

https://dspace.org/

The Ethical Failure by the State’s Defence to Adequately Defend Medical Negligence Cases Involving Cerebral Palsy

Naicker, Vishanta

2025

University of the Witwatersrand, Johannesburg

https://hdl.handle.net/10539/48270

Naicker, Vishanta . (2025). The Ethical Failure by the State’s Defence to Adequately Defend Medical Negligence Cases Involving Cerebral Palsy [Master`s dissertation, University of the Witwatersrand, Johannesburg]. WIReDSpace. https://hdl.handle.net/10539/48270

Downloaded from a DSpace repository. https://dspace.org/

The Ethical Failure by the State's Defence to Adequately Defend Medical Negligence Cases Involving Cerebral Palsy

Student: Vishanta Naicker

Student number: 0600641R

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

Supervisor: Mr Siraaj Khan

Position: Lecturer, Steve Biko Centre for Bioethics

Plagiarism Declaration

I, Vishanta Naicker (Student number: 0600641R), am a student registered for MSc Med (Bioethics & Health Law) in the year 2024.

I hereby declare the following:

- I am aware that plagiarism (the use of someone else's work without their permission and/or without acknowledging the original source) is wrong.
- I confirm that the work submitted for assessment for the above course is my own unaided work except where I have explicitly indicated otherwise.
- I have followed the required conventions in referencing the thoughts and ideas of others.
- I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my own unaided work or that I have failed to acknowledge the source of the ideas or words in my writing.

Signature: Vishanta Naicker

Date: 21 April 2025

For my father, in his loving memory…

Acknowledgements

To my Creator, nothing is possible without You. Thank You for every opportunity to pursue my dreams.

To my late father, Ganasen Naicker. You have instilled in me a love for reading and learning. I will carry this with me throughout my life. This degree is completed in your honor.

To my mother, thank you for all your support and understanding. Thank you for making sure that my family was taken care of.

To my supervisor, Mr Siraaj Khan. Thank you for all your expertise and the many curveballs you threw at me. You challenged me and pushed me beyond what I thought I was capable of. It was truly a learning experience. I have emerged humbled and wiser.

To my husband, Linash. Your support throughout this time has been everything to me. Thank you for going above and beyond to make sure that I had sufficient time to complete my research. And thank you for all your understanding during my absence.

To my children, Rayaan and Aryan. I hope that you both know that nothing is impossible in this world, if only you put your mind to it.

Table of Contents

Plagiarism Declaration 1

Acknowledgements 3

Chapter 1 10

Introduction and Background 10

1.1 Introduction to Research 10

1.2 Overview of Literature 15

1.3 Research Question 16

1.4 Rationale for the Study 16

1.5 Thesis Statement 17

1.6 Research Aim 17

1.7 Research Objectives 18

1.8 Research Design 19

1.9 Research Methods 19

1.10 Argumentative Strategy 20

1.11 Research Outcomes 22

1.12 Limitations 22

2. Overview of Chapters 22

3. Timing 24

4. Funding 25

Chapter 2 **26**

Medical science that CTG and MRI are inadequate to determine causation of cerebral palsy **26**

1. Introduction **26**

2. Cerebral Palsy **27**

2.1 Cerebral Palsy Aetiology and Risk Factors **28**

2.2 Aetiology and Risk Factors in Africa **29**

3. Cerebral Palsy Litigation **31**

3.1 CTG **32**

3.2 MRI **34**

4. *Bhorat et al* Criteria for Intrapartum Hypoxic Ischemic Event in Neonatal Encephalopathy 37

4.1 Criteria **38**

5. Conclusion **42**

Chapter 3 **44**

The State's failure to adequately defend medical negligence cases involving CP and the application of the *Bhorat et al* criteria **44**

1. Introduction **44**

2. Legal Principles to Establish Medical Negligence **47**

2.1. Burden of proof in medical negligence cases **47**

2.2 Overview of the Law of Delict **49**

2.2.1 Causation in Delict **49**

2.3 Rules of evidence – expert witness and cross-examination 52

3. Case Law and Evaluation of State's Defence 54

3.1 *M obo M v MEC for Health and Social Development, Gauteng* [2018] ZAGPJHC 513 54

3.1.1 Summary of Facts of the case 54

3.1.2 Summary of expert evidence by the Plaintiff 56

3.1.2.1 Commentary on expert evidence by Plaintiff and the State's cross-examination 58

3.1.3 Summary of expert evidence by the Defendant 60

3.1.4 Summary of Evaluation of Evidence by the Court 62

3.1.5 Commentary on State's defence 64

3.2 *Lushaba v MEC for Health Gauteng* [2014] ZAGPJHC 407 65

3.2.1 Summary of the facts of the case 65

3.2.2.1 Commentary on expert evidence by Plaintiff and State's cross examination 68

3.2.3 Summary of expert evidence by Defendant 70

3.2.3.1 Commentary on expert witness for the Defendant 71

3.2.4 Court's findings 72

3.2.5 Commentary on State's Defence 73

4. Recent development in case law 74

5. Conclusion 74

Chapter 4 76

Ethical implications of adequately defending medical negligence cases involving CP by using medical science **76**

1. Introduction **76**

2. Utilitarianism **77**

3. Utilitarianism in public health policy **79**

4. Inadequate defence by the State as a public health issue **81**

5. Criticism of utilitarianism and its application to this paper **84**

5.1 The problem of unjust distributions **84**

5.1.1 Response to objection of unjust distributions **85**

5.2 Human Rights criticism **86**

5.2.1 Response to human rights objection **87**

6. Conclusion **89**

Chapter 5 **91**

Conclusion and Recommendations **91**

1. Introduction **91**

2. Medical Science relating to aetiology of CP **92**

3. Legal theory pertaining to medical negligence cases involving CP **94**

4. Ethical argument **97**

5. Conclusion **100**

6. Recommendations **101**

References **104**

Chapter 1

Introduction and Background

1.1 Introduction to Research

Public healthcare in South Africa serves 84% of the population (White Paper on National Health Insurance, 2017: 2). Most South Africans do not have access to medical aid and are largely dependent on the public healthcare system (statssa.gov.za: 2017).

The budget designated for public healthcare services in South Africa is presently being drained by claims of medical negligence against the State. Medical negligence claims against the State are increasing exponentially each year. The healthcare budget for the year 2019/2020 was R222.6 billion (treasury.gov.za) and claims for the same period amounted to R105.8 billion (pmg.org.za, 2019). The Clinton Health Access Initiative (CHAI) conducted research on medico-legal claims throughout the nation and found that half of all claims are related to cerebral palsy, accounting for over sixty percent of the liability in six out of nine provinces (South African Law Reform Commission, 2021: 175). Medical negligence claims require the elements of a delictual claim to be satisfied and I am of the opinion that some claims do not meet this criteria. One of the requirements of a delictual claim is the element of causation

of harm. In order to meet this requirement, it must be demonstrated that the negligent conduct is, on a balance of probabilities, the reason for the harm experienced. I argue that this element of causation is not always satisfied in cerebral palsy-type cases, based on scientific evidence that there are multiple contributing factors to cerebral palsy. However, some claims are still successful and I attribute this to the inadequate defence by the State.

Since valid medical negligence claims are paid from the existing healthcare budget, it has had a detrimental financial impact on the Department of Health and this has lead to many issues such as vacancies in healthcare not being filled, shortages of medication and medical supplies and the inability to upgrade to newer and better technology (SALRC Discussion Paper, 2021: 202). The ripple effect of this is that hospitals are being overcrowded, there are longer queues for treatment and medical practitioners are being overworked (Dhai and Mahomed, 2018).

National Treasury has expressed concern that the rise in medical negligence litigation against the State poses a serious threat to the provision of “medical services, the financial viability of provincial health departments and the availability of specialists in key disciplines in the health profession, both in the public and private sector.” (SALRC, 2021: 185). This is a threat to the provision of healthcare in the public sector in South Africa. While the Constitution provides for the right to access to healthcare, it also provides that the State has an obligation to take reasonable,

legislative and other measures to protect this right (Constitution of the Republic of South Africa: s27(2)). I argue that protecting this right would include adequately defending medical negligence cases.

National Treasury has raised concerns about the government's ability to effectively challenge and defend against medical negligence claims (SALRC, 2021: 185). This is the central focus of my paper, specifically with regard to the State's defence of cerebral palsy claims.

Cerebral palsy can occur during pregnancy, at birth and after birth. The occurrence of cerebral palsy at birth is the main focus of medical negligence claims involving cerebral palsy against the State. These cases often rely on the fact that the foetus was not adequately monitored by medical staff and as a result, there was a delay in performing a caesarian section, which caused the foetus to suffer from acute and prolonged deprivation of oxygen, leading to brain damage and ultimately, cerebral palsy. MRI scans are conducted later in childhood to assess when oxygen deprivation to the brain occurred in the past. Deprivation of oxygen to the brain is medically referred to as acute intrapartum hypoxia. Intrapartum is the period during labour and delivery (Farlex, 2012). Hypoxia is the deficiency of oxygen reaching the tissues (Farlex, 2012). Neonatal encephalopathy is a medical term used to describe a baby born with deprivation of oxygen to the brain. Neonatal refers to a newborn and encephalopathy is a disorder of the brain (Farlex, 2012). Another medical term

used to describe such babies is hypoxic ischemic encephalopathy. Ischemic is an inadequate blood supply (Farlex, 2012).

An analysis of case law shows that the plaintiff usually relies on the following to make a claim for causation of cerebral palsy:

1. The lack of CTG monitoring of the foetus during labour and,
2. MRI scans taken later on in childhood which is used to determine the timing of the hypoxia.

The Court's attribute the lack of CTG monitoring to negligent intrapartum care, which is often held to be the sole cause of cerebral palsy. However, attributing the absence of CTG monitoring and MRI results solely to cerebral palsy is considered overly simplistic, as this condition is intricate, involving numerous risk factors and causes, necessitating a thorough scientific assessment of all contributing elements (Bhorat et al, 2021: 280-287). The American Academy of Obstetricians and Gynaecologists (ACOG) as well as the American Academy of Paediatrics made up the Cerebral Palsy Task Force (CBTF). After much research, the CBTF set out criteria that can be used to determine if cerebral palsy was caused at birth. This criteria is mentioned in textbooks used by medical schools in South Africa which are part of the syllabus for Obstetrics and Gynaecology. Highly respected academics have accepted this criteria and adapted it for the South African setting (Bhorat et al, 2021:280-287). It is also supported by the South African Society for Obstetricians and Gynaecologists (SASOG) (sasog.co.za : 2021). I will refer to this South African criteria as the 'Bhorat

et al' criteria. This criteria, which is considered medical science, is an obvious defence for the State which has not been adequately raised. While Court's are not bound by the opinions of academics, I argue that valid and reliable science is important in determining causation in Court, especially in complex medical negligence cases when determining causation is not straightforward.

Due to the resultant harm caused to the healthcare system, I argue that medical negligence cases involving cerebral palsy should be considered a public health issue that requires intervention. I draw on the consequentialist theory of Utilitarianism to argue that the failure of the State to adequately defend cerebral palsy cases, when there is a plausible defence, is not ethically justifiable.

Utilitarianism is a moral theory that asserts the ethical value of an action is based on the outcome it generates. Morality is assessed in terms of the amount of good over harm produced for the greatest number of people (Beauchamp and Childress, 2019: 388-389). An action is morally justified by the amount of good it produces or promotes over the amount of harm it avoids(Beauchamp and Childress, 2019: 388 - 389).

The failure by the State to adequately defend medical negligence cases involving cerebral palsy has the consequence of diverting funds allocated for healthcare to medical negligence claim payouts. This means that there are less funds available in

the budget for the provision of healthcare. This impacts most of the South African population that depends on the public healthcare system. The inadequate defence by the State causes harm to the greatest number of people. This is not morally justifiable in terms of Utilitarianism.

I will argue that the State is not adequately defending medical negligence cases involving cerebral palsy by not disputing the relevance of CTG and MRI scans, which is heavily relied upon by the plaintiff. I argue that valid and reliable science such as the 'Bhorat et al' criteria ought to be raised as a defence, where applicable. This will demonstrate to the Court that cerebral palsy has multiple causative factors and that liability for the causation of cerebral palsy is too complex to be determined by CTG and MRI scans alone. My argument thus has three parts viz. medical science, legal strategy and the ethical component.

1.2 Overview of Literature

There is literature which focuses on the impact of medical negligence litigation against the State and the resultant effect of this on the healthcare system (AGSA: 2023, DoH paper: 2023, SALRC: 2017, SALRC: 2021, Whittaker: 2021). I draw on case law as well as academic articles to argue in defence of my thesis. I use various medical negligence cases involving cerebral palsy to support my argument that the State is failing in its defence. I use these cases to demonstrate the heavy reliance by

the plaintiff on CTG and MRI readings. I will also use the scientific data by ACOG and the CBTF as well as *Bhorat et al* to show that in complex medical negligence cases such as cerebral palsy, the application of CTG readings (or the lack thereof) and retrospective application of MRI are far too simplistic to determine causation. I will also argue that the State has failed in its defence by not disputing the relevance of CTG and MRI scans and not adequately raising valid and reliable science such as the 'Bhorat et al' criteria for neonatal encephalopathy.

1.3 Research Question

Is the State ethically obligated to use the 'Bhorat et al criteria' to adequately defend medical negligence cases involving cerebral palsy?

1.4 Rationale for the Study

The public healthcare system in South Africa is facing critical challenges due to several factors, with one being the financial burden of medico-legal claims on the Department of Health. National Treasury has issued a call for immediate action due to the elevated number of medical negligence claims, which does not align with known trends in medical negligence (SALRC, 2021: 185). There are many propositions by the SALRC to attempt to overcome the burden of these claims on the State. One recommendation is to have a separate fund for the payment of medico-

legal claims as well as a staggered payment of claims. The staggered payment of claims is often referred to as a Public Healthcare Defence. This is a not a legal defence but rather a method of payment. Another recommendation is mediation instead of litigation (Dhai, 2016: 2). I contend that sound scientific data should be used to determine causation of cerebral palsy when determining liability in medical negligence cases. In my paper, I will show that the State has failed to adequately defend medical negligence cases involving cerebral palsy as a result of not using the factors contributing to neonatal encephalopathy in a robust manner. While my claim may appear categorical in nature, inadequate defence in even one case has the resultant effect of depleting large amount of funds from the healthcare budget that would have otherwise served the public healthcare system.

1.5 Thesis Statement

The State is ethically obligated to utilise the 'Bhorat et al criteria' to adequately defend medical negligence cases involving cerebral palsy.

1.6 Research Aim

To defend my thesis claim that it is not ethically justifiable for the State to fail to adequately utilize the 'Bhorat et al criteria' as a defence in medical negligence cases involving cerebral palsy.

1.7 Research Objectives

There are 5 research objectives:

1. To provide a thematic overview of the literature on cerebral palsy litigation in the public healthcare sector.

2. To defend my claim that there is widespread scientific agreement that MRI and CTG evidence alone is inadequate to prove causality of CP.

3. To defend my claim that the State is unsuccessful in its defence of medical negligence cases involving cerebral palsy due to the failure to dispute the relevance of MRI and CTG scans and adequately raise contributing factors to neonatal encephalopathy.

4. To defend my claim that by the State being unsuccessful in its defence of these cases, it results in enormous, unnecessary payouts from the health care budget, which, in turn has a negative impact on the delivery of healthcare services.

5.To respond to and counter the following objections to my argument:

1.If CTG is unreliable, why is it still so widely used in medical negligence cases involving cerebral palsy?

2.The criteria set out implicating acute intrapartum hypoxia is developed in high income countries. South Africa is a upper middle income country with different circumstances.

3. Babies born with cerebral palsy will be prejudiced should their claims be dismissed.

1.8 Research Design

Normative project in defence of a thesis.

1.9 Research Methods

My study relies on resources found in libraries and on the internet. I will not gather any new data, nor will this research involve any human subjects. Common methods and standards used in philosophical research will be applied.

1.10 Argumentative Strategy

I will argue, using the 'Bhorat et al' criteria, that MRI and CTG evidence alone is inadequate to determine causation of cerebral palsy. In my analysis of cerebral palsy cases against the State, it is common practice to use CTG or the lack thereof as evidence that the foetus was in distress and therefore required urgent delivery by caesarean section. The delay in performing the caesarean section is often cited as the reason why the foetus suffered a hypoxic ischemic event, resulting in cerebral palsy. I argue that the relevance of using CTG in predicting cerebral palsy is unreliable, given the scientific evidence that it has a high false positive rate when used to predict cerebral palsy. I also argue, based on scientific evidence, that cerebral palsy arises from several different causative pathways. Therefore, CTG and MRI cannot be utilised alone, and a range of factors must be considered when establishing causation. This is a defence that the State has failed to adequately raise in cerebral palsy cases.

I will further argue that the State is unsuccessful in its defence of medical negligence cases involving cerebral palsy due to the failure to dispute the relevance of CTG and MRI scans and adequately raise contributing factors to neonatal encephalopathy. I will analyse case law to show that Court's often find the State liable for causation of cerebral palsy based on the fact that there was sub-standard intrapartum care i.e. lack of foetal monitoring or failure to respond to CTG data. The Court's often conclude that negligent intrapartum care causes cerebral palsy. In these cases, the

State has not raised a proper defence to show the Court that negligent intrapartum care, through lack of foetal monitoring, while detestable in the strongest terms, is not the sole cause of cerebral palsy. Cerebral palsy has multiple causative factors.

Lastly, I will argue using utilitarian ethics, that the consequence of the State's failure to adequately defend medical negligence claims involving cerebral palsy has a detrimental impact on the delivery of healthcare services in South Africa. I will also argue that this makes the failure to adequately defend these cases a public health issue.

I will further argue that utilitarian ethics places an obligation on the State to adequately defend medical negligence cases pertaining to cerebral palsy in order to benefit the greater good. The value of claims for medical negligence cases involving cerebral palsy are excessively high and adequately defending a case may save a portion of the State's expenses, which can be put to better use in State healthcare facilities, which ultimately benefits the majority of the South African population.

Medical negligence claims payouts amounted to R1.7 billion for the year 2018/2019 (Minister of Health: 2020). Even if this amount is reduced by a mere 10%, by the State adequately defending medical negligence cases, it is a benefit to all those who use the public healthcare system.

1.11 Research Outcomes

This research is undertaken with the intention to publish in an academic journal such as the South African Medical Journal or the South African Journal of Bioethics and Law. This research will additionally aid in formulating guidelines and suggestions for legal reform concerning medical negligence associated with cerebral palsy. This research can also serve as a basis for counsel involved in cerebral palsy litigation.

1.12 Limitations

There is a lack of literature as well as data on the topic. It is unclear what percentage of cases have been unsuccessfully defended by the State. In addition, it is also not clear what percentage of cases could have been successfully defended by the State.

2. Overview of Chapters

Chapter 1: Introduction and Background

Introduction and overview of topic with information on background.

Chapter 2: Medical science that CTG and MRI are inadequate to determine causation of cerebral palsy

Overview of scientific data on CTG, MRI and causation of cerebral palsy. Introduction to the 'Bhorat et al' criteria.

Chapter 3: State's failure to dispute the relevance of CTG and MRI scans and adequately raise contributing factors to neonatal encephalopathy as a defence to medical negligence cases involving cerebral palsy

Analysis of South African cases where CTG and MRI were used to determine liability of the State and where the State did not raise an adequate defence.

Chapter 4: Ethical implications of the failure by the State to adequately defend medical negligence cases involving cerebral palsy

Description and extent of impact of medical negligence litigation on the public healthcare sector from a Utilitarian perspective.

Chapter 5: Conclusion

Overview of arguments made to show that failure of the State to use sound and reliable science, such as the contributing factors to neonatal encephalopathy, as a defence in cerebral palsy cases is an ethical failure on the part of the State's defence.

3. Timing

Activity	Jan '22	Feb '22	Mar '22	Apr '22	May '22	Jun '22	Ju '22	Aug '22	Sep '22	Oct '22 – March '23	March '23 - July'24	Oct'24
Proposal Development												
Proposal Assessment and Amendments												
Ethics Application												
Write up Research Report												

Submit Report for Examination												

4. Funding

The project will be self-funded as indicated below.

Item	Costs
Internet	R1500
Printing	R1000
Binding	Nil
Transport	R1000
Total cost	R3500

Chapter 2

Medical science that CTG and MRI are inadequate to determine causation of cerebral palsy

1. Introduction

In this Chapter, I will briefly describe the characteristics of cerebral palsy (CP) as well as the different aetiologies and risk factors associated with this condition. While research on the African continent is limited and most research is from high income countries (HIC), I will attempt to give a balanced overview of the medical science with data from both HIC's and countries from the African continent. I will also introduce medical science, based on internationally accepted literature, that has been adapted for South Africa.

I will argue that CP, while previously thought to be solely caused by intrapartum hypoxia, has been shown to have multiple causative factors. In cases of medical negligence related to cerebral palsy (CP) in South Africa, CTG and MRI are utilised independently to establish a causal relationship between the actions of the State and the resulting CP. However, since CP has multiple causative factors, CTG and MRI cannot be used in isolation to determine causation. I will discuss the medical science surrounding CTG readings and show why CTG cannot be relied upon solely as a predictive factor in CP. I will further show that while MRI is the cornerstone in

diagnosing brain pathologies, the retrospective application of the findings to determine the timing of the hypoxic ischemic event (HIE) is unreliable. As a result of CTG and MRI being unreliable in determining true causation of CP, I argue that the State may not be liable in all medical negligence cases involving CP. It is very important that legal teams involved in these cases give close consideration to the cause of CP (Ramdass, 2024: 9)

I will then introduce the reader to international criteria to determine whether an HIE occurred during the intrapartum period, which is the period during labour and delivery where the birthing mother is generally in the care of the State. These criteria have been endorsed and adapted by experts in the field of obstetrics, gynecology and neonatology in South Africa as well as by the South African Society of Obstetricians and Gynaecologists (SASOG). I refer to this criteria as the *'Bhorat et al'* criteria because of their South African perspective on it.

2. Cerebral Palsy

CP refers to a term that encompasses clinical characteristics associated with movement and posture disorders resulting from damage to the brain of a developing foetus or infant (Bax et al, 2005: 572). This definition suggests that injury to the brain can occur before birth, during birth and after birth (Bax et al, 2005: 573).

The global prevalence of CP is 2 per 1000 live births (Van Aarden, 2016). The birth prevalence of CP in high income countries is 1.6 per 1000 live births (McIntyre et al, 2022: 1494). In rural South Africa, the prevalence of CP can be as high as 10 per 1000 live births, almost 5 times higher than the global prevalence (Kantangwe et al: 2020: 353).

2.1 Cerebral Palsy Aetiology and Risk Factors

Most of our CP research comes from HIC's. In the African setting, research into the aetiology, risk factors and prevalence of CP are limited. Since Africa and its individual countries have their own challenges, application of this research may be difficult. However, I will use research from HIC's that may be applicable in the African setting as well as research conducted in South Africa and various African countries. I will also state the limitations of these studies. While the studies are not population based, it is still important to recognize the different aetiologies and risk factors that present on the African continent, in comparison to HIC's.

Since the 1960s, it has been thought that most cases of CP were caused by a lack of oxygen during childbirth (Buttigieg, 2017: 2). However, in the 1980's a significant research study revealed that among babies delivered at term, intrapartum hypoxia during labour accounted for fewer than 10% of CP cases, and that the majority were caused by issues with the brain that arose prior to birth. (Buttigieg, 2017: 2). Normal

labour and vaginal delivery naturally induces a considerable amount of hypoxia which a normal fetus is able to withstand (Stanley et al, 2000: 100). A fetus may be compromised during early pregnancy by familial and genetic causes, trauma, fetal malformation syndrome, congenital infections, iodine deficiency, toxic exposures and antenatal vascular events causing hypoxia (Stanley et al, 2000: 50- 51). This is referred to as foetal priming. For a foetus that is already in a compromised state, the process of birth may be the final factor that contributes to hypoxic-ischemic encephalopathy (HIE) (Bhorat et al,2021: 287).

It is important to note that birth asphyxia is a theoretical concept and it cannot be measured or clinically defined (Stanley, 2000: 102). Birth asphyxia is inferred from neonatal signs, which may also arise from other disorders such as maternal infection (Stanley, 2000:100) (Stanley, 2000: 102). In addition, the majority of causes of birth asphyxia arise before labour and delivery (Stanley, 2000: 103). Despite this evidence, many medical practitioners have been held liable for the negligent causation of cerebral palsy due to birth asphyxia during labour.

2.2 Aetiology and Risk Factors in Africa

CP is more prevalent in Africa than in HIC's and may have different aetiologies when compared to HIC's. In a study conducted in Nigeria, prenatal risk factors include maternal age, birth asphyxia and hyperbilirubinaemia (Duke et al, 2020: 625).

Postnatal risk factors in the same study included malaria, meningitis, tuberculosis, sickle cell disease and HIV (Duke et al, 2020: 627). Birth asphyxia accounted for 47.6% of these cases (Duke et al, 2020: 627). The limitation of the Nigerian study is that it was not population based and only reflects research in a specific state in Nigeria. In another study conducted in Botswana, the most common aetiologies were intrapartum hypoxic events, prematurity, post-natal infections, focal ischemic stroke and prenatal infections (Bearden et al, 2016: 6). This study was limited in that it only included persons with CP who made use of State facilities. Although these studies have specific limitations, it is essential to acknowledge the various aetiologies and risk factors identified across the African continent.

A study was conducted in South Africa where cases undergoing CP litigation were assessed by only using MRI as a diagnostic tool. MRI scans are useful in determining the presence of an hypoxic ischemic injury (HII) on the brain. In this study, it was found that 31% of cases did not indicate a HIE relating to medical negligence (Elsingergy et al, 2021: 916). While the same study found the presence of an HIE in 76% of cases (Elsingergy et al, 2021: 916), MRI scans performed later on in childhood – as done in this study – are unable to implicate medical negligence when used in isolation. In previous studies in South Africa, the incidence of an HIE was much lower at 48.2% and 38% (Elsingergy et al, 2021: 915).

While the data from HIC's show that less than 10% of CP cases are caused by birth asphyxia, limited data from the African continent shows that CP has many other aetiologies and risk factors as well as post-natal risk factors. This is important to take

into account when defending CP cases because the presence of a risk factor, which cannot be mitigated by reasonable medical care, provides a defence for the State (Ramdass, 2024: 10). In addition, the presence of a known risk factor which requires a higher level of care, will increase the risk of liability on the part of the State (Ramdass, 2024: 10).

3. Cerebral Palsy Litigation

In my analysis of medical negligence cases involving CP in South Africa, I find that the plaintiff relies on CTG monitoring (or the lack thereof) to show the Court that the foetus was in distress and required an emergency C-section (*M obo M v MEC Health Gauteng*, 2018: 513)(*M obo M v MEC Health Gauteng*, 2022: 219). The plaintiff further relies on the fact that either the C-section was not performed at all or not performed on time and as a result, the baby was born displaying symptoms of neonatal encephalopathy (NE) and later diagnosed with CP. In a low resource setting like South Africa where access to neonatal MRI is scarce, the diagnosis of CP is often done later on in life and confirmed by way of MRI (Bhorat et al, 2021: 283). In Court, the plaintiff uses the MRI to show that there is evidence of a HII and the timing of that injury is speculated to be during the birth process. The argument is that if the C-section was performed on time, the harm would not have occurred to the foetus and the baby would not suffer from CP. As a result of this line of argument, the State is often held liable for medical negligence. Essentially, where there is no direct evidence of hypoxia during labour, such as fetal deceleration or bradycardia

from CTG readings, the plantiff's experts use a process of elimination to conclude that the cause is intrapartum hypoxia (Ramdass, 2024: 9). The State is currently paying out enormous claims for medical negligence and this has a direct effect on the delivery of healthcare services in the country. I argue that the State can better defend these cases by showing that CTG and MRI are insufficient to determine causation and that valid and reliable science, such as the *Bhorat et al* criteria, should be used to determine the probability of a HIE occurring during the intrapartum period being the cause of NE.

I will now discuss the research showing that CTG is unreliable in predicting CP. I will then discuss the research that shows that MRI cannot precisely time the HIE.

3.1 CTG

Historically, it was thought that CP was exclusively caused by intrapartum hypoxia. In the 1960s, the introduction of electronic foetal monitoring through CTG was established to observe the foetus for indications of distress by identifying foetal heart rate patterns that could suggest hypoxia, allowing practitioners to take action to avert death or permanent brain damage (Nelson et al, 1996: 613). However, CTG was accepted into obstetric practice with no clinical trials as to its efficacy (Sartewelle and Johnston,2015:830). The initial clinical research comparing electronic foetal monitoring with intermittent auscultation was released in 1976, and it found that

electronic foetal monitoring provided no advantages (Sartewelle and Johnston, 2015: 830). In 1995, additional clinical trials revealed that electronic foetal monitoring did not have any significant impact on morbidity or mortality, nor did it influence the rate of CP (Sartewelle and Johnston, 2015 : 830). In 2017, a Cochrane review indicated that continuous foetal monitoring during labour was linked to a reduced risk of neonatal seizures, but there was no significant difference in CP (Cochrane.org: 2017). CTG was associated with a higher C-section rate and instrumental vaginal births (Cochrane.org: 2017). In a separate extensive study aimed at assessing if particular irregularities in electronic foetal monitoring correlate with the likelihood of CP, it was revealed that electronic foetal monitoring exhibited a false positive rate of 99.8% (Nelson et al, 1996: 613). In the same study, it was found that C-sections are performed when such abnormalities are traced but because of the high false-positive rate, many C-sections were performed with no benefit to the baby and more potential for harm to the mother and baby (Nelson et al, 1996: 613). In addition, it was found that 73% of children born with CP did not have abnormal CTG tracings in this study (Nelson et al, 1996: 614). Obstetricians have also acknowledged that there is inter-intra observer variability in that practitioners interpret heart rate patterns differently and as a result, CTG readings are unreliable to guide observations to prevent brain damage from birth asphyxia (Stanley, 2000: 106).

Although research and literature indicate that CTG tracings are not dependable for predicting CP, they continue to be the sole method for monitoring a high-risk patient

(Buttigeig, 2017: 3). In the medico-legal setting, CTG readings should be welcome but not as a predictor of CP.

3.2 MRI

MRI is regarded as the preferred imaging technique for acquiring detailed and precise insights into brain pathologies due to its high resolution and excellent tissue contrast (Elsingergy, 2021: 910).

MRI is valuable in assessing the brain condition of a child with CP, and for CP legal cases, it plays a crucial role in identifying the cause of CP as well as the extent of the brain damage (Andronikou and Lotz, 2022: 506). MRI can identify brain abnormalities indicative of HIE, although determining the timing of the HIE can pose a challenge (Bhorat et al, 2021: 283). *Bhorat et al* indicate that MRI is most effective in identifying the timing of a HIE when scans are conducted within the initial 24-96 hours of life, with additional imaging performed to fully assess the abnormalities around 7 to 21 days of age (Bhorat et al, 2021: 283). This timing is also confirmed in an international statement by The American College of Obstetricians and Gynecologists (ACOG, 2019: 211). Considering that the South African healthcare system is under-resourced and overstrained, the likelihood of a neonate having an MRI during this time period is low (Bhorat et al, 2021: 278). Most MRI scans are done later on in childhood. However, since this brain injury is non-progressive and

can be seen on scans for the duration of the child's life, MRI findings are very important.

In CP litigation in South Africa, there are usually two types of brain lesions or patterns of HII that are presented at court. One is Acute Profound Injury (API) and the other is Partial-Prolonged Injury (PPI) and sometimes there is a combination of both. Where both API and PPI is found, a mixed picture is described and determining aetiology is difficult (Bhorat et al, 2021: 283).

API involves injury to the deep grey matter of the brain and it follows sudden asphyxiation of short duration which is referred to as a sentinel event (Bhorat et al, 2021: 283). Sentinel events include ruptured uterus, abruptio placentae, massive intrapartum hemorrhage, maternal shock from infection, cord prolapse and sudden onset fetal bradycardia of unknown origin (Bhorat et al, 2021: 283) (Stanley, 2000: 106). With sentinel events, injury is thought to occur in less than ten minutes, allowing no time for obstetric intervention (Bhorat et al, 2023: 1366). The injury therefore cannot be attributed to negligence by the State (Bhorat et al, 2023: 1366).

PPI pattern involves injury to the vascular watershed regions of the brain which affects cerebral white matter (Bhorat et al, 2021: 283). This injury occurs in response to continuous asphyxia that is measured in hours instead of minutes (Bhorat et al, 2021: 283).

In CP litigation, the timing of the hypoxic event is of utmost importance as it helps the Court determine liability for the causation of CP. While MRI in childhood or adolescence is able to determine the type of hypoxic ischemic injury (HII) that the brain has suffered, it is not always clearcut as to when the injury occurred. In my analysis of case law, the State is often found liable for the causation of CP where the MRI shows findings of a PPI which is timed to be during the intrapartum period (*M obo M v MEC Health Gauteng*, 2018: 513)(*M obo M v MEC Health Gauteng*,2022: 219). In a response from radiologists to the *Bhorat et al* article, it is noted that MRI conducted later in life is very effective in identifying the existence of a brain injury, the spread of the injury, as well as in assessing the cause and the intensity of the injury (Andronikou and Lotz, 2022: 506). They further mention that MRI can determine timing across a wide developmental timeline (Andronikou and Lotz, 2022: 506). The timeline given is injury in a premature brain, mature (term: 37-42 weeks) brain but not beyond the neonatal period (Andronikou and Lotz, 2022: 506). Since the timeline for the PPI is so broad, it makes it difficult to determine with certainty whether the State is actually liable for the causation of the injury which leads to CP. This is because a PPI caused in a premature brain may have other causes such as congenital brain malformation, maternal infections during the first and second trimesters, metabolic disorders, maternal ingestion of toxins and rare genetic syndromes (Reddihough and Collins, 2003: 8). PPI acquired in a term brain can be due to a sentinel event that cannot be prevented by obstetric intervention such as a cord prolapse or hemorrhage (Reddihough and Collins, 2003: 8). It can also be caused by an HIE if the criteria for this is met, which will be discussed further below

(Reddihough and Collins, 2003: 8). Injury to the brain can also be caused during the post-natal period through infection and injury. This leaves a very small time period where the birthing mother was in the care of the State.

The Radiologist's also admit that one cannot determine if negligence has caused the injury by simply looking at the MRI scan and they therefore support the concept of a multifactorial approach to determine the causation of CP (Andronikou and Lotz, 2022: 507).

4. ***Bhorat et al*** **Criteria for Intrapartum Hypoxic Ischemic Event in Neonatal Encephalopathy**

The ACOG as well as the American Academy of Paediatrics (AAP) made up the Cerebral Palsy Task Force (CBTF) to determine the new guidelines for the early identification of CP. The CBTF recognized a tool for multidimensional assessment to evaluate if an acute HIE happened sufficiently near the labour and delivery timeframe, which played a role in neonatal encephalopathy (NE). This is frequently referred to as the broader perspective on CP, which can help establish a causal relationship between intrapartum hypoxic incidents and CP. Prof. Bhorat as well as other highly respected obstetricians and neonatologists in South Africa are in support of this multidimensional assessment that determines intrapartum hypoxia and have

given it a South African perspective. This assessment is also supported by SASOG. I will discuss this below.

Neonatal encephalopathy (NE) refers to an infant born at or after 35 weeks of gestation who exhibits seizures, experiences respiratory challenges, and shows a decrease in muscle tone and reflexes (ACOG, 2019: 208). Whenever NE is confirmed, there are specific factors that can be utilised to assess the likelihood of an acute peripartum or acute intrapartum HIE being a factor in the NE (ACOG, 2019: 208). Where certain criteria are met, the likelihood of an acute intrapartum HIE contributing to the NE increases or decreases (ACOG, 2019: 208). However, the ACOG criteria has often been criticised as being developed for high income countries, using modalities from that setting (Bhorat et al. 2023: 1266). As a result, Prof. Bhorat and other respected doctors have prescribed a revised criteria, based on the ACOG criteria, to implicate intrapartum hypoxia and to be used specifically for legal judgments in South Africa (Bhorat et al, 2023: 1263).

4.1 Criteria

Three things must first be established. The first is that there must be the presence of spastic quadriplegia or dyskinetic CP in the child (Bhorat et al, 2023: 1266). Second is that there must be evidence of neonatal encephalopathy by either medical records or by maternal account (Bhorat et al, 2023: 1266). Thirdly, there must be a childhood

brain MRI suggestive of a HII (Bhorat et al, 2023: 1266). Once these three are established, there are criteria that increase the likelihood of a HIE occurring during the intrapartum period.

i. <u>Factors increasing likelihood of HI injury</u>

1. A reassuring fetal condition at the onset of labour increases the likelihood of an intrapartum injury (Bhorat et al, 2023: 1266).

2. A sentinel event such as a ruptured uterus or umbilical cord prolapse is evidence of a HIE. However, for the purposes of medico-legal litigation, the presence of a sentinel event points to an external factor being the cause of the NE. This cannot directly be caused or prevented by the State (Bhorat et al, 2023: 1366).

3. Another factor is fetal heart rate that is consistent with severe hypoxia (Bhorat et al, 2023: 1266).

4. There is an increased risk of CP if APGAR scores are low at 5 and 10 minutes but it is not necessarily true that an infant born with low APGAR

scores will develop CP (ACOG, 2019: 209) (Bhorat et al, 2021: 285). Where APGAR scores are greater than or equal to 7, it is unlikely that hypoxia ischemia played a major role in NE (ACOG, 2019: 209) (Bhorat et al, 2021:286). APGAR scores at 5 minutes that are less than 5 increase the likelihood of a HII (Bhorat et al, 2023: 1266). It is also important to note that APGAR scores are subjective and can be falsified (Bhorat et al, 2021:286).

5. The need for resuscitation at birth also increases the likelihood of an intrapartum HII (Bhorat et al, 2023: 1266).

6. Another factor is umbilical artery cord pH. A pH of 7.0 or less and/or base deficit greater than or equal to 12 mmol/L increases the probability that an acute HIE occurred (ACOG, 2019: 209). A pH of 7.20 or higher indicates that it is unlikely a HIE. In low to middle income countries (LMIC), umbilical artery cord testing may not always be available (Bhorat et al, 2021: 286).

7. Other risk factors such as abnormal fetal growth and maternal infection should be ruled out as this will decrease the likelihood that an acute HIE caused the NE (ACOG, 2019: 211).

ii. <u>Factors increasing likelihood of anterpartum contribution</u>

An anterpartum contribution is a condition that occurs before the intrapartum period and spans the period in pregnancy before childbirth. The following are factors that increase the likelihood of an anterpartum contribution to the HII.

1. Maternal conditions such as hypertension and diabetes as well as fetal conditions such as post-term birth and growth restrictions increase the likelihood of an antepartum contribution (Bhorat et al, 2023: 1266).

2. Abnormal placental pathology findings can also point to an antepartum contribution to the HII (Bhorat et al, 2023: 1266). Fetal priming factors such as but not limited to chorioamnionitis, placental mediated disease, primary placental disorders, substance abuse and genetics decrease the likelihood of an intrapartum HII (Bhorat et al, 2023: 1266). Fetal priming is a term used to describe an occurrence where some fetuses are more susceptible than others to hypoxic stresses in labour (Bhorat et al, 2021: 278).

5. Conclusion

Cerebral palsy is a complex medical condition with multiple causative factors and pathways. Causal pathways are difficult to isolate, due to the complexity of the condition and the multiple factors involved in its aetiology (Bhorat et al, 2021: 287). In CP litigation in South Africa, CTG and MRI are used to show negligence on the part of the State by the lack of CTG monitoring or a failure to respond to the CTG readings by performing a timeous C-section. I have shown that CTG is unreliable as a predictor of CP but it is still an important tool in monitoring high risk mothers. I have also shown that because of the high false positive rate of CTG, many C-sections have been performed with no benefit to the baby, indicating that even if the C-sections were performed on the mothers, there is a high probability that it would not have reduced the risk of CP in the children.

I have also shown that MRI is very important in determining brain pathologies and diagnosing a HII, however it is not able to time the HIE with accuracy when used in isolation. MRI findings must be correlated with clinical findings and all contributing factors. It is therefore insufficient to determine liability based on CTG and MRI alone. This approach treats CP as far too simplistic and does not take into account its multifactorial pathways. While data on CP in LMIC's is limited, I have shown the different aetiologies and risk factors that present on the African continent. While the research may not be population based and may be limited by the study groups, it is still an indication of the prevalence of CP in African countries. The African continent

has different aetiologies to high income countries where low birth weight, multiple gestation and preterm births account for risk factors in HIC's. On the African continent, risk factors appear to include postnatal factors, malaria, meningitis, tuberculosis, sickle cell disease and HIV. Further research is needed to determine risk factors for the South African population.

I have shown that radiologists, obstetricians and neonatologists are in agreement that a multifactorial approach to determine the causation of CP must be embarked on. It thus makes sense for this criteria to be used in CP litigation to determine probability of liability. I argue that the application of the *Bhorat et al* criteria to CP cases will be very valuable to the State's defence.

Chapter 3

The State's failure to adequately defend medical negligence cases involving CP and the application of the *Bhorat et al* criteria

1. Introduction

The challenge that the State faces when defending medical negligence cases involving CP is to show that the cause of the CP was not during the intrapartum period or if there was any other cause, even reasonable medical care could not have prevented it from occurring (Ramdass, 2024: 8). If the cause can be timed to the intrapartum period, the challenge is to show that it was not due to the negligence of the State (Ramdass, 2024: 8).

In this Chapter, I will explain the legal theory applicable to medical negligence cases involving CP. I will show the limitations of the common law in determining true causation of CP and I will argue that adequate defence by counsel for the State is able to overcome these shortcomings of the common law. I will conclude by using relevant cases as examples to show how the State has failed in its defence and I will also demonstrate how an adequate defence could have had a different outcome for the State, in particular cases. To enhance my point, I will analyse a recently decided case that demonstrates adequate defence on the part of the State where medical science was utilised in its defence. It also important to note that some medical

negligence cases against the State have evidence of gross negligence and that these cases will succeed, whether or not the State utilises medical science in its defence. The *Bhorat et al* criteria is used to determine the probability of a HIE occurring during the intrapartum period. Where there is evidence of gross negligence, the medical science will actually implicate the State and it will not be possible to utilise it in its defence. I submit that the medical science can also be used by the plaintiff to provide evidence that the State is liable for medical negligence.

Evidence based medicine (EBM) was established in the 1980's to uniformly apply evidence gained from scientific methods of research to medical causality, for all medical practitioners (Davidson et al, 2012: 741). This had the effect of separating scientific facts backed by evidence from expert opinion based on pure reasoning (Davidson et al, 2012: 742). Scientific evidence is based on research and outcomes conducted through randomised controlled trials, amongst other studies. This makes medical science, in its quest to determine causation, statistical in nature (Whittaker, 2021: 32). The scientific test for causation requires an investigation into all causal factors (Whittaker, 2021: 32). This is in contrast to the test for factual causation in law. The test for factual causation is known as the *causa sine qua non* test which asks the question, 'but for' the negligent conduct of the defendant, would the harm still have ensued? (Neethling and Potgieter, 2015: 187). In the case of an omission, the negligent conduct of the defendant is replaced with a hypothetical non-negligent conduct to determine whether the harm would still have ensued. The problem with this test is that it makes the enquiry difficult where there are multiple causative

factors. In the landmark case of *Lee v Minister of Correctional Services*, the Constitutional Court stated that the 'but for' test is not based on mathematics, pure science or philosophy (*Lee v Minister of Correctional Services*, 2012: para 47). It stated that it is a matter of common sense based on the way in which an ordinary mind works (*Lee v Minister of Correctional Services*, 2012: para 47). Furthermore, the common law recognises science in determining proof of factual causation of harm but the method of proof in the court room is not the scientific method of proof (*Lee v Minister of Correctional Services*, 2012: para 56). I submit that this approach adopted by our Courts opens room for limitless liability on the State in medical negligence cases involving CP in that the State may be held liable for the causation of CP when there are many other factors at play in the probability of the causation of this condition. Other causative factors are, but not limited to, maternal infection, diabetes, substance abuse and placental disorders (Bhorat et al, 2023: 1264). I therefore argue that it is possible to bridge the gap between the scientific method of proof and the legal method of proof by adequate and robust presentation of evidence before Court. I will argue that the evidence must be presented in such a way that while it is based on scientific proof, it is also logical and allows for one fact to follow from another, which is what is required to satisfy the 'but for' test (*Lee v Minister of Correctional Services*, 2012: para 40). I will show by using cases as examples that counsel for the State could have been successful had the presentation of evidence been more robust.

2. Legal Principles to Establish Medical Negligence

2.1. Burden of proof in medical negligence cases

The claim of medical negligence is instituted by the plaintiff, who bears the onus of proving, on a balance of probabilities, that his or her claim should succeed at the end of the trial. In the case of *Pillay v Krishna*, a three-legged approach to the burden of proof is stated (*Pillay v Krishna*, 1946: 951). The first is that if a person claims something from another in a Court of law, then he must satisfy the Court that he is entitled to it (*Pillay v Krishna*, 1946: 951). The second is that where the person against whom the claim is made is not satisfied with a denial of that claim, but sets up a special defence then he must satisfy the Court that he is entitled to succeed on it (*Pillay v Krishna*, 1946: 951). The third is that the onus is on the person who alleges and not on the person who denies the allegation (*Pillay v Krishna*, 1946: 952). From this, it can be said that the onus of proof rests with the party who alleges. However, where the opposing party raises a special defence, the onus is on the opposing party to prove on a balance of probabilities that he is entitled to succeed (Schwikkard, 2016: 618). It is important to note that the onus of proof does not shift from one party to another (Schwikkard, 2016: 618). The onus of proof will always lie with the party who alleges (Schwikkard, 2016: 618). Where the opposing party raises a special defence, the opposing party will also bear the onus of proof on a separate issue (Schwikkard, 2016: 618-619). What shifts

between the parties is the evidentiary burden. This is different from the burden of proof in that the burden of proof is a legal burden on one party to prove a version, on a balance of probabilities, to an impartial judge (Judicial Institute for Africa, 2023: 02-03). The evidentiary burden is the burden to bring evidence to show that there is sufficient proof of a fact in issue (Judicial Institute for Africa, 2023: 02-03).

In medical negligence cases involving CP, the plaintiff ordinarily institutes a claim for negligence on the basis that the labouring mother was not monitored adequately by CTG, decelerations in the heartbeat of the baby were missed and as a result the baby was born with NE. MRI scans are used to prove the existence of a brain injury, which is timed to have occurred during the intrapartum period when the mother was in the care of the State. Here, the burden of proof lies with the plaintiff as well as the evidentiary burden of adducing evidence to prove its claim. Once the Court is satisfied that the plaintiff has made its case against the defendant, the defendant then has the burden of adducing evidence in rebuttal (Schwikkard, 2016: 622). It can be said that the evidentiary burden is discharged onto the State. The State may then deny any of the claims against it or raise a defence, such as medical science. Where the State raises medical science in its defence, the burden of proof will lie with the State to prove this on a balance of probabilities.

2.2 Overview of the Law of Delict

Medical negligence cases involving CP are governed by the law of delict as well as the law of contract. The action for a medical negligence claim lies in the law of delict. There are elements of a delict that must be satisfied in order for a claim in delict to succeed (Neethling and Potgieter, 2015: 4). There are five elements to a delict which must be satisfied viz. the existence of a legal duty of care, breach of this legal duty, causation, reasonable foreseeability and harm (Neethling and Potgieter, 2015: 4). Where one element is not satisfied, a delict cannot be proven and therefore there can be no liability (Neethling and Potgieter, 2015: 4). The focus of my discussion is on the element of causation.

2.2.1 Causation in Delict

To determine causation in delict, the question is whether or not the negligent conduct has sufficiently caused the harm suffered. Causation in medical negligence cases involve two enquiries viz. factual causation and legal causation. This test for this enquiry was set out in the case of *Minister of Police v Skosana* (*Minister of Police v Skosana*, 1976: 71). The Court explained that the test for factual causation should ask if the negligent act or omission caused or materially contributed to the harm giving rise to the claim (*Minister of Police v Skosana*,1976: para 6). In order to

determine the answer to this question, the *causa conditio sine qua non* test is used (*Minister of Police v Skosana*,1976: para 8). This is often referred to as the 'but for' test as it answers the question by asking if the harm would have ensued 'but for' the negligent conduct or omission (*Minister of Police v Skosana*,1976: para 8). If the answer to this test is in the affirmative, then the second stage of the enquiry is to determine legal causation. If the answer to the test is that the harm would not have ensued, then there is no need to proceed to the second stage of enquiry.

Legal causation is the test for remoteness. The question is whether the act or omission is linked to the harm sufficiently closely or directly for legal liability to ensue or whether harm is too remote (*Minister of Police v Skosana*,1976: para 6). To determine this, the legal convictions of the community would have to be considered when determining how far legal liability should stretch.

In *Lee v Minister for Correctional Services*, the Constitutional Court confirmed the two stage enquiry as the test for causation (*Lee v Minister for Correctional Services,* 2012: para 38). However, in dealing with the *conditio sine qua non* test for factual causation, the Court stated that our law has never required a strict and inflexible approach to determining causation (*Lee v Minister for Correctional Services,* 2012: para 43). It stated that the strict application of the *conditio sine qua non* test may produce unjust results and thus there is the need for flexibility in the test for factual causation (*Lee v Minister for Correctional Services,* 2012: para 41). The

Constitutional Court held that in determining factual causation, all that is required is the hypothetical substitution of lawful non-negligent conduct and then posing the question whether the harm would have ensued or not (*Lee v Minister for Correctional Services,* 2012: para 56).

In medical negligence cases involving CP, factual causation would have to be shown as a causal nexus between the conduct or the omission and the resultant harm. In my analysis of case law, most claims are instituted on the basis of an omission (*M obo M v MEC for Health and Social Development*, 2018) (*Lushaba v MEC for Health, Gauteng*, 2014). The plaintiff usually claims that the State had an obligation to monitor the fetus by way of CTG and because this was not done, signs of fetal distress were missed. As a result, the plaintiff argues that a caesarian section was not performed timeously and therefore the baby was born suffering from NE and later diagnosed with CP. Since medical negligence cases involve complicated medical science, expert evidence would have to be adduced to show a causal link between the act/omission and the resultant harm. In substituting the alleged negligent omission with a hypothetical, lawful, non-negligent conduct, the question is whether the harm would still have ensued. I submit that this can only be answered by having regard to the medical science that underpins scientific causation of CP as well as the facts of each individual case. The duty to adduce this evidence before Court is placed on counsel for the State.

The test for legal causation is usually obviated by the reasonable foreseeability test (Neethling and Potgieter, 2015: 149). This means that the wrongdoer can only be held responsible for the consequences that are reasonably foreseeable (Neethling and Potgieter, 2015: 149), therefore the stretch of liability is limited.

2.3 Rules of evidence – expert witness and cross-examination

Courts come to a decision by evaluating evidence placed before it by both the plaintiff and the defendant. The common law rules of evidence dictate the criteria that need to be satisfied and the procedures to be followed in order for this information to be accepted as admissible evidence (Hlophe et al, 2019:3). The rules of evidence also dictate how the Court's must assess the presented evidence in order to reach a decision (Hlophe et al, 2019:3). The common law is also supplemented by the Civil Proceedings Evidence Act 25 of 1965, amongst other legislation.

In medical negligence cases involving CP, an expert witness provides the Court with specialist knowledge that will assist the Court in forming a conclusion. The viewpoint of the expert witness is seen as relevant and thus admissable evidence since it can offer specialised insight that goes beyond the typical experience of a Court (Hlophe et al, 2019:228). The complication arises where the Court is faced with conflicting opinions from expert witnesses for both the plaintiff and the defendant. The Supreme

Court of Appeal (SCA) provided guidance when faced with such opposing views. It stated that the Court's decision should rely on an examination of the strength of the rationale that caused the experts to have differing viewpoints. (*Buthelezi v Ndaba*, 2013: para 14). I submit that this provides counsel for the State with an opportunity to use cross-examination to challenge the underlying reasoning of the opposing expert witness's opinion. My reasoning is submitted below.

Cross-examination seeks to assess the accuracy and truthfulness of a witness's testimony, to undermine, dilute, or clarify it, and to obtain beneficial evidence (Hlophe et al, 2019:344). In medical negligence cases involving CP, it is during cross-examination that the medical science underpinning these cases can be challenged and verified. For example, where an expert gives an opinion that the ACOG or *Bhorat et al* criteria does not apply in South Africa, this can be challenged by producing medical textbooks such as *William's* Obstetrics. This is a textbook which is used in South African Medical Schools to teach Obstetrics and Gynaecology that specifically refers to this criteria to determine if an intrapartum HIE caused the NE. The expert's evidence can be challenged in this way to create doubt as to the accuracy of his or her expert evidence. One might object by stating that cross-examining an expert witness may be a difficult task for legal counsel who are not experts in the medical field. My response is that counsel will have the contents of the medico-legal report which contains the opinion of the expert witness and any opinion to be challenged may be prepared before Court proceedings. This can be done in consultation with counsel's own expert witnesses.

I will now use two cases as an example where the State's presentation of evidence was inadequate. I will also show that there could have been the possibility of the State's success, had the State defended adequately.

3. Case Law and Evaluation of State's Defence

I will use two cases as examples. I will provide a summary of the facts of each case as well as a summary of the experts evidence for both the plaintiff and the defendant. I will then provide my own analysis of the State's cross-examination and defence.

3.1 *M obo M v MEC for Health and Social Development, Gauteng* [2018] ZAGPJHC 513

3.1.1 Summary of Facts of the case

The pregnant plaintiff woke up, bleeding from her vaginal area (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 2). She was at term during her pregnancy (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 7). She was then transported to Chris Hani Baragwanath Hospital labour

department (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 2). A CTG was connected to her to monitor the foetus (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 3). A doctor arrived and completed some tests and ordered an intravenous therapy (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 4). The plaintiff allegedly heard the doctor talking to another person about a caesarian section (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 4). The plaintiff was then given medication to induce labour (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 4). She was taken to the delivery room and counselled on the different stages of labour (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 4). A doctor attended to her and broke her water (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 5). The doctor then delivered the baby vaginally (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 5). It was noted that the baby was born with a nuchal cord around her neck (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 5). Records pertaining to labour and delivery were lost (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 6). The baby did not immediately breathe and had a blue coloration and reduced muscle tone (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 6). As a result, the baby was placed into a head box and oxygen saturation improved to 93% (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 6). Discharge summary notes show the following (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 7):

APGAR at 1 minute: 4/10

APGAR at 5 minutes: 7/10

Birth weight: 3000g

Discharge weight: 3280g

Gestational Age: Term

Cranial ultrasound: Bright brain, good pulsation, no bleeds

Perinatal asphyxia

Cord around neck

pH: 7.23

Base Excess: -8.2

The baby was discharged and there were no follow up visits arranged (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 8). At some point during the baby's life, she was diagnosed with CP (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 9).

3.1.2 Summary of expert evidence by the Plaintiff

The plaintiff made use of four expert witnesses who testified orally (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 11).

The first was a Specialist Radiologist who prepared a sixteen page presentation for the court to demonstrate a step by step progression of a brain injury in a foetus who is exposed to asphyxia at the commencement of labour and during delivery (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 12-23).

The second expert was a Neonatologist who testified that the injury was sustained during the intrapartum period and he could not rule out the tight nuchal cord (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 29). However, he further testified that the tight nuchal cord would have presented itself as foetal distress which should have been detected by foetal monitoring (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 29). His opinion was that CTG tracing would have recorded this distress and this distress was not reacted upon (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 33). He further dismissed the 'Bhorat et al' criteria, which was known as the ACOG 2014 criteria at the time, in that it does not apply in the South African context (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 31).

The third expert witness was an Obstetrician and Gynaecologist. He agreed with the defendants expert on the point that the brain injury most likely occurred in the peri-partum period (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 34). This is the period shortly before, during and after birth. He also testified

that since there was evidence of CTG monitoring being performed, it is more than likely that decelerations in the fetus were observed but nothing was done about the observation (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 37).

The last expert, a Paediatric Neurologist, testified briefly to say that the insult occurred during the intrapartum period (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 39).

3.1.2.1 Commentary on expert evidence by Plaintiff and the State's cross-examination

The expert evidence presented by the plaintiff shows that the insult to the brain occurred during the intrapartum period. It also shows that there is a probability that the CTG tracings noted decelerations in the foetal heartbeat but this was not reacted to therefore pointing to an omission. Experts for the plaintiff also dismissed the ACOG 2014 criteria in that it does not apply in South Africa. The plaintiff's experts did not rule out the nuchal cord as a cause for the HII however, they diverted from the issue of the nuchal cord being the cause of the HII and testified that if the nuchal cord was tight, decelerations should have been noted and acted upon. Even though the application of ACOG 2014 criteria implicating intrapartum hypoxia was ruled out by the plaintiff's expert witness, this criteria is supported by the prescribed textbooks

for Obstetrics in South African Medical Schools. One such textbook is Williams Obstetrics which refers to the ACOG 2014 criteria which can be used to determine if the NE and resulting CP was caused by an acute intrapartum event (Cunningham et al, 2022: Chapter 33, page 3). This could have been raised by counsel for the defence during cross-examination to show that ACOG 2014 is supported in the South African context. According to ACOG 2014, indicators to diagnose intrapartum asphyxia are: 1) Metabolic acidosis where fetal umbilical artery cord pH is <7.0 and base deficit >12mmol/L; 2) APGAR scores of <3 after five minutes; 3) Moderate or severe encephalopathy; 4) CP of Spastic quadriplegia or dyskinetic type and; 5) Exclusion of other pathologies of CP (ACOG, 2014: xxi). The summary of discharge notes show that the baby was born with an APGAR score of 7/10 at five minutes and umbilical cord pH of 7.23 and a base excess of -8.2 mmol/L (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 7). The ACOG 2014 requirement for metabolic acidosis would require fetal umbilical artery cord pH to be <7.0 and a base deficit of >12mmol/L. This does not meet the ACOG 2014 standard for metabolic acidosis. APGAR scores at five minutes also did not meet the criteria. It is unclear what type of encephalopathy the baby had but the baby did not immediately breathe, had a blue discoloration and reduced muscle tone (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 6). It was recorded that the baby had mixed CP of both dyskinetic type and spastic quadriplegia (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 44). There were no other pathologies of CP listed. According to this information, the evidence does not meet the criteria set out by ACOG 2014 to indicate that the HII occurred during the intrapartum period. This could have been raised during cross-examination of the

expert witnesses to show the Court that scientifically, the criteria for intrapartum hypoxia was not met. While the common law requires common sense and logic over scientific causation to satisfy the test for factual causation (*Lee v Minister of Correctional Services*, 2012: para 47), I argue that in complex medical negligence cases such as CP cases, a conclusion cannot be drawn without the evaluation of all relevant scientific evidence by the Court.

3.1.3 Summary of expert evidence by the Defendant

The State only called upon one expert to give oral evidence (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 40). The other four experts submitted medico-legal reports (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 40).

The defendant's Paediatrician testified orally and explained to the Court what a nuchal cord was (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 42). He testified that a nuchal cord is where the umbilical cord is wrapped three hundred and sixty degrees around the fetal neck (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 42). He testified that a single, loose, nuchal cord is common (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 42). In this case, the nuchal cord was tight and the midwife had to cut the cord and clamp it to facilitate the second stage of labour (*M obo M v MEC*

for Health and Social Development, Gauteng, 2018: para 42). For this reason, he testified that it is probable that the nuchal cord played a role in the child's birth asphyxia (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 42). He further testified that diagnosing the nuchal cord during the antepartum period would not change the delivery management (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 42). The judgment of the case states that the Paediatrician's evidence was placed into serious doubt under cross-examination (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 43).

The rest of the defendant's experts agreed with the plaintiff's experts except the Paediatric Neurologist for the State (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 44). She agreed with the plaintiff's expert that the HII most likely occurred during the intrapartum period (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 44). However, she was of the opinion that this HII was caused by a nuchal cord (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 44).

In my opinion, it appears that the defence tried to raise the existence of a nuchal cord as a *novus actus interveniens. Novus actus interveniens* is a term in law referring to a new intervening cause. This is not something that can be anticipated with reasonable certainty and could entirely sever the connection between the

conduct and the resulting harm (Neethling and Potgieter, 2015: 218). In this instance, the element of causation will not be satisfied.

According to ACOG 2019, a nuchal cord is common and presents with no adverse outcomes but a tight nuchal cord is significantly associated with CP (ACOG, 2019: 62). This line of argument may have been possible if they introduced evidence that the nuchal cord was tight. This could have been done by calling on the doctor or nurse that was present at the birth to testify as to the tightness of the nuchal cord. No evidence was adduced in this respect.

3.1.4 Summary of Evaluation of Evidence by the Court

In evaluating the evidence of the plaintiff and the defendant before it, the Court complemented the plaintiff's Specialist Radiologist for his sixteen page, step by step presentation to Court (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 61). This is an indication that the quality of presentation of evidence in Court plays a pivotal role in the Court's decision making.

The Court also stated that the plaintiff met the first doctor at 11h00 and the baby was born at 15h30 (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 57). This shows a delay in the delivery of the baby from the time the mother first

presented to the doctor. However, the Court stated that while the defence attempted to challenge these times there was no counter evidence adduced by the defendant (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 57). In my opinion, this was an opportunity for the defence to counter the claim that there was a delay in delivering the baby but they did not make use of this avenue.

The plaintiff argued that the doctor was considering a caesarian section. The Court found that the defendant did not call any of the attending doctors or nurses to testify to negate this claim (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 57). This was another hole in the defence's argument where they could have shown that a caesarian section was not contemplated by calling upon the attending doctor to testify.

With regard to the nuchal cord, the plaintiffs allege that the cord was not tight enough to cause the birth asphyxiation. The defendant did not call upon any witness to testify as to how tight the nuchal cord was (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 60). Again, this is another failure by the defence to show that the nuchal cord was tight enough to cause a HII.

As a result of the arguments before Court, the Court found on a balance of probabilities that foetal distress would have been picked up in CTG monitoring and the baby would have been born earlier than 15h30, preventing the nuchal cord (*M*

obo M v MEC for Health and Social Development, Gauteng, 2018: para 59). Due to the missed tracings from the CTG monitoring, an expedited delivery could not occur, and the State did not act as a reasonable person, with the information available to them, would have acted in that situation (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 59). The Court held that the omission was negligent and caused the CP (*M obo M v MEC for Health and Social Development, Gauteng*, 2018: para 59).

3.1.5 Commentary on State's defence

In this case, the defence had missed opportunities where they could have adduced evidence to counter the plaintiff's claims. The State had adequate grounds to raise the ACOG 2014 criteria in the South African setting to show that this case did not meet the requirements for an intrapartum HII. In addition, another line of defence would have been to raise the tight nuchal cord as a *novus actus interveniens* and the doctor or attending nurse could have been called to testify on the tightness of the nuchal cord. As the evidence stood, there was proof of the presence of a nuchal cord but no evidence as to the tightness of it. As a result of the poor defence by the State, the State was not successful. While I do not have access to the quantification of damages in this case, the average claim size for medical negligence cases in Gauteng for the year 2017/2018 was approximately R3.2 million per case (Whittaker,2021: 81). A total of approximately R243 million was settled by the Gauteng Department of Health for the year 2017/2018 for medical negligence cases

(Whittaker, 2021: 81). These claims are paid out of the budget of the hospital concerned. With the plaintiff succeeding in this case, it can be assumed that approximately R3.2 million was taken out of the budget of Chris Hani Baragwanath Hospital from this single case. These claim payouts are only increasing year on year. By 2019/2020 financial year end, the average claim payout for medical negligence cases in Gauteng increased to R5.4 million per claim (Whittaker, 2021: 81). The total claims payout for the same period in Gauteng amounted to R378 million. An important fact to take note of is that one medical negligence case involving CP in the Eastern Cape Province was awarded R23 million in the 2019 financial year (Whittaker,2021: 83). This shows the increasing trajectory of claim payouts in medical negligence cases. The State could do better in its defence.

3.2 *Lushaba v MEC for Health Gauteng* [2014] ZAGPJHC 407

3.2.1 Summary of the facts of the case

The patient in this case was a 23 year old pregnant woman who was 36 weeks pregnant (*Lushaba v MEC for Health*, Gauteng,2014: para 1). At 10h00 one morning, she felt pain in her abdomen and was dizzy (*Lushaba v MEC for Health*, Gauteng,2014: para 1). At 12h00 she was admitted to the Maternity Obstetrics Unit (MOU) at Charlotte Maxeke Johannesburg Academic Hospital (*Lushaba v MEC for Health*, Gauteng,2014: para 1). At 12h00, the fetal heart rate (FHR) was 150bpm but

irregular (*Lushaba v MEC for Health*, Gauteng,2014: para 3). This indicated that the fetus had an adequate oxygen supply (*Lushaba v MEC for Health*, Gauteng,2014: para 1). Also noted is that her cervix was closed (*Lushaba v MEC for Health*, Gauteng,2014: para 39). The patient was referred to a higher level of maternity care (*Lushaba v MEC for Health*, Gauteng,2014: para 72). At 13h00 she was seen by an intern who suspected an *abruptio placentae* (abruption) and noted that the patient should be reviewed in four hours (*Lushaba v MEC for Health*, Gauteng,2014: para 16). The intern called a registrar who was busy in theatre at the time (*Lushaba v MEC for Health*, Gauteng,2014: para 56). The registrar arrived at 13h45 when she was done in theatre and made a definitive diagnosis of abruption (*Lushaba v MEC for Health*, Gauteng,2014: para 13). The FHR was 100bpm and the deceleration indicated fetal bradycardia (*Lushaba v MEC for Health*, Gauteng,2014: para 3). The registrar immediately rushed the patient to theatre and administered general anaesthetic by 14h15 and the baby was born at 14h20 (*Lushaba v MEC for Health*, Gauteng,2014: para 16). Once the diagnosis of abruption was made, there was no delay in performing the caesarian section (*Lushaba v MEC for Health*, Gauteng,2014: para 16).

The question before court was one of negligence and causation (*Lushaba v MEC for Health*, Gauteng,2014: para 7). The plaintiff asserted that the delay of the caesarean section allowed the progression of the abruption, which deprived the foetus of oxygen, resulting in the baby developing CP (*Lushaba v MEC for Health*, Gauteng,2014: para 6).

3.2.2 Summary of expert evidence by Plaintiff

The plaintiff called upon an Obstetrician and Gynaecologist to present the expert evidence (*Lushaba v MEC for Health*, Gauteng,2014: para 18). He testified that the symptoms of low blood pressure, lower abdominal pains, paleness and dizziness in pregnant women means that unless it is excluded, abruption must be assumed to be present. Abruption is a medical emergency (*Lushaba v MEC for Health*, Gauteng,2014: para 24). He was of the opinion that when the patient was admitted at 12h00, FHR of 150bpm indicated that there was no significant separation of the placenta (*Lushaba v MEC for Health*, Gauteng,2014: para 31). According to this expert, abruption is diagnosed through CTG, amongst other methods (*Lushaba v MEC for Health*, Gauteng,2014: para 33). Since there were no notes between 12h00 and 13h00, the assumption is that no CTG was performed (*Lushaba v MEC for Health*, Gauteng,2014: para 32). He believed that a suspicion for abruption should have been raised at 12h00 which would have expedited a caesarian section (*Lushaba v MEC for Health*, Gauteng,2014: para 39). Had this occurred, his opinion is that it was very unlikely that the baby would suffer from CP (*Lushaba v MEC for Health*, Gauteng,2014: para 40).

3.2.2.1 Commentary on expert evidence by Plaintiff and State's cross examination

The Court commented on the State's defence that no challenge was made on the plaintiff's evidence that a FHR of 150bpm excludes a serious breach in flow of oxygen therefore indicating no brain damage at 12h00 (*Lushaba v MEC for Health*, Gauteng,2014: para 103). I contend that this was a missed opportunity by the State's defence to show that there was no urgency to perform the caesarian section at 12h00, as postulated by the plaintiff.

Counsel for the defendant, in his cross examination, referred to the report concluded by the plaintiff's expert witness wherein he quotes a paragraph from *William's* Obstetrics that abruption cannot be expected (*Lushaba v MEC for Health*, Gauteng,2014: para 46). The expert for the plaintiff responded by saying that the purpose of that paragraph was to show the urgency of being faced with an abruption and this was intended for medical students to recognise the importance of not delaying when faced with an abruption (*Lushaba v MEC for Health*, Gauteng,2014: para 47-48). I refer to the rest of the textbook in my commentary on his evidence.

William's Obstetrics states that in the early stages of placental abruption, clinical symptoms may be absent (Cunningham et al, 2023: 1). Where blood is retained, this is called a concealed hemorrhage and diagnosis may be delayed and this delay

translates into maternal and fetal hazards (Cunningham et al, 2023: 1). The signs and symptoms of abruption vary considerably for diagnosis of the condition (Cunningham et al, 2023: 7). Classic symptoms are the onset of abdominal pain, vaginal bleeding and uterine tenderness (Cunningham et al, 2023: 7). Severe placental abruption is usually obvious but less severe forms are not always recognized with certainty (Cunningham et al, 2023: 9). There are no laboratory tests or diagnostic tests that can accurately confirm a lesser degree of abruption (Cunningham et al, 2023: 9). Treatment is usually a caesarian section unless vaginal delivery is imminent (Cunningham et al, 2023: 9).

I argue that counsel for the defendant could have raised the above in cross-examination. This information from the *William's* Obstetrics textbook shows that it would have been difficult to make the diagnosis of abruption at 12h00 as the expert for the plaintiff suggests. Suspicion only arose at 13h00 and diagnosis was made when the registrar arrived at 13h45. The registrar was late as she was busy in theatre with another patient. Counsel for the defendant thus had the opportunity of raising a defence of capacity issues but this was not included in its plea (*Lushaba v MEC for Health*, Gauteng,2014: para 43). The Court also commented on this stating that the issues between the parties would have been different had such a plea been raised (*Lushaba v MEC for Health*, Gauteng,2014: para 43). This is an important defence as abruption was suspected at 13h00 by the intern who called the registrar but because the registrar was busy in theatre, she only arrived at 13h45 and immediately made the diagnosis of abruption. According to testimony there was no

delay in performing a caesarian section after this diagnosis (*Lushaba v MEC for Health*, Gauteng, 2014: para 13).

In applying the criteria as set out in *Bhorat et al*, an abruption is considered a sentinel event (Bhorat et al, 2023: 1266). A sentinel event is sudden and is not always foreseeable and not capable of being averted by obstetric intervention. The nature of abruption is such that by the time it is able to be diagnosed and treated, it may be too late to save the fetus. This argument negates the causal nexus between the negligence and the harm suffered. Since this case was decided in 2014, I will refer to ACOG 2014. I have explained earlier why ACOG 2014 is applicable in the South African context. ACOG 2014 states that the association between abruptio placentae and NE is well recognized (ACOG, 2014: 56).

3.2.3 Summary of expert evidence by Defendant

The defendant called on two witnesses.

The first witness was the registrar. She testified that at 13h00 the intern contacted her about a case (*Lushaba v MEC for Health*, Gauteng,2014: para 64). She was busy in theatre at the time (*Lushaba v MEC for Health*, Gauteng,2014: para 64). She first saw the patient at 13h45 and confirmed the abruption by ultrasound (*Lushaba v*

MEC for Health, Gauteng,2014: para 64). She did not see a CTG monitor (*Lushaba v MEC for Health*, Gauteng,2014: para 66). Her testimony was brief.

The second witness for the defendant was an Obstetrician and Gynaecologist. He agreed with the plaintiff's witness on everything except the conclusion that the abruption should have been recognized at 12h00 and that an emergency caesarian section should have taken place earlier which would have potentially had a different outcome for the baby (*Lushaba v MEC for Health*, Gauteng,2014: para 70). In his testimony, he however admitted that he did not have hospital records when preparing the joint minute and thus agreed with the plaintiff's expert witness at the time (*Lushaba v MEC for Health*, Gauteng,2014: para 83). His stance in the witness box therefore contradicted his agreement in the joint minute. However, after cross examination he eventually conceded that a caesarian section should have been done as soon as possible with the symptoms that the plaintiff presented with (*Lushaba v MEC for Health*, Gauteng,2014: para 98).

3.2.3.1 Commentary on expert witness for the Defendant

The Court did not accept the testimony by the second expert witness for the defendant (*Lushaba v MEC for Health*, Gauteng,2014: para 101). The Court considered him evasive and contradictory with no clear answers (*Lushaba v MEC for Health*, Gauteng,2014: para 101). The Court also made some remarks on the

defence's conduct, referring to the late filing of the summary of its expert witness report which caused a delay and unnecessary costs (*Lushaba v MEC for Health*, Gauteng,2014: para 127). The joint minute could only be completed during the week of the trial due to the delays by the State (*Lushaba v MEC for Health*, Gauteng,2014: para 1). The expert witness for the defendant also testified that he completed the joint minute when he did not have the necessary documents before him. He gave this as the reason for his contradictory testimony. This points to the lack of preparedness by the State's defence which ultimately lead to a poor presentation of evidence. As a result of this contradictory testimony, the Court relied on the expert evidence by the plaintiff and the first expert witness for the defence in coming to its conclusion.

3.2.4 Court's findings

The Court held that the hospital ought to have taken steps to perform the caesarian section without delay (*Lushaba v MEC for Health*, Gauteng,2014: para 125). If the cesarean delivery had been conducted promptly, it is likely that the baby would have a reduced risk of being born with CP (*Lushaba v MEC for Health*, Gauteng,2014: para 125). Thus, the State was held liable for the negligent causation of CP (*Lushaba v MEC for Health*, Gauteng,2014: para 125).

3.2.5 Commentary on State's Defence

I am of the opinion that the State did not prepare adequately for this case and this was evident in the presentation of its evidence as well as the cross examination of the witnesses. The State missed the opportunity to raise a defence of capacity issues. If this was correctly raised and presented in Court, it could have been shown that there was no delay on the part of the State but rather an issue of capacity. Capacity issues are common in State hospitals where hospitals are over-strained and under-resourced but this is beyond the scope of my argument. It could have been shown that the time between suspicion and diagnosis of abruption was only delayed because the registrar was in theatre. While the plaintiff relied on the lack of CTG monitoring as the delay in diagnosing the abruption, the State did not counter this by referring to *William's* Obstetrics, which is a primary source of information for Obstetricians, that there is no laboratory or diagnostic tests which can confirm a lesser degree of placental abruption. While the 'Bhorat et al' criteria was written in 2021, it is based on ACOG 2014. This also states that abruption is a sentinel event, which cannot be prevented by obstetric intervention. Again, we see that the State was unsuccessful in its defence of medical negligence cases involving CP due to inadequate defence.

4. Recent development in case law

I will use the recent case of *NK obo UK v MEC for Health, Eastern Cape* ([2024] JOL 64033 (ECB)) to demonstrate the State adequately utilising medical science, such as the *Bhorat et al* criteria, in its defence. In this case, the State made clear cut arguments that prove, on a balance of probabilities, that negligent care by the State did not cause the HII during the intrapartum period. The State's counsel relied on the ACOG criteria, which I refer to as the *Bhorat et al* criteria, to show that the criteria implicating intrapartum hypoxia was not met (*NK obo UK v MEC for Health, Eastern Cape*, 2024: para 58 – 61). The State also further relied on a placental pathohistology report, which showed the presence of chorioamnionitis (*NK obo UK v MEC for Health, Eastern Cape*, 2024: para 66). Chorioamnionitis is considered one of the factors which contribute to fetal priming for hypoxic ischemic encephalopathy (Bhorat et al, 2023: 1264). In this case, even in the presence of negligence, causation could not be established. The quantum of this case was R28 800 000. This case is an example of where, when adequately defended with medical science, the State is able to successfully defend and save a large claim payout.

5. Conclusion

In this Chapter, I have introduced the legal principles relevant to medical negligence cases involving CP. I have explained the requirements for a medical negligence

claim to succeed in delict but my focus was on the element of causation, as this is the key issue in contention in Court. I have explained why scientific causation in medicine is not the same as factual causation in law by stating the common law requirements for factual causation. I have argued that the preparation and presentation of the State's defence, through its evidence, is crucial in adequately defending these cases. I further argued that cross-examination is a very important legal tool available to the defence to adduce evidence and also to test the validity of the plaintiff's evidence. Two cases were used to show inadequate preparation and presentation of defence by the State. In analysing the State's presentation of defence and cross-examination of witnesses, I have identified shortcomings by the State and shown how proper preparation and robust presentation could have had a different outcome for the State. I have also demonstrated a recent case where the State had adequately utilised the *Bhorat et al* criteria in its defence and was successful. This shows that it is possible to defend certain cases utilising the *Bhorat et al* criteria when preparation and presentation of evidence is done in a robust manner.

Chapter 4

Ethical implications of adequately defending medical negligence cases involving CP by using medical science

1. Introduction

Every case presents with a different set of facts, alleging medical negligence on the part of the State. The success or failure of the defence will always be decided by Court, based on the evidence and legal arguments placed before it. When determining an outcome, ethical arguments are not taken into consideration in Court. However, for the purposes of this paper, I will consider the ethical implications of adequately defending medical negligence cases involving CP for a purely academic perspective.

Consequentialism refers to a category of ethical theories that assert that the rightness or wrongness of actions is determined by the overall balance of their positive and negative outcomes (Beauchamp and Childress, 2019: 388). Utilitarianism is the most popular consequentialist theory (Beauchamp and Childress, 2019: 388). This is the theory that I will use to support my argument that the State ought to use medical science, such as the *Bhorat et al* criteria, to adequately defend medical negligence cases involving CP. I will provide an overview of the theory of utilitarianism. In developing my argument, I will demonstrate why utilitarianism is an

appealing ethical framework for public health policy. Thereafter, I will explain what is a public health issue and I will make my case as to why the inadequate defence of medical negligence cases involving CP should be considered a public health issue. My argument will show the benefit of adequately defending medical negligence cases involving CP from a utilitarian perspective. I will also raise possible objections to my argument and respond to these objections from an ethical stance.

2. Utilitarianism

Classic utilitarianism, often called act utilitarianism, was developed by 19th century philosophers, Jeremy Bentham (1748 – 1832), Johan Stuart Mill (1806 – 1873) and Henry Sigwick (1838 – 1900). According to act utilitarianism, an action is right if it produces the greatest overall balance of happiness over unhappiness (Rachels and Rachels, 2019: 118). This is known as the principle of utility. Happiness is considered by the act utilitarian to be a broad mental state of pleasure (Rachels and Rachels, 2019: 119). Act utilitarians evaluate the morality of an action based on its outcomes. If the action brings about the greatest pleasure or happiness for an individual, it would be morally justifiable (Rachels and Rachels, 2019: 119). This thinking however has lead to criticism (Rachels and Rachels, 2019: 120). A common example given is that of the peeping tom (Rachels and Rachels, 2019: 122). A peeping tom watches a woman undressing in her bedroom and takes pictures of her but does not share those pictures with anyone (Rachels and Rachels, 2019: 122). This has brought the peeping tom great happiness and the woman does not suffer

unhappiness because no one has seen those photos (Rachels and Rachels, 2019: 122). It is obvious that the peeping tom's actions are morally reprehensible as he is violating the woman's privacy. However, if we apply the principle of utility to this example, it appears that act utilitarianism would consider the peeping tom's actions as right action as it brings about the greatest pleasure for the peeping tom (Rachels and Rachels, 2019: 122). From this we can see that act utilitarianism is only concerned with maximising utility, irrespective of the moral implications of ones actions.

Contemporary utilitarians have suggested that factors beyond mere happiness play a role in well-being, including aspects like beauty, knowledge, health, and success (Beauchamp and Childress, 2019: 389). The newer version of utilitarianism no longer judges an individual's actions by the principle of utility (Rachels and Rachels, 2019: 127). It rather asks the question, what rules should we follow in order to maximise happiness? (Rachels and Rachels, 2019: 127). Actions are considered morally acceptable when they are based on objectively established guidelines that enhance value within the community that follows them (Beauchamp and Childress, 2019: 391). This is referred to as rule utilitarianism. In this new version of utilitarianism, a rule is not expendable even if it does not maximise utility (Beauchamp and Childress, 2019: 391). Morally justified rules are to be observed even in difficult situations (Beauchamp and Childress, 2019: 392). A common example given is that of bearing false witness to an innocent man to bring about peace in an area. An act utilitarian may assess this action on the consequences it produces, over the morality of the action. A rule utilitarian may reject the action of bearing false witness to an innocent man. A rule utilitarian will inquire about which guidelines of behaviour are most likely

to increase overall happiness (Rachels and Rachels, 2019: 127). One rule is that one should not bear false witness to an innocent man and following this rule will always increase happiness (Rachels and Rachels, 2019: 127-128). In this example, a rule utilitarian would not justify bearing false witness to an innocent man, even if it brings about peace within an area. In this way, the new version of utilitarianism seems to solve the moral problem that was had with act utilitarianism. Contemporary utilitarians achieve the greatest benefit for the largest group by weighing the interests of everyone involved (Beauchamp and Childress, 2019: 390). This version however, is not without its criticism. This will be discussed further in this chapter below, to the extent that it applies to this paper.

3. Utilitarianism in public health policy

The goal of public health policies is to decrease illness and promote health for the entire community (Beaglehole and Bonita, 1997: 145). Public health embraces the values of public beneficence, a principle on which utilitarianism is erected (Beauchamp and Childress, 2019: 217 and 393). Utilitarianism is a moral theory that is favored in public health policy because it does not consider individual good but the greatest good for the greatest number of people (Barett et al, 2022: 10). In public health, practitioners adopt a utilitarian approach when they assess policies by analysing the cost-benefit and risk-benefit of these policies and then decide which action would maximise net benefit to the population (Barett et al, 2022: 10).

Utilitarianism is founded on the sole principle of beneficence, which is known as the principle of utility. (Beauchamp and Childress, 2019: 217). According to the principle of beneficence, the principle of utility demands that agents weigh costs, risks, and benefits in order to achieve the most favourable overall outcomes (Beauchamp and Childress, 2019: 217).

Expenses are represented in financial figures and constitute an evaluation of the resources needed to achieve the advantage, as well as the adverse impacts associated with seeking and obtaining this advantage (Beauchamp and Childress, 2019: 244). An example of public healthcare policy would be the rolling out of COVID-19 vaccines in South Africa. Public health officials would have had to assess the cost of purchasing the vaccines as well as the cost of administering the vaccines to the population. From a broad perspective, the benefit would have been to reduce transmission of the COVID-19 virus and protect the population from death through herd immunity. This would be expressed as the cost of this benefit.

Risk is expressed as minimal, reasonable or high in the assessment of possible future harm to life, health or welfare (Beauchamp and Childress, 2019: 244). Risk can be physical, psychological, financial and legal (Beauchamp and Childress, 2019: 244). In keeping with the COVID-19 vaccine rollout example, risk would have to be assessed in terms of what harms to life, health or welfare are a possibility. Since the

COVID-19 vaccine was new and not tested for long-term side effects on trial participants, the risk to life and health was always a possibility.

Benefit refers to a positive outcome that involves cost avoidance and risk reduction (Beauchamp and Childress, 2019: 244). The benefit of the vaccine rollout would have been to achieve herd immunity and in doing so, lives would be saved. The assessment would then have been what costs and risks are involved in achieving this benefit. If the net benefit to the population outweighs the cost and risk involved, the policy would have achieved the greatest good for the greatest number of people, therefore making the policy a viable public health policy.

By taking the costs, risks and benefit to the population into account when determining a course of action in public health policy, it can be said that a utilitarian approach has been adopted. I will now argue that that while the State's defence is not a part of public health policy, its implications are so far reaching for the public health sector that it should be considered a public health issue.

4. Inadequate defence by the State as a public health issue

A broad definition of public health is given as "one of the collective efforts organized by society to prevent premature death, illness, injury and disability, and to promote

the population's health" (Beaglehole and Bonita, 1997: 212). Common public health issues include health equity, health reform and access to healthcare (Edemokeng and Tenny, 2022: 4). Using this definition, I argue that any action that reduces healthcare to the population at large should be seen as a public health issue requiring an intervention.

Currently, claims against the State in medical negligence cases are financially draining the public healthcare fund. This means that funds budgeted for the provision of healthcare in the public sector are being used for medical negligence claim payouts. For quantification purposes, medical negligence claims against the State for the year 2022/2023 amounted to R10.1bn and total claim payouts for the same period amounted to R1.4bn (Department of Health Paper, 2023: 19). The Auditor General of South Africa (AGSA) mentioned in its presentation on the Health Sector that funds needed to be reallocated from different service delivery budget categories to cover these claims, which has a detrimental effect on the department's financial sustainability (AGSA, 2023: 12). These resources could have been allocated to acquire essential equipment, enhance and sustain infrastructure, and boost capacity and expertise in the industry (AGSA, 2023: 14). I argue that as a result of the State not adequately defending medical negligence cases involving CP, the State is unsuccessful in its defence and the department has an increase in claim payouts. These cases are the highest value medical negligence claims (South African Law Reform Commission, 2021: 175). The resultant harm on the public healthcare

system affects the majority of the population who rely on State healthcare. This is a reduction in the quality of healthcare available to the majority of the population.

According to utilitarianism, only an act which brings about the greatest good for the greatest number of people can be justifiable. The inadequate defence by the State that contributes to the resultant harm on the public healthcare system is ethically unjustifiable. In the preceding Chapter, I argued that the utilisation of medical science as a defence in medical negligence cases involving CP can assist the State in better defending cases of such a nature. I also argued that it was possible for the State to reach a successful outcome had a better defence been deployed in certain cases. Such an act is capable of saving much needed funds which could be diverted to upgrading infrastructure, increasing capacity of staff and purchasing new equipment. All this has a positive impact on the delivery of quality healthcare services. The result of implementing this approach is an enhancement of the overall benefit for the largest group of individuals. I therefore submit that the inadequate defence of the State in medical negligence cases involving CP is a public health issue which requires urgent intervention.

5. Criticism of utilitarianism and its application to this paper

5.1 The problem of unjust distributions

One criticism of utilitarianism is that it creates problems of unjust distributions (Beauchamp and Childress, 2019: 393). The assertion is that certain utilitarian theories allow the preferences of the majority to take precedence over the rights of minority groups (Beauchamp and Childress, 2019: 393). Furthermore, it is claimed that the principles of utilitarianism do not possess the means to effectively prevent unfair social distributions. (Beauchamp and Childress, 2019: 244).

One might ask the question of whether or not a child with CP may be unfairly prejudiced should the State use medical science in its defence and is ultimately successful. In such a case where the State is successful, there is no claim payout to the plaintiff. The State then potentially saves this compensation to be used in the provision of public healthcare services. The caregiver and the child suffering from CP are not compensated financially and the financial burden of raising the child rests with the caregiver. In such a case, it can be said that utilitarianism permits the interests of the majority to outweigh the interests of the minority.

5.1.1 Response to objection of unjust distributions

In healthcare, justice is referred to as distributive justice (Connor et al, 1990: 197). Distributive justice is the fair distribution of scarce goods throughout a community (Connor et al, 1990: 197). Theories have been developed to determine how to distribute social burdens, goods and services (Moodley et al, 2017: 92). Utilitarianism does not aim to establish a uniform standard of justice; instead, it focuses on finding trade-offs, compromises, and partial distributions that enhance benefits and reduce costs while achieving a balance among various competing groups (Connor et al, 1990: 203). This is referred to as a cost-benefit analysis. While the actual cost-benefit analysis of adequately defending medical negligence cases involving CP is beyond the scope of this paper, I will show how an adequate defence using medical science can possibly be financially beneficial to the public health sector while still taking the interests of the child with CP into account.

In the preceding chapter, I have shown that it is possible to use medical science to adequately defend certain medical negligence cases involving CP. Should the State be successful in its defence of these cases, there will be no claim payout to the plaintiff and it is still possible to treat the same patient in a public healthcare facility. The Department of Health has also identified hospitals throughout the country which are capable of rendering services to patients with CP (DoH Paper, 2023: 9-10). In this way, a patient with CP still has access to healthcare services and is not unfairly prejudiced. The funds for healthcare are then not diverted to claim payouts and can

be used for the provision of healthcare services, which treats the majority of patients in South Africa.

In this way, the interests of the majority and the minority are taken care of while achieving a cost-saving benefit.

5.2 Human Rights criticism

Utilitarianism and human rights are seldom compatible (Moodley et al, 2017: 24). While utilitarianism finds moral worth in consequences alone, this ignores individual human rights (Moodley et al, 2017: 24). The Constitution, which is the supreme law of the country, provides that everyone has the right to access to healthcare, bodily integrity and dignity (Constitution of the Republic of South Africa, 1996: s10, s12, s27). Where a plaintiff believes that through the negligent action of the State, a child is born with NE and later diagnosed with CP, he/she may contend that it is a human rights violation. The plaintiff may claim that the harm caused to the baby is a violation of the right to bodily integrity. This in turn may lead to a violation of the right to human dignity as the child may not be able to live a normal functioning life. Section 7(2) of the Constitution places an obligation on the State to respect, protect, promote and fulfil the Bill of Rights. A remedy available to the plaintiff in such a case may be a delictual remedy where compensation may be claimed for the harm suffered. The success of the claim is dependent on the satisfaction of the delictual elements.

5.2.1 Response to human rights objection

I will respond to the human rights argument by using a utilitarian argument guided by the principles of non-maleficence, beneficence and justice. In utilitarian theory, the interests of the population is prioritized over the interests of the individual (Vearrier and Henderson, 2021: 46). This means that the consequences of an act should consider the interests of society as a whole over individual interests.

The principle of non-maleficence requires that healthcare practitioners avoid or minimise harm to their patients (Beauchamp and Childress, 2019: 157). From a utilitarian perspective, this concept implies that the potential risk to public health could outweigh the possible or actual harm to individuals (Vearrier and Henderson, 2021: 52). In this way, the principle of non-maleficence applies to the population as a whole, disregarding actual or potential harms to individuals.

Where the State is successful in defending medical negligence claims, funds are not diverted to claim payouts but stays within the healthcare system to provide healthcare services to the population at large. The child suffering from CP is financially prejudiced and this harm can be justified by utilitarianism as a protection to society.

The principle of beneficence requires moral action that is best for the welfare of the individual (Beauchamp and Childress, 2019: 217). From a utilitarian viewpoint,

ethical behaviour is assessed based on what benefits the patient while also considering the broader community (Vearrier and Henderson, 2021: 54). This may result in a decrease in beneficence at an individual level (Vearrier and Henderson, 2021: 54). Since State hospitals have the necessary resources to provide reasonable care to patients with CP, utilitarianism may find that it is not justifiable to treat a patient with CP in the private sector. The financial strain of the cost of treatment in the private health sector does not benefit society. Therefore, while there is a decrease in beneficence at an individual level, this is justifiable to maintain public healthcare.

The principle of justice emphasizes the importance of ensuring fair, equitable, and suitable treatment in healthcare. (Beauchamp and Childress, 2019: 267). From a utilitarian perspective, the principle of justice demands that healthcare prioritise the requirements of the majority rather than those of a single individual (Vearrier and Henderson, 2021: 46). Enhancing justice in healthcare necessitates examining it within the broader social framework (Vearrier and Henderson, 2021: 56).

Currently, medical negligence claim payouts against the State are financially draining the public healthcare fund. I argue that one of the reasons for this is because the State is not adequately defending medical negligence cases involving CP using medical science. This results in vacancies in healthcare not being filled, shortages of

medication and medical supplies and the inability to upgrade to newer and better technology (SALRC Discussion Paper, 2021: 202).

Justice in this situation would require that the needs of many are considered over the needs of the individual. This can be done by still providing for the individual with CP in public health facilities, which effectively balances the interests of all affected parties.

6. Conclusion

I have argued, using the moral theory of utilitarianism, that adequately defending medical negligence cases involving CP by using medical science, can bring about the greatest good for the greatest number of people in the public health sector. I have shown how utilitarianism is used in public health policy decision making because it takes the interests of society into account, as opposed to individual interests. From this, I have argued that the inadequate defence by the State in medical negligence cases involving CP is a public health issue as the resultant harm of this action is felt by the public health sector. I have shown the benefits of adequately defending medical negligence cases involving CP from a cost-benefit perspective. Objections to my view were also raised such as the problem of unjust distributions with utilitarianism as well as a human rights objection. In my response to the unjust distributions objection, I showed how the interests of the child with CP can still be taken care of while balancing the interests of all parties. In response to the

human rights objection, I presented an ethical case based on utilitarianism to demonstrate that prioritising societal interests over individual rights can be morally justified. However, I also showed that the child suffering with CP still has their interests taken care of in the public sector. Therefore, the interests of all affected parties can be balanced in a cost-effective manner.

Chapter 5

Conclusion and Recommendations

1. Introduction

Most South Africans rely on public health for their healthcare needs (White Paper on National Health Insurance, 2017: 2). The public health sector is facing many crises, one of which is the financial strain on the public health budget caused by medical negligence claims (SALRC, 2021: 185). In my research, I have noticed that the most significant value and the greatest quantity of medical negligence claims against the State are those related to cerebral palsy (CP) (SALRC, 2021: 175). Upon analysing the case law pertaining to these cases as well as the applicable medical science, I found that some cases could be better defended had the State used medical science. As a result of the State not adequately defending these cases, the claim payouts have been exorbitant and this has placed financial strain on the healthcare budget. Where funds were allocated for healthcare services, it had to be diverted to compensate for claim payouts, resulting in less funds for the provision of healthcare services. My study aimed to answer the question whether the State is ethically obligated to use medical science, such as the *Bhorat et al* criteria, in its defence of medical negligence cases involving CP. I applied the concept of utilitarianism, which asserts that an action is ethically permissible if it produces the highest benefit for the largest number of individuals, to contend that the State has a moral duty to utilise medical science in defending against medical negligence claims related to CP.

Counter-arguments were explored and I defended my thesis by responding to these counter-arguments. This chapter concludes my research report and also offers recommendations.

2. Medical Science relating to aetiology of CP

The medical science pertaining to CP was explored in Chapter 2. My research focused on the medical science related to the aetiology of CP. Literature consulted showed that causation of CP was not easy to delineate and that CP has multiple causative factors (Bhorat et al, 2021: 287). International guidelines, referred to as the ACOG criteria, have been adopted in South Africa. South African experts in neonatalology have assessed this criteria and given it a South African perspective which I labelled as the *Bhorat et al* criteria. This criteria was developed by the ACOG to determine the probability that the NE was caused by a HIE which occurred during the intrapartum period. It is based on research that CP can be caused during pregnancy, during birth (intrapartum period) and after birth (post-partum). This is very important in CP litigation because the State is currently being held liable in many cases for the causation of CP during the birth process. I believe that the State will benefit from using the *Bhorat et al* criteria to determine, on a balance of probabilities, if the HIE occurred during the intrapartum period.

I argued that in my analysis of case law pertaining to CP cases, that CTG and MRI are often used by the plaintiff to determine causation of CP on the part of the State. It is often argued that irregular CTG readings were not responded to and as a result, a C-section was not performed timeously, causing the foetus to suffer from hypoxia. On the other hand, it is also argued that the lack of CTG monitoring has caused the hypoxia because the foetus was not monitored and therefore decelerations in the heartbeat were not detected. In determining the timing of the HIE, MRI is used later on in childhood to confirm a HII and this is timed to the intrapartum period. However, according to my research of the medical science currently available, CTG is unreliable as a predictor of CP and MRI is unable to time the HII to the intrapartum period.

A question which was raised was why is CTG still so widely used in fetal monitoring if it is so unreliable. I responded to this question by using research in medical science to show that CTG is very important in monitoring a high-risk patient but it is unreliable as a predictor of CP and in preventing birth asphyxia (Buttigeig, 2017: 3). For this reason, I argued that one cannot be held liable for the causation of CP based on CTG readings alone or the lack thereof.

In CP litigation, MRI is used to confirm the existence of a HII and this injury is often timed to be during the intrapartum period, when the mother was in the care of the State. Studies indicate that MRI is crucial for identifying the cause of cerebral palsy

and assessing the extent of brain damage (Andronikou and Lotz, 2022: 506). Research also shows that MRI scans performed during the first 7 – 21 days of life are highly accurate to determine timing of the HIE (Bhorat et al, 2021: 283). However, these scans are usually performed later on in childhood in South Africa owing to the healthcare system being under-resourced (Bhorat et al, 2021: 278). For this reason, using MRI later on in life to determine timing of a HIE may always be an issue (Bhorat et al, 2021: 283). Radiologists have confirmed that MRI can only time the HII along a broad developmental timeline (Andronikou and Lotz, 2022: 506). I used this research to argue that MRI scans are important when determining the presence of a HII but it should not be used exclusively to retrospectively determine timing of the HII. This type of argument leads the Court to find that the HIE could only have occurred during the intrapartum period, therefore holding the State liable for the causation of CP. I argued that the State can better defend some of these cases, using valid and reliable medical science to show the Court that CTG and MRI are insufficient and unreliable to determine causation of CP. I recommend that the *Bhorat et al* criteria, as well as any other relevant and applicable medical science, be raised and defended in a robust manner when defending the State in CP litigation. This was further explored in Chapter 3.

3. Legal theory pertaining to medical negligence cases involving CP

In arriving at my conclusion that the State could better defend medical negligence cases involving CP, I analysed relevant case law. Some cases showed negligent

intrapartum care where the State is liable for medical negligence and others showed a failure on the part of the State's defence. I focused on these cases and came to the conclusion that many medical negligence cases involving CP against the State followed a similar pattern. Cases were instituted on the grounds that there was insufficient CTG monitoring, which resulted in a missed detection of the foetus's heartbeat deceleration. Or, CTG monitoring was done and the results were not responded to timeously. As a result of this, the plaintiff claimed that a C-section was not performed timeously which resulted in the baby being born with NE. The plaintiff then uses MRI scans later on in childhood to confirm the diagnosis of CP and also to time the HIE. As a result of this line of argument, the State is held liable for the causation of CP. As explored in Chapter 2, the medical science relating to the causation of CP does not support the use of CTG and MRI in isolation to determine causation of CP. For this reason, I argued that the State could better defend claims using valid and reliable science such as the *Bhorat et al* criteria. The common law of South Africa does not recognise the scientific method of proof in Court but rather, the factual method of proof (*Lee v Minister of Correctional Services*, 2012: para 40 and 56). This requires evidence that is placed before Court to be logical and one fact must follow from another (*Lee v Minister of Correctional Services*, 2012: para 40). I argued that this can be overcome by adequate and robust presentation of evidence in Court. Where evidence is elicited and presented in such a way that it is logical, albeit scientific, I argued that it is able to satisfy the factual test for causation in law.

I used two cases as examples where the State failed in adequately defending medical negligence cases involving CP. This was done by providing a summary of the facts of the case as well as a summary of the expert witness testimony for both the plaintiff and the defendant. I then evaluated the expert witness testimonies as well as the cross-examination for both the plaintiff and the defendant. Thereafter, I evaluated the evidence placed before the Court and took the Court's commentary into account when reaching my conclusion. I demonstrated the shortcomings of the State's defence and how they could have better defended these cases. The conclusion that I drew was that the State could have defended these cases better by using medical science such as the *Bhorat et al* criteria. This could have had a positive outcome for the State. While not every medical negligence case against the State is capable of achieving a successful outcome, there are many cases that have been unsuccessfully defended by the State which has cost millions to the healthcare budget. Due to the magnitude of the quantum of the CP cases, adequate defence in even one case has the potential of saving much needed funds in public healthcare. I also included a recently decided case as an example where the ACOG or *Bhorat et al* criteria was used by the State and argued successfully. This shows that it is possible to use medical science as a defence in CP cases. I further argued that the defence of medical negligence cases involving CP is a public health issue and using medical science to adequately defend these cases is ethically justifiable by utilitarian standards. This was discussed and argued in Chapter 4.

4. Ethical argument

I addressed my research question whether the State is ethically obligated to use medical science, such as the *Bhorat et al* criteria, to adequately defend medical negligence cases involving CP. While my ethical argument does not bear weight in Court, it was formulated for a purely academic and philosophical argument. I made the case that while the State's defence of medical negligence cases is a legal strategy, it should be considered a public health issue requiring intervention due to the resultant harm on the public healthcare system. This was argued by stating that public health issues involve health equity, health reform and access to healthcare (Edemokeng and Tenny, 2022: 4) and that any action that reduces access to healthcare for the population at large should be considered a public health issue. This was supported by using evidence that medical negligence claims against the State are financially draining the public healthcare fund. I further argued that the inadequate defence by the State contributes to this financial drain.

I used the ethical theory of utilitarianism to support my argument that the State is morally obligated to use medical science as a defence in medical negligence cases involving CP. Utilitarianism and its application to public health issues as well as its shortcomings were explored in this chapter. This was demonstrated by outlining the theory of utilitarianism and then demonstrating how it applies at a societal level, as opposed to an individual level. Thus, making it an attractive moral theory to attempt to solve public health issues. Two counterarguments to this paper were raised,

based on the criticism of utilitarianism in public health, and this was responded to by arguing the benefits of utilitarianism to society.

Utilitarianism has faced criticism for allowing the preferences of the majority to take precedence over the needs of the minority in society (Beauchamp and Childress, 2019: 393). This was used as a counterargument. The concern would be that the interests of society would override the interests of the child with CP, should the State be successful in its defence.

My response was utilitarian based on the principle of justice, which is referred to as distributive justice in healthcare (Connor et al, 1990: 197). I argued that utilitarianism does not seek to promote a standard of justice but rather, looks to strike a balance amongst competing groups (Connor et al, 1990: 203). An example of achieving this balance when the State is successful in its defence is caring for the child with CP in a specialised State facility. From my research, this is achievable in public health in South Africa as the State has identified hospitals throughout the country which are capable of rendering specialised services to children with CP (DoH Paper, 2023: 9-10). In this way, funds allocated for healthcare can continue to be used for the provision of actual healthcare while the medical needs of the child with CP can be met.

Another counterargument raised was from a human rights perspective. Where a plaintiff believes that through the negligent action of the State, a child is born with NE and later diagnosed with CP, he/she may contend that this is a human rights violation. The plaintiff may claim that the harm caused to the baby is a violation of the right to bodily integrity and because the child cannot live a normal functioning life, it can be argued that it is a violation of the right to human dignity. The remedy available to the plaintiff is a delictual one where the delictual elements must be satisfied.

My response was supported by utilitarianism based on the principles of non-maleficence, beneficence and justice. When considering consequences in public health issues through the lens of utilitarianism, the consequences of an act should consider the interests of society as a whole over the interests of individuals. The consequences considered would be if the State was successful in its defence of medical negligence cases involving CP and the child suffering from CP does not receive a claim payout.

From a utilitarian perspective, the principle of non-maleficence would require minimising harm to the population as a whole over minimizing harm to the individual (Vearrier and Henderson, 2021: 52). In this way, utilitarianism justifies the fact that a child suffering from CP may be financially prejudiced as a protection to society. The principle of beneficence, in the context of utilitarianism, identifies what is most

advantageous for the patient while considering the broader population (Vearrier and Henderson, 2021: 54). Therefore, any decrease in beneficence at an individual level may be justified to maintain public healthcare. Justice in healthcare would necessitate prioritising the needs of the many over those of the individual. I concluded that by taking care of the medical needs of the child with CP in a State facility, the needs of the child are met and the public healthcare fund can be used for the provision of actual healthcare. This is defensible within the framework of utilitarianism, which is upheld by the tenets of non-maleficence, beneficence, and justice. Therefore, I concluded that the State is ethically obligated to utilise medical science, such as the *Bhorat et al* criteria, to adequately defend medical negligence cases involving CP.

5. Conclusion

In this paper, I presented my research on the inadequate defence of the State in medical negligence cases involving CP. My research has three components namely medical science, legal theory and an ethical argument. I used current, valid and reliable medical science to show that CTG and MRI are insufficient when used in isolation to determine causation of CP. I further provided reliable criteria that can be used to determine if an HII was caused during the intrapartum period. I provided an overview of the relevant legal principles concerning medical negligence cases and addressed the limitations of common law in relation to the test for causation. I also provided a recommendation to overcome this shortcoming of the common law which

would require skill and diligence from the State's counsel. Two cases were used as examples where I believed that the State has failed in its defence (*M obo M v MEC for Health and Social Development, Gauteng* [2018] ZAGPJHC 513 and *Lushaba v MEC for Health Gauteng* [2014] ZAGPJHC 407). I highlighted where the State has failed and where it could do better by using applicable medical science, such as the *Bhorat et al* criteria, to achieve a successful outcome. Thereafter, I made an ethical argument. My ethical arguement was grounded in utilitarianism, which defends actions that produce the maximum benefit for the largest group of individuals. I argued that the State is ethically obligated to used medical science in its defence of medical negligence cases due to the resultant benefit on public healthcare.

6. Recommendations

I urge the Department of Health to consider the failure of the State's defence in medical negligence cases as a public health issue due to the harm caused to the public health system. In doing so, steps can be taken to evaluate the State's defence and develop a better legal strategy when defending these cases. In this paper, I have given an overview of the actual harm caused to the public health sector. There are various reports which have dealt with the effect of medical negligence cases on the public health system (AGSA: 2023, DoH paper: 2023, SALRC: 2017, SALRC: 2021, Whittaker: 2021). These reports give in-depth detail into the magnitude of medical negligence cases against the State and their resultant harm. A public health intervention has never been more urgent. While there are many recommendations to

solve the problem, my recommendation is focused on using a better legal strategy, where applicable.

In my paper, I have shown the applicable medical science relating to the aetiology or causation of CP. This research clearly shows that CTG and MRI are insufficient to determine causation. CP has multiple causative factors and there are criteria to determine if an HII occurred during intrapartum period, when the patient may most likely have been in the care of the State. I have referred to this as the *Bhorat et al* criteria. It is imperative for the State's legal team to understand this research and utilise it in their defence. This may not automatically ensure a successful defence but it must be raised to show the Court different factors contributing to the causation of CP. This will allow the Court to take evidence into account that is more comprehensive and reliable than just CTG and MRI readings. While the Court's require logic and not pure science to satisfy the test for causation in law, a robust presentation of evidence is able to overcome this. This requires adequate preparation and presentation of expert evidence before Court.

I have prepared a concise overview of the applicable medical science in Chapter 2. This was done by consulting medical journals and textbooks and rendering the medical jargon into a more accessible form. I urge counsel for the State to take the above research into consideration when defending medical negligence cases involving CP. The understanding of the medical science applicable to these cases

will assist to better defend matters of this nature. While this is not a typical public health intervention, this legal strategy could assist the State with the problem of its medical negligence claims.

TOTAL WORD COUNT: 21 586

References

Books

Barrett, D.H., Ortmann, L.W., Larson, S.A. (2022). *Narrative ethics in Public Health: The value of stories* (Vol. 7). Springer Open Access.

Beaglehole, R., & Bonita, R. (1997). *Public Health at the Crossroads.* UK: Cambridge University Press

Beauchamp, T. L., & Childress, J. F. (2019). *Principles of biomedical ethics* (Eighth ed.). Oxford University Press.

Carstens, P. A., & Pearmain, D. (2007). *Foundational principles of South African Medical Law*. LexisNexis.

Connor, S.C., & Fuenzalida-Puelma, H.L. (1990). *Bioethics: Issues and Perspectives* Pan American Health Organization, Pan American Sanitary Bureau, Regional Office of the World Health Organization.

Edemekong, P.F., Tenny, S., (2022). *Public Health*. Treasure Island (FL): StatPearls Publishing. Available from: https://www.ncbi.nlm.nih.gov/books/NBK470250

Hlophe, Z., Illsley, T., Melville, N.J., Mofokeng, L., Naude, B., Nkutha, M.S.,E.P., Reddy, S., L.S., LES R.T.V.D.M., B.W., Bellengere, A., Theophilopoulos, C., Palmer, R. (2019). *The Law of Evidence in South Africa 2e: Vol. Second edition*. Oxford University Press Southern Africa.

Moodley, K. (2017). *Medical ethics, law and human rights: A South African perspective (Second ed.).* Van Schaik Publishers.

Neethling, J., Potgieter, J. M., & Visser, P. J. (2015). *Law of Delict: Vol. Seventh edition.* LexisNexis SA.

Rachels, James & Rachels, Stuart (2019). *The Elements of Moral Philosophy, 9th edition.* New York: McGraw-Hill.

Ramdass, R, K. (2024). *Medico-Legal Aspects of Cerebral Palsy: A Handbook for Legal and Healthcare Practitioners.* Juta Law.

Stanley, F.J., Blair ,E., Alberman, E., Alberman, E.D. (2000). *Cerebral Palsies: Epidemiology and Causal Pathways*. United Kingdom: Cambridge University Press

Strauss, S. A. (1991). *Doctor, patient and the law: A selection of practical issues* (3rd ed.). J.l. Van Schaik.

Williams Obstetrics (2018). In Cunningham F. G. (Ed.), (25th ed.). McGraw-Hill Education

Cases

Buthelezi v Ndaba 2013 (5) SA 437 (SCA)

Krishna v Pillay 1946 (AD) 946

Lee v Minister of Correctional Services [2012] ZACC 30

Lushaba v MEC for Health, Gauteng [2014] ZGPJHC 407

MEC for Health and Social Development, Gauteng v DZ obo WZ [2017] ZACC 37

Michael and Another v Linksfield Park Clinic [2001] ZASCA 12

Minister of Police v Skosana [1976] ZASCA 71

M obo M v MEC for Health Gauteng [2018] ZAGPJHC 513

M obo M v MEC Health Gauteng [2022] ZAGPPHC 219

Van Wyk v Lewis 1924 AD 438

Government Publications

Constitution of the Republic of South Africa, (1996), Government Gazette (No. 17678).

National Assembly, 2020, *Question No. 95.* South Africa: Parliament.

Journals

Andronikou, S., Lotz, J. W., Bhorat, I., Buchamann, E., Soma-Pillay, P., Nicolaou, E., Pistorius, L., & Smuts, I. (2022). “Right of Reply”. *South African Medical Journal,112*(8), 506–508.

https://doi.org/10.7196/SAMJ.2022.v112i8.16702

Bax, M., Goldstein, M., Rosenbaum, P., Leviton, A., Paneth, N., Dan, B., Jacobsson, B., Damiano, D., & Executive Committee for the Definition of Cerebral Palsy (2005). Proposed definition and classification of cerebral palsy, April 2005. *Developmental medicine and child neurology*, *47*(8), 571–576.

Bearden, D. R., Monokwane, B., Khurana, E., Baier, J., Baranov, E., Westmoreland, K., Mazhani, L., & Steenhoff, A. P. (2016). Pediatric Cerebral Palsy in Botswana: Etiology, Outcomes, and Comorbidities. *Pediatric neurology*, *59*, 23–29.

https://doi.org/10.1016/j.pediatrneurol.2016.03.002

Bhorat, I., Buchmann, E., Soma-Pillay, P., Nicolaou, E., Pistorius, L., & Smuts, I. (2021). "Cerebral Palsy and Criteria Implicating Intrapartum Hypoxia in Neonatal Encephalopathy - An Obstetric Perspective for the South African Setting". *South African Medical Journal*, 111(3b), 280–288.

https://doi.org/10.7196/SAMJ.2021.v111i3b.15399

Buttigieg, G.G., (2017). "Lessons from the Great Medico-Legal Chapter of Cerebral Palsy". *Journal of Neurological Disorders*, 5:2. 1-5

Dhai, A. (2016), "Medical Negligence: Alternative claims resolution an answer to the epidemic?". *South African Journal of Bioethics and Law,* Vol. 9, 2-3.

Dhai, A., & Mahomed, S. (2018), "Healthcare in Crisis: A Shameful Disrespect of our Constitution". *South African Journal Of Bioethics And Law*, 11(1), 8-10.

https://doi:10.7196/SAJBL.2018.v11i1.00649

Duke, R., Torty, C., Nwachukwu, K., Ameh, S., Kim, M., Eneli, N., Onyedikachi, A., Aghaji, A., Burton, K., Dyet, L., Bowman, R., "Clinical Features and Aetiology of cerebral palsy of children from Cross River State, Nigeria", *Arch Dis Child,* (2020),105: 625–630.

Elsingergy, M. M., Worede, F., Venkatakrishna, S., Curic, J., & Andronikou, S. (2021).
"Magnetic resonance imaging diagnosis of causes of cerebral palsy in a developing country: A database of South African children". *South African Medical Journal*, *111*(9), 910–916.

Katangwe, T., van Toorn, R., Solomons, R., Donald, K., Steel, S., Springer, P., & Kruger, M. (2020). "A South African cerebral palsy registry is needed". *South African Medical Journal, 110*(5), 353-354.

doi:10.7196/SAMJ.2020.v110i5.14504

McIntyre, S., Goldsmith, S., Webb, A., et al, "Global prevalence of cerebral palsy: A systematic analysis". *Developmental Medicine and Child Neurology* (2022); 64(12): 1494 – 1506.

https://doi.org/10.1111/dmcn.15346

Nelson, K. B., Dambrosia, J. M., Ting, T. Y., & Grether, J. K. (1996). “Uncertain value of electronic fetal monitoring in predicting cerebral palsy”. *The New England Journal of Medicine*, *334*(10), 613–618.

https://doi.org/10.1056/NEJM199603073341001

Reddihough, D.S., Collins, K.J. (2003). “The epidemiology and causes of cerebral palsy”. *Australian Journal of Physiotherapy,* 49(1), 7 – 12.

Sartwelle, T. P., & Johnston, J. C. (2015). “Cerebral palsy litigation: change course or abandon ship”. *Journal of Child Neurology*, *30*(7), 828–841.

https://doi.org/10.1177/0883073814543306

Vearrier, L., & Henderson, C. M. (2021). Utilitarian Principlism as a Framework for Crisis Healthcare Ethics. *HEC forum : an interdisciplinary journal on hospitals' ethical and legal issues*, *33*(1-2), 45–60.

Papers

Auditor General South Africa, (2023). Presentation to NCOP Health Sector.

Department of Health, (2023). Briefing on the impact of medico-legal claims on provincial budgets.

Guidelines for Maternity Care in South, 4th ed, 2016

Judicial Institute for Africa, A Practical Approach to Evidence for Judicial Officers, 2023

South African Law Reform Commission, Discussion Paper 154 – Project 141:

Medico-legal Claims (October 2021).

Socio-Economic Impact Assessment System (SEIAS), Final Impact Assessment (Phase 2) : White Paper on National Health Insurance, 2017.

South African Law Reform Commission, Discussion Paper 154 – Project 141:

Medico-legal Claims (October 2021).

South African Law Reform Commission, Issue Paper 33 – Project 141:

Medico-legal Claims (May 2017).

The American College of Obstetricians and Gynaecologists and The Academy of Paediatrics: Neonatal Encephalopathy and Neurological Outcome, 2014

The American College of Obstetricians and Gynaecologists and The Academy of Paediatrics: Neonatal Encephalopathy and Neurological Outcome, 2019

Whittaker, G.A. Medical Malpractice in the South African Public Sector. Cape Town: Actuarial Society of South Africa, 2021

Websites

www.cochrane.org

The Free Medical Dictionary by Farlex, www.medical-dictionary.thefreedictionary.com , 2012

Parliamentary Monitoring Group South Africa, www.pmg.org.za , 2019

South African Society of Obstetricians and Gynaecologists, www.sasog.co.za , 2021

National Treasury of South Africa, www.treasury.gov.za

Statistics South Africa, www.statssa.gov.za, 2017