if a medical practitioner's error of professional judgement is deemed to be negligent according to whether or not the error of professional judgement is reasonable. The court however, in *Van Wyk v Lewis* confirmed the application of



rule of *imperetitia culpa adnumeratur*, lack of training, skill and expertise, knowledge, competence and diligence amount to negligence.

The patient must prove the alleged medical negligence with the use of the evidence of an expert witness. Ultimately, the court has the discretion to make an order of negligence against a medical practitioner. The mere fact that a medical practitioner deviated from the accepted medical practice does not amount to negligence. Thus, a patient may not make use of the maxim *res ipsa loquitur* (the facts speak for themselves) to prove their claim of negligence because the court in *Van Wyk v Lewis* held that this maxim does not find application in the South African medical law. The court in *Goliath v MEC for Health, Eastern Cape* did, however, in its judgement record that the maxim of *res ipsa loquitur* is merely used to describe the proof of facts to support an inference of a *prima facie* case.

Who is ultimately liable for the occurrence of nosocomial infections in hospitalised patients? The court determines wrongfulness on the basis of public policy, which is informed by the values of the Constitution. This is a value judgement by taking into account the facts of each case and the values of reasonableness, good faith and fairness.

Vicarious liability is the strict liability of one person for the delicts of another. In order for one person to be held delictually liable for the acts of another, a particular relationship between the two parties must be present, for example an employer-employee relationship. Therefore, an employer may be held vicariously liable for the delict of his or her employee, if the delictual acts committed by the employee were committed within the scope of the employee's employment. In terms of the doctrine of *respondeat superior*, a healthcare establishment or a healthcare practitioner will incur legal liability for the wrongful and negligent conduct of other healthcare professionals in their service and employment, and therefore the healthcare establishment or healthcare practitioner will be vicariously liable. However, when the services of other healthcare workers, i.e. nurses, radiologists and anaesthetists, are utilised by a medical practitioner, such medical practitioners shall not be held vicariously liable for the negligent conduct of their fellow healthcare workers, because the fellow healthcare workers perform their services as independent contractors.

Therefore, a healthcare establishment must be held vicariously liable for the negligent conduct of its employees where a healthcare worker acted within the scope of his or her employment. The healthcare establishment must also be held vicariously liable when the healthcare establishment intentionally participated in wrongful or unlawful conduct of its healthcare workers or when the healthcare establishment exercises negligent choice by utilising the services of an incompetent or inexperienced healthcare worker or the healthcare establishment itself was

negligent by providing defective medical equipment. Healthcare establishments will also be vicariously liable even though their employees have negligently or intentionally disobeyed instructions or protocols. A medical practitioner may also be held personally liable for his or her negligent conduct. The failure of a healthcare establishment's administration to introduce infection-control and prevention practices and protocols, as well as antimicrobial-use practices and protocols should be regarded as *prima facie* evidence of negligence on the part of the healthcare establishment. The State Liability Act prescribes that the state will be vicariously liable for the delictual acts of state employees.

In my opinion the majority of the liability should be placed on the Minister of Health, who has a statutory responsibility to promote, protect, improve and maintain the health of all people within South Africa. The Minister of Health also has a statutory duty to create legislation and regulations to regulate all matters dealing with the health of the nation. The Minister of Health, together with the Department of Health, have failed the people within the Republic of South Africa because of the lack of national regulations to control the use of antimicrobials and failure to specify the required standard of infection-control and prevention practices. The Minister of Health has also failed to meet the standards prescribed by the WHO requiring effective national infection-control and prevention policies. The judiciary system in South Africa has adopted a lenient approach to medical negligence by medical practitioners which increases the burden on a patient. The courts should adopt a stricter approach to medical practitioners who are being sued for medical negligence in order to give effect to the patient's constitutional rights and to enforce the medical ethics principles on the medical practitioner.

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