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WILL MEDICAL EXAMINERS ENHANCE DEATH CERTIFICATION AND INVESTIGATION?

CAROL ANGELA VAUGHAN

A thesis submitted in partial fulfilment of the requirements of Nottingham Trent University for the degree of Doctor of Legal Practice.

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Abstract

The Coroners and Justice Act 2009 provides the legislative framework for national implementation of Medical Examiners – which is still awaited. However, pilot sites were introduced in 2009 providing a tier of scrutiny to Medical Certificates of Cause of Death that has not been previously available.

This qualitative study explores the phenomenon of death certification and investigation and how the weaknesses within the current system affect the accuracy of causes of death. It explores whether the introduction of Medical Examiners will address the concerns that arose post Dr Harold Shipman, that an individual doctor could be a mass murderer and be undetected.

Methodology: Phenomenography is the chosen methodology, exploring the second order perspective of how and why decisions are made.

Methods: to collect the data required case studies were used and disseminated using a survey link to participant groups purposely chosen for their role in death certification and investigation – Coroners, Registered Medical Practitioners and Medical Examiners.

Thematic analysis of responses uncovers not only the decisions made but also what influences those

decisions. Thus, how the quality of death certification and investigation is influenced by each of these individuals.

Results: The qualitative data demonstrates that the introduction of Medical Examiners will not, on its own, enhance the current system of death certification and investigation.

Therefore, this study recommends that law and policy makers consider reforms to medical education, the selection process for Medical Examiners and the use of artificial intelligence.

Both undergraduate and post graduate medical education needs to include coronial law, death certification and investigation as core components. This is particularly important as Medical Examiners will become a medical speciality, thus requiring the same educational considerations as other medical specialities.

Other recommendations include a robust selection process for all Registered Medical Practitioners wishing to specialise as Medical examiners, with psychometric testing fully considered as part of this process.

A more long-term recommendation, which also reflects the ever-increasing move towards technology, is the use of artificial intelligence to identify an unnatural death.

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List of Abbreviations

A

A&E – Accident and Emergency (see ED)

AF – Atrial Fibrillation

AI – Artificial Intelligence

AML - Acute Myeloid Leukaemia

ARAS – Ascending Reticular Activating System

B

BC – Before Christ

BMA – British Medical Association

BP – Blood Pressure (hypertension)

C

CCG – Clinical Commissioning Group

CoD – Cause of Death

CPD – Continuous Professional Development

CPR – Cardiopulmonary Resuscitation

CQC – Care Quality Commission

CS1 – Case Study One

CS2 – Case Study Two

CT – Computerised Tomography

CVA – Cerebrovascular Accident (stroke)

D

DNA – Deoxyribonucleic Acid

DoH – Department of Health

DoL – Deprivation of Liberty

E

ECHR – European Convention of Human Rights

ED – Emergency Department (see A&E)

EI – Emotional Intelligence

G

GCS – Glasgow Coma Scale

GMC – General Medical Council

GP – General Practitioner

H

HEI – Higher Education Institute

HSIB – Healthcare Safety Investigation Branch

I

ICD – International Classification of Diseases

ICH – Intracranial Haemorrhage

ID – Identification

IHD – Ischaemic Heart Disease

IMR – Independent Medical Reviewer

INR – International Normalised Rate

IT – Information Technology

L

LD – Learning Disability

M

MCA – Mental Capacity Act

MCCD – Medical Certificate of Cause of Death

MDU – Medical Defence Union

ME – Medical Examiner

MI - Myocardial Infarction (heart attack)

MoJ – Ministry of Justice

MR – Medical Referee

MRI – Magnetic Resonance Imaging

N

NHS – National Health Service

NICE – National Institute for Health and Clinical Excellence

NME – National Medical Examiner

O

OA – Osteoarthritis

OECD – Organisation for Economic Co-operation and Development

ONS – Office for National Statistics

OPMH – Older People Mental Health

P

PCT – Primary Care Trust

PF – Procurator Fiscal

PM – Post-mortem

PME – Post-mortem Examination (autopsy)

PSA – Professional Standards Authority

R

RG – Registrar General

RMP – Registered Medical Practitioner

RN – Registered Nurse

Rx – Treatment

S

SMA – Statutory Medical Assessor

T

TIA – Transient Ischaemic Attack (mini stroke)

U

UDHR - Universal Declaration of Human Rights

UK – United Kingdom

W

WHO – World Health Organisation.

Chapter One

Introduction

The death certification system was reviewed twice in 2003, with the Smith Report (The Shipman Inquiry 2003) particularly addressing the failures within the system that allowed Harold Shipman, a General Practitioner (GP), to hasten the deaths of over 200 of his patients over two decades, to remain undetected. Both the Luce Review (Death Certification and Investigation in England, Wales and Northern Ireland 2003) and Smith Report (The Shipman Inquiry 2003) concluded the death certification system is not fit for purpose. The recommendations made by both were the basis for a long-awaited statutory review of coronial law. This review resulted in the Coroners and Justice Act 2009, which introduced Medical Examiners (ME) to provide a level of scrutiny for death certification. It is envisioned ME's will ultimately confirm, or refute, the cause of death certified on the Medical Certificate of Cause of Death (MCCD), referring cases to the coroner when a death does not appear, to them, to be one of natural causes, or when they consider that the cause of death is unclear or unknown.

It is expected that this will provide a supervisory and audit remit that has previously been unavailable (Parliament 2006; Coroners and Justice Act 2009).

Recent statistics

2014

Within England and Wales 477, 752 deaths were registered in 2014, with 223, 841 (46%) being reported to the coroner, of those reported to the coroner 40% required a post mortem examination (PME) to establish a cause of death (Ministry of Justice (MoJ) 2015; Office for National Statistics (ONS) 2015;). Of the cases reported to the coroner 25, 899 (11%) proceeded to inquest, which is a reduction from 2013, which the ONS states reflects the full implementation of the Coroners and Justice Act 2009 in 2013, which allows coroners to conduct a brief investigation before deciding if an inquest is necessary. Nevertheless, it is still many inquests to complete. Moreover, while 46% of cases required coroner referral, there is still a potential for the 54% that were not referred to be hiding dubious practices, or have inaccurate content recorded on the MCCD.

2015

Although the mortality statistics increased in 2015 to 529, 655 deaths (ONS 2016), there is little change to the percentage of deaths reported to the coroner – 236, 406 (45%). There was a slight decrease with 38% requiring PME. However, there was a small increase, 32, 857 (14%) in those proceeding to inquest. This rise in

inquests coincides with the changes in reporting deaths to include Deprivation of Liberty (DoL's) authorisations, which require inquests (MoJ 2016a). As with 2014 the statistics demonstrate over half of all deaths (55%) are not being scrutinised.

2016

Similar trends appear in the 2016 mortality and coroners' statistics, with 525, 048 deaths registered (MoJ 2017; ONS 2017), of which 241, 211 (46%) were reported to the coroner. This is a small percentage increase from previous years, reflecting the DoL's authorisation referrals from 7,183 in 2015 to 11, 376 in 2016 (MoJ 2017). Again, a stable trend of 36% of all cases reported requiring a PME. However, over half of all deaths (54%) are not being scrutinised.

2017

In 2017, 533, 253 deaths were registered (ONS 2018) which is an increase of 8,205 from 2016. Of those, 229, 700 (43%) were reported to the coroner (MoJ 2018), which is a reduction from 2016. This trend mainly reflects the decrease in DoL's authorisations reported to the coroner (MoJ 2018). Of those deaths reported to the coroner 85, 600 PME's (37%) were ordered, with 31, 500 (14%) inquests opened.

Nevertheless, the trend remains that over half (57%) of all deaths are not scrutinised.

Due to a consistently high percentage of deaths not being scrutinised, along with the appetite to avoid another Dr Shipman, these deaths need to be scrutinised. This scrutiny is part of the statutory remit of ME's.

ME's

Pilot sites for ME's were introduced in 2009. The purpose of the pilot sites is to provide the tier of scrutiny recommended by Luce and Smith, to highlight areas of practice that need addressing, so no doctor can follow Dr Shipman into the ranks of mass murderer. Another purpose is for causes of death to be recorded accurately so mortality statistics, in turn, become more accurate. This has benefits in terms of health promotion strategies, which can more accurately target the most prevalent morbidities. In achieving this, society can be assured that deaths that require investigation will indeed be investigated.

The Department of Health (DoH) (DoH 2012 and 2013) suggest ME implementation within the pilot sites has been effective: without prolonging funeral

arrangements, in affecting trends in causes of death reported in mortality statistics, by recording more accurate causes along with highlighting patterns of behaviour in care to be addressed to minimise the risk of future similar deaths. The DoH compared MCCD content by the certifying Registered Medical Practitioner (RMP) to what a ME would include after scrutiny of medical records and discussing the case with relatives of the deceased. The findings – fully displayed in Appendix One – suggest ME enquiry results in a better understanding of the sequence of conditions leading to death, in turn leading to changes in recorded causes of death which affect mortality statistics. Mortality data is important, as the core content of a MCCD has been governed by international convention, a contemporary version of the International Classification of Diseases (ICD), since 1911. Thus, intra and international comparison of data affects the allocation of resources, for health care programmes and research. These provide the foundations for changes to health promotion strategies and treatments to address trends in mortality (Viller and Perez-Mendez 2007; Berlin 2009).

Reforms – are they fit for purpose?

A further study is required to establish whether the death certification reforms themselves are fit for purpose, to address the concerns post Dr Shipman, and to support the DoH (2013) conclusions.

Rather than replicating the DoH comparisons by directly accessing MCCD's and patients' medical records to ascertain the quality of death certification and investigation, an alternative methodology was required. Thus, a qualitative study which includes professionals who have roles in death certification and investigation was necessary. Therefore, coroners, RMP's and ME's were appropriate participants. It is their responses to two, decedent, clinical case studies, that identified the current quality of death certification and investigation. The case studies were disseminated to the participants usual places of work by online survey, to reflect decisions made in the usual work environment, with its usual pressures and time constraints. This empirical component follows a phenomenographical paradigm, as it is the how and why of the decision made that is useful not the mere fact that the decision has been made, which is the context of previous studies around accuracy of death certification.

Literature Review

There is literature available stating the current death certification system is not fit for purpose (Luce Review 2003; Smith Report 2003) demonstrated by DoH comparisons previously mentioned, along with retrospective comparative studies around who makes the most errors when completing the MCCD (James and Bull 1995), or how many errors are made (Swift and West 2002). This is not just a national concern but an international one too, particularly as studies consistently demonstrate death certificates are full of errors with up to 55% containing inaccuracies (Maudsley and Williams 1993 and 1996). More recent data suggests this is still the trend as Furness (DoH 2016a p5) reports 50% of MCCD's, the precursor to the death certificate, "are capable of improvement". With international studies showing similar trends, claiming 40-80% of certificates reviewed contained inaccuracies (Lahti and Penttila 2001; Smith Sehdev and Hutchins 2001; Cambridge and Cina 2010).

This leads to suggestions that the national statistics have failed to improve since the introduction of formal coronial and legal education into the medical student curriculum. Indeed, Preston – Shoot and McKimm (2011) demonstrate not all medical curriculums contain

this education even today. To date no work has been uncovered to explore why these errors occur.

Benchmarks

In order to analyse the quality of law and practice relating to death certification and investigation, both pre and post reform, two benchmarks are used. Firstly, an ethical measure of the extent to which they are compatible with respect for the worth of human beings, or persons, and secondly the extent to which they are consistent with principles of good regulation. The nature and justification for use of these benchmarks is elaborated on in detail over the course of chapter two.

The value, or worth of someone is interlinked with the legal regulation that provides the framework for death certification and investigation. Regulation will only achieve its objectives if the individuals the regulation encompasses display behaviours that promote it. Behaviours that do not promote the regulation is often influenced by a belief, or view, that is held about some aspect of who or what the regulation applies to. In this study a belief, or view, held by a coroner, RMP or ME about the deceased will influence their decision as to what the cause of death is and, more importantly, whether coronial investigation is necessary.

The principle catalyst for legislative reform in this field has been the way that it was exposed a vulnerable to the actions of maleficent doctors by the Harold Shipman affair. Dr Shipman was able to certify the numerous patients that he murdered over an extended period of years as having died of natural causes, without being discovered and prosecuted. From a human worth perspective, it is obvious that Dr Shipman did not value his patients, but also equally clear that they, their kin and the community at large were let down by weaknesses in the system.

This study will demonstrate that, unfortunately, some of the weaknesses in protecting worth persist – as demonstrated in chapter nine, the system is heavily reliant on the particularities of the way that the relevant actors, namely coroners, RMP's and ME's, approach the value of human beings, with this being a key driver of their clinical decision making regarding a cause of death and any subsequent coronial investigation.

Nonetheless, it may be observed that the basic emphasis of coronial law stems from a disposition toward valuing the worth of human beings. Such law regulates by proscribing the categories of death to be investigated – see Chapter Three. Since 1194 the duty to investigate sudden, violent or unexplained deaths

remained largely unchanged until 2009, with the enactment of the Coroners and Justice Act 2009. Currently, violent, unnatural and unknown cause deaths along with deaths in custody or other state detentions require coronial investigation (Coroners and Justice Act 2009).

Protections become clearer if the language used in the 2009 Act is briefly considered. Violent or unnatural suggests a death could have occurred due to acts or omissions of others, or that there may be difficulty explaining why the death occurred. Explanations that maybe forthcoming if the death is investigated. While unknown cause requires investigation to elicit a cause, not just to satisfy the Births and Deaths Registration Act 1953, but to identify if any public health concern can be identified. Whereas, deaths in custody, or any type of state detention, suggests others are charged with a duty of care to that individual may be involved in causing or contributing to the death. This could be by an individual act or omission, or an organisation working practice that may be questionable.

As is evident from these categories the purpose of coronial investigation is not just to show respect for the worth of the dead but also to safeguard the interests of the living.

A concrete example would be amendment of health and safety law following an investigation of the cause and circumstances of a death, or death illustrating a weakness or insufficiency in it.

Another would be the way in which such an investigation might be a precursor to criminal prosecution. For example, coronial inquiries can uncover such things as dangerous or illegal practices, or negligence in work regimes that lead to death and could require criminal investigation for potential prosecution under health and safety law or even under the Corporate Manslaughter and Corporate Homicide Act 2007. If a coroner uncovers any suspicion or evidence of criminality, they will adjourn their inquiries until a police investigation and any criminal prosecution has been fully concluded.

Safeguarding and other societal benefits are dependent upon the quality of death certification and coronial inquiry, which chapter two explores. Although, these benefits go largely unnoticed by society, society nevertheless gains so much form them during different stages of life. It was only after Dr Shipman and his actions were identified that death certification and coronial investigation came under intense scrutiny, resulting in the current legislative changes that are still to be fully enacted.

The most notable change introduced by the Coroners and Justice Act 2009 is the introduction of ME's to scrutinise MCCD's and make referrals for coronial inquiry as required. On the positive side, these changes should help prevent a repeat of the situation of a doctor "getting away" with murdering patients in numbers over an extended period. And on the realistic side one should not expect them to be perfect. However, I will argue that on the downside the reforms will not provide society with the type of service they, or the law makers envisaged and ought to be able to at least largely expect as a matter of right. The raw data in this study demonstrates decedents that should be referred for coronial inquiry are not. The system is still greatly dependent on the quality of the behaviour and actions of its key actors as is evident in the thematic analysis of the raw data in chapter nine.

Knowledge and practice contribution

As empirical studies that address decision making within the death certification process are lacking this study will contribute to knowledge, and practice, by highlighting strengths and weaknesses within the current coronial and medical domains. This includes the new specialist role of ME to consider if the proposed reforms will

address concerns, identified by Luce and Smith and make a new death certification system fit for purpose.

Chapter Two

Benchmarks

In the introduction to the thesis I identified two types of benchmark that could operate as the key lenses for critical medical investigation and certification of death. The first was a benchmark of regulation being good in terms of the principles it follows and the second a benchmark of protection of human worth. During this section I set out what I mean by regulation being good and protecting human worth and why they are vital concerns.

Regulation.

Rules can, at their broadest. Incorporate reference to social norms of conduct. However, I am not concerned with those norms here, but rather with formal rules and their enforcement systems. Regulation may be described as a process of creating, applying and enforcing these rules. All fields of modern life are affected by regulation. Some fields are often observed to be self-regulating, but the term self-regulating is a misnomer here since, at least the extent that they affect rights and interests, all fields are ultimately subject to the law. The qualitative difference between fields is largely simply about how intensely and specifically they are

controlled by legal rules. Because of the serious issues and interests at stake, the field of medical certification and investigation of death has a long standing and growing body of specific law. One of the measures for evaluating that law and its recent reform is to look at the extent to which it is consistent with a good approach to regulation. In the context of understanding what good regulation is, it is common to refer to what are described as principles of good regulation.

The Better Regulatory Task Force (BRTF) (2004) provide five principles of good regulation to help regulators achieve good quality regulation, to improve quality of life amongst other things. These five principles are used by Parliament (House of Lords 2004) when creating legal regulation and have also been enacted under the Legislative and Regulatory Reform Act 2006. Therefore, regulators must have regard to the following principles when exercising regulatory function, which also includes enforcement as part of that function (Organisation for Economic Co-operation and Development (OECD) 2010).

Proportionality.

Proportionality requires regulators to intervene only when necessary i.e. when there is a problem, with

solutions the regulation brings to bear being proportionate to the perceived problem (Hadfield and Weingast 2012).

Proportionality also requires regulators to consider the cost of the regulation, which can be broken down into policy and administrative costs. Policy costs being those that are directly attributable to the policy goal. Whilst administrative costs are associated with the infrastructure required to help achieve the policy goal, such as record keeping, reporting, enforcement and inspection. Although regulation may be required to address a problem, regulators need to consider alternative options that may still achieve the goal but cost less to implement.

Enforcement, again, should be proportionate to the risk posed if there is non-compliance with the regulation. Therefore, punitive enforcement ought to be the last consideration with other methods preferred instead, such as retraining or education, for example. Enforcement should not be the proverbial sledgehammer to crack a walnut when there are alternatives that can be less damaging to those being regulated.

Accountability

Accountability requires regulators to justify the decisions they make by ensuring there is scrutiny applied to the proposed regulation. To fulfil this principle regulators', need to publish proposed regulations so affected parties are consulted before any final decisions are made. Final decisions need to be explained clearly, particularly how and why they were reached.

For the regulated themselves to be accountable by knowing what is expected of them within the regulation, regulators need to provide clear standards with a criterion those standards will be judged against. As human behaviour is being regulated there needs to be a complaints and appeals process for any real or perceived non-compliance. This process needs to be well-published, clear, accessible, fair and effective for those regulated to be aware of the consequences of any non-compliance. Regulators themselves need clear lines of accountability to Ministers, Parliament, assemblies and the general public, so they cannot arbitrarily alter regulation without due process.

Consistency

Consistency requires rules and standards to be joined up and fairly implemented to ensure there is no

conflicting regulation that creates uncertainty for the regulated. Therefore, regulators need to work collaboratively, with any new regulation considering existing or proposed regulation. For example, regulation from domestic, International or European Union sources.

Transparency

Transparency requires regulators to keep regulations simple and user friendly (Waldron 2016), with policy goals and the need for regulation to achieve them clearly defined. Regulation should then be effectively communicated to all interested parties, which may include the general public who may not themselves be regulated by the proposed regulation, rather they may have an interest in how the regulation addresses an issue that caused public outcry.

Transparency begins even before the regulation is developed as effective consultation with stakeholders is required. This is to ensure stakeholder views and expertise are considered.

To enable stakeholders to do this they need to be given ample time as well as enough information to respond to consultation documents. The BRTF (2004) suggest 12

weeks, although this ought to be the minimum time required not a maximum. To enable a clear understanding of the regulation, any guidance developed by regulators to do this needs to be using plain language, so there is little room for misunderstanding or misinterpreting the intention of the regulation (Waldron 2016). The BTRF (2004) suggest any guidance should be issued 12 weeks before the regulations take effect. Time and support also need to be available for those to be regulated so they can comply with the regulation, with any consequences of non-compliance being made clear.

Targeting

Targeting requires regulation to be focused on the problem it is to address, therefore a narrow rather than a broad approach is necessary. If the regulation is not focused, in this manner, any policy goal will not be achieved because the problem will not be addressed as the regulation is not specific enough to do that. Therefore, there needs to be clarity and a lack of ambiguity as to what the policy goal is, with a timescale for introducing the regulation (Valcke 2012; Waldron 2016).

In so far as is possible regulators should have a goals-based approach so the regulated, and the enforcers, have a degree of flexibility in how they meet the policy target. Any approach used by the regulators needs to be adapted to the needs of the regulated, whether an individual or a group, to enable them to achieve.

Enforcers need to target, or focus, on those whose behaviour gives rise to the most serious risks, whether that risk is harm to others or not achieving the policy goal. Not achieving a policy goal will not always mean harm has befallen another person, but that will very much depend on what is meant by “harm”, as it is a subjective term.

For targeting to complete the cycle of good regulation, it needs to be systematically reviewed for necessity and effectiveness, modifying and eliminating it as necessary. In the United Kingdom (UK) an example of this type of review is conducted by the Professional Standards Authority (PSA) who review health and care regulators. They provide Standards of Good Regulation for regulators, such as the GMC, to meet. Those standards are then used as the criteria for the regulator (GMC) to be judged against (PSA 2020).

Although, the OECD (2010) claim the UK is especially well placed to address complex future regulatory challenges, as it has reached a certain level of sustainability and maturity, there is still room for improvement. Such improvement is required within administrative practices, which will require a change in the culture of, and therefore, the beliefs and behaviour of those tasked with creating and supporting better regulation.

Good regulation, which includes good law, needs to be necessary, affordable, fair, effective, simple to understand and easy to administer while commanding public support. If it achieves this it ought to protect others from arbitrary interference with their rights and interests.

However, along with the core principles for law to be considered good, the issue of morality needs consideration. Particularly, as there needs to be regulatory congruence between the rules as announced and rules as applied (Hadfield and Weingast 2012).

It could be argued that legal regulation, or law, is based on morality, after all it is immoral to kill another person, and it is illegal to do so within the Homicide Act 1957, which applies to England and Wales. However, in other areas of the world apartheid and genocide have been

prevalent, demonstrating law itself is no guarantor of public protection. What this also demonstrates is that law is not universal in its protections, it has a jurisdiction that at times can be influenced by a ruling party. All this demonstrates is that morality means different things for different cultures and individuals within cultures. This makes morality a subjective principle that is dependent on individual and collective beliefs. The best morality can do is provide a base that can coincide with the law.

As regulation, in the form of good law, should confer protections on others the second benchmark needs exploring to illuminate why value is placed on some humans and not others.

Human worth

As has already been stated morality is a subjective principle that can be based upon religion, culture, experience, upbringing and education.

If individuals are not treated with respect or dignity it can expose them to a variety of harms, which could include slavery, euthanasia, sterilisation on social grounds and extreme medical research.

A concrete example for illustrative purposes, is the Tuskagee Syphilis Experiment conducted between 1932

- 1972 (Gray 1998), a study that was originally only meant to last for six months. Doctors wanted to find out if not treating syphilis was better than using the treatments available at the time, which were toxic and ineffective. Syphilis occurs in Caucasian and non-Caucasian individuals, however only Negro (per the terminology at the time) males were included in this study. Many of them were poor, black, illiterate sharecroppers, who were no doubt enticed by the promise of free health care to agree to being involved in the study. Such participant selection and inducements suggest the view of the Tuskagee men was rather narrow as to being persons, that it was acceptable to experiment on them, as they were somewhat less important than Caucasian counterparts were. Although they had syphilis this, as a diagnosis, remained hidden from them by informing them they had “bad blood”. Treatment with penicillin, when it became available, did not occur, rather receiving placebos that had no effect on their condition. By following this type of unethical research, the doctors knowingly exposed the wives of these men to contracting syphilis, which is a painful condition that can lead to insanity and death. During the 40-year experiment many died of syphilis, or the

complications of, wives were infected, and children born with congenital syphilis.

The lack of respect and dignity this example demonstrates appears to contradict the Universal Declaration of Human Rights (UDHR) (Genius 2016), that all human beings are born free and equal in dignity and rights. The term human being is species specific that does not trouble itself with potential conditions, or characteristics that a human being could develop.

Although the generally accepted view of the term human being is a live member of the human species, I suggest this UDHR is not distinguishing between life or death, it just states are born. As such a stillborn ought to be afforded dignity and rights, albeit in a limited manner, possibly only pertaining to disposal in a culturally appropriate manner, which suggests respect and dignity is to be afforded, to help ease the pain of those mourning the loss.

Dignity, and indeed personhood, needs to be explored as they are both terms, that have developed through time, which are now used as proxy terms for how human worth is considered, particularly in the Western world (Genius 2016).

Dignity is a derivative of *dignitas* meaning worthiness or to have worth, which was used to refer to human beings without it being dependent on any other status (McCrudden 2008). Such a meaning, therefore, suggests dignity is inviolable, that it cannot be lost as it is independent of characteristics such as: rationality, capability, age or gender, to name a few (Schroeder 2008; Genius 2016; Horn and Kerasidou 2016). Such assertions align to Christian theological arguments that accept that being part of the human species is enough to afford dignity and to be treated with respect.

However, other philosophical arguments try to place a value on dignity by attempting to explore what it is that humans possess that affords them dignity and respect. The Kantian argument, for example, espouses that it is rationality, or reasoning, that sets humans apart from other animals and that is why they should be treated with dignity (Schroeder 2008). To have rationality and be capable of reasoning is a value that is used to measure who deserves to be treated with dignity (Lebech 2004), as such it is a phenomena of human perception with certain features being recognised and triggering ascriptions of worth (Pinker 2008; Loughlin 2016). Once dignity is measured against a criterion it opens the doors to abuses against those humans that do not possess it.

This is discriminatory against some individuals who are human beings by virtue of birth, which is reminiscent of the Orwellian phrase “some men are equal, but some are more equal than others” (Orwell 1945).

By placing a value on dignity, it promotes the idea that it is an unequal value that can be judged by others. History demonstrates that when certain individuals are judged to be lesser in the eyes of others, abuses become prevalent, for example, Nazi ideologies, genocide and the Tuskagee research, where some humans were treated as instruments or objects of others will. Abuses are still evident today particularly around euthanasia, slavery, genetics and human reproduction (Schroeder 2008; Genius 2016; Loughlin 2016).

However, since 1948 with the establishment of the UDHR dignity has been widely accepted as an inherent concept (Habermas 2010), by espousing that the foundation for peace, justice and freedom is based on recognising the inherent dignity and the equal and inalienable rights of all humans (Genius 2016). As this is now aligning dignity with rights, in legal and constitutional terms, it furthers dignity as requiring protections. As the UDHR was post World War II, with atrocities uncovered in its aftermath, it is understandable that protections were created.

Another value laden philosophy of dignity is that it is to do with social status, with society owing dignity and respect (Fischer 2010). Therefore, those to be perceived to lack social status will be discriminated against.

The debate around dignity flounders when values are ascribed, as this encourages discriminatory behaviours that intrudes on others' rights and interests. It is understandable why protections are needed especially as there is no universal definition of dignity, it is subjective dependent upon beliefs and attitudes.

Having briefly considered dignity I believe that inherent dignity has primacy. No human being should be used or abused at the will of others, they are not objects, they are not owned in the usual sense of ownership. They may be dependent upon others for life and activities of daily living, but, that, does not exclude them from the human race, or any protections afforded to that race (Oeur 2016).

To arrive at a consensus on when dignity should be afforded, at birth or when certain abilities or characteristics present, is like the debates that attempt to define personhood.

But when does a living human being become a person with characteristics of personhood? There are many

philosophical debates from when it is recognised – as an embryo or at birth, how long personhood remains, and the attributes required to become a person (McGuiness and Brazier 2008; Palazzani 2008). There is no universal agreement as to what it means to be a person, or who is a person as there is no consensus in the literature. George and Lee (2009) claim a person is to be recognised at conception which concurs with religious views that hold conception is when life begins. Whereas, Nugent et al (2008) claim you become a person when you are live born. While Devine (1987) claims human organisms are persons no matter their degree of maturity or decay, which supports the UDHR assertion. Devine is suggesting that development of conditions or characteristics, or the loss of them once developed, does not influence the claim of being a person or being viewed as a person.

However, some assert a human being is not a person unless they are capable of rationality, which is a narrower view of what it is to be a person (Locke 1689; Harris 1985; Singer 1993). Rationality is being presented as a marker for moral personhood (White 2013) suggesting a lack of it prevents a claim of personhood. This narrow view lends to discrimination against any human being who does not possess this

marker, relegating them to the status of non-person. This may then be viewed, by some, as a good reason to treat them differently with the definition of personhood relying on the beliefs held about normal human ability.

Indeed, some of the reports and reviews explored in chapter five demonstrate some groups are indeed treated differently due to lesser cognitive ability.

By seeking a criterion for personhood, it shows the struggle to agree a definition, nevertheless, human ability encompasses more than rationality. Consciousness, the attitude taken by society, capacity for reciprocity, capable of verbal communication and self-consciousness are also viewed as necessary conditions for personhood (White 2013).

By seeking criteria, it just provides more reason for some to treat individuals who lack one or more of these characteristics differently, without a good reason.

Whether an individual has characteristics that confers personhood or not, they are still human beings regardless of their capabilities. There are philosophical arguments that concur with this view as they recognise that a just human community protects its members right to life and liberty (Pojman 1992). This libertarian argument claims there is only one natural right which is

an equal right not to be interfered with. By using the term human community there is no differentiation between the abilities of the humans that belong to that community. That regardless of their status, whether a person, or a human being, they all deserve the right to have their bodily integrity and interests preserved, that there should be no aggressive intrusion from others, unless consent has been given for that intrusion. This one natural right is reflective of ethical principles, but not necessarily of morality, as some will exercise their own autonomy without concerning themselves with how that effects others' interests.

By recognising this natural right, it gives humans significance and if they have significance, they have worth. If humans have worth, they are persons even if personhood is not evident.

The other right to be considered is the right to life within the Human Rights Act 1998, that everyone's right to life shall be protected by law. This 1998 Act does not proscribe the quality of life one must have for it to be protected; it makes no differentiation of the characteristics for personhood in protecting life. Therefore, the philosophical debate around personhood has not unduly influenced the protections that are in place to safeguard individuals.

As the raw data in chapter nine will demonstrate, it is individuals that unduly influence protections, due to their attitudes or beliefs, whether this is something the respondents recognise or are aware of is debatable.

What is evident is that these attitudes or beliefs do influence their decision making, which circumvents the law that is part of safeguarding society.

As death certification and investigation is part of safeguarding consideration needs to be given as to who has an interest in this and why.

Interested Parties.

Due to the regulatory nature of death certification and investigation it follows that there are interested parties that this system affects, whether directly (the deceased) or indirectly (members of society), which will now be explored.

Society

Society has interests in an accurate death certification system, for providing data necessary to view the health of the nation (Crowcroft and Majeed 2001).The MCCD, and therefore, the death certificate provides a single underlying cause of death that is the only publicly

available source of information about the cause and any preceding illness (Klatt and Naguchi 1989). It is, arguably, the oldest and most extensive public health system, as the morbidity and mortality data allow for the incidence and prevalence of diseases and other health problems to be monitored, thus providing a picture of the general health of populations (WHO 2017). These national morbidity and mortality statistics are of fundamental health importance for health surveillance, priorities for research, design and evaluation of public health interventions, planning health services and evaluating their effectiveness along with funding decisions for research and development (Butlin 2010; Choi 2012; WHO 2017).

As the MCCD is a pre-requisite for a death to be registered, by a registrar, any content needs to be accurate as it directly affects national mortality statistics and the current ICD (Crowcroft and Majeed 2001). Thus, affecting the decisions made around health management, research and funding. Therefore, RMP's who complete MCCD's are influencing health care provision that will impact on how they practice in the future.

The uses of mortality and morbidity data provide the State with an opportunity to safeguard the health of the

nation, to ensure members of society are productive, and have a self-determination that lessens the States activity of financial and other support. Productivity and self-determination also lend to the idea there is a quality to life that may not be otherwise experienced. There is subjectivity to quality of life as it is an individual's perception of their position in life (WHO 2018), which productivity and self-determination can influence.

Research is important to provide knowledge of diseases, determinants of ill health, to inform strategies for health promotion and treatments. To exert such influence on the management of health services and future health care provision there is a need for it to explore the most prevalent diseases or health conditions of the time (Swift and West 2002; Butlin 2010). Mortality statistics, therefore, influence the financial support for the most necessary research to allow the State to fulfil its safeguarding role. Another aspect to safeguarding is that of hazardous occupations with health research, for which death certificate data is used extensively, providing the data that leads to regulation of such environments (ONS 2010).

An example of regulating working environments to protect health is the Health and Safety at Work etc. Act 1974, which provides employers with a statutory duty to

promote safer working environments and practices. This 1974 Act substantially enacted the recommendations within the Robens Report (Safety and health at work: Report of the Committee 1970 - 1972) into the safety and health of persons at work, and that of the public in connection with activities on industrial, commercial or construction sites. By providing personal protective equipment for employees in certain working environments, such as coal mining, employers can promote health, providing the employee uses what is provided (s2(e)).

The 1974 Act provides for the appointment of inspectors to investigate when serious or fatal accidents occur in the workplace (s19) and to initiate court proceedings for any offences identified (s38). Further to this, any fatal accident occurring requires decedent referral to the coroner, to ascertain how and why death occurred. This type of regulation acknowledges there are some inherent health dangers to some occupations, however, the State is trying to lessen the risk of the dangers. A specific example of a hazardous occupation with how the accuracy of MCCD content can affect an outcome is that of coal mining. Coal miners are at risk of developing pneumoconiosis, a latent interstitial lung disease that causes respiratory problems due to inhaling coal dust,

which attracts compensation, as it is an industrial disease (Pneumoconiosis etc (Workers' Compensation) Act 1979). As such, coal miners who die require referral for coronial investigation, particularly if the next of kin wish to pursue compensation, for cause of death and severity or degree of pneumoconiosis to be identified at PME. Although money does not compensate for the loss of a loved one, it may mitigate future financial hardship for the next of kin. It is, therefore, important for RMP's who complete MCCD's to be aware of the compensatory provisions that are available for coronial referral to take place. A personal example to support this is one of an uncle of the researcher who died, having been a coal miner for more than forty years - at a time when employers had no statutory duty to provide protective equipment, such as dust masks. Indeed, many coal miners chewed tobacco to keep the mouth moist to "trap the dust" before it could reach the lungs. Sadly, there is no evidence base to suggest this had any effectiveness, whilst it placed the miners concerned at risk of tobacco related health issues of the oral cavity.

Upon the death of this uncle the RMP advised the family that he had died of pulmonary fibrosis – a thickening and stiffening of the lining of the alveoli in the lungs causing progressive breathlessness, which inhaling coal dust

would have caused. No coronial referral was made, therefore, there was a missed opportunity for his widow to seek compensation, which would have helped with her subsequent nursing home fees. At the time the researchers' uncle died, it was (and still is) commonly known that inhaling coal dust causes pneumoconiosis, such that a referral should have been made. However, in this instance the RMP evidently did not consider it and refer appropriately. Not only was the thought of, or pursuit of compensation denied for the family, but also the opportunity to provide an accurate cause of the death on the MCCD. For the researcher, this was an early indication that the legislative framework then in place around the certification of deaths might not be working effectively. Interestingly, the pneumoconiosis statistics since 2007 suggest there have been 200-300 new cases assessed for Industrial Injuries Disablement Benefit annually, with a mortality average of 140 deaths per year (Health and Safety Executive 2017). However, the accuracy of the mortality statistics is now questionable as the example suggests, the real figure may be considerably higher.

Next of Kin.

Next of kin have interests in accurate death certification, not just as members of society, but as the individual identified as entitled to possess the body for disposal (Public Health (Control of Disease) Act 1984). The death certificate is the legal proof of death and is required before disposal can take place.

Any inaccuracies in MCCD content demonstrates a perceived, or real, lack of respect for them as interested parties, by providing an inaccurate legal record of death.

The next of kin, or bereaved, find himself or herself in an emotional situation they have little control over. Any suggestion, or perception, that there is manipulation of the necessity to investigate a death by medical professionals is likely to increase their distress, regardless of the reasons or motivations for this.

In the minds of the bereaved the decedent remains a person even though the attributes of personhood are no longer present (McGuiness and Brazier 2008). Any impropriety at this time compounds the grieving process, particularly if the cause(s) of death are certified erroneously thus hiding deficient standards of care. The bereaved tolerate the death because they cannot change the fact it has occurred. However, poor care or treatment, or, deliberate acts or omissions that hasten

death, may be the basis for questions to be asked, particularly if it is felt, the death was avoidable. The importance of this feeling, and motivation to act upon it, may depend on the proximity of their relationship with the decedent. The closer the proximity the more likely it is for any concerns held to proliferate and dictate actions to secure answers.

Although, there is little regarding statutory rights for the next of kin to influence death certification and coronial investigation, they still have a voice. They can raise concerns around care prior to death or about the death itself directly with a coroner. It will then be for the coroner to decide if the death requires coronial investigation. With the coroner providing the reasons as to why investigation is, or is not, legally necessary (Coroners and Justice Act 2009). The ability of the next of kin to influence death certification will change with full implementation of the Coroners and Justice Act 2009. The introduction of ME's is the change, as part of their role is to enquire if there were any concerns around the care the decedent received prior to death, which includes consultation with the next of kin.

Influencing coronial investigation, which may in turn influence death certification, is also possible. Particularly, by providing the coroner with information

about the decedents circumstances of death which results in the coroner having a reason to suspect the death is: unnatural, due to violence, has an unknown cause or occurred during a state detention (Coroners and Justice Act 2009), then an investigation will ensue. This information, giving reason to suspect, can originate from anyone who has contact with the decedent prior to death and has concerns about the circumstances of the death. Clearly, this statute is necessary to determine courses of action. Indeed, the role of the coroner already refined by previous statutes, defining when the coroner needs to investigate – see Chapter Three. This is to ensure investigation occurs when it is required, rather than due to a lack of understanding of the cause of death, or family strife that may result in accusations and vexatious claims of wrongdoing. For confidence to remain with this system coroners need to demonstrate good knowledge as to the types of death that require investigating, and types of questions to be asked of any RMP who offers information around the circumstances of death, so a suitable conclusion can be reached.

If it is the RMP providing information to the coroner, this does not overtly offer scope to the next of kin to influence whether a coronial investigation ensues. Nevertheless, there is one area where the next of kin can influence

coronial investigation, which is around the use of the conventional PME. The PME aids a coroner's decision as to whether the death is one, which they have a duty to investigate. Therefore, it is essential to explore PME's in more detail, to understand the different options available. As will be seen, the PME is, in fact, an area where errors can occur, or inaccuracies arise, which in turn compromise the identification of an accurate cause of death. This may arise for example, from the guidance as to whether a PME is required, the type of PME that is then conducted, and the analysis of the results, as well as the risk of human error, or deliberate manipulation, at each stage of the overall process.

PME's have evolved throughout time from primitive rituals based in magic, religion, culture or science. Records note animal dissections were occurring from as early as 310 BC to observe anatomical changes and explain disease (Dada and Ansari 1996). Whilst the earliest forensic autopsies were sanctioned in Europe in 1532 with the introduction of the Constitutio Criminalis Carolina (Dada and Ansari 1996).

The modern PME is more than a dissection and a microscopic examination of tissues. It can also include other ancillary techniques to make a diagnosis, such as

electron microscopy, histology, chemistry and toxicology to name a few (Dada and Ansari 1996).

Nevertheless, the conventional PME of the decedent is invasive, possibly best described as a controlled evisceration to examine organs and systems to elicit cause(s) of death. Although it is invasive many bereaved families appreciate it is a means of gaining answers as to why death has occurred, even if they do not like the thought of their loved one being “cut up”. If a PME provides answers that were not otherwise available, the feeling of having found an answer may mitigate any personal discomfort, for the next of kin, about what the PME entails. Another comfort, for some, is if lessons are learned by influencing deficient systems of practice for future patients. Alternatively, the answers may provide opportunities for the living, such as screening for certain familial diseases, or tissues used for research to influence future care and treatments.

However, it is important to bear in mind that an invasive PME will not necessarily provide an accurate cause of death. This is because PME’s, in most cases, have the level of diagnostic accuracy that is expected to be 'probably true' rather than 'accurate beyond reasonable doubt’ (National Confidential Enquiry into Patient Outcome and Death (NCEPOD) 2006). Indeed,

NCEPOD (2006) acknowledge that in various studies throughout the world, the clinical diagnosis prior to death differed from the PME findings. A circumstance exemplified by a witnessed PME, for a decedent who had ischaemic heart disease as a diagnosis within the medical records. At PME there was no clinical evidence of this, with all coronary arteries being clear of atherosclerotic plaques that lead to this disease. This PME could state what did not cause the death but could not clearly identify what did. This suggests there is almost a Holmesian fallacy (Sir Arthur Conan Doyle 1889), or probable truth, as to the cause of death in such circumstances. In that, when the impossible has been eliminated what remains, however improbable must be the cause.

However, PME can also identify a major diagnosis, that if known about before death, could have resulted in changes to treatment and prolonged survival (NCEPOD 2006). Therefore, PME's are still necessary for death investigation.

Alternatively, religious objections to the PME, which, prior to 2015, a coroner may not have fully considered when fulfilling their statutory role, such as type of PME requested, can also impact on the accuracy of a cause of death. Therefore, it is necessary to consider the basis

on which religious objections may arise. Further considering the alternatives that are available, and whether these provide a more accurate identification of the cause of death.

In terms of religious objections some judicial guidance can be derived from a case relating to an application for an injunction made by the family of an elderly orthodox Jew, who objected to the proposed invasive PME *(R (Rotsztein) v H M Senior Coroner for Inner London North* [2015] EWHC 2764 (Admin)). A subsequent non-invasive scan did establish an accurate cause of death.

The judicial guidance considers Article 9 of the European Convention of Human Rights (ECHR), which affirms the freedom to follow and practice religious beliefs, with the judicial guidance advising, that for some religions an invasive PME conflicts with those beliefs.

Initially, the guidance appears to suggest members of religions opposed to invasive PME's will not have to succumb to them, once a decedent, if coronial investigation into their death is necessary, with minimal or non-invasive alternatives being preferred instead. However, the necessity for an invasive PME will still take primacy over minimal or non-invasive alternatives, as the guiding principles support the autonomy of the

coroner. This is because the guidance sets out the circumstances in which religious objections to a PME may be considered, and these are not as generous as they may initially appear.

First, there needs to be an established religious tenet, which suggests proof is required as to the strength of the decedent's religious beliefs, or how closely the religion was followed during life. It is doubtful that a coroner would not accept any representation from bereaved relatives that such a tenet had indeed been held. Therefore, this requirement is one, which the relatives may feel they can comfortably satisfy.

However, the guidance also stipulates that there should be a realistic possibility, not a more than 50/50 chance that an alternative PME will establish a cause of death, and this is where some challenges arise. Identified alternative procedures are Computerised Tomography (CT) and Magnetic Resonance Imaging (MRI) scans. In terms of conventional, invasive PME's, it has been identified that one in four pathology reports into causes of death are regarded as poor or inaccurate (Luce Review 2003) and that up to 18% of sudden deaths do not have abnormalities identified by invasive PME's (Puranik et al 2014). Consequently, it may be that an alternative PME is required. Indeed, as stated above,

the Rotsztein case demonstrated a scan identified an accurate cause of death, so it is tempting to argue that the whole PME could be one of utilising imaging techniques. Moreover, there is long standing use of radiography detecting structural bone abnormalities, fractures and dysplasia's in investigations, along with an increase in the use of CT and MRI scans in forensic and paediatric pathological investigation (Elliott et al 2017).

Imaging, therefore, appears to be a viable alternative. However, it is only useful for certain types of pathologies, for example cerebral (brain) and cardiac (heart), with limitations to its use in lung pathologies (Morgan et al 2014; Puranik et al 2014). Indeed, this is borne out by research in Japan by Kaichi et al (2017) who report that whole body imaging in sudden deaths still leave uncertainties around a true cause. This is an interesting finding as Japan is the only country routinely using imaging as part of death investigation, even with its resulting uncertainties. It may be suggesting sudden deaths caused by abnormal electrical activity of the heart, for example, are difficult or impossible to identify by imaging PME's. However, this does not necessarily mean that invasive PME's offer a better outcome. In fact, in the case of sudden cardiac deaths the cause of death may be impossible to identify by an invasive PME, so

specialist histological study of cardiac cells or genetic testing is necessary for a diagnosis (Delaney and Gallagher 2017).

There are other limitations to imaging for PME's, which do not apply to invasive PME's. What it is possible to identify via imaging may depend upon which type of scan is undertaken.

For example, CT scans appear more accurate for investigating adult deaths; their weakness is that they cannot differentiate soft tissue structures when compared with MRI scans (Roberts et al 2012; Morgan et al 2014; Puranik et al 2014). Indeed, both types of scan have been found to miss common causes of death (Roberts et al 2012), nullifying any argument for using both types of imaging as adjuvant to enhance invasive PME's. In terms of improving the accuracy of identifying cause of death, the argument in favour of imaging ahead of invasive PME is far from compelling.

This naturally raises the question as to whether a combination of techniques should be routinely employed, for example using imaging alongside invasive PME, in order to secure an accurate identification of cause of death. However, this approach is not without its problems. Using any imaging technique to compliment

whole PME findings will increase costs that have to be factored into the wholesale changes to PME's. In addition, there would be a delay in undertaking the PME if imaging were required. Interestingly, the judicial guidance states that imaging can be used, but only if this is achieved without imposing an additional cost burden to the coroner. Alternative avenues would, therefore, need exploration to finance this or families could pay to avoid invasive PME's. Undoubtedly, this would attract much criticism at a time of the burdening cost of funeral expenses, particularly if the cost fell disproportionately on one group for religious reasons.

Imaging requires interpretation by radiologists therefore, the quality of the interpretation influences the cause of death noted.

Interestingly, Roberts et al (2012) further found the error rate for radiologists analysing post-mortem (PM) imaging is like that of RMP's who complete MCCD's. Therefore, at present, it appears as though accuracy of cause(s) of death is not improved using imaging when compared to the opinion provided by MCCD certifiers, with no increased cost attached.

Also found was a discrepancy rate of 30% (Roberts et al 2012), which would affect mortality statistics, if not

coroners' conclusions, with the rate being higher for PM MRI than PM CT scans. A potential reason for such a discrepancy rate is PM cooling of the body creating difficulties for imaging diagnoses (Roberts et al 2012; Morgan et al 2014). These discrepancies become more problematic when using contrast medium during imaging, as it can leak into interstitial spaces, causing changes that can be misdiagnosed (Morgan et al 2014).

The use of contrast medium can also affect the coroners' decision when deciding on type of PME, as imaging PME must not impair the effectiveness of an invasive PME if one is ultimately required. Contrast medium can cause alterations in osmolality – the number of solutes in cellular fluid – causing leakage resulting in oedema, along with histological (tissue structure) changes. It can also affect toxicology or DNA examination of any subsequent PM investigation (Morgan et al 2014). Furthermore, it must be acknowledged that if more than one invasive PME is necessary, the findings between them may be inconsistent due to a variety of factors, including skills of the pathologists, body storage, "initial damage" by surgical procedures during the first PME, to suggest just a few.

Howsoever causes of death are missed, by imaging or invasive PME's, it impacts on the accuracy of mortality

statistics and the influence they have on potential criminal proceedings, compensation claims, research funding or health promotion strategies.

Nevertheless, until or unless imaging techniques become more advanced the best that can be hoped for is its use to go some way to comfort families who have Article 9 concerns. Coronial services appear to be sympathetic to religious beliefs even if compliance with those beliefs around death investigation is not fully achieved, as there are few cases reported in the media that suggest otherwise.

According to the judicial guidance utilising PME imaging should not cause any time delay, as it suggests, the whole PME must be capable of being undertaken without undue delay, mitigating the potential of causing further distress to the bereaved.

Currently imaging equipment is in clinical settings that treat the living, so if it were to be used for PME then it would have to be at a time when the needs of the living have been addressed. This may restrict its availability for PME, which may affect a decision in any individual case that its use will cause an undue delay.

Another factor to consider is, the concern of patients using, or more accurately lying in, a scanner that a

corpse had lain in. To allay these anxieties the use of local or regional imaging facilities that only provide for PME imaging is required. The cost of such a facility would need considering carefully, as otherwise coroners may be motivated to find various legitimate reasons to avoid the use of PME imaging.

Finally, the guidance states that there must be no good reason found that requires the coroner to request an immediate invasive PME. This suggests that there needs to be time to obtain information before deciding if a PME is necessary, which would include time for the next of kin to raise objections on religious grounds. However, the guidance does go further to state that a need for a forensic PME in cases of homicide will always, or almost always, override any religious objections.

Although the judicial guidance was a timely intervention to clarify and guide coronial behaviour it has not altered much in practice. Imaging equipment is not (yet) readily available for PME on a regular basis, if it is available, there may be restrictions on its use. The cost of imaging plus the cost of still requiring an invasive PME may cause financial concerns as to who provides the funding. If families must pay any such costs for imaging payment, then direct payment to the coroner is not to be

undertaken (Courts and Tribunals Judiciary 2016a). This would remove any suggestion that influence can be brought to bear on the coroner by the bereaved. Particularly, by being coerced into opting for the next of kin's choice of PME, rather than one that would uncover a cause of death.

The skill of radiographers, and any training required to provide PME imaging, also needs consideration before any major changes in PME provision occur due to the high discrepancy rates (Elliott et al 2017). Therefore, until imaging technology, its availability along with staff training and education have been advanced, this non-invasive alternative PME may remain on the periphery of coronial investigation. Thus, any influence the bereaved have on coronial investigation is minimal, and indeed, it may be argued that this is as it should be, given that its purpose is that of fact finding to ascertain accurate data that influences much that can benefit society, such as research and safeguarding to name just two. Although, the current death certification system has clear data deficits around accuracy that need addressing, they are solely in the medical domain, therefore, influenced by professional standards and other types of regulation.

The Deceased.

Concerns regarding accuracy of cause(s) of death remain pertinent to the deceased, even though many will argue they can no longer suffer from harm or have any interests (Herring 2016). The way in which others treat decedents conversely affects the living, as the Rotsztein case demonstrates, with society and its individuals having preferences as to what that treatment is, reflecting their perceptions of how they themselves wish to be treated in death.

Treatment of the deceased is the final act by the living that demonstrates the dignity a human being is afforded and, to some degree, the respect they have accrued from living their life. It is, therefore, important for memories of these final acts to bring a sense of comfort to those who have loved the decedent in life.

Many people may be unaware of the impact death certification inaccuracies can have for society, and indeed, for themselves as individuals. However, they may have an expectation that the death certificate should be factual. There is also the expectation that coronial investigation will be beneficial, as it finds cause(s) of death, presenting information that can be useful in future investigations for criminal or civil cases, or for claims made against employers or other agencies.

Any inquiry conclusion may also shape future practices, to make them safer for employees in general, or patients specifically when in health care environs. This furthers the idea that society has an interest in how the deceased is viewed in other minds.

Decedents can no longer make their views known, unless there is a written testament specifically addressing their wishes after death, or an individual who can advocate for the decedent. Therefore, there needs to be a system in place to safeguard what can happen after death. By providing legislation, that guides practice, the State is acting as an advocate for decedents, which will also provide the living with some confidence in how they are to be, or will be, treated at the material time.

The use of human tissue has been subject to much greater legal control. In particular, the Human Tissue Act 2004 has extended both the substance of protections afforded to the living and deceased and the mechanisms that protect those interests. However, it is necessary to understand the interests in the body in general and tissue taken from it, specifically, have long been recognised as constrained by reference to the proportionate protection of rights of others. Amongst other things the powers afforded to coroners in relation to tissue, implicitly recognise this. Specifically, the

powers of the coroner under the Coroners and Justice Act 2009 include the ability to order extraction of human tissue for investigation, to serve the interests of the deceased, but also to serve the wider public rights in this area, such as rights in the detection and prevention of crime. One of the ways in which this can occur is the coroner overriding the wishes of the deceased or bereaved when making a decision about the type of PME – whilst being mindful of the guidance resulting from Rotsztein (Courts and Tribunals Judiciary 2016a) and the current accuracy and availability of non or minimally invasive imaging PME's.

Therefore, a coronial investigation which determines that a conventional PME is required, effectively impinges on the bodily integrity of the decedent. For many this will not be problematic, as they may hold the view that a decedent is not capable of sustaining physical harm, so the invasive PME does not attract the same considerations in one's mind as recovery from a surgical operation might. Psychological harm to the decedent cannot occur, as life is extinct. Nor, necessarily do they have an interest in continued bodily functioning. However, they arguably have a continued interest in dignity. Furthermore, the situation is approachable from an angle of the living having a right to receive dignified

care, or treatment after they die. For example, wills are widely recognised and respected, arguably, not merely because of the perceived utility of this, but also because it demonstrates respect for the wishes of the living about how they want to dispose of their estate after death. It is important for the living to have confidence in a system that will deal with them appropriately once they die. Both arguments I would endorse as credible, but at the same time stress that for most purposes' mere recognition of one of them would be enough to constrain, appropriately, how we treat decedents.

This confidence, of course, includes an interest in providing for loved ones after death. Therefore, for some, a PME is necessary to diagnose an occupation related disease, which may attract compensation to their estate, making any financial burden their death causes a little easier (as mentioned earlier in this chapter).

Another area the deceased, as should the living, have an interest in, is if any third-party acts or omissions have hastened the death. Any such findings have the potential to address weaknesses, or inadequacies, in health care systems, as well as highlight criminal acts subsequently pursued by the criminal justice system. This interest

mirrors the argument usually associated with organ donation – that of the person being a means to an end for others (Garwood–Gowers and Pereira 2017). Indeed, Dr Shipman's patients, could be viewed as a means to an end, as he benefitted from their deaths when he manipulated them to include him in their last will and testament. Therefore, greed played a part in his deviant practice. Arguably, this financial benefit may have been a result, primarily of destructive desires, of not viewing his patients with any personable worth as human beings, only financial worth.

Nevertheless, impinging bodily integrity attracts many philosophical positions in the arena of organ donation, which do not apply as strongly in death certification.

Currently, organ donation aptly named, is a donation, given without constraints, by any individual who makes these specific wishes known. Not retrieving the donation due to the influences of the next of kin is not being explored here, as it is not pertinent to the research question. However, it should be noted that if this current system changes then it will no longer be a donation in the purest sense. This is because the most likely change would be to a presumed consent system, under which it is presumed individuals consent to organ donation, unless they specifically opt out. In practice, some

individuals may not opt out of having their organs retrieved, for a variety of reasons, and not necessarily because they wish to or agree with organ donation. For example, they may not realise they need to opt out, or may simply never get around to it.

In the context of the investigation of death, the idea that an individual should be able to opt in or out of a PME may not be justifiable. A PME is not, of course, required in the case of every death, but only those where the circumstances around the death do not provide clarity as to the true cause of the death. In that case, for the reasons already set out in this chapter, there is a need to undertake a PME in order to establish the cause of death, even though, in the case of an invasive PME, this may include a degree of evisceration and removal of organs. As such, no individual can opt in or opt out, as it is at the discretion of the coroner involved with the decedent's case. The PME is purely fact finding with a future influence potential depending on the findings. Nevertheless, it would be a mistake to assume that the reasons for this type of examination would be embraced by all, as some may take the view that if it is not going to help them, then they would not want to help others.

Thus, it remains that a decedent who requires a PME is serving the ends for others, as this legitimate

interference contributes to knowledge of diseases for medical professionals and State agencies to enhance and promote care for the living. This is in addition to its contribution to criminal investigation and punishment where criminality has caused the death.

Death certification and the coronial system need to reflect the preferences of the living by the type of investigation required to address the needs of society. In doing this there is a safeguarding element that supports the view that life is precious and should not be cut short by others, if it is, there should be repercussions to address or punish as necessary. The decedent, who was originally part of the safeguarded, then becomes an intrinsic part of safeguarding once it is determined that a PME is required. Therefore, it is important for the coronial system to be unhindered, by having a statutory remit that does not allow individuals to opt in or out of its investigation, regardless of the circumstances surrounding the death.

Professionals

Within the arena of death certification and coronial investigation health, legal and other professionals play a part.

As has been argued in this chapter, death certification data has many societal influences and thus the role of these professionals needs consideration, starting with the RMP's.

RMP's.

The RMP's remit is to provide the MCCD stating, to the best of their knowledge and belief, a cause of death (Coroners and Justice Act 2009 s20 (1) (a) (i)).

As has already been discussed, there are errors that affect the reliability of the data on the MCCD. Any data errors will affect any subsequent use of the data, which in turn, can affect things such as, research, finance for health promotion strategies, opportunities for training and development and treatments that shape how RMP's practice. The data contained on the MCCD is the start of the cycle to address many of the global and national issues that influence the health and safety of society.

To obtain this data it is a statutory requirement for an attending RMP to provide a cause of death on a MCCD (Births and Deaths Registration Act 1953, Coroners and Justice Act 2009).

As it is a statutory requirement, which involves the completion of paperwork, it is possible the RMP will view it as just another administrative part of the role, with some viewing administrative roles as unnecessary, or unimportant, even though they are the proof of care given, interventions and diagnoses (Abdelrahman 2014). Indeed, the General Medial Council (GMC) (2017) provide guidance on the standards for record keeping, suggesting they are an integral part of medicine and not an extra role that has no importance in patient safety.

Patient safety is potentially impacted by MCCD data, as the cause of death documented may be erroneous, hiding deficiencies in care that have hastened death. Deficiencies may arise for a variety of reasons, including lack of training or expertise, lack of financial or physical resources, or stress. Perhaps even more importantly, they can arise from what may be described as devaluation of the worth of the individual.

The opinion of the RMP as to why death occurred links intrinsically to the initiation of coronial investigation and is why MCCD completion needs to be as accurate as possible.

The role of completing the MCCD is a self-regulatory one, with the GMC guidance taking a surrogate regulatory position. Consequently, both types of regulation can falter if the RMP wishes to document erroneous cause(s) of death, by making fraudulent medical records to hide deliberate criminal activity, or poor practices, that result in death, that may result in criminal investigation, or civil action for compensation.

This regulatory role has the potential to hide medical errors and adverse events. These are two distinctly different entities, but both are potential lessons waiting learning. Medical errors occur when a plan of action or care has failed to be completed as intended, or the wrong plan has been implemented. A multidimensional scope to learn from then presents, which includes individuals involved in care delivery, along with products used or procedures and systems followed (Riga et al 2015).

An adverse event is an injury caused by medical management rather than any underlying disease or clinical condition of the patient (Riga et al 2015). Clearly human factors are the focus with a variety of severity outcomes for the patient, including death. In Dr Shipman's case, his actions are adverse events, even

though his medical management is more accurately described as wilfully criminal.

There is an argument to suggest medical errors end with the patient rather than threatening large numbers of others or society (Schulman 2004). However, when death occurs due to an error it may end with the patient, but its effects can reach others (bereaved) and society in general, the latter particularly when cases become high profile due to media coverage. This can result in individual or societal mistrust in the medical profession. To mitigate this mistrust, RMP's should view this as a self-regulatory motivator not to manipulate cause(s) of death to hide deficiencies in health care, with a willingness to learn from lessons any subsequent investigation may highlight. However, as will become clear there is in fact a lack of learning lessons, identified in the reviews addressed in chapter five.

The foundation for medical errors and adverse events is attributable to individuals or organisations. Arguably, they should not be self-regulated by RMP's who are employed within the organisation, or who have been involved in the decedents care, to promote objectivity. Fear of loss of job or role can influence any lack of objectivity. Alternatively, its lack is due to motivation by collegiate relationships within the organisation. Any such

loss has the potential to impede career progression within, or movement outside the organisation. Therefore, there is a view that ME's will provide an alternative form of regulation for more transparency.

Regulation within the medical domain begins with medical education. However, medical students are not encouraged to self-reflect to improve knowledge, skills and therefore performance (Adshead 2010). Rather they are encouraged to develop cynical or hostile attitudes, which detaches them from human distress, dehumanising patients as part of a coping mechanism (Adshead 2010). Any consequences that derive from this behaviour, which ends injuriously for the patient, is indicative of a poorly performing medical professional. By presiding over their own behaviour, RMP's are key to developing and maintaining behavioural changes, but whether they support good or poor practice is another matter. Integral to changing behaviour is the RMP's emotional intelligence (EI) (Abe 2011). Therefore, if high self-esteem and self-image are possessed but with low self-awareness this RMP will not have any insight into their behaviour or consequences of it. Therefore, ME's have the potential to provide that regulatory tier to identify this type of individual and guide future practice, enhancing the trust the medical profession relies upon.

To maintain trust within the profession, the GMC maintains a register of members entitled to practice the art of medicine, along with standards for that practice, on behalf of the State. This registration is an effort to engender public trust of GMC members, as it is suggesting members have completed programmes of study that satisfy the GMC standards for safe and effective practice. It also suggests that if members do not meet the required standards, they can have sanctions levied against them or have their registration revoked. Such a regulatory role, in furtherance of safeguarding society, is an effort to enforce behaviour that complies with the standards required to remain on the register (Drahos 2017). With the implementation of ME's there is the potential that the GMC will be supported in encouraging certain standards of behaviour, as any deficits in RMP practice/behaviour will be addressed much sooner than it would be if waiting on complaints from the bereaved around death certification or care. Some RMP's would remain unchallenged if the bereaved did not feel able to pursue a complaint, which can be for a variety of reasons, such as reliving the death, so grieving is protracted. Some may view it that nothing will alter what has happened so try to move forward with life in the best way possible for them.

Regardless of the reason, the potential is that poor standards are not challenged, therefore, missing the opportunity to improve future care for others.

The ME has the potential to be a useful resource for colleagues by identifying issues for them to address, enhancing safeguarding for the living. Nevertheless, if there is a lack of EI within the ME, or RMP, to acknowledge changes are required, it provides a barrier to learning and diminishes this regulatory role.

Another barrier to learning is the system of self-regulation itself, or rather, the behavioural motivation to change. Some may follow a promotion focus of self-regulation where the motivation is a reward for what they do (Watling et al 2012). This type of motivation is evident in Bitrans et al (2012) studies on evolving styles of learning, displayed by medical students, to achieve success in the pursuit of their professional aspirations. On the other hand, the prevention focus is concerned with what they must do to avoid punishment or sanctions, thus the foci are responsibilities and safety (Watling et al 2012). This type of self-regulation favours defensive practice but does not necessarily promote best practice (Evans and Refrow-Rutala 2010; Preston-Shoot et al 2011).

For RMP's completing MCCD's the regulatory focus must be able to move between the two styles depending on the circumstances of the death. Motivation should include a focus on prevention, as the certification process is a legal duty. It should also include a focus on promotion as accuracy of cause(s) of death can provide satisfaction for the RMP and the bereaved. Satisfaction for the RMP ought to be that the standard of care, and its management, prior to death is such that sanctions or punishment would not follow if an investigation did occur.

However, both these regulatory foci can be influenced by an RMP's belief that all human activity is prone to error (Waring 2005), whether that is reflected in the MCCD content or in the care prior to death. If this belief is truly accepted then it leads to an inevitable belief to accept mistakes in their work, normalising errors so they are no longer considered problematic (Waring 2005). This acceptance is possibly an underlying factor in some of the high-profile cases that lead to reviews and reports to address practice by State or surrogacy regulation.

Regardless of regulatory foci, the implementation of ME scrutiny of MCCD's may influence RMP behaviour, some RMP's may not like to have questions raised about their clinical decisions or performance. This is providing

ME's have not normalised errors themselves, when RMP's, thus introducing a bias within their regulatory role at the outset.

Whichever regulatory foci an RMP favours it has the potential to be influenced by ME scrutiny. For those favouring a promotion focus the motivational reward for completing MCCD's accurately is that it does not attract interaction with the ME. Their practice as a certifier of cause of death is not questioned. Equally, this could be the same argument for those favouring a prevention focus, in that little or no interaction with the ME suggests they will avoid punishment or sanctions, as their behaviour as a certifier is unquestionable.

Ideally, if ME scrutiny of MCCD's is thorough they will be able to influence medical self-regulation, to improve knowledge and behaviour when certifying causes of death. This can happen if ME's address any deficiencies or weaknesses they discover in death certification, along with inviting the bereaved to express any concerns they may have about the death. Feedback to the RMP certifier allows for the opportunity for self-reflection to improve the quality of MCCD completion for cause of death.

What this discourse does not consider is the impact of organisational pressures, in the current health-providing climate, on the individuals working within. Although changes in behaviour and/or systems is required, it may be impossible, or extremely difficult, to improve when the managerial styles and ethos of the organisation do not encourage, promote or support change.

Coroners

The coroners' remit is to investigate death where the cause(s) is unknown, or the circumstances around the death are a cause for concern. This remit also includes deaths where RMP's cannot, or do not feel able to complete a MCCD. Therefore, this system has an inherent weakness when MCCD's contain erroneous cause(s) of death or if no concerns are raised.

However, once a coroner is notified that death has occurred (for example, by a doctor, a family member, police officer or insurance company), then the thoroughness of that investigation is crucial. For a coroner to have a reason to suspect the death needs investigating it is imperative that the medical history and circumstances of the death are accurate, so that a decision can be made as to whether the death is natural or unnatural. Herein lies the problem with the coronial

tier of death investigation. Coroners require some clinical knowledge to make that decision accurately. They need to be able to understand the clinical context, or at least be guided by competent medical professionals to arrive at an appropriate decision.

As has already been addressed, the accuracy of causes of death transcribed onto a death certificate can affect society in many ways. Therefore, it is important to provide accurate data for continued safeguarding of the living.

As well as being part of the wider social context coroners have a more personal context, that of alleviating concerns the bereaved may have about a decedent's death. The statutory provision provides the coroner with a legal fact-finding role. This role furthers safeguarding by providing opportunities to identify and address weaknesses within care providing organisations or systems. In addition, identification of any criminal acts provides the opportunity for investigation with perpetrators brought to justice. Also, roles of uniformed services, when having a duty of care for others, are answerable for their practices, to name a few.

To find the cause of death, the coroner can decide what type of PME is appropriate. They can also request

information from any source; this must be forthcoming, as it is unlawful to obstruct coronial investigations (Coroners and Justice Act 2009 sch 6).

Coronial investigation also satisfies the Births and Deaths Registration Act 1953, which requires registration of all deaths in England and Wales with its cause(s) (s15). So, if an RMP cannot complete a MCCD the coroner needs to after investigation.

As a MCCD is completed to the best of knowledge and belief, it is perhaps an expectation that a coronial investigation has the potential to provide a cause that is beyond all doubt, or as factual as possible. Particularly so, as the legal authority to investigate is to ascertain who the deceased was, how, when and where they came upon death, along with particulars required by the 1953 Act to be registered (Coroners and Justice Act 2009 s5 (1)).

What this study will demonstrate is that even with this legislative authority the current system is still weak and capable of not providing the necessary scrutiny deserved to some deaths. The weakness is within the coroners themselves, as they must have a reason to suspect the death requires their attention. If they feel, they do not have any reason to investigate, they will not

investigate. Therefore, some deaths registered, by the Registrar, will have erroneous data as to a cause, due to the circumstances around the death not being considered as a concerning factor. Such an example is case study two in this study.

Nevertheless, safeguarding is part of a States requirement to its population under Article 2 of the ECHR. Although Article 2 inquests are part of coronial investigation, they only occur in certain circumstances. They are for cases where it is felt the State, or its agents, have failed to protect the decedent from human threat or other risks, or if a death occurred in custody. The purpose of these inquests is to consider neglect, either at an individual or system level, to learn lessons, with actions taken to prevent future similar deaths.

A Jamieson inquest is one that is heard when a death has occurred in a medical context, or where the decedent was in a type of State custody prior to death. It can conclude negligence or neglect as a cause of death providing there is a clear, direct causal link between the professionals conduct and the cause of death (*R v Coroner for North Humberside and Scunthorpe, Ex p Jamieson* [1995] QB1). Whereas a Middleton inquest considers safeguarding and duty of care by the State, which considers organisations such

as the Prison Service, NHS bodies and Social Services, for example, who safeguard and provide a duty of care to individuals. For a Middleton inquest, the coroner is required to treat how the decedent came by death more broadly, as its purpose is to ascertain the circumstances around the death (MoJ 2013). This type of inquest allows exploration of State agency responsibilities and provision around duty of care and safeguarding and its contribution to an avoidable death (*Middleton v HM Coroner for Western Somerset* [2004] 2 AC 182). With an avoidable death being one that but for X (an act or omission) the death would not have occurred.

Although, the conclusion of these types of inquisitorial investigation can undermine public faith or trust in State agencies, it is clear from statute that:

"It is the duty of the coroner as a public official responsible for the conduct of inquests, whether he is sitting with a jury or without; to ensure all the relevant facts are fully, fairly and fearlessly investigated… He must ensure that the relevant facts are exposed to public scrutiny, particularly if there is evidence of foul play, abuse or inhumanity. He fails in his duty if his investigation is superficial, slipshod or perfunctory. But the responsibility is his" (*R v Coroner for North*

Humberside and Scunthorpe, Ex p Jamieson [1995] QB1 26).

Clearly, coroners have a role in regulating State agencies as well as individuals of society with their working practices, therefore, they need to promote robust inquiries to avoid failing in their duty. Society requires a coronial service that is open, robust and resilient when fact finding to enhance safeguarding in the future. As the coroner inquiry is the last line of being able to uncover irregularities that cause or contribute to death it needs society's support, otherwise there is no real point to it. Lack of accuracy around cause(s) of death promoted by coroners will skew wider societal benefits of research, health strategies, uncovering criminality and regulating practices of vital services.

Once burial has occurred, it will need some quite convincing new evidence to disinter and re-examine – not to mention the emotional cost to the next of kin and the financial cost to the county. Cremation destroys evidence so post crematory investigation cannot occur. It is, therefore, important for any coronial inquiry to be thorough before disposal of a decedent.

Over the centuries, coroners have evolved from tax collectors (Dorries 2004) to having an integral role in

safeguarding and regulating, which consolidates further with the new reforms that require full implementation (Coroners and Justice Act 2009).

Other interested parties

The Pneumoconiosis etc (Workers Compensation) Act 1979 provides for compensation to anyone who contracts this disease due to his or her occupation. It provides a financial safety net, where the employer who caused the disease has ceased trading, or when compensation cannot be pursued. Coal miners who contract pneumoconiosis and workers who contract an asbestos related disease, such as mesothelioma, can sue for compensation in civil court. This compensation reflects the working environs tolerated by some industries in times, before health and safety at work legislation provided a statutory duty for employers, to provide personal protective equipment to address hazardous health risks. The compensation now reflects negligence on the part of employers who do not provide safe environments and safety equipment as required by the Health and Safety at Work Act 1974. Therefore, interested parties can be employers who may dispute the contractibility of the disease in their environment. Also, insurance companies who provide insurances for

such claims of negligence against employers may be interested parties.

Employers and insurance companies, therefore, need to rely on a system of death certification and investigation that accurately records the cause(s) of death. It can be common for more than one insurance company to be represented in a coroner's court to hear the evidence presented and conclusion. Pneumoconiosis is rated as a percentage assessment of disability (The Pneumoconiosis etc (Workers' Compensation) (Payment of Claims) (Amendment) Regulations 2018). If a decedent has had a varied work life, with each employment putting them at risk of a work related illness, (coal mining, wood turning, building industry when asbestos use was prevalent), insurance agents can use this to try to argue their customers liability as a percentage contribution to the cause of death. The lower the percentage the less compensation required from them.

Witnessing such a situation is reminiscent of vultures picking over the bones of a carcass, which can be distressing for the bereaved. Nevertheless, there is some sense in the fact that one employer who puts someone's health at risk should not pay for that entirely when other employers have done the same. Equalling

this burden between employers can help keep insurance costs manageable.

It is, therefore, important for RMP's and coroners to be aware of the laws that allow the next of kin to pursue compensation as they see fit. Indeed, compensation claims can be made for up to twelve months after a death (Government 2018), so the next of kin require accurate cause(s) of death registered.

In furtherance of exploring influences on death certification, it is important to explore the evolution of the coronial system in England and Wales. It will include legislative changes along with reports and reviews that recommend changes to identifying if the system is fit for purpose in the twenty first century.

The following chapter explores history of death certification and investigation, along with reviews such as Brodrick, Luce and Smith, whose recommendations have provided the framework for the Coroners and Justice Act 2009.

Chapter Three

History of Death Certification and Investigation

The coronial system predates Norman times in England and Wales. It was complemented by the introduction of death certification in 1836, to allow investigation into certain deaths, not only to facilitate accurate recording of the cause(s) of death but to support social goals. Goals such as: achieving a better understanding of why death has occurred, not just for the next of kin, but also for the societal need for personal safety. Along with the provision of data on matters of health and wellbeing and sundry matters such as accurate assessment of insurance claims.

To appreciate the impact death certification and investigation have on society in general, and individuals specifically, this chapter will explore the history of their development and evolution.

Although these systems, particularly coronial services, have been refined over time, by a raft of statutory reform, there are still weaknesses within the system. These weaknesses can be exploited so criminal or negligent acts, or omissions, that lead to death will go undetected.

Certification history.

Death certification became a national registration system in 1836. Although the bill for registering Births Deaths and Marriages in England did not initially include provision to record a cause of death, it was addressed due to the foresight of Edwin Chadwick. He recognised the importance of this information for highlighting the social conditions and public health problems of the day (Devis and Rooney 1999). Further momentum occurred when Thomas Lister, the first Registrar General (RG), invited the heads of various medical colleges to pledge themselves, and their members, to provide a name to the conditions leading to death (Devis and Rooney 1999). William Farr, a medical statistician, used this information to provide evidence of the effects of the living conditions prevalent at the time – insanitary and unhealthy. This work was the beginning of public health and its influence in driving societal changes to improve the health of the nation. His work also secured recognition of the importance of scientific classification of medical statistics, which culminated in an internationally agreed classification of diseases, injuries and causes of death. Furthering this, in 1855, he proposed a general arrangement of diseases by anatomical site (Devis and Rooney 1999), which survives today within the ICD.

In 1893, the International Statistical Institute adopted the first international classification – the International List of Causes of Death, which was adopted by the UK in 1911. By adopting this list, the UK's aim was to improve mortality data by improving MCCD content, for audit and disease occurrence, along with improving public health strategy planning to combat diseases. This demonstrates the importance of mortality statistics and their elevation from local or national importance to having an international or global impact. As previously, acknowledged, RMP's are pivotal in influencing research and strategies that directly affect the care and treatments they provide, that influence is now global.

With the creation of the World Health Organisation (WHO) in 1948 it was entrusted with the ICD-6, which incorporated morbidity for the first time (WHO 2020). Indeed, since 1995 the National Health Service (NHS) has used this ICD morbidity coding (Devis and Rooney 1999), as it is the foundation for the identification of global health trends, and statistics, as well as being the diagnostic classification standard for all clinical and research purposes (WHO 2020).

Coronial history

A pronouncement of powers that first outlined the coroner's office as an elected role is in the Articles of Eyre 1194. The elected role, suggesting an independence of any established authority, is still a key feature today (Dorries 2004). Among the many judicial and financial responsibilities identified, the most pertinent one for this study is the investigation of sudden, violent or unexplained death.

A refinement of these powers derives from the Magna Carta 1285, which removed many of the financial and judicial responsibilities to the Crown. Thus, the main emphasis became that of being a medico-legal witness, viewing victims of crime and recording injuries for presentation to the Kings Justices (Dorries 2004).

Further decline of coronial duties occurred in 1275, in the Statute of Westminster, and again in 1360 with the Justice of the Peace Act, which established the early magistracy. This left the coroner to investigate sudden death. Some 400 years later the Coroners Act 1751 provided reward for the duties of the office and for removal of neglectful coroners (Dorries 2004). As the financial responsibilities were no longer a coronial concern, the removal of neglectful coroners suggests society valued investigation into death and its causes.

The value of this investigation is evident in the necessity to record deaths. The Births and Deaths Registration Act 1836 providing for a Registrars Certificate, or Coroners Order, informing the Registrar of inquest verdicts before burial could take place (Dorries 2004).

Furthering the importance of coronial investigation, the Attendance and Remuneration of Medical Witnesses at Coroners Inquests Act 1836 afforded coroners the power to require a doctor to perform an examination, and/or, attend an inquest to give evidence as to the cause of death (Glasgow 2004). This has changed little over the years as a coroner still has those powers to request a PME to provide evidence as to the cause(s) of death. This 1836 Act reflects the emergence of a more medico-legal investigation with a potential to detect cases of murder.

Prior to 1837 deaths not perceived as sudden, and not requiring coroner investigation, could have a cause of death declared by anyone who knew the decedent. However, with the advent of the RG and compulsory death certification, the role of RMP's became pivotal in the legal proof of death and improvement of mortality statistics. Refining this further in 1845, the RG dispatched books of forms, that later became MCCD's, to registered doctors. By 1874, these doctors were

required to provide a written statement of the medical cause of death, unless they knew an inquest was required (DoH 2016b). To aid the doctors the County Coroners Act 1860 clarified the classes, or categories, of death to be investigated (Dorries 2004). This is still the current situation with statute defining categories of death (Coroners and Justice Act 2009), with further guidance suggesting the types of death for the classes being provided by the government and professional bodies – Appendix Two.

In 1885, there was a requirement for Registrars to report sudden, violent or suspicious death or deaths with an unknown cause to the coroner. Again, this is still a requirement that is part of current legislation, as will be seen later. This is a safety net so any deaths that need coronial investigation are referred. Although, it could be indicative of doctors who were not, and are still not, referring all deaths that should be. Rather than addressing the potential deficits in medical practice, another tier for referral is legislated instead.

Following this, the Coroners Act 1887 consolidated the types of death along with prohibiting inquests held in public houses, suggesting a judicial approach to death investigation (Dorries 2004). To further this approach, and possibly the view of coroners, their terms of

appointment changed upon enactment of the Local Government Act 1888. Coroner's appointments were by the local authority rather than elected to the role. However, to maintain independence, the authority had no power to impose any special conditions on the term of office. This still applies today so coroners continue to hold office under the Crown (Courts and Tribunals Judiciary 2020; Matthews 2002). Although the authority has no power, they can exert control over the practices of the coroner as they control the financial support for that service. A local authority may not be able to dictate delivery of the service, but could try and influence, or otherwise encourage, coroners to be fiscally aware when requesting investigatory techniques during an investigation.

The first evidence of scrutiny within death certification came in 1903 when regulations introduced Medical Referees (MR) and cremation forms. The form requires completion prior to cremations with the MR providing scrutiny before authorising this type of disposal (MoJ 2012; DoH 2016b). The introduction of these regulations demonstrates the importance of having accurate causes of death prior to embalming or cremation. Any concerns that subsequently arise about the death after disposal will be problematic, especially if cremation is the chosen

method of disposal, as evidence is destroyed along with the body. If burial is the chosen method, there may be some investigations that can occur but embalming and time since death will influence the success of this. This leads to systems, processes, accidental or criminal acts not being investigated so risk of future similar deaths is not reduced. Indeed, this is what Dr Shipman relied upon during his killing spree. However, Dr Shipman has highlighted the weakness in the current system, as plausible causes of death on cremation forms do not give rise to concern. A cause of death, without knowledge of the circumstances surrounding that death, will not necessarily give an indication of wrongdoing. As two RMP's need to complete forms for cremation, the MR may just accept the form without question, as the second RMP could be viewed, by the MR, as the person to highlight concerns.

The Coroners (Amendment) Act 1926 further streamlined coroner's duties by requiring them to adjourn inquests until any criminal investigation by the police force concludes, which still occurs today. This suggests there was some success in identifying criminal acts during coronial inquiry. Or, that when coronial and police investigations ran parallel there were problems

with the verdicts arrived at, they may have been conflicting leading to confusion.

Other remnants of this 1926 Act are still current, as it is not for a coroner to frame a conclusion or verdict in such a way that it determines any civil or criminal liability of a named person (Coroners and Justice Act 2009 s10 (2) (a) (b)).

However, a person may still be identifiable when a narrative verdict is given. The most notable narrative verdict demonstrating this pertains to Diana, Princess of Wales:

"The crash was caused or contributed to by the speed and manner of driving of the Mercedes, the speed and manner of driving of the following vehicles, the impairment of the judgment of the driver of the Mercedes through alcohol." (Hearing Transcripts 2008).

Clearly, the driver of the Mercedes is identifiable, as he is named in the media coverage of this incident.

Under the 1926 Act a retention of powers, to commit a person for trial for any criminal offence uncovered during coronial investigation, occurs. This Act also requires coroners to have either a medical or a legal qualification. This is an understandable requirement as the coronial

system has RMP's providing medical cause(s) of death, and the court is a judicial forum. Nevertheless, this also suggests a conflict of importance. Firstly, the importance of understanding the medical concepts of diagnosis, care, treatment and death with its variety of causes. Secondly, the importance of the investigation being fair and just by the manner of its conduct. This acknowledges two powerful, long-standing professions, which can be useful for death investigation. Coronial investigation could either be medically or legally thorough; however, strength in either is problematic or can give rise to concerns voiced by the bereaved.

A medical inquiry may resolve any doubts or concerns around causes or circumstances of death. Nevertheless, the way the court is presided over may ignore some of the finer points required by the judiciary, such as points or interpretations of the law. This could lead to a judicial review with a new inquest being the outcome. Whereas, a legally thorough inquiry may be judicially sound, but the evidence given may not be noticed for its inaccuracies or erroneous content. This can lead to erroneous conclusions and the potential for inaccuracies in death certification.

Interestingly, many medical coroners also have a legal qualification, but legal coroners do not have any medical

qualifications. This will be due to the length of time required to study for a medical qualification – 5-7 years rather than 2-3 years for a legal qualification.

This conundrum remained until the Coroners and Justice Act 2009 clarified that only legal professionals could become the coroners of the future. This change reflects one of the Brodrick Committee (Report of the Committee on Death Certification and Coroners 1971) recommendations, suggesting a coroner with a legal background will better serve public confidence. Therefore, all future coroners will be independent of the medical profession. It is almost suggesting the medical profession behaves in such a way that public confidence will erode due to their professional behaviour. This may be the case, particularly when the media report doctors defend each other when actions by members of the profession cause public disquiet. A recent case highlights this behaviour with an RMP being removed from the GMC register following a conviction for manslaughter by gross negligence. Junior doctors launched a crowd funding campaign in support (BBC News 2018). The reaction of some, within the medical profession, appears in conflict with some of the family and public reactions. Such conflict will only succeed in eroding public confidence.

Nevertheless, this independence suggested by Brodrick will have little effect on the inquiry if any evidence given, is not an accurate reflection of the circumstances and cause of death, which a legal professional may not be able to identify. Thus, any conclusion based on the medical evidence presented could be as damaging for the bereaved as any conclusion arrived at due to a lack of independence.

To mitigate this loss of medical influence within the future system the 2009 Act makes provision for ME's to be implemented nationally. This suggests a strengthening of medical input as it will occur in all coronial jurisdictions. Currently, coroners' areas benefit from medical knowledge within if one of the coroners is from the medical profession. However, this study will demonstrate the implementation of ME's will not necessarily enhance the coronial system of the future.

In 1935, Cremation Regulations provided clarity as to which doctors could provide secondary certification prior to cremation. These regulations also removed the responsibility for MR appointment to the Home Office (DoH 2016b). This clarity suggests secondary certification was not required up to this point. However,

it potentially reflects a lack of independence between the second signatory with the decedent and first signatory. Nevertheless, as the system operates today, the required independence of a second signatory did not deter Dr Shipman from his endeavours. Indeed, it may have helped his cause, as a variety of second signatories would not identify a cause for concern. Thus, he avoided detection, particularly in elderly patients with differentiated diagnoses, that had an end or terminal stage. Their deaths were, expected in many ways, so without clear evidence to the contrary would not have raised many concerns with the second signatories.

Although MCCD's had been compulsory for more than a century, it was not until the Births and Deaths Registration Act 1953 (s22), that they became a statutory requirement before a death could be registered. This tightening of requirements aligns the documentation required to prove death and its cause(s) before disposal occurs. Registration also provides one area to record mortality data so trends in cause(s) of death and disease prevalence are accessible. This data can be useful when determining health needs of the population in general, or in a specific locality. The latter being more useful for tracking the progression of

occupational diseases, or environmental causes of disease and death. The State can then use this data whilst considering how to safeguard its members.

The next review commenced in 1965, resulting from claims that loopholes in existing law, regulating coroners and death certification, were such that it was possible for homicides to be undetected. These claims were refuted by the Brodrick Committee, which completed and produced its conclusions and recommendations in 1971. The terms of reference for this committee were broad, reviewing: (i) the law and practice relating to the issue of MCCD's and disposal of decedent; (ii) the law and practice relating to coroners and coroners courts, the reporting of deaths to the coroner and related matters, and to recommend what changes were desirable.

Such encompassing terms of reference had the potential to close any alluded loopholes. However, this clearly did not happen due to the claim being refuted, allowing some thirty years later, the homicide spree of Dr Shipman.

Use of the phrase "desirable" undermined the terms of reference, as it does not mean essential. The summary of recommendations is in Appendix Three.

The recommendations not acted upon, although they were significant, was due to differences of medical opinion, which prevented any changes from being implemented (DoH 2016b). Indeed, the subsequent Coroners Act 1988 did not introduce any significant changes to the system. All this Act appeared to do is consolidate all previous coronial legislation (Dorries 2004).

Even though Brodrick exerted little influence at the time, the recommendations are worthy of consideration throughout the rest of this chapter, as they have influenced the most recent legislative changes for death certification and coronial investigation.

Death certification and coronial investigation has required the co-operation of doctors to refer deaths. With past legislation and regulations implemented to replace this co-operation with a formal statutory obligation.

English law has not required any doctor to confirm or report death has occurred, nor to view the deceased after death. They are required to issue a MCCD detailing the cause(s) of death, however, only if they attended the decedent during their last illness (British Medical Association ((BMA) 2013). Therefore, the only statutory

requirement is to fulfil the Births and Deaths Registration Act 1953. That the death of every person in England and Wales along with the cause of death be registered (s15). The 1953 Act states the certificate (MCCD) completion is to the best of knowledge and belief, by the doctor who attended during the last illness (s22). With the MCCD signed without unnecessary delay (Medical Defence Union (MDU) 2012; GMC 2017a). As appropriate as this is, there are some evident weaknesses, particularly around the competence and integrity of the RMP issuing the MCCD. Indeed, this is less rigid than the Brodrick recommendations pertaining to a qualified and unqualified doctor.

Completion of the MCCD, to the best of knowledge and belief, is reiterated by the Coroners and Justice Act 2009 (s20 (1) (a) (i)), which is the expression of an opinion as to the cause of death. In furtherance, the BMA (2013) provides guidance stating it is an opinion. Knowledge and belief can be clinically deficient and inaccurate, with cause(s) of death documented being more reflective of a guess. This can particularly be the case if the RMP does not view the decedent or access any medical records that are available to consider the circumstances of the death. The cause of death will have no foundation in medical opinion that considers disease progression

and the events that led up to death. Under the current system knowledge and belief can be remote from the actual cause of death as belief, however genuine, may be mistaken due to lack of knowledge or experience in death certification and disease processes. On the other hand, it may be a belief held deliberately, purely to misrepresent the cause of death by hiding dubious practices, or deliberate actions, that have hastened death. Clearly, to address this weakness within the system, scrutiny around the circumstances of death is necessary to identify dubious practices for addressing, and deliberate acts for investigating.

Arguably, this scrutiny addresses the Brodrick Committee (1971) recommendation that the MCCD should certify the fact and cause of death if there is confidence to certify with accuracy and precision (4i). Further suggesting wider reasoning should include consideration of death due to employment, drugs, poison, violence or unnatural causes (4ii). These umbrella terms are found in a variety of sources that currently guide RMP's when referring decedents for coronial investigation (Ballinger and Patchett 2003; Courts and Tribunals Judiciary 2016b; The Notification of Death Regulations 2019). With Brodrick also suggesting there should be no reason, that is in the

public interest, why any further inquiry should be made (4v).

It has been argued earlier that some deaths that should be referred to the coroner for further inquiry are not, suggesting deficits in RMP knowledge and belief. Thus, the strength of the language within the Brodrick recommendations loses impact, as RMP certifiers do not always acknowledge guidance or apply it appropriately. Therefore, to suggest further considerations that are not included in guidance may not be useful.

Nevertheless, ME scrutiny, once implemented, should address recommendation 4v, providing the ME understands the statutory remit fully.

The current death certification system is an indicator of the quality of current undergraduate and postgraduate medical education. It is also indicative of the quality of mentoring by colleagues that impact on the RMP's competence and integrity to practise.

Indeed, deliberate wrongdoing may be present on a smaller scale (than Dr Shipman). It may arise through a reluctance to admit to an individual's own professional error or negligence leading up to a death. Alternatively, it may reflect an unwillingness to address poor practice or failures elsewhere within the healthcare or medical

system. Statutory scrutiny of the MCCD and the circumstances around death have the potential to address this situation.

Further supporting the weaknesses within medical education, the Academy of Royal Colleges and GMC (2016) jointly consulted on a draft framework for generic professional capabilities. The aims were to identify, simplify and clarify core professional capabilities that RMP's need to possess at specialist registration. Included within this framework are outcomes on death certification and authorisation for cremation. The basis for this consultation was a Government request to ensure promotion of capabilities in a consistent manner. This is highly suggestive that there are areas for concern within death certification that requires a consistency of quality that has not been previously available (Preston-Shoot and McKimm 2011). It also recognises there were, and are, failings and inconsistencies in education and training and, therefore, in general competence of RMP's due to a lack of compliance with the 1998 consensus statement around a core medical curriculum.

This 2016 consultation had a wide scope but did not address weaknesses in the death certification system. Nor did it explicitly acknowledge the issue of deliberate wrongdoing as opposed to lack of competence.

The next time death certification is scrutinised was in 2003 with both the Luce Review and Smith Report.

Luce Review and Smith Report 2003.

The Luce Review (Death Certification and Investigation in England, Wales and Northern Ireland 2003) pertains to the coronial system and its lack of revision in a major or meaningful way since the 1800's. The Report (The Shipman Inquiry 2003) reviewed the death certification process after the high-profile case of Dr Harold Shipman. His actions hastened the deaths of at least 215, possibly as many as 260 of his patients over a period of 23 years.

A specific weakness identified by Smith is that a single doctor could certify a death, due to natural causes without scrutiny, and literally get away with murder.

Both Luce and Smith recommend the inclusion of medical experience within the coronial system to address the lack of medical knowledge and scrutiny, which allowed Dr Shipman to prevail for so long.

A Luce recommendation reflects the current coroner requirement in Northern Ireland, that a coroner should have legal qualifications and experience of practice as a barrister or solicitor. This is now the requirement for

coroners in England and Wales since the enactment of the Coroners and Justice Act 2009.

Smith, on the other hand, recommends a regional medical coroner with at least one judicial coroner in each region (para 19.32). Each district office is to have a medical coroner with one or more deputy coroners (para 19.34). With one system of death certification applicable regardless of method of disposal of the decedent (para 19.36).

Smith's recommendations reflect the medical context within death certification, that the evidence presented to a coroner needs understanding. It emphasises that more than the fact of death is important, the cause and its circumstances have primacy.

The Luce recommendations suggest that a coroner's court and investigation is solely part of the judiciary, in appointment as well as practice, with no medical expertise at the level of conducting court proceedings where presentation of clinical evidence occurs. This aligns with the Brodrick recommendations thirty years previously. Luce is emphasising, as Brodrick did, that the judicial process has primacy rather than the accuracy of any medical evidence or coronial conclusion.

A lack of medical knowledge at this level encourages judicial coroners to rely heavily on the evidence of health care professionals without really having a good understanding as to whether it is in context or makes any sense. Uncovering weaknesses in health care provider systems will remain as it currently is, ad hoc, depending on the eloquence of the individual giving evidence. Evidence can sound credible, even if it makes no sense, thus, the experience of a judicial coroner in identifying this is critical. However, this study will identify weaknesses in coronial decision-making that highlights a lack of medical knowledge and, therefore, a missed opportunity to investigate for future safeguarding.

Luce does suggest there should be a new post of Statutory Medical Assessor (SMA), to provide support for RMP's in death certification. The SMA would audit the process and create links between certification and coroner investigation for each area. This is a somewhat small-scale version of the ME remit proposed by the current legislation. Another recommendation is that of a common certification process that brings two professional opinions to bear before disposal, although, there is no general requirement for the decedent to be viewed prior to disposal (ch 6: 9-19). Thus, neither opinion would truly consider the circumstances around

death, particularly as signs (on the decedent), that may cause doubt around the cause of death, would not be sought.

Viewing decedents bodies is documented by Brodrick as a requirement of the doctors' obligations, whether or not the doctor is qualified to complete the MCCD (2 (i)). For the unqualified doctor the requirement was to view the body prior to referral to the coroner, to establish the fact of death (5). Indeed, Brodrick is suggesting decedent viewing is necessary regardless of whether coronial referral is required. This suggests the certifying RMP should inspect the decedent for any signs that would impede the MCCD completion until after further investigation has occurred. The most recent legislation, the Coroners and Justice Act 2009, requires decedent viewing. However, what is clear is the 2009 Act includes recommendations that originate from Brodrick and Luce – that the body is viewed and that two professional opinions are evident before disposal.

By reflecting the recommendations of Brodrick and Luce, that coroners should be legal professionals, the Coroners and Justice Act 2009 is introducing not just independence from the medical profession, but also an impartiality to coronial investigation, a clear designation of professional roles.

It is, therefore, reasonable to suggest that once all coroners are legal professionals, independence and impartiality will be achieved. Any societal mistrust in the medical profession will be, at least superficially, addressed. However, further scrutiny of this 2009 Act demonstrates this will not be the case.

Indeed, sections 19 and 20 of the 2009 Act, explored in chapter four, introduce ME's to be a main influence of death certification and investigation. Thus, the medical profession will scrutinise fellow professional certification practices, that are not currently scrutinised once a MCCD has been completed.

What is certain is that medical professionals are necessary within a death certification and investigatory system, for the specialised knowledge they possess. But how that knowledge is applied determines whether medical professionals, as ME's, will enhance this system.

Interestingly the raw data generated in this study demonstrates that there is error at all levels of death certification and investigation. More interesting is that ME's alone do not appear to improve the system as the law makers envisaged, or society hoped for, as chapter nine will demonstrate.

Clearly, Luce and Smith prioritised differences around the primacy of future coroner appointments, which may be reflective of their own professional backgrounds or preferences. What else is clear is that their recommendations have influenced the content of the most recent legislative changes around coronial investigation and death certification. When full implementation of the 2009 Act occurs, it suggests there will be an improved system to satisfy public expectations following the criminal trial of Dr Shipman, particularly as some of the recommendations that should improve the system are longstanding, ones that were first suggested in 1971. Implementing these changes may not have the impact so clearly wished for, as a critique of the pertinent sections of the 2009 Act will demonstrate. Although the appetite for change appears to have changed post Dr Shipman, the Hutton Report 2015 acknowledges, there has been no meaningful progress in implementing any recommendations that specifically relate to the death certification process to date.

Chapter Four

The Law

As law is a legal regulation it must be created following the better regulatory principles discussed in chapter two. Following these principles asserts that new or reformed law is appropriate for the goal or problem it is to address and that it has been scrutinised to ensure it is proportional and consistent. For it to provide the legal framework it also needs to have transparency and accountability whilst targeting appropriately.

Thus, the Coroners and Justice Act 2009 requires exploration to decide if it can be deemed good law.

The journey to this new Act which reformed coronial law began in 2006 with the draft Coroners and Justice Bill with responses to it published in 2007. Throughout 2007-08 it was further scrutinised by the Constitutional Affairs Select Committee, ensuring inclusivity for those affected by this law, such as the public, medical practitioners and the DoH (House of Lords 2009).

The Bill proceeded through a series of readings in both the Houses of Commons and Lords between January and November 2009, before being enacted on 12 November as the Coroners and Justice Act 2009. Guidance, in the form of The Chief Coroners Guide to the Coroners and Justice Act 2009 was provided, as a

quick learning and reference document, for coroners (Courts and Tribunals Judiciary 2013).

However, the Act was not enacted in its entirety at that time. Indeed, there are different commencement dates for the sections that are explored in this chapter.

This Act does not specifically describe sets of circumstances only proscribing the categories of death that require investigation (Coroners and Justice Act 2009 s1 (2)). The types or circumstances of death that fit those categories is proscribed in The Notification of Death Regulations 2019. Therefore, RMP's, Coroners and ME's should know which deaths require investigation.

This 2009 Act reflects the recommendations from Smith and Luce, for a common certification system for all deaths, to address the weakness of the current system that allows for errors, or deliberate practises that hasten death, to go undetected. However, due to the staggered commencement dates within, full implementation of ME's is still awaited. Hence the concerns of Hutton into the lack of progress since 2009.

The sections of the Coroners and Justice Act 2009 that introduces ME's (s19) and their statutory role (s20) will be considered.

Along with, the law around mental health and capacity that impacts on when coronial investigation is required will also be explored.

Coroners and Justice Act 2009 – s19.

The 2009 Act (s 19) introduces the role of the ME to provide scrutiny to death certification, commencing 6 April 2010. It also alters the eligibility criteria for coroners (sch 3).

Currently, coroners employed prior to 2009 have either a medical or a legal background (Coroners Act 1988), with medical coroners usually having a legal qualification. Post 2009 new coroners require a legal qualification along with experience of legal practice for five years (Tribunals Courts and Enforcements Act 2007; Coroners and Justice Act 2009; Courts and Tribunals Judiciary 2020). This may reflect a belief in the judiciary that courts should remain in the domain of the legal profession. This belief may stem from the fact that legal professionals have experience and understanding of the law. However, death is clinical, complex, and situated in the medical domain, as it requires more than legal knowledge and experience to understand its complexities in each unique instance – as this study will demonstrate.

This employment criterion may imply medical coroners permit irregularities in court proceedings, which may be evident in the number of judicial reviews they attract. Nullification of inquest verdicts, with an inquest anew occurs only if there has been an irregularity in the coroners' proceedings (Courts and Tribunals Judiciary 2017b). Coroners' courts can be open to challenge to the way in which a decision is reached when concluding the coronial inquiry. Although the category of judicial reviews, to which coroners' courts are included, has seen fluctuations in the number of cases, there is no evidence to suggest what proportion of these are coroners' cases for review (MoJ 2016b). Indeed, this implication has no supportive foundation as to which professional would enhance the role of the coroner.

Therefore, the introduction of the ME provides a tier of medical knowledge and scrutiny nationally, within the coronial system, which has not been available previously. This medical tier acknowledges the Luce recommendation of: (i) a SMA post and (ii) two professional opinions brought to bear before disposal of the decedent.

The 2009 Act provides the mechanism for scrutiny of all deaths, once ME implementation occurs, by requiring

them to either confirm cause(s) of death or refer to the coroner (s 20 (f) (i) (ii)).

The potential appointees to the ME role are RMP's who, at the time of appointment, have been practising or have practised throughout the previous five years. (s19 (3) (b)). This is a similar eligibility criterion to that of new coroners, specifically the length of time practising in the art of the profession. A potential concern is the RMP who fulfils the criteria of "or who have practised within five years" as this suggests a break in practise. This may not be a problem if the absence is due to illness, secondment or maternity/paternity leave. However, for someone who may have retired to apply may be problematic. The main concern with retirement is the length of time out of practice, how medical knowledge may have remained current, and, in what circumstances its application occurred, within the five years. However, it is worth acknowledging that someone who is a recent retiree may be more up to date than someone who has returned from an extended absence due to the any of the reasons mentioned. This potential situation lends to the suggestion the recruitment process needs to be robust to populate the new medical discipline with ME's who are fit for purpose and practice. This is especially important to achieve an overall aim of quality and

consistency within the statutory remit. However, this study will demonstrate this aim is so far not evident within the ME's who populate the pilot sites within England and Wales.

Initially, within the 2009 Act the employing agency identified for ME's were Primary Care Trusts (PCT's). However, following the implementation of the Health and Social Care Act 2012, amending the 2009 Act, Clinical Commissioning Groups (CCG's,) who commission health care services for their local area replaced PCT's. The 2012 Act recognises local authorities in England and Health Boards in Wales as appointers of ME's. The 2009 Act tasks authorities and Boards to appoint enough ME's with enough funds and resources to fulfil the statutory requirements (s19 (i)).

Although, the appointing agency may seem unimportant, it is clear for ME's in England it will be the same organisation that appoints coroners, whereas, for those in Wales it will not. Health Boards in Wales plan, secure and deliver health care services in their area. This was an opportunity to demonstrate ME's should be as independent of health organisations as coroners are. For ME's appointed in England, this independence is evident, but for ME's in Wales this is not the case.

Indeed, the DoH (2016c) claim ME's in England will have an appropriate level of independence. Such a lack of independence for ME's in Wales may eventually affect the quality of the statutory remit, particularly if Health Boards try to exert pressure as to how the ME role should develop. They could try to influence what practises ME scrutiny uncovers that will need to be addressed for future safeguarding of the populace. Even though there is no provision in the 2009 Act that allows any local authority or Health Board any role in relation to the way a ME exercises their professional judgement

However, once a coroner is appointed, they become and remain an independent judicial office holder with the local authority responsible for salaries and fees. Clearly, this will not be the case for ME's as the DoH (2016c) state the use of the word appoint allows ME's to be employed, contracted or commissioned depending on service configuration (7.106). ME's are at risk of having less job security depending on the practice of the local authority or Health Board. They may have short-term contracts or can lose commissioning if they either under or over perform. Therefore, although the legislation suggests there is no role for the local authority or Health Board in relation to ME function, they may exert authority with the type of contract they have with the ME. Clearly,

the terms of appointment can undermine the 2009 Act particularly if authorities and Boards need to be, or are, fiscally prudent or constrained with their services.

To appreciate this notion of independence the 2009 Act requires closer inspection.

Coroners and Justice Act 2009 – s20.

This section provides for the remit of the ME, what is expected of them in the death certification and investigation process. Further guidance on this remit is provided by the National Medical Examiner (NME) in the form of good practice guidelines (NHS 2020), which includes principles for ME's when scrutinising MCCD's.

However, the full implementation of ME's is still awaited with s20 having multiple implementation dates ranging from initial partial implementation from 1 February 2010, then 6 April and 4 October 2010. Full implementation was still not achieved by commencement dates 27 June 2011, 25 July 2013 or 16 July 2018. The variety of commencement dates is probably reflective of the policy and administrative costs required to implement such a service throughout England and Wales.

However, when fully implemented ME scrutiny of the MCCD is to ensure it reflects as accurately as possible

the cause(s) of death. This reflects the Brodrick recommendation (4i) – certify the medical cause of death with accuracy and precision. In doing this, cases that require further investigation before a cause of death can be documented, will be identified and referred to a coroner.

Currently, the MCCD process is the RMP who attended the deceased prior to death prepares a MCCD. It details the cause of death to the best of knowledge and belief. If this is not achievable then coroner referral is necessary (Births and Deaths Registration Act 1953 (s1); Coroners and Justice Act 2009 s20 (1) (i) (ii)).

Once ME's are implemented the change requires the RMP certifier to send a copy of the MCCD to the ME for review (s20 (1) (b)). This tier suggests an enhancement to the current system, scrutinising MCCD content for accuracy. This accuracy is important, as the WHO Mortality Reference Group (WHO 2010) have developed a new template for death certificates to collect data consistently in all countries. Accurate mortality data will help to inform health policy, planning and evaluation of health services and international comparisons. MCCDs have had minimal changes to them to reflect this new template – Appendix Four.

Any RMP who has doubts, or concerns, about a cause of death, or MCCD completion, can seek guidance from the ME. Currently coroners provide this guidance, which may be immediately forthcoming, or delayed if the coroner is in court. With ME scrutiny the implication is that only deaths which are clearly coroner referrals are indeed referred. This study refutes this implication as will be demonstrated when exploring the research data and its implications.

Alternatively, this change may see some RMP's just sending the MCCD to the ME, rather than seeking advice, in the belief any problems or concerns will be "picked up" and acted upon accordingly. Thus, some RMP's, even after specialist registration, may demonstrate the required knowledge for that registration but not use it again in practice. This potential situation suggests the Governments attempts to address core professional capabilities will not have a successful outcome – that of consistency and quality applied within the medical domain around death certification. However, if the ME also has deficits in knowledge and experience and does not identify when a coroner referral is required, there will be no improvement to the system.

Within the 2009 Act there is provision for this lack of RMP responsibility (s 20 (f) (ii)). The ME can refer the

case for further investigation if they cannot confirm the cause of death on the MCCD. It is hoped that this situation would only occur due to the RMP not appreciating the complexity of the death, which requires coronial investigation, rather than it becoming custom and practice for any other reason.

Nevertheless, this highlights issues that may happen, therefore, ME's needs to be diligent in the execution of their statutory duty. This diligence will minimise the risk of their collusion with dubious practices, which would defeat the objectives of the 2009 Act. These objectives are to strengthen safeguards for the public, make death certification easier and more transparent for the bereaved, whilst improving the quality of certification and data about causes of death (DoH 2016a).

Interestingly, a Registrar can request a new MCCD to supersede an existing one from an informant whether that informant is an RMP or ME (s 20 (1) (c)). As Registrars are not required to have any experience within health care, or MCCD provision, it is questionable if they would be able to identify an erroneous cause of death. Upon discussing the death with the agent presenting the MCCD for registration, they may discover the RMP did not attend the deceased within fourteen days of death, as is necessary to qualify as a certifying

RMP (Registration of Births and Deaths Regulations 1987). In this instance, the Registrar can refer to the coroner, which may result in a new MCCD. Erroneous information on a MCCD does not appear to cause concern for Registrars. Personal experience of this occurred when registering the death of a parent. There was reference to a condition that the doctors had not discussed with the family, nor documented in the medical records. However, when this was brought to the Registrars attention the response was, the death certificate had to reflect what was on the MCCD. Nothing more was said.

Continuing with issuing a new MCCD, an ME can invite a certifying RMP to issue a fresh MCCD that supersedes an existing one (s 20 (1) (c)). This will only occur if, after enquiry, the ME concludes the MCCD does not accurately reflect the cause of death. For this function to be beneficial the ME requires independence from the organisation that employs RMP's, as any such necessity of action will require good communication skills so the RMP can discuss the case in a collaborative manner, rather than a confrontational one. Should this opportunity be lost, for any reason, it will undermine the whole purpose of ME introduction to scrutinise MCCD content. If an RMP refused to issue a fresh MCCD this

would be an impasse that may need coroner intervention. This then “uses” the coroner as a stick to obtain RMP compliance, rather than as an investigatory colleague, whose sole purpose is to investigate death. Such an intervention may cause discord that could affect the service of death certification. Nevertheless, the ME has a broad remit in the pursuance of a more stringent death certification and investigation process, which would benefit from professional working relations with RMP certifiers. Any wrangling at this juncture could affect others, by causing an unnecessary delay to a funeral. Such a delay would not be welcome by many bereaved.

Returning to the broad remit within the Coroners and Justice Act 2009, ME’s need awareness of this and how any delay can define the service in the eyes of the public. Section 20 ((1) (e) (k) (i) (ii)) provides for whatever enquiries appear necessary to confirm or establish cause of death, to discuss the cause with the informant or another person the ME feels appropriate. The informant being the certifying RMP, which gives them the opportunity to voice any concerns they may have about the death, especially if they feel, with hindsight, coroner referral is required. This does seem an ideal opportunity to have a discourse with an RMP who cared

for the patient prior to death. However, it will depend on the quality of the discourse that dictates the quality of the information given to the ME for them to arrive at a conclusion. It will no doubt hinge on the ME's interpretation of the word necessary, which can be influenced by their educational journey and how diligently they wish to fulfil their role. However, it suggests the ME reviews all records pertaining to the deceased's care prior to death. This may include patient held District Nursing records, hospital, GP, home or social care records. Some patients may accrue numerous sets of records held by different agencies, possibly with more than one volume. Some may be paper records, more recent ones being electronic. Depending on how many types of records and volumes there are for the ME to access, it may compromise the enquiry at this point. The ME will need to be discerning as to what they review, with good reading skills to review records, in a timely manner, without missing important information. If this can be done, so the conclusion arrived at, is as accurate as possible regarding the cause of death, the statutory remit will not have been compromised. However, if this is not a skill demonstrated by the ME, they could cause an unnecessary delay in funeral arrangements, by not

arriving at a conclusion at a sooner time. Alternatively, they will cut corners to avoid unnecessary delays, which may lead to erroneous causes of death going unchallenged. On the other hand, cases requiring coroner referral will not be referred for further investigation, compromising the remit of the ME.

The ME should view the deceased, as recommended by Brodrick in 1971, to ensure there are no signs of non-accidental injury, self or others neglect, accidental injury or any other marks that could give cause for questioning the cause and circumstances of death. Again, this could compromise the quality of ME provision, as decedents can be in hospital mortuaries or funeral homes. As such travelling to view the deceased would be involved within the coronial jurisdiction the ME serves. Travelling may be avoided by some ME's due to the number of times or length of time travelling. Indeed, this may encourage some ME's to suggest to mortuary staff, or funeral directors, that they will visit to view only if staff alert them of any concerns when they view the deceased. This will dilute the quality of the scrutiny, missing opportunities to observe concerns that could influence their conclusion on cause of death and impact on coroner referral.

However, an experienced ME may have accrued a broad knowledge base and good working relations with

staffs, allowing them to rely on discussing the state of the decedent's body, and only visiting to view for themselves if they then felt it necessary. Although this could be a natural evolution for ME enquiry it will only be successful if staff reported marks or other signs on the deceased accurately, regardless of how experienced the ME had become. Often, RMP's use telephone consultations with patients so they may not see this approach as ME's as being problematic. Even though there are inherent problems with relying on descriptions from others, rather than being able to view and assess for one's self, as proximity and visual clues are lost (Frame 2015).

The safest course of action would be for the ME to view the deceased so future communications around cause and circumstances of death, and referral, occur with confidence and honesty. Any suggestion, by virtue of enquiry practice, that an ME is not making an appropriate enquiry could lead to all cases requiring review, creating time and financial pressure for the coronial jurisdiction in question. Notwithstanding, the upset caused if relatives of decedents must revisit the death, by answering questions as part of investigations into ME practises.

Other enquiries could include talking to staff, other than the informant, who have been involved in providing care, such as carers. This has the potential to open dialogue that may not have otherwise been forthcoming. Caregivers often discuss death formally, or informally, as an opportunity to debrief. It is reasonable to suspect some contributions to this debrief may be ignored or passed off as unimportant. This may be to avoid scrutiny, for various reasons or, because their value has not been recognised. For an ME to approach staff as part of their enquiry could be a welcome opportunity for some to voice concerns if they have them.

Although the ME system is being introduced, in part, to deter another Dr Shipman in the medical profession it will only be as good as the individuals involved. Thus, if concerns are ignored, not raised or, if the ME does not enquire to elicit concerns, the system will be perceived to be achieving its aims.

There may be instances when relatives raise concerns that may not be allayed by the ME's conclusion. Providing conclusions reached are the result of an appropriate and thorough enquiry there will be little else for the ME to do other than give reassurances. In some instances, this may not be enough, with relatives raising concerns with the coroner so they are heard. This may

result in the coroner supporting the ME's conclusion with further reassurances and explanations being provided. It is a sad fact that grief is sometimes so acute, seeking blame occurs even when there is none to find. However, if the coroner does feel further investigation is required it will occur, this may then illuminate the coroner to the practises of the ME, which may or may not be felt appropriate. The coroner may report any concerns to the NME for further scrutiny, or they could collude with the ME's practices due to their own coronial deficiencies in service provision.

Once the ME has completed whatever enquiries felt necessary and concluded a coroner referral is required, they have a statutory duty to mention any matter that might cause a coroner to investigate. Clearly, for this to result in only appropriate referrals ME enquiry must be robust and wide. Which is suggesting the deaths are ones the coroner has a duty to investigate: unnatural, violent, unknown cause, occurred in custody or a state detention (s20 (1) (i) (ii)).

Again, the 2009 Act provides a vague term – "any matters". The cause of death provides a history to the death, or in the case of violence, uncovering a mechanism of injury. As such the phrase, "any matters" can be subjectively interpreted with varying

interpretations between ME's. The variety of interpretations will reflect the ME's educational journey, of their knowledge and behaviour including beliefs about the person. It will reflect how well they fulfil their role, which will be demonstrated by this study.

Such history, or mechanism of injury, is evident in the following examples of medical procedures. Invasive insertion of devices such as cannulas into blood vessels or catheters into bladders can introduce pathogens into the body. This risk mitigates with the use of aseptic techniques prior to insertions. However, if poor techniques are used, pathogens can reproduce and produce toxins that invade the blood stream, thus bacteraemia develops. If, by observing signs and symptoms, this is not detected septicaemia (destruction of tissues by the bacteria and toxins being absorbed from the blood) and sepsis (putrefactive destruction of tissues by bacteria and toxins) can develop (Minasyan 2019). This progression is natural as all diseases have a natural progression, but disease contraction, or mismanagement of care can make any subsequent death unnatural.

Patients display signs and symptoms of local infection (for example, cannula site erythema) which may become regional (lymph node involvement) then systemic

(infection transported by the circulatory system). Therefore, it is ideal for timely identification and treatment when infection is local. If signs and symptoms are ignored or not reported (by self or others), and death occurs, enquiry is necessary to ascertain if death was hastened by acts or omissions by self or a third party. As such, this type of death has the potential to uncover deficits in care delivery or timeliness of treatment regimes. This is an opportunity to learn, providing any deficits are uncovered and addressed to benefit future patients.

The following two Acts, pertaining to mental health and capacity, are worthy of acknowledgment as they have importance here. Both can be used to detain persons, with mental health diagnoses or who lack capacity, so decisions are made for them as opposed to by them. Being in a State detention at time of death is a category requiring coronial investigation (Coroners and Justice Act 2009 s1).

Mental Health Act 1983.

Any death that occurs during a period of State detention requires inquiry, to ensure that agents of the state have

applied an appropriate detention, and that it has not contributed to, or caused the death.

To appreciate state detention the 1983 Act requires consideration as it provides for patients to be detained without their consent for assessment of their mental health (section 2), and treatment for the mental health diagnosis (section 3). Section 17 provides for leave of absence from hospital including community treatment orders. As these patients are having their movements restricted by virtue of this Act, they are still State detainees.

There are other sections within the Act (Part III s35 and s36) which are relevant to decisions made by criminal courts and prisons, including powers to remand an accused person to hospital for assessment and or treatment. In addition, a section 37 allows a crown court to impose a hospital order on someone who is responsible for, or convicted of, an offence. While section 47 authorises transfer of a convicted prisoner to hospital for mental health treatment when in custody. Although these sections do not apply to the cases within this study, they are included to demonstrate a lack of ambiguity, in that the person is clearly under a State detention, especially if a prison officer accompanies the patient.

The State detentions as defined by this 1983 Act are perhaps easier to understand, as consent is not a requirement. Patient admissions, detainment and treatment in hospital occurs without their consent. Sections 2 and 3 are to minimise risk of harm to others and self - due to a mental health condition, which have similarities to the deprivations of liberty sought under the Mental Capacity Act 2005 (MCA) (s4A).

The state detentions that arise from the MCA 2005 do not require patient consent either, because capacity is impaired due to the clinical diagnosis, rather than a mental health diagnosis, of the patient, and the fact they lack capacity to consent. Therefore, any decisions made are, or should be, in the patients' best interests (s3), which can be quite subjective.

Mental Capacity Act 2005.

This Act provides for a state detention (s4A (5)) that is becoming more common, due to an ageing population suffering from disease processes that affect cognitive ability and behaviour. It is an effort to safeguard from harm and requires application on a case-by-case basis.

The restriction is in the form of a DoL's authorisation, a Deprivation of Liberty. Such an authorisation is sought,

to prevent the patient doing harm to themselves (best interests) or others. As it is a best interest pursuit, it should only occur when the patients' behaviour has changed so significantly, due to the loss of cognitive capacity, that there is no appreciation of actions that cause harm to others or that expose the patient to harm. Such diagnoses that can affect people this way are ones diagnosed due to an ageing population – Alzheimer's disease, dementia processes and Parkinson's disease, for example. These diseases can occur at any age, but are more prevalent in an ageing population, with deprivations often necessary, as the disease progresses.

Ethically speaking mental capacity can be seen as referring to the extent of the ability an individual has to make their own decisions. However, legally speaking its meaning is typically somewhat different, because when a person is found to lack legal capacity to make a decision, on a particular matter, the consequence is that someone else gains the legal power to make it for them. Under the MCA 2005, for example, those who are sixteen or over are presumed to have capacity (s2(1)), but the presumption is rebutted for those who are unable to make a decision on a particular matter at the material time by reason of an impairment of, or disturbance in,

the functioning of the mind or brain (s2(1)). The material time point is significant because some impairments or disturbances vary in their intensity and effect on decision making over time. For example, some cognitive disease processes have diurnal variations, which affect types of deprivations used to keep patients safe. The complexity of a decision may also bear on whether a person has the legal capacity to make it. For example, some patients may be able to decide what they want for a meal, but not be able to consent to a surgical procedure.

Some further important observations can also be usefully made in this context. Firstly, s2(1) refers to “a matter” which can be seen as a way of referring to a particular issue or question that needs to be decided upon. More trivial matters might include things like what to wear, when to wash, what to have for dinner and when to go for a walk. More serious matters might include things like, decisions as to how to organise one’s financial affairs and to spend money, decisions about medical treatments and ones about care and liberty.

It may be relatively easy to decide what to wear, basing it on a favourite colour or style, whether it is hot and sunny or cold and raining.

Some actions may be rote learned, such as when to have a wash, for example after getting out of bed in a morning/before going to bed at night.

What to have for dinner may be influenced by favourite foods in taste or texture or both.

But decisions about care, treatment and loss of liberty are more complex. What is being proposed? How will it affect me in the short and long term? What if I do not have the care or treatment? What if I do not want to be restricted in any way? What if I change my mind? Can I change my mind? Is what is proposed only part of a care or treatment plan? Are there any side effects, if so, what are they? Are there any complications to the proposed treatment?

It is clear some matters need more information, that is not only new but accurate and honest, before any decision can be made about its worth to the person. Indeed, has all relevant information been given? What constitutes relevant information? More importantly, would the person know if information had been withheld and why? Superficially, this demonstrates that “a matter” is anything, but its complexity is a key factor in capacity.

The other interesting phrase is “at the material time”. Implying the matter (and its complexity) are limited to a

time. It suggests a decision is required at the time the information is given or a question asked, which is not always the case. Some decisions will be made at the material time as they are arguably either less complex, or even if complex the information given or question asked has been understood, retained, considered, with a decision made and communicated (s3 (1)).

The issues arise when the function of the brain or mind is impaired by injury, disease process or other causes, as will be explored. In such instances it is the complexity of the matter that can cause someone not to understand what is being asked of them. If the matter cannot be understood the process of retention of information, consideration given to it with a decision made and communicated will be flawed. If the matter cannot be retained at all, howsoever impaired, it cannot be considered for any decision to be made let alone communicated. The complexity may not be obvious for people who can decide what to wear or eat, however degenerative disease processes can be deceptive. Such processes affect short term but not long-term memory, therefore, deciding what to wear may be because a colour or style is recognised by the long-term memory. Food can be recognised by smell, colour and shape, so deciding what to eat may not necessarily be a problem.

But new information that needs to be understood, retained, considered with any decision communicated is when issues with capacity arise. Trying to understand why restrictions are being imposed may be too complex to understand and agree to.

As communication is part of the rebuttal of presumption of capacity criteria (s3(1), it is worth noting that some people suffering with degenerative ascending disorders, such as Motor Neurone Disease (MND) can, towards the terminal stages, do all but communicate their decision but will be deemed by some to lack capacity. The mitigation for this type of situation is that all practicable steps should be made to facilitate communication to keep the person at the centre of decision making (s1(3)). However, all practicable steps have cost implications for health care providers, for example, if someone with a brain injury can only communicate using a type of technology, then purchasing it is taking all practicable steps.

Nevertheless, the material time may be delayed particularly if by waiting until the person is more lucid displaying capacity, there are no serious health, safety or wellbeing repercussions for that person. Fluctuations in capacity are common with dementia processes.

More exploration is still necessary as most people who are considered to have capacity will, at some point in their life, have lacked capacity. Herein is the crux of the argument that capacity is a fluid concept. Some impairment or disturbance to the brain or mind is indeed temporary.

Firstly, to return to MND, if a carer does not take all practicable steps, perhaps obtaining a picture board, for example, to facilitate communication, capacity will be viewed as lacking. However, if another carer does take all practicable steps then capacity is maintained – a fluid concept based on the actions of others rather than the person with the disease.

Alternatively, anyone who has had a general anaesthetic can be viewed as lacking capacity in the immediate post-operative period. They are often sleepy, with reduced brain or mind function because of the anaesthetic and other analgesic drugs used.

Severe pain can affect how information is understood, retained and considered for decisions to be made and communicated. Grief can have a similar effect, with it often being reported that words are heard but nothing is retained. Fear is another emotion that can affect capacity, with how it affects the ability of the brain and

its functions. Pain, fear and grief can fluctuate in severity throughout the time a person experiences them, which will affect capacity to make decisions demonstrating there is a fluid concept to capacity, as capacity returns once recovered from the effects of drugs, pain has been alleviated and grief subsides.

This fluid concept can be evident, up to a point, with degenerative diseases, such as dementia, although it diminishes as the disease enters its moderate and severe or terminal stages. It is in these later stages of dementia that deprivations can be required for the patients (and others) safety.

Some dementia patients may have episodes of lucidity in the early stages of the disease process and remain able to make decisions, or display capacity at those times, but not at others when the lucidity has waned. Therefore, any DoL's authorisation needs to be reviewed as behaviour changes, to either increase or decrease the deprivation when compared to the risk of harm due to the behaviour, as any DoL is proportionate to the risk of harm. It is to reduce the amount of historical deprivations that today, is kidnap. It also must be acknowledged that in some cases the risk of harm may be greater than the deprivation of liberty would address, making greater deprivations unjustifiable. Therefore, a

DoL's authorisation allows restraint and restrictions that amount to a deprivation of liberty to be used in care homes and hospitals (Sch AA1 Mental Capacity (Amendment) Act 2019) – but only if they are evidence based and in the patients' best interests, with authorisations being applied for from a local authority (Social Care Institute for Excellence 2011). However, clinicians need to exercise caution when DoL's need to change to reflect changes in behaviour, as it can be easy to accumulate deprivations without authorisation. An accumulation can occur if clinicians autonomously decide to add or change a deprivation, at a time deemed necessary to do so, usually in reaction to a situation to make it easier to deal with. For some, this behaviour may become custom and practice, until something goes wrong. Any changes implemented that are not authorised are illegal applications of deprivations. Initially, DoL's were State detentions requiring an automatic coroner referral if death occurred, which could uncover illegal deprivation practices. This was providing staff referred to the coroner, which they may not have done if illegal deprivations were evident for the decedent. Therefore, certifiers could circumvent the system of coronial referral to safeguard and prevent future deaths. Whereas, if ME scrutiny occurred for all

deaths then the potential to address illegal practices would be available. With only suspicious, unnatural or violent deaths at the time of DoL's, referred to the coroner. This potentially reduces the amount of inquests for DoL's authorisations, when due to age and clinical diagnosis some deaths will be ones of natural causes. However, since April 2017 decedents subject to DoL's, or a Court Protection Order, at the time of death no longer require automatic coroner referral.

Such a change occurred due to the unprecedented rise in deaths with a DoL in place, from 13 000 to an estimated 100 000 a year (Courts and Tribunals Judiciary 2017a). Thus, the Policing and Crime Act 2017 (s178) amended section 48 of the Coroners and Justice Act 2009, providing a clear meaning of state detention.

Now anyone deprived of liberty under section 4A (3), (5) or 4B of the MCA 2005 are no longer in a State detention at any time. It is, therefore, imperative to have a level of scrutiny for all decedents subject to a DoL, particularly as this new law does not encourage care providers to identify patterns, act and learn by them (DoH 2016b). It is a concern that any future deprivations may mirror some of the historic practices that the MCA 2005 tried to address.

Arguably, it would have been more pertinent to keep the automatic referral to the coroner, until ME's had been nationally implemented. The only consolation may be that once ME's are implemented nationally this will address the reversal of DoL scrutiny. Currently, vulnerable patients under DoL's authorisation are legally unprotected, as there is no suitable system in place to ensure any deprivations did not contribute to or cause their death. This is a missed opportunity to learn and safeguard.

If financial constraint affects services, it is easier to change the law than to provide suitable resources to keep any legal protections in place. This is quite worrying as finance is required to implement and support the ME system, so if the system is successful it may well cost too much money to be allowed to continue without changes to its remit.

The Coroners and Justice Act 2009 has the potential to address the deficits within the death certification system that allowed Dr Shipman to escape detection for so long. However, what is clear is that the rigour and quality will

depend upon the characteristics and knowledge of the individuals that go on to populate this new medical role.

Whilst awaiting the full implementation of the 2009 Act there have been a variety of reports and reviews that question why this has not happened sooner.

Chapter Five

Non-Legislative Reports and Reviews

Due to the delay in fully implementing the Coroners and Justice Act 2009 there have been further reports and reviews lamenting this. Indeed, to appreciate how this delay has impacted society, and its trust in the coronial system the reports and reviews are illuminating.

One such delay occurred in 2016 with the Local Government Authority (p11) stating the new ME service would “go live” in April 2018, then going on to claim it will take at least eighteen months to commission and procure it, with a further recommendation postponing it until October 2018.

During these postponements, a variety of high-profile cases into deaths has attracted reports and reviews. The commonality of recommendation being that these deaths may not have occurred in such numbers had ME’s been implemented sooner.

Francis Report 2013.

This report, commissioned to investigate the shortcomings within the Mid Staffordshire NHS Foundation Trust, had a focus on care quality and high death rates.

One specific recommendation being ME's should be independent of the organisation whose patient deaths are being investigated. This does appear to be the case, in England at least, as local authorities are independent of care provider organisations. However, local authorities do provide services for vulnerable people with deaths occurring, for example social services. Should a death occur then the service for which the local authority is providing will be scrutinised and thus affect ME independence. As Health Boards will be appointing in Wales this may impede such independence from occurring.

The use of the word appoint suggests a similar standing to coroners, however the DoH (2016c) state this can be interpreted to mean employ, contract or commission ME services. Employing, contracting or commissioning suggests longevity in the role is dependent on their performance. It also suggests that if local authorities are fiscally constrained the terms of the ME role may lack certainty around continuity of service. Although the local authority may not have a role in how an ME fulfils the remit, they can exert influence by means of the type of terms to which the ME is appointed. Terms of appointment may influence the type of RMP who applies for these roles when available.

Indeed, similar uncertainty could manifest with Health Boards, particularly if a diligent ME uncovers practises, systems or policies that do not safeguard patients. Some Health Boards may not wish to acknowledge this, finding it easier to remove the ME instead.

Francis furthers this independence by recommending ME's should be appointed, in sufficient numbers and allocated sufficient resources, to give proper attention to their role. Use of the word sufficient is quite subjective as what one appointing body deems sufficient may not be the same as another's. Even before implementation, the role of the ME has the potential to be constrained, thus affecting the quality of the service. Indeed, implementation under this type of fiscal uncertainty will not improve the system universally. It will fragment it to being adhoc depending where in the country the decedent died, not unlike the quality of current services provided by the NHS.

The term "sufficient numbers and resources" suggest the role should not affect timing of funeral arrangements, by incurring unnecessary delay due to work force or resource issues. Due to this subjectivity, there is the potential for relatives to incur unnecessary delay, which will bring negative attention. This type of attention would

raise questions around the economic burden of having such a service if it did not improve the current system.

Francis recommends “proper attention” to their role, another subjective phrase considered with the Coroners and Justice Act 2009. However, what this Act does not address is the infrastructure to enable that proper attention, only the statutory expectation that is loaded with subjectivity.

A very pertinent recommendation by Francis is the ME should seek out serious untoward and adverse incidence reports, even when not documented in medical records. Francis is attempting to ensure all circumstances are considered when scrutinising the cause and circumstances of death, so appropriate ME conclusions can be reached. This reinforces the auditory nature of the ME role for safeguarding the populace. ME’s along with coroners have the ability to identify weaknesses in health care systems and initiate action – ME’s by referring to coroners and coroners identifying a Report 28 (previously Schedule 5) death – that has the potential to address the weaknesses, or alert higher agencies to concerns that can enforce change to safeguard.

Francis clearly supports ME implementation to avoid failings on the scale of Mid Staffordshire elsewhere, with his recommendations supporting his categorical statement that organisations are not to be trusted to examine and change their own practises without external, independent scrutiny and prompting. However, this study will demonstrate this will not necessarily be achieved for reasons other than the constraints applied by the appointing body.

Francis also recommends national guidance for a universal approach to MCCD completion, which is being addressed (DoH 2016c), and furthers this by suggesting the MCCD requires completion by senior qualified clinicians in charge of care and treatment.

National guidance is a pertinent suggestion to address weaknesses within death certification, it can be a supportive adjunct to education around death certification and coronial investigation but should not be the only measure. The MCCD template has been adapted to reflect WHO (2010) guidance for easier data collection around mortality statistics internationally - Appendix Four.

As to who completes the MCCD is more contentious. Francis is suggesting seniority and possibly longevity of

experience as being required for this to be as accurate as possible. However, the Furness Review (DoH 2016a p15) findings suggest otherwise, claiming:

"causes of death proposed by consultant staff were very frequently inappropriate, sometimes dramatically so".

The difference is Francis is assuming the level of seniority reflects knowledge and skill, whereas Furness demonstrates what is currently happening in death certification.

The Furness Review, addressed later, needs acknowledgement as its data is from reviewing evidence from ME pilot sites implemented in 2009. Arguably, there may be bias as the co-authors are current ME's, with Furness being the NME at the time of the review. Nevertheless, the findings are relevant as they are also suggesting that junior RMP's complete MCCD's with more accuracy than their senior colleagues. To follow Francis' recommendation, these junior RMP's would not experience MCCD completion until they became more senior which does not maximise the clinical learning opportunities as they present themselves. Indeed, it is often the junior RMP's who are at the patient bedside more than senior colleagues, so have witnessed the

clinical presentation prior to death. This may be why they appear to have more accuracy when completing MCCD's. Something this study cannot demonstrate as length of service of RMP's nor designation is not part of the data collection.

Indeed, the GMC (2017b) recognise there are deficits around death certification and, along with the Royal Colleges, have recognised it as a core competency for specialist registration. This refutes Francis recommendation that consultants are the best placed to complete MCCD's.

Bearing this in mind, the recruitment process for ME's needs to be robust in an effort to populate the role with individuals who do have knowledge of death certification, or those who show they have some knowledge, and can evolve in the role with a supportive framework around them.

Although Francis recommendation around the number of ME's is vague, it is more specific in the Hutton Report.

Hutton Report 2015.

Hutton reviewed the forensic pathology services in England and Wales, a service closely aligned, indeed integral to, death certification and investigation. In 2017

there were 85, 600 post-mortems carried out at the behest of coroners, which was 37% of all cases referred to them (MoJ 2018).

Hutton acknowledges that nothing has progressed since the Smith Report and Luce Review in 2003 concerning their recommendations made for changes to death certification. However, he does recommend forensic and coronial services operating in conjunction with each other in a national death investigation service. Such a recommendation seems to be recognition of an evolutionary step that may well take place in the future.

Hutton supports the implementation of ME's, perhaps because it is a role viewed as a natural progression for a pathologist to take. Having experience of death investigation in a quest to conclude a cause of death for a coroner, it seems reasonable to suspect pathologists would view this as transferable to the ME remit. However, there is a need for caution here as this may manifest in a rigid view of what evidence is useful and used when arriving at a conclusion.

An anecdotal example of how pathologists, and indeed any medical professional, can influence a coroner follows.

A patient was admitted to a ward, awaiting blood test results, after feeling unwell. Whilst waiting for the results the ward RMP's became involved in attempting to resuscitate another patient who had a cardiac arrest. The test results became available at some point during this time but were not brought to the RMP's attention. When the RMP finally checked the results, they indicated hypokalaemia – a low potassium level which, if not corrected can lead to cardiac arrhythmias and cardiac arrest. This is, indeed, what happened with unsuccessful attempts at resuscitation. The coroner requested a PM, which was inconclusive. Pursuing this further, the coroner asked the pathologist if the low potassium had any bearing on the death of the patient, being advised it had not, which falls short of the expected "probably true" standard for PME (NCEPOD 2006). This is an interesting case as hypokalaemia is one of the noted reversible causes of cardiac arrest (Resuscitation Council 2015). Had this patients' condition been recognised sooner, with treatment initiated, the cardiac arrest could have been prevented. Due to the pathologist's response the investigation concluded. This misses the opportunity to address failings within the system that provided the circumstances, making death inevitable, even though it

was avoidable. This exemplifies the importance of having knowledgeable ME's who make appropriate enquiry and consider the circumstances around the death. It also exemplifies that all RMP's, regardless of specialist role, need to convey accurate information to a coroner for an appropriate coronial decision to be made.

However, what is interesting in Hutton's recommendations is that he goes further than Francis does by estimating 500-170 full time equivalent ME posts are required. Furthering the suggestion that part time or job share posts would be available. This type of appointment has benefits for all, with the ME staying clinically current by also working within a care-providing organisation. However, this may affect independence, as envisioned by Francis, if the care providing organisation is in the ME jurisdiction. However, the example above suggests that clinical currency may depend on the current clinical speciality when considering transferability of skills and knowledge.

Having other part time ME's in the same jurisdiction, suggests the service will continue in the absence of one ME, with avoidance of unnecessary delays for the bereaved when arranging funeral services.

Hutton supports ME implementation, which could have an impact on forensic services as it has the potential to reduce the number of PM's required. However, this will only transpire if ME enquiry truly refers only those cases that require further coronial investigation. However, it also has the potential to increase the number of PME's as ME's may refer complex cases that are usually not referred under the current system. It will be interesting to observe the impact ME implementation will have.

Interestingly there is also the potential for ME's to discuss PME findings with the coroner. Currently, the coroner, accepting of the PME findings and any discussion with the Pathologist who undertook the PME, will conclude an investigation (Coroners and Justice Act 2009). Indeed, this will still be the case, however, as the aforementioned example shows, coroners ought to consult the ME once the PME findings are available. This may well give rise to professional disagreement on any findings, but it could stop a case, such as the aforementioned example, not being addressed for future safeguarding of patients, and accuracy of mortality data.

Further questioning of the accuracy of mortality data is in a National Confidential Enquiry.

National Confidential Enquiry into Patient Outcome And Death 2015.

This enquiry recommends sepsis should be included on death certificates, including the underlying source of infection. Currently, it is only included in 40% of death certification. Although this is concerned with accuracy of mortality data, it also links to failings in diagnosing and treating sepsis in a timely manner.

Sepsis treatments need to be initiated within six hours of identification, or as soon as the condition is diagnosed, the earlier the better for patient prognosis. To aid the clinician, there are Sepsis Bundles that direct care and treatments within one-three hours and three-six hours of identification (International Guidelines 2012). However, for these guidelines to be followed sepsis needs to be a differential diagnosis for investigations to confirm or refute its presence. Sepsis deaths could potentially indicate the patient did not appreciate how ill they were, only seeking help when interventions could have very little success. Alternatively, a deteriorating patient in a care provider setting, who is subsequently diagnosed with sepsis, and with a poor response to treatment could suggest poor standards of care. This is particularly the case if staff did not identify the deterioration, or, they did not understand the reason why vital signs such as temperature, pulse, blood pressure, respirations and

oxygen saturations were abnormal for the patient. If not acted upon, it suggests there are deficits in knowledge that have compromised patient safety. It could also indicate that services allied to medical care, such as laboratories that provide test results, are overworked or understaffed, and as such results are not always available in time for treatments to be successful. Alternatively, if results are available, RMP's are not viewing them quickly enough for treatment to be successful. This furthers the suggestion that there may be inadequate staffing in medical and allied services to provide safe and effective care when compared to the demands made upon them.

Although this enquiry does not identify ME's, only the need for more accurate mortality statistics, it is suggesting that if MCCD's were scrutinised, it could highlight deficiencies within organisations and individual practices that could then be addressed for the future. For ME's to have such an impact they will have to discharge their legal duties with diligence and rigour and not accept errors as a natural part of RMP clinical outcomes.

Nevertheless, another report in 2015, commissioned due to care failings and deaths does include ME considerations.

Kirkup Report 2015.

This report was commissioned due to care failings and resultant deaths in a maternity unit and highlighted poor practice, failure and repeated failure to maintain standards, repeated failure to examine adverse events properly, a lack of transparency towards those who had a lack of learning to prevent reoccurrence.

Kirkup examined the historic standards of care for mothers and babies in maternity in neonatal services at the University Hospital Morcambe Bay NHS Foundation Trust and any other hospital they were transferred to from 2004-2013.

There is acknowledgement the ME system has legislative preparation but offers no understanding as to why it has not yet been implemented, recommending it is done so immediately. However, the delay is still evident as previously acknowledged.

Another recommendation is that stillbirths and neonatal deaths (a death within 28 days of being born) are part of ME remit, to ensure appropriate referrals are made to coroners, concerning the need for investigation in individual cases. Clearly, Kirkup supports routine scrutiny of stillbirths and neonatal deaths rather than just relying on RMP's to initiate coroner referral. Currently, coroners can stipulate referral for all deaths for those

under the age of eighteen. The flaw here is that not all coroners may prefer this when there is a known cause of death, such as cancer for example, with MCCD's completed by RMP's. Unless this type of death is included in policy or guideline content coronial referral will not occur, especially if there is a clear cause of death. However, this request only considers neonatal deaths, scrutiny for stillbirths would still be absent as they are not legally recognised as having lived, so there is no death to investigate (DoH 2016c).

A stillbirth is defined when a baby is born with no signs of life at, or after, 28 weeks gestation (WHO 2017). However, medical texts vary the gestational time limit set at or after 24 weeks (MacPherson 2004), as this is the legal definition provided by the Still-Births (Definition) Act 1992 (s1(1)). Within the 1992 Act it defines still-birth as a baby that is delivered of its mother but does not take a breath once independent of her body. What is interesting is the time limit used within definitions, which may be indicative of survival rates when a baby is born before a 40-week gestational term. The WHO, due to its global role, has a definition, which may be suggestive of survival rates in countries that have less advanced maternity and neonatal care than England and Wales. Thus, domestic law may reflect better facilities to

promote life for babies born from 24 weeks gestation, even though Kirkup has uncovered evidence to suggest otherwise.

Nevertheless, the WHO (2017) acknowledges half of all stillbirths occur during labour, a time when close monitoring occurs, with the majority being preventable. It is arguable that Kirkup arrived at the same conclusion during his investigation over such a protracted amount of time. Furthering the argument that scrutiny of stillbirths ought to occur so any poor standards in care or systems of practice, particularly when a woman is in labour, can be identified, acted upon and learned from, to improve safety within the NHS (DoH 2016b).

It is clear Kirkup is in favour of the ME system, suggesting it will address all discrepancies and care failings in maternity and neonatal units in the future. The biggest hurdle to this is not the lack of ME system, it is the DoH (2016c) who state there will be no changes to scrutiny of stillbirths, which would require legislative changes to acknowledge the foetus as a legal person. The DoH are, therefore, suggesting that any stillbirths, due to failings in care during labour, will still go unchallenged. This ignores the WHO (2017) claims that most stillbirths occur during labour. This misses the opportunity to address deficits that could improve still

birth statistics, as well as outcomes for expectant parents who would have had a healthy baby delivered, but for the failings of the organisation or individuals within. It seems to be confirming the fact that the unborn baby is not a human being, whereas, a neonatal death is. However, this is in direct contradiction of the Infant Life (Preservation) Act 1929 (s1) which defines what child destruction is, that of 28 weeks or more gestation being pregnant of a child capable of being born alive. In many cases, utilising the WHO claim, many stillbirths occur during labour and are preventable, thus the child is capable of being born alive. The fact this 1929 Act is not utilised with health professionals, who cause such a death, is that it is not perceived as a wilful act (s1(1)), or that death occurred during an attempt to preserve the life of the mother in a good faith act (s1(1)). Alternatively, it could indicate that many stillbirths occur during labour when less than 28 weeks gestation. Nevertheless, if care is deficient there is an argument to suggest duty of care has been breached, harm has occurred, so any resultant death should be viewed as gross negligence. As this breach specifically results in child destruction, it needs to be viewed the same as a wilful act due to the seriousness of harm, intent or wilfulness notwithstanding. If this were indeed the case then ME

scrutiny would be needed, or all stillbirths would require the attention of a paediatric pathologist to allow a coroner to provide a conclusion in all cases, regardless of whether the 24 or 28 week time limit was used as a reference point.

Perhaps, due to the medical complexities that can result in labour occurring prior to 28 weeks gestation it would be a folly to try to legislate, in this instance, as criminalising care around still births would do very little to raise standards but may discourage obstetric practice. This may be why the DoH have taken the stance of not changing scrutiny around stillbirths until more recently.

Since April 2018 the Healthcare Safety Investigation Branch (HSIB) will investigate stillbirths, neonatal deaths, suspected brain injury or maternal deaths that are notified to the Royal College of Obstetricians and Gynaecologists (Parliament 2018). Which will address any deficits in maternity care, providing notifications occur to allow the opportunity for scrutiny and improvement. The then Health Secretary also aiming to work with the Ministry of Justice “to look closely into enabling, for the first time, full-term stillbirths to be covered by coronial law” (Parliament 2018 p3).

By including stillbirths in coronial law, it brings all deaths under one common piece of legislation, allowing ME scrutiny, that will potentially have more impact on improving maternity services. It is, therefore, important for ME's to be independent of healthcare providing organisations and to be fit for purpose and practise.

This contrasts with the purpose of the HSIB which is to improve safety, through effective and independent investigations, without apportioning blame or liability. They state they can do this by developing meaningful and influential recommendations that aim to drive change at a wider level (HSIB 2017). Claims of independence are debatable, as funding for the HSIB is directly by the DoH, so efforts to drive change can be considered, without necessarily being implemented, at a wider level, especially if changes at DoH level are required. This can be due to restrictions on resources including finance availability at the levels requiring change.

There is no legislative force behind the HSIB, which coronial investigation derives from. Therefore, recommendations are not enforceable, even though the State is appearing to address safeguarding in maternity provision. Whereas, any Regulation 28 (Coroners and Justice Act 2009) recommendations made by a coroner

must have a response as discussed in the following review.

Nevertheless, until stillbirths are included in coronial law the HSIB is the only scrutiny available for this element of maternity care.

In continuance of reported care failings, another review in 2015 reported around the deaths of people with learning disability (LD) or mental health problems.

Independent Review 2015.

The foci for this review was LD and mental health in contact with Southern Health NHS Foundation Trust April 2011-March 2015 (p7), which found:

"too few deaths were investigated in Learning Disability and Older People Mental Health services".

The Trust systems and types of report when reporting a death were scrutinised which led to claims that the national guidance available for LD and Older People Mental Health (OPMH) is open to significant Trust discretion, which can lead to a lack of uniformity of investigation. Further, any lack of uniformity could affect public trust in, and perception of the care provider. It further identified that any investigation into these deaths

were markedly more limited than for Adult Mental Health service users up to the age of 65.

This raises concern around the quality of any investigation, especially as it implies it is more acceptable to die when older or when a LD diagnosis is evident. This is a demonstrable lack of equality that could potentially be identified by ME scrutiny, along with any care delivery deficits, towards vulnerable patients with varying degrees of cognitive ability.

For patients who lack cognitive ability or capacity any decisions made should be in their best interests, a concept within the MCA 2005 to ensure patients values, wishes and beliefs are considered, by clinicians who are deciding what treatment or care would be in best interests. The MCA 2005 is clearly stating it is not a clinician's decision to force someone to have treatment, or for treatment to be withheld due to a LD or mental health diagnosis. A type of selection that is unethical, although insidiously practised in days gone by. It is only when a patient who has capacity refuses care, or, if it were futile to initiate an intervention due to the clinical condition of the patient, that withholding care is acceptable. Therefore, a LD or mental health diagnosis alone is not indicative of lacking capacity or futility. The best example of futility is when cardiopulmonary

resuscitation (CPR) is required and the patient has severe dementia, it states clearly in current guidelines that such a diagnosis renders CPR futile (Resuscitation Council 2015).

Although not clearly stated, this review is implying decisions not to investigate deaths are erroneous. This could imply scrutiny of all deaths is necessary, with any erroneous decisions only being minimised if ME's are fit for purpose and practice. If this is not the case, a nationally deficient system replaces a Trust deficient one.

The identified Trust in the review had many systems in place to report deaths, which only hampered such reports rather than encouraged them. Thus, it appears the Trust systems collude with any individual clinician wishing to provide erroneous mortality data, by not initiating an investigation due to poor reporting practises. In this instance, poor practice is hidden by an overly complex reporting system.

Although the review included when to report a death to the coroner, there is no indication that many deaths were. In view of the systems in place for reporting deaths, this explains the lack of referral data. What is more troubling is the fact that patients with mental health

diagnoses may have avoided referral even if under a State detention as defined by the Mental Health Act 1983, suggesting clinicians are not aware of when it is appropriate to make coroner referrals. This implies that, at this Trust, it is acceptable to die and not have the death investigated, as service users have no human worth.

Nevertheless, this review sadly reflects a national trend in England borne out by the Care Quality Commission (CQC 2016) reviewing similar deaths in 2016. Such a trend implies that people with LD and OPMH diagnoses are not just vulnerable but are not worthy of being viewed in the same way as people without those diagnoses when they die. Whether national scrutiny of deaths will reverse this only time will tell. However, if the Coroners and Justice Act 2009 had been implemented fully prior to 2015, there may have been a chance that deaths like these would have been scrutinised, highlighting failings that could have been addressed to safeguard others in the future.

Within the 2009 Act there is a duty imposed on a coroner to report to any person, or organisation, where it is felt action should be taken to prevent future deaths. The use of the word should suggests it is a recommendation for action, without the coroner stipulating what that action

needs to be. Any recipient of a Regulation 28 report, then has 56 days to provide a detailed response of the action taken to address the coroner's recommendations, along with the timetable for implementation of the action, or a reason why the organisation is taking no action. The Chief Coroner reviews copies of coroners' reports and responses, therefore, an audit trail is evident. Such audit trails may be useful in the future, if the same organisation is identified in other coroner reports that are similar. This system may deter organisations from initiating short-term change before lapsing back to previous practises. Interestingly, the Chief Coroner remit requires review and consultation on any areas of concern these reports raise. The Chief Coroner can recommend additional action by advising government agencies or individuals (MoJ 2013).

It is reasonable to conclude this national system is robust and will initiate change within care providing organisations. However, it has weaknesses, the cases that appear before the coroner need understanding, not just the clinical context of death but also its wider circumstances. This understanding may not occur with coroners with a legal background, even with diligent ME's making a case for a Regulation 28 report. Equally, a medical coroner may display bias, having worked in

such pressured care-providing organisations, with a medical mind-set that error is an acceptable part of clinical practice. This study supports this lack of understanding around death and its causes.

Indeed, the Chief Coroner may not appreciate the circumstances reported, and thus, not recommend additional action. As there is an NME, there is an opportunity to work closely with the Chief Coroner on all Regulation 28 reports. Again, this has the potential for an ideal system providing the NME has sound clinical knowledge around death and its causes, without bringing bias or poor practise to the role.

Chapter Six

Introduction

There have been ME pilot sites since 2009, which the DoH (2012; 2013) claim have been beneficial. The following provides a more substantive review, by the then NME, confirming the benefits, which are wide ranging.

Furness Review 2016.

This DoH (2016a) review identified many benefits of ME scrutiny within death certification, from: ensuring appropriate referral to the coroner, improving accuracy of certified causes of death, satisfaction of bereaved relatives, educating RMP's on how to complete MCCD's and a potential reduction in litigation costs.

Taking each benefit in turn, although this review does suggest improvements, this thesis contends that there are still weaknesses, which the results of this study will support.

Ensuring appropriate referral to the coroner suggests that after scrutiny only those deaths, which fulfil the statutory remit, are indeed referred (Coroners and Justice Act 2009). For this to be an accurate claim ME's need to identify when the cause of and circumstances around the death do not support the MCCD content, or

if death occurred during any type of State detention or due to a work-related accident. Such identification alludes to a breadth and depth of clinical and legal knowledge, that is unless appropriate referral alludes to a percentage of deaths referred appropriately rather than all deaths. A percentage of deaths implies that human systems and practices lack perfection, with a small number of inaccuracies being acceptable. However, how small the number should be is subjective, and reminiscent of errors being an acceptable part of clinical practice, engendered in medical school. It appears that the discipline of medicine resigns itself, at an early stage, to the idea that errors will occur and that they are expected and worse, accepted. Whereas, errors in the field of aviation, for example, are identified and managed. Indeed, professionals within aviation and medicine have many similarities in professional culture and common interpersonal problem areas (Helmreich 2000), which make it reasonable to suggest medicine could learn from aviation programmes on how to manage error. Indeed, the factors, which make errors more likely (Helmreich 2000), are mirrored in both professions, making it likely that aviation management of errors could be successfully replicated in undergraduate and postgraduate medical curriculums.

Improving accuracy of certified causes of death certainly suggests ME's have the time, ability and resources to review not just the MCCD, but also any medical or nursing documentation to understand the circumstances around the death. This may well be the case, however, the breadth and depth of knowledge possessed by the ME and applied to such scrutiny is also important. What this study will demonstrate is how ME knowledge impacts on this accuracy. To address perfection, it may be acceptable that some deaths have inaccuracies within MCCD's and subsequent death certificates. However, this should be due to not being able to identify a cause of death after investigation, in some instances, it may be easier to state what is not the cause, rather than what is, thus a best guess as to the cause. Inaccuracies due to lack of ME knowledge with no subsequent investigation is what needs to be avoided.

Satisfaction of bereaved relatives is important, as contact by the ME to enquire about care prior to a death can be comforting for some, as validating the importance of the deceased in life and in death. Such ME contact provides the opportunity for concerns to be raised, whether perceived or real, so the bereaved feel they have been heard. Any explanations that ensue around the circumstances of death may then satisfy the

bereaved and allay their concerns. It is, therefore, important for ME's to have good communication skills so the bereaved do not view this interaction as trying to cover up any poor care or practices.

Educating RMP's on how to complete MCCD's seems an integral part of the ME role to support and enhance knowledge and skills of less experienced RMP's. However, this will only be useful if the ME has a breadth and depth of knowledge, they are willing to share. Any erroneous MCCD content is potentially reflecting the RMP's knowledge and its application, even though this is a best of knowledge and belief situation (Coroners and Justice Act 2009). Erroneous entries may also indicate a lack of time devoted to death certification and coroner referral in undergraduate medical curriculums (Preston-Shoot and McKimm 2011). Alternatively, it could be a lack of, or toxic mentoring by consultants or other RMP's, both being a situation of practicing poor practice perfecting poor practice. Furness (DoH 2016a) claims it is futile for consultants to be involved in death certification as they demonstrate the most inaccuracies when certifying. Indeed, a decade before Furness arrived at this, James and Bull (1995) found junior RMP's complete MCCD's more accurately than senior colleagues. This could be due to the dissonance around

when learning takes place, if death certification is included in a medical curriculum and applying it in practice (Preston-Shoot and McKimm 2011). Alternatively, it could be due to the decay in knowledge of senior staff who may not have completed MCCD's for a considerable amount of time if junior RMP's are the main certifiers.

However, James and Bull (1995) go further than Furness does by claiming GP's and Pathologists make fewer mistakes. The accuracy of this finding can be debated as their comparison groups were GP's, hospital RMP's and Pathologists. All actors within death certification (RMP's and GP's) and investigation (Pathologists). With Pathologists having the benefit of PME findings whereas, RMP's and GP's certifying to the best of belief and knowledge. Furness on the other hand compared RMP and GP certification to that of ME's, suggesting the ME remit in death investigation is beneficial.

Nevertheless, James and Bull (1995) could be suggesting the preferred recruitment specialities for a future ME. Any recruitment strategies will not be able to discriminate on professional speciality, as this would be challenged under the Equality Act 2010, as the Coroners and Justice Act 2009, only stipulates RMP,'s with five

years' experience (or experience of practice within five years). Therefore, recruitment strategies need to be robust to ensure RMP's, who demonstrate they are fit for purpose and practice within death certification, are the ones who populate the ME role.

As for a potential reduction in litigation costs, the review claims there is no causal link between the costs and the ME. Nevertheless, it is not to be ignored as it could reflect the satisfaction of the bereaved being listened to and having confidence in the ME system. Any conversation that voices concerns, with subsequent explanations to provide context to the death and address the concerns, has the potential to stop legal recourse. It is only when concerns are ignored, or explanations are not forthcoming that action is taken to address this. For any stronger links to be made around litigation costs and ME involvement will require a further review once national implementation has occurred.

The Furness review is beneficial in that it demonstrates some of the benefits to death certification and investigation, although the NME, at the time, may have been reticent to share these findings had they not demonstrated benefits.

To date the non-legislative reviews and reports support national implementation of ME's, to promote public trust in a long-standing system that has been questioned considering Dr Shipman and high-profile care failings.

This chapter concludes by comparing the introduction of ME's, in England and Wales, with other similar coronial jurisdictions, to discover if there is a similar system currently, and its impact on death certification and investigation. The only one, to date is in Scotland, allowing comparisons to be made.

Comparisons with other jurisdictions.

Australia.

Australian States and Territories have a similar coronial system to England and Wales, requiring similar deaths to be reported to the coroner. Each State and Territory has its own legislation – Coroners Acts with dates ranging from 1996-2008. None of the Acts makes provision to a tier of scrutiny for death certification.

Northern Ireland.

The Coroner Act (Northern Ireland) 1959 has no provision for independent scrutiny of MCCD's.

Isle of Man and Jersey.

Neither jurisdiction has provision for ME scrutiny.

Scotland.

The current system in Scotland appears to suggest a parity with the proposed ME system in England and Wales, however, there are differences and weaknesses that will be explored.

Death certification changed in 2015 in response to a review of the system and the Certification of Death (Scotland) Act 2011 (Scottish Government 2015). It saw the introduction of a single system of independent, effective scrutiny for deaths that do not require Procurator Fiscal (PF) investigation. The PF is a legally qualified prosecutor who, amongst other roles, investigates all sudden and suspicious deaths along with conducting Fatal Accident Inquiries (Crown Office and Procurator Fiscal Service 2017). Envisioning this will improve the quality and accuracy of MCCD's and public health information, whilst strengthening clinical governance in relation to deaths through the new review system and Health Boards (BMA 2015; MDU 2015).

The key changes being there is now the same level of scrutiny of cause of death regardless of form of disposal of the deceased. Independent Medical Reviewers (IMR's) provide this scrutiny, however, only for a random

sample of MCCD's, excluding deaths reported to the PF and stillbirths.

The Scottish system appears to offer as similar service to that in ME pilot sites, however, there are fundamental differences that may not address the quality and accuracy of MCCD's.

Firstly, the reviews are random upon receipt of paper or electronic MCCD's, although interested persons such as relatives or carers of the deceased can request reviews. Somewhat reminiscent of the current system in England and Wales, if a coroner receives information that compels them to investigate, which is not a request to review, but an offering of information that may lead to an investigation.

The Scottish system is designed to miss the opportunity to uncover deficits in practice, and erroneous data on MCCD's, unless a random review highlights a concern. This type of system does not lend itself to safeguarding and learning from mistakes.

Secondly, there are two levels of scrutiny. Level 1, which is anticipated to take one working day to complete and includes review of the MCCD, speaking to the certifying doctor on the phone for around five minutes, with the

IMR speaking to other members of the health care team if they have access to the patients' records.

Level 2 scrutiny includes all the aforementioned, but it is anticipated it will take three working days to complete as it also includes examination of available patient records, preferably electronic to avoid transporting paper.

The time limits for each level give a perception of the quality, however, are quite didactic as they also ask the IMR to be aware of the working pressures on the certifying doctor when contacting them. If there is non-adherence to the time limits, it implies conclusion of the case without this communication. This further suggests IMR's lack independence to enquire how they see fit with an individual case.

To suggest the level 1 does not need, or may not have, the medical records available dilutes the quality of the MCCD review. It only allows for reading of the MCCD, as the circumstances around the death cannot be examined i.e. the clinical condition of the patient in the months, weeks, days or hours prior to death.

A five-minute discussion with a certifying doctor could result in collusion with unsafe practices, indeed, Dr Shipman addressed other GP's concerns adequately enough when cremation forms 4 and 5 were being

completed for his deceased patients, for many years before being discovered.

Dr Shipman's situation arose from the process by which doctors follow if the deceased is disposed of by cremation. Shipman would complete a cremation form 4 as he was the GP who treated the patient during the last illness, he was registered with the GMC and had attended the patient within fourteen days of their death. On the other hand, he may have been present at the death and examined the body.

An independent doctor would then complete a cremation form 5, by doing this they are declaring independence from the form 4 signatory. Therefore, they would not be partners at the same GP practice, would not have been involved in the care of or be a relative of the deceased. They would check form 4 and query any inconsistencies with the signatory, unless the signatory was unavailable due to exceptional circumstances such as serious illness (MDU 2017). Arguably, the Scottish Level 1 scrutiny is no better than the system for completing cremation forms, with its deficits identified by Luce and Smith.

What is more concerning is the small number of cases for random review annually – 10% for Level 1 and 2% for Level 2 (BMA 2015). So, only 12% of deaths in total

for any kind of review, leaving the other 88% (minus the stillbirths and PF cases). Potentially, this allows poor practices to remain hidden, so it is difficult to see how the new Scottish system will achieve its goals. It appears accuracy of mortality statistics, which provides information for public health strategies is being compromised due to the implementation of an ad hoc service that cannot strengthen clinical governance in relation to deaths.

Addressing the weaknesses within this system will not happen, unless or until, an interested person requests a review that uncovers issues. This reflects the way in which Dr Shipman's actions were uncovered, leading to the conclusion this is a flawed system from the outset.

In comparison with the ME remit there is no level of review dictated, rather it is within the language used within the Coroners and Justice Act 2009 – whatever enquiries appear necessary. Therefore, differing levels of review will occur with individual ME's due to their character, knowledge and diligence, rather than the uniqueness of the death leading the quality and comprehensiveness of the enquiries.

Conclusion

This chapter, along with chapters two and three, has demonstrated the importance of not just death investigation, but also death certification, the latter requiring accuracy not just to satisfy human rights and the right to life, therefore, overt safeguarding, but also the covert in the guise of research, health promotion and subsequent strategies that inevitably safeguard members of a society. Within the remit of safeguarding there will always be cultural or religious convictions that attempt to exert influence on any investigation if not certification. It is with all these influences in mind that the national implementation of the ME can only be a positive step for health care, care provider organisations and society. It has the promise to deter and detect individuals who wish to hasten death, for whatever reason, providing a safety net for vulnerable members of society. However, the results of this study will go some way to argue that this may not be the case. That this tier of MCCD scrutiny will be falsely lauded as the panacea for all the wrongs perceived by society to dwell within the arena of death certification and coronial investigation.

Chapter Seven

Methodology

Methodology pertains to the research design to be followed (Gerrish and Lacey 2010), providing the reasons for a research recipe with the research methods the ingredients within that recipe (Clough and Nutbrown 2012). Alternatively, methods are tools or instruments to use with specific research methodologies (Cohen et al 2011).

This chapter will provide the methodological justification for the choices made for this study, enabling understanding of its strengths and limitations.

To facilitate this understanding, and the reasons for choice, exploration of the philosophical assumptions of ontology, epistemology and axiology, along with the inductive frameworks of interpretivism and constructivism is necessary.

Further, it will allow the conditions in which the findings are applied, along with offering suggestions for future research, to be demonstrated.

The methodology is the vehicle that supports judgements as to the trustworthiness of the findings and transferability of the recommendations.

Generally, research studies are designed using methodology and research methods (Creswell 2013). The methodology describes the broad philosophical assumptions to the chosen research methods. Such philosophical assumptions have been called paradigms, and alternative knowledge claims (Creswell 2013), as they demonstrate a distinct set of concepts or thought patterns that provide the framework for the research recipe chosen (Denzin and Lincoln 2017)). Such a framework, based on beliefs, guides the research action (Gerrish and Lacey 2010). The following four perspectives describe the philosophical worldviews ontology, epistemology, axiology and rhetoric.

Ontology is concerned with the nature of reality, epistemology with knowledge of the multiple realities, axiology with the principles, or values, and ethics that govern these and rhetoric with the language used to present the findings (Cohen et al 2011; Creswell 2013).

Research methods is a broad term describing two very distinct methods that are central to any research study: data collection and data analysis.

Data collection uses specific instruments to elicit information from groups, or individuals, such as interviews, questionnaires or case studies (Denscombe

2013; Yin 2014), with data analysis identifying themes (Creswell 2013).

Research studies, therefore, follow one of the three approaches that link the philosophical view and the research instruments together: quantitative, qualitative and mixed methods (Creswell 2013).

Ontology

Ontological assumptions are concerned with what constitutes reality, which will vary depending on the philosophical view relied on. The positivist or objective view suggests reality is something that is observable and measurable, a singularity with one truth. On the other hand, the interpretivist, or subjective view, suggests people in groups or individuals create reality (Gerrish and Lacey 2010). Positivism, therefore, lends itself to ontology being a reality made up of observable objects that are measured. Such a perspective is realism in that an external reality exists independent of our beliefs and understanding (Ritchie et al 2014). Reality is, therefore, static and does not change, which aligns with the quantitative research approach.

Interpretivism, or constructivism, rejects absolute facts, suggesting reality is fundamentally dependent on the

mind. Creation of reality is by the human mind, so it is relative to the individual or group. This implies it is subjective, altering between individuals and groups, as its construction is through interaction with the independent world. Such a perspective is relativism, where an independent reality does not exist from our beliefs and understandings (Ritchie et al 2014).

As reality derives from individuals (experience) and culture (groups), it is transformational and dynamic rather than static. Interpretivists search for subjective meanings, as they believe there is a context to reality and being.

Interpretivism is a philosophical view that aligns with the qualitative research approach, which is to interpret the meanings others have about the world (Creswell 2013).

The literature review and analysis of past legislation and reports undertaken as part of this study suggests that the most recent legislation, which purports to improve death certification will not do this. Possible reasons for this are set out in chapters two and three. In order to explore further whether this may be the case, even with the most recent legislation, and if so why, an empirical enquiry is required to generate the necessary data.

From an ontological perspective, this study explores the subjective perceptions held by legal and medical professionals, demonstrating how this affects the quality of death certification.

Thus, a constructivist/interpretivist research paradigm using qualitative research methods, based on ontological relativism, rather than realism, is the most suitable approach.

Epistemology

This philosophical view is concerned with ways of knowing and learning about reality and, therefore, what the basis of knowledge is, as well as the limits to that knowledge (Ritchie et al 2014).

As it is concerned with understanding reality, it suggests knowledge is a necessary requirement to achieve life goals. Epistemology can be used to understand how we learn, as well as a way of determining and justifying how research studies should be conducted.

As positivism claims that reality is measurable, the focus is on reliable and valid methods to obtain that. For realists, who believe reality is static and objectively measurable, they will be more likely to follow a methodology and epistemology that enables distancing

from the research participants. This philosophical positioning reduces, or avoids, the risk of researcher influence or intervention during data collection, aligning to a static reality with data analysis being objective.

Alternatively, interpretivism claims that reality is not only relative to a group or individual, but also dynamic and not static.

Therefore, interpretation is necessary to understand the multiple realities (Creswell 2013). Relativism recognises that knowledge bases itself on human thinking (Ritchie et al 2014). It is the discovery of underlying meanings of events, or activities, that the researcher is attempting to discover, with the meanings having significance, not the event or activity (phenomena) (Cohen et al 2011).

Relativists generally interact with the participants, becoming co-creators of the findings (Creswell 2013). However, this is not the case in this study.

Although, the method of data collection aligns with qualitative, interpretative research, there is no interaction with the participants. The only criteria that could consider the researcher an insider is the concept of having priori knowledge of the professional backgrounds of the participants Therefore, acknowledging reflexivity as it may influence data

analysis, which could affect the trustworthiness of the study (Gerrish and Lacey 2010).

It is the knowledge of the relevant professional groups, rather than the individuals within the groups that has informed the design of the research methods.

Case studies were disseminated by email from a third party, with the express intention of the researcher remaining distanced from the participants, so no influence could be exerted. However, the third-party contact could have influenced the number, but not the content, of the responses received.

This study is subjective and considers the researcher's own knowledge and experience of coronial investigation and death certification, along with knowledge of the coronial and medical professions which the participants belong to. This has influenced the research design and data analysis, to incorporate commonly used methods prevalent in the medical and legal professions, of case studies and thematic exploration of responses, to understand the application of knowledge to death certification. It is important to take advantage of this knowledge and experience, whilst also being wary of the disadvantages of this, in order to offer credible

interpretations while minimising bias when presenting the findings and during data analysis.

To reduce bias, the data collection method chosen allowed the participants to control the data provided. With free expression of responses, in the participants own words, recording only the participants perceptions of reality.

The use of this type of data collection method generates rich narrative data. This raw data can be analysed to establish if the data gathered from one participant is comparable to, supported by, or refuted by another.

This aligns to the philosophical view that there is more than one reality constructed by the human mind, which qualitative data explores.

Axiology

Whilst axiology is primarily concerned with the aims of the research, whether it is to clarify, explain or predict the world, or only to understand it, it relies heavily on the values and biases of the researcher (Creswell 2013).

The background of the researcher previously acknowledged may shape the interpretation of the data gathered.

The aim of this study is to explore the knowledge and attitudes, or beliefs, being applied to death certification, and whether national implementation of ME's will address the weaknesses in the current death certification system.

Rhetoric

This illuminates the language used within this study to present findings and make recommendations. The focus for rhetoric is whether the study is credible, dependable and confirmable, with transferable findings.

Ontology, epistemology, axiology and rhetoric interlink with the ability to support research findings and subsequent recommendations.

That is, of course, providing the research methods used are appropriate tools for the research methodology chosen. Any deficits within these four philosophical perspectives can condemn research, for providing erroneous knowledge that is neither safe, nor reasonable to rely upon.

Further exploration of research is required to support the relativism perspective this study supports. The nature of

research seeks to search for the truth by systematic enquiry, its aim is to develop and expand knowledge. How the truth is arrived at, or knowledge developed and expanded, will depend on the research paradigms followed. To understand this further the paradigms of positivism and interpretivism need exploration.

Positivism versus Interpretivism

Positivism includes positivist, post positivist or empirical science (Gerrish and Lacey 2010). The historical doctrine of positivism holds that knowledge bases itself on experience, with advancement by observation and experimentation (Cohen et al 2011). This doctrine limits the expansion of knowledge, and truths, to that which is firmly established. For this to be successful there must be belief in a singular known reality that can be studied (Polit and Beck 2017). With reality being an “object” that can be observed and measured (Ritchie et al 2014), as it exists independently of the human mind.

Positivists value this independence as they attempt to withhold personal beliefs and bias in order to avoid contaminating the “object”. Avoiding contamination allows for scientific description that is free of subjective judgements to be produced (Cohen et al 2011).

Positivism is, therefore, less successful as a paradigm when human behaviour is the study phenomena, as it is complex and devoid of the order and regularity of the natural world.

Whereas, post-positivists believe in a reality and wish to understand it, whilst recognising that total objectivity is impossible (Polit and Beck 2017). There is little belief in cause and effect so post-positivists seek to find what probably is (Creswell 2013; Polit and Beck 2017).

Thus, the positivist paradigms align with quantitative research methodologies. As this study is exploring human behaviour, which is complex and unique to the individual participant, so not ordered and regular, a positivist research approach is not appropriate.

The phenomena studied will produce multiple realities, that the participants have constructed, which will need interpretation rather than scientific description. Therefore, the interpretivist paradigm is more appropriate in this instance.

Interpretivists reject the belief human nature and behaviour is characterised by underlying regularities or governed by laws (Cohen et al 2011; Ritchie et al 2014). Interpretivism, therefore, emphasises that there is no single interpretation, truth or meaning due to the

complexity of human nature (Gerrish and Lacey 2010). Indeed, it is this understanding that truth, or reality, derives from the meaning, or interpretation, of the world demonstrated by individuals in specific contexts that is of interest. It is the individuals lived experience, which is the important contributor to knowledge (Ritchie et al 2014). As such, there is subjectivity, rather than objectivity, as the researcher seeks to understand, explain and describe the reality as viewed by the different participants within a study. It is, therefore, the participants who define the social reality in which they live and work (Cohen et al 2011; Creswell 2013).

Reality, therefore, exists within a context, with multiple realities constructed and requiring interpretation for knowledge to expand. Due to multiple realities, existing in people's minds, there is no process to determine whether there is any ultimate truth, or not, of these constructions, which aligns to relativism.

As this study seeks to understand human behaviour within defined contexts, the qualitative research methodology is appropriate. It allows interpretation of data collected from the natural setting and of a nature it would be if a ME made inquiry.

Summary

Qualitative research methodologies are exploratory, to gain an understanding of an individual's values, attitudes, beliefs and opinions, that impact upon decisions they make in their socially constructed world. It favours naturalistic and interpretive approaches that uncover processes, qualities and meanings (Ritchie and Lewis 2003), making this methodology appropriate to explore current and proposed death certification processes, given the analysis of legislation, reports and other literature in previous chapters. To discover different ways clinicians experience and understand death, phenomenography, which favours naturalism, focusing on shared meanings and understandings is the chosen qualitative methodology (Marton 1981; Bazeley 2013).

Phenomenography

Phenomenography derives from the Greek, meaning appearance (phaenomenon) and description (graphein), thus describing things as they appear to each individual (Xiantong 2015). It is a methodology first used in 1954, although its impetus in research did not occur until the 1970's, when research into what it means to learn and why some people learn better than others was

conducted (Barnard et al 1999; Bowden and Walsh 2000; Barnacle 2001). This study by Marton, Saljo, Dahlgren and Svensson in 1975, within education, found there were different ways that the same text was understood by first year university students, with the variation relating to the ways those students approached the text (Richardson 1999).

A deep approach identified students who focused on what the text referred to, by trying to understand what it was about, whilst a surface approach demonstrated students had only tried to remember the text. These variations in learning demonstrated that the students had experienced, conceptualised, perceived and understood the text from their own perspective (Marton 1981; Pherali 2011). Marton (1981) further describes two distinct perspectives first order, where people familiarise themselves with the world around them and, second order, representing the world as they experience it. Phenomenography is concerned with the second order, demonstrating a non-dualist perspective, where the phenomenon, or object, and the subject, or person, are not separate and independent of each other (Yates et al 2012).

In this study, the phenomenon or object is death, with the subjects being the respondents from the sample

groups. Therefore, the understanding given to death, or the meaning attributed to it, by the subjects is the experiential descriptions required to explore the how and why of the subject's decision making. It is this understanding, or meaning, that is the reality for each respondent. This reality stems from, or is found within, the relationship the subject has with the object (Reed 2006), which provides the variation in understanding (Christiansen 2011), demonstrating that internal thinking and external world have dependency, so the ontological perspective is non-dualist. Nevertheless, the attitudes of some medical professionals towards their patients may affect their thought processes and relationship with their patients. Notably, the attitude of Dr Shipman towards his elderly patients, some of whom had life limiting illnesses, which appeared to impact upon, or influence, his thought processes and subsequent relationship with them.

Therefore, this study will empirically explore the nature of knowledge through the descriptions provided by the subjects (Pherali 2011), to enhance current knowledge around death certification, as they provide an accurate and authentic view of how the subjects think about death (Adams et al 2011).

Ethics

Ethical approval ensures the incorporation of principles of academic integrity, honesty and respect for others (Punch 2006) within this study. Initially this was from the Higher Education Institution (HEI) supporting the doctoral study. Also, from the NHS Trust where the RMP's are employed, to ensure staff, patients and patient data are not exploited in furtherance of the study's aims – ethics approval in Appendices Five and Six.

Research Design

Participants

The participants were purposefully chosen as they offer useful, illuminative information about the death certification process. They are the current investigators, certifiers or scrutinisers for death certification so will be able to give an insight into decision making at the point of MCCD completion (Merriam 2009; Denscombe 2013).

Thus, coroners, RMP's and ME's were the sample groups identified.

Due to being investigators of death, when a MCCD is not completed, or to comply with the Coroners and Justice Act 2009, coroners represent the pilot study, as they

should know which cases statute requires them to investigate. A pilot study is useful to ascertain the suitability of the data collection method and to ensure terms or words used are familiar, that there is clarity of questions or statements, a flow of questions, an ability to access the form and time required for participation. It allows for review, or improvement, before approaching the other sample groups (Gerrish and Lacey 2010; Yin 2014).

RMP's employed within a large NHS Trust were part of the main study as certifiers of death, providers of MCCD's, initiators of referral to the coroner, as well as being the recruitment pool for ME's. Therefore, RMP decision making reflecting clinical knowledge and its application to decedents' unique deaths is crucial.

ME's within the two remaining pilot sites in England are also crucial participants, as, at the time the data was being gathered, they were the only ME's providing the tier of MCCD scrutiny introduced under the new legislation, that is at the heart of this study. Thus, the data collected will reflect the current quality of this service prior to wider, national implementation, along with having the potential to support the claims made by the DoH (2013) and Furness (DoH 2016a).

Data Collection

The method of data collection considers the primary aim of this study, to collect data of the same nature, under the same pressures, that would be available during ME inquiry. Such data being sparse, mainly focusing upon the medical diagnosis of the cause of death with minimal explanation of how that diagnosis occurred.

The usual method of data collection in phenomenographic and naturalistic research, whose aims are investigating the experiences of individuals in the life world (Yates et al 2012; Silverman 2014), is interviews, as they allow for capture of direct quotations about personal perspectives and lived experiences. They also enable the capture of body language and allow prompting to encourage better explanations.

Due to the diversity and geographical locations of the sample groups - (coroners throughout England and Wales, RMP's from a large NHS Trust with more than one hospital base and ME's from the north and south of England), an alternative to interviews was required.

In addition, interviews would be disruptive to the respondents' usual working day as well as affecting anonymity.

Anonymity is important for this study, which would not have been possible if interviews collected the data, unless conducted by a third party, which brings another set of considerations around the introduction of bias and uniformity to the interview process. The importance of anonymity is also because the topic under investigation is inherently sensitive. It allows participants to respond honestly and naturally, devoid of fear of being reported to a regulator if a breach of conduct is disclosed. Interviews would have been disruptive to a normal working day for the participants, as they would have required scheduling at a time when there was the luxury of time to spare. They may have also gathered more explanatory information rather than the minimalist type offered to an ME. Importantly, it also reduces bias when interpreting and presenting the data. However, there are disadvantages to avoiding interviews, addressed in survey methods. Therefore, an online survey designed in its commonest form, that of a questionnaire, to address anonymity and collect data generated during normal working hours and pressures, replicating the type of information that a ME would receive, was used.

Surveys can promote communication with individuals who may not wish to meet face to face for interviews. In this instance, interviews would be disruptive to the

respondents' usual working day, so the survey method may have increased response rates as the respondent could do so at their own pace in their own time, whilst still reacting to situations in their working environment.

The survey embedded two clinical case studies within a link in the preamble for participants to access. The preamble, an attachment to an email was sent to third parties, or gatekeepers, for dissemination to the individuals who were part of the sample groups. The third parties were also professional colleagues of the recipients of the email. This allowed the researcher to remain distanced from the process of contacting participants using their employing organisations email system, ensuring participant anonymity. The case studies provided the phenomena of death for the subjects to consider in their usual place of work, so the responses received have been subject to similar pressures and constraints on time the respondents experience during their usual working day.

Survey Methods

Surveys are useful to elicit responses to topics as they can gather a large amount of data in a short period of time, with anonymity for participants (Wright 2005).

The preamble, Appendix Seven, within which the survey link was embedded provided the recipients of the email with the necessary information to consider whether the topic was salient to them, or the purpose of the study interesting or useful.

A current ME contacted RMP's and ME's, whilst the Chair of the Coroners Society contacted all coroners in England and Wales, to support total anonymity for the participants. However, acknowledging that this could have introduced an element of bias, or influence, as the content of the email sent to the sample groups could have included supportive text from the gatekeeper. Moreover, the number of responses may have been influenced, positively or negatively, simply on the basis of the identity of the gatekeeper, as recipients may hold them in various levels of esteem, or feel obliged to respond positively to requests made by individuals holding a particular office. Although, the gatekeepers disseminated the survey link, there was no provision for other information around the content within their email.

The fact that the email was sent, with an invitation to participate in the study, may have been the only encouragement some respondents needed, with some having a propensity to respond to surveys regardless of saliency of the topic (Sheehan 2001), while others,

suffering survey fatigue, will not respond regardless of salience (Wright 2005).

Email surveys have superiority over postal surveys in terms of rapid deployment, response speed and cost efficiency. However, a more important factor is that the raw data is automatically stored in a secure survey data base, making it better for handling, as it is presented in a format that is ready for analysis and the risk of data errors is minimised (Sheehan 2001). Therefore, respondents can be reassured that their data is being stored securely and being viewed only by individuals with the authority to do so.

The quality of the raw data is important. However, data gathered via an online survey is no different from the quality obtained by more traditional collection methods, particularly as technology is a major part of everyday life in the work environment (Denscombe 2013). That is providing the survey is not too long, taking a lot of time to complete (Sheehan 2001). Thus, a short survey designed to acknowledge the time constraints, that can affect RMP's in a clinical environment was used, to deter them from deleting the email. It was important for responses to occur in the normal working environs for all participants so they were comparable in quality, length

and depth to the responses they would include on a death certificate or indeed other paperwork.

A further advantage to email surveys is they tend to attract longer open – ended responses that are more candid than other, more traditional, survey methods (Sheehan 2001), suggesting that anonymity, when using a common identifying communication system, can have a positive effect on data quality.

Although, the benefits are many and attractive for this study, there are disadvantages that affect data collection. Primarily, the lack of an interviewer does not allow for exploration of a response, however, this may not be too problematic if the responses are indeed longer and more candid as Sheehan suggests. The body language of respondents is not available to be observed. Body language can be useful when analysing the data, to align the spoken word with mannerisms and facial expressions, to more accurately reflect the response being offered. In its absence there is the potential to introduce bias during the analysis phase.

Emails can be deleted due to a lack of salience, motivation, interest or time to participate, or can be blocked by modern browsers (Ellis 2015). However, as the emails to invite responses originated from the same

systems used by the respective sample groups, this latter risk is reduced. Although there is always the risk that an internal malfunction within those systems may result in sent emails not being received.

Not all RMP's will be currently involved in completing MCCDs, perhaps due to working in areas where deaths are less likely to occur (dermatology outpatients for example). While some RMP's may have decided that the survey was not relevant to them, others may have responded to the survey simply out of a desire to assist, despite their lack of involvement in the MCCD process.

This will impact upon the nature of the data obtained, for example, because the responses of someone who is not actually involved in the MCCD process may contain errors that a more experienced respondent would avoid, it suggests there are deficiencies in the death certification process, making the situation appear worse than it is.

However, depending upon the individual's competence, wider experience and attitudes, they could demonstrate a good knowledge around this process, even if they are not completing MCCD's currently, and have the potential to become a ME.

To reduce this potential deficiency in data, specialist groups of RMP's could have been identified in clinical areas where death occurs frequently, which could also have included GP's, to replicate parts of James and Bull (1995) work. However, a decision was made not to do this, as this would not be representative of the statutory requirement for a ME – that of practising as a RMP for, or as such within, five years (Coroners and Justice Act 2009 s19 (3) (a) (b)). The statute does not specifically require involvement in the MCCD process, plus it would not be appropriate to manipulate the pool of respondents in this way.

Therefore, this study has the potential to replicate findings that may occur when recruiting for ME roles.

Another disadvantage to surveys is survey fraud, where responses are provided to obtain a reward for participating, regardless of their accuracy. This has been avoided as no incentives were offered for completion of the survey. Therefore, it is likely the respondent motivation was solely a desire to contribute to the advancement of the study (Punch 2006). However, the actual motivations of the respondents are unknown.

The cross-sectional survey design indicates the decision-making at one point in time (Ellis 2015), to

explore how fit for purpose the death certification process is. It also replicates the information, or the nature of the information, that would be provided to the ME if they made enquiry as to the contents of the MCCD from certifiers. Arguably, the quality of the service should be relatively constant, and not dependent on, whether the clinicians within it only have strengths in identifying certain types of death with certain variables. The cross-sectional design also considers the changes that occur within health care environments. Any follow up study would not be able to target the original respondents, not just because of the anonymity afforded them, but also, because junior RMP rotations occur annually with personnel moving into different teams in different geographical locations throughout the country. Other reasons for personnel changes can be due to changing employer or retiring, so a follow up contact or longitudinal study would not include many original respondents for a variety of reasons. Indeed, due to the anonymity, it would be unknown if any original respondents had participated in a follow up study.

While the email survey was the vehicle used for contacting the sample groups, the phenomenon under consideration was simulated via the form of two clinical case studies, accessible via the survey link set out in the

preamble. The case studies describe the clinical condition of two patients prior to death, both were taken from a bank of cases used by a current ME for training purposes. They originate from the medical records of genuine decedents', but with only age and gender identifiable – Appendix Eight.

An alternative to using case studies are vignettes. Vignettes are brief, carefully written descriptions designed to simulate key features of a real-world scenario, that may have some resemblance to situations encountered by the sample groups. Vignettes are designed for isolation, manipulation, approximation and measuring key aspects of decision-making processes used in real life situations, they are predictors of, rather than representations of, behaviour in real situations (Evans and Hardy 2010). However, Evans and Hardy further claim that clinical vignettes demonstrate findings like those when using standardised patients for measuring clinical outcomes, suggesting clinicians respond as though it were a real-life situation. It could also be demonstrating clinicians are used to variables that change, often quickly and markedly, when dealing with real life situations, due to the decompensation that occurs in patients when body systems are failing. Arguably, RMP's are conditioned to respond regardless

of the changes made. As there are no similar findings for the legal profession, of which most coroners are from, vignettes were not appropriate for use when actual patient histories could be presented.

Case Study

It is acknowledged that the use of case studies as a research method contributes to knowledge by focusing on a “case”. The “case” can be an individual, for example individual life cycles, it can be a group, for example small group behaviour. The “case” can be organisational by focusing on managerial or organisational processes. It can be social, such as neighbourhood change, political, for example school performance. It can also be other types of phenomena, such as international relations or maturation of industries (Yin 2014).

Case study research explores the how and why without requiring control of the contemporaneous behaviour of the “case” in focus (Yin 2014). Therefore, case study research provides a real-world, holistic perspective to the “case” in focus.

It is these qualities that are required for this study. It is the how and why that is being asked about a contemporary event (death), over which, I as the

researcher have no control. Such an in-depth investigation is necessary, within its real-world context, to explore whether the introduction of ME's will enhance death certification and coronial investigation.

However, for this study the term "case studies" has a narrower meaning and refers specifically to the use of two real life clinical cases, which are the "cases" to be "studied" by the respondents, to elicit raw data. The use of clinical cases is widespread in medical education, as both a teaching tool and a form of assessment, and so the concept and format is already well understood by medical professionals, who are key participants in this research, whilst also being one of the main anticipated audiences of this thesis. Therefore, using the term "case study" will be both accessible and expected for them.

Case study presentation is familiar in both medicine and law, allowing a phenomenon to be analysed, exploring and explaining why certain outcomes occur, or why certain realities are constructed. This aligns to the second order perspective in phenomenography, which is more than just identifying that outcomes occur (Creswell 2013; Denscombe 2013; Thomas 2013).

Using case studies to uncover this second order perspective allows emerging patterns, in the thought

processes and decision making of the respondents, to be identified. This is in true phenomenographical style, with text, which is what the case study is, being understood in a finite number of ways (Marton 1981). Especially, the emergence of a similar pattern for both case studies as demonstrated by respondent 46, for example, in chapter nine.

Knowledge and decision-making impact on outcomes and realities, so it is important to elicit, textual responses which may be rich with information (Silverman 2014) in a situation in which that knowledge will be used to arrive at a decision (Schuwierth and van der Vleuten 2003). Therefore, receiving the case studies via email in the usual working environment was necessary, in order to ensure that the responses elicited by a simulated case study are comparable in nature and depth as they would be in real life.

Both cases describe commonly diagnosed conditions. The first is atrial fibrillation (AF), with a prevalence of 1 in 100 in the general population and 1 in 10 in the older age groups (Barra and Flynn 2015). The second is dementia, with a current prevalence of 850, 000, which may become even more common with the ageing population (Alzheimer's Society 2017). These cases were chosen, as there is a dearth of clinical knowledge

and information on gold standard treatments and care available, most particularly in the form of guidelines produced by the National Institute for Health and Clinical Excellence (NICE) that influence assessments for diagnoses and treatment options available.

The cases being the medical record of two unique deaths, the boundaries or variables naturally occurring, binding the respondents to the immediate clinical presentation, which in turn determines the scope of the raw data (Yin 2014). This allowed consideration of the clinical cases and respondents in context as a unique example of real people in real situations (Cohen et al 2011). Death can be complex, so it was important for the cases to be clinically relevant (real), with variables not artificially controlled or manipulated (Darke et al 1998), so the responses were equally relevant or real. Contextualising the complexity of death allowed the respondents to assign meaning to it in their professional worlds. The value of these meanings could then be judged in terms of the extent to which they would allow others to understand the phenomenon of death. Therefore, holism is a distinguishing feature of using clinical case studies, as there is an expectation the respondents will catch this complexity for the cases to be understood (Cohen et al 2011; Tight 2017).

Although, the variables were not artificially controlled or manipulated, a process of selection nevertheless took place (Dyer 1995), which included consideration of the natural variables rather than just the case. Each case demonstrated a differing focus, one being medical (AF), and the other being nursing (dementia), so each had unique considerations around the clinical diagnosis and patient presentation prior to death.

The format of presentation included each case study followed by two statements and one question for the respondents to address:

What is your designation? Coroner/RMP/ME

Would you refer the patient to the coroner? Yes/No

Please state why – with a free text box for the rationale.

This simple, succinct construct encourages responses that could be either short or candid and long (Sheehan 2001), as the respondent chooses, via the provision of a free text box. It avoids bias, or preconceived ideas, as it avoids leading or probing questions. Thus, the respondents construct their own reality depending on the meaning, or the understanding, they have placed on,

or have of the cases. In addition, it reflects the reality of the MCCD paperwork, whose design is not to demand responses of a particular length or level of detail. It would have been possible to construct the survey in such a way as to elicit lengthy responses, for example, by explicitly requesting this or by asking a series of questions that elicited that information. However, it was important in the context of this study that responses were similar in nature, length and detail as those that the respondent would give in real life. This is in part so that the data gathered reflects the data that an ME will have to work with. It is also, in part, so that the researcher could scrutinise the responses to see whether they illuminated any attitudes towards patients or the MCCD process (as explored in chapter two). Asking a series of questions, that effectively lead the respondent through the process, could be said to risk triggering a thought process in that respondent which they would not otherwise have had.

Although, only one form of data is generated by all sample groups, the repetitive nature addresses validity and reliability, as there are finite ways of understanding the cases, with finite numbers of realities constructed that are similar between each of the sample groups.

Data Analysis

The raw data generated by the respondents demonstrated trends for categorising, rather than requiring every piece of data to be analysed. For ease of identification, to revisit salient points, the data required cataloguing (Denscombe 2013). This was automatically achieved, as the online survey software has allotted an identification number (ID) to each response received for both case studies. This ID number along with an added identifier of 2b (case study one) and 3b (case study two) identify which case the response addressed.

Coding the data to generate ideas and categories to identify confirmation, contradiction, dominance and patterns of association within was rejected, as it simply provides an indicator of frequency of occurrence. This approach aligns to quantitative data analysis (Bazeley 2013; Creswell 2013) where all codes have equal emphasis, even though the coded text could be representing a contradictory view. Coding in this way, therefore, limits analysis, rather than accurately reflecting the respondents' views.

As there are finite ways of understanding the case studies, a thematic analysis offers a more appropriate approach to identifying trends within the text to reflect

the views of the respondents accurately. This thematic approach compliments explanation building which is an alternative method of analysis (Yin 2014). It allows for an explanation of what is absent or implied, as well as what is contained and explicit within the responses (Denscombe 2013). It is inductive, discovering important patterns, themes and interrelationships that uncovers the finite ways of understanding (Merriam 2009). Therefore, there will be a limited number of categories for each case study. The themes are the categories of description identified in phenomenographic research, with interest being in the common, intersubjective meanings that are stable and transferable across all cases (Bazeley 2013). Each category needs to be consistent with the data, so bracketing is necessary for the data to remain the representation of the respondents' awareness and reflections, rather than those of the researcher (Pherali 2011).

Bracketing requires acknowledgment of any presuppositions, biases, experiences or assumptions held by the researcher about the phenomena (Tufford and Newman 2010). This is to be as objective as possible when interpreting and presenting the data, so it represents the participants view, rather than that of the researchers. In furtherance of bracketing, it has been

previously acknowledged the phrasing of the questions was important not to lead the respondent, which includes using linguistics in such a way that answering one question would not lead to answering the other in a certain or specific way. Not using a narrative was also important to avoid influencing participants thought processes when developing a response. Physically removing myself from data collection also supported this stance.

Bracketing also required a limited number of questions for answering, which directly sought the data required for this study. Seeking personal data about the respondents, such as the professional background of coroners, was not necessary as assumptions about responses linking to the profession of the respondent when analysing the data could have occurred. Also, as the sample groups are arguably from, at times, a small pool of people, personal data may have allowed identification of the respondents currently or by future readers.

The raw data is presented in a succinct, easy to read format by the survey technology used, by sample group designation. Each case presented as a yes or no response, pertaining to the respondents' decision to refer or not to the coroner. The free text that provides the

rationale for that decision is clear and easy to read. There were six sets of raw data for analysis, namely two sets for each of the three sample groups, making the data for each group easy to read, with familiarisation of the data crucial before grouping into themes or similar responses can occur. Once this preliminary grouping occurs, the themes, or categories, within can be compared and named. The names of most categories derive from a clinical variable, identified by the respondents, or a phrase within the raw data, so patterns and commonality were easily identifiable. Comparison of responses between sample groups demonstrated similarity in responses, and variations in understanding the phenomenon of death, which are relatable to the literature discussed in chapter two.

An example of some of the themes in the data for case study 1 are: haemorrhage, BP (blood pressure), warfarin, collapse, INR (international normalised rate) and AF.

The following chapter provides a thorough explanation of the natural variables within each case study providing the clinical context, which required consideration by the respondents.

Chapter Eight

Case Study Explanation

The case studies were chosen as they reflect common conditions that health care professionals who diagnose, treat and care for patients will be exposed to. This will possibly be more so in their careers as the population ages, with people living longer with conditions that, previously, could have shortened their life considerably.

Case study one (CS1) has a medical focus, due to the drug treatments being prescribed for a recognised condition, that is more common in older people. However, it must be acknowledged that AF can occur at any time of life (Keeling et al 2011). There are newer anticoagulant drugs such as Factor Xa Inhibitors, which require no routine anticoagulation monitoring, and Thrombin Inhibitors. The Thrombin Inhibitors, although they do not require anticoagulation monitoring, do require monitoring of kidney function periodically. Ng et al (2013) claim that relative to warfarin, these novel agents reduce the risk of intracranial haemorrhage, in elderly AF patients. Therefore, these newer alternatives may have been a more appropriate drug treatment for CS1, providing there were no contraindications to them being prescribed. Nevertheless, there is a potential for adverse effects, due to the lack of monitoring, but more

so as there are no antidotes for these drugs. With the manufacturing companies claiming the effects of these drugs decline faster (hours) than those of warfarin (days) (Mohanty et al 2014). The risk is, therefore, that patients may present with haemorrhagic Cerebrovascular Accident (CVA) at a younger age if these newer anticoagulants are prescribed rather than warfarin. Thus, losing any opportunity for monitoring their effects, as patients will, no doubt, prefer not to attend for venepuncture especially if they have a dislike for needles.

Case study two (CS2) was chosen as it reflects a growing trend of patients being cared for in environments, other than their own home, when they become infirm and unable to live independently safely. Thus, this patient was being cared for by third parties, who may or may not have any registerable qualifications in nursing, suggesting that the knowledge of conditions may not be at a level that equates to patient safety. Or, due to working conditions, may not display behaviour that is conducive to patient care, that of being evidence based and in the patients' best interests. Due to CS2 having a more nursing type focus in the care that was being delivered, it requires a scrutiny that will

acknowledge the environmental situation and any risks that can be inherent in that environment.

Both case studies have enough variables to be classed as different rather than the same, or similar, so medico-legal knowledge is challenged in its application rather than being repetitive.

Case study one – Appendix Eight.

78-year-old – warfarin for AF – INR 3.0-3.6 – collapse – INR in ED 3.6 – GCS 3 – Pupils fixed and dilated – (R) CVA – haemorrhage on CT scan – no treatment due to futility.

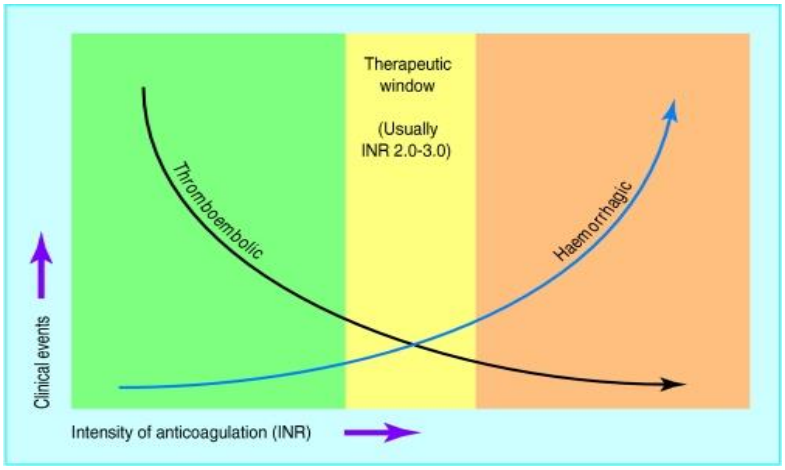
CS1 refers to a 78-year-old lady, the pertinent points are above, and require some clinical explanation for contextual purposes prior to analysing the data.

The patient had been prescribed warfarin, an oral anticoagulant, that antagonises the effects of Vitamin K, by blocking carboxylation of the Vitamin K dependent clotting factors to minimise the risk of thrombi and emboli (clots) (Joint Formulary Committee 2016). The condition requiring this prescription was atrial fibrillation or AF, a common diagnosis in the elderly that presents as a rapid irregularly irregular heart rate, its main complication, or risk, being an embolic CVA, commonly known as a

stroke. Emboli are blood clots that have travelled from an original site, in this instance the heart, that can block or occlude a blood vessel, in this instance, in the brain. To minimise the risk of thrombi formation in the heart, and a potential embolus, warfarin was prescribed. (Simon et al 2004). The risk of cardio embolic CVA should be assessed by considering risk factors that predict stroke risk, such as previous transient ischaemic attacks (TIA or mini stroke), or CVA's, hypertension, diabetes, heart failure, risk of bleeding and the patients age. Patients considered at low risk are treated with aspirin, whilst those at high risk, or increasing stroke risk, are treated with warfarin due to its greater anticoagulant efficacy (Keeling et al 2011). This patient was clearly deemed to be at high risk of cardio-embolic incident as she was prescribed warfarin, whilst also being at increased risk of haemorrhage as a recognised side effect of warfarin.

The patients INR – International Normalised Rate – had been 3.0-3.6, this blood test is required to monitor the effects of warfarin. The reading pertains to how long, in seconds, it takes the blood to clot. Thus, the higher the reading the more risk of haemorrhage, the lower the reading the more risk of thrombi and emboli – Figure 1,

Figure 1. Thrombi – emboli risk



Ref: Blann et al (2003) permission to reproduce Figure 1 has been granted by the BMJ Publishing Group Ltd.

The blood test is aptly named as the patient can travel, internationally, without the monitoring, and therefore the management, being compromised by different target ranges. Differing results within, but often outside the target range, indicate erratic control of the warfarin's anticoagulant efficacy. Subsequently, this affects good control, increasing the risk of a detrimental incident and its subsequent effects on health.

A witness description stated the patient collapsed, rather than fell, which suggests something happened internally to the patient that caused the collapse. A fall is a result of a trip, slip or lower limb weakness that causes a person to land on the floor, during the fall trauma to the head can be sustained, by hitting any firm surface such as furniture or the floor. It is, therefore, important to elicit,

if possible, whether a collapse or fall occurred, as it suggests a sequence of events and mechanism of injury.

In the Emergency Department (ED) the patients INR was 3.6. According to the patient's recent history of INR readings this, on the face of it, appears acceptable. Nevertheless, the antidote to warfarin was administered, as CT results confirmed a right sided brain haemorrhage. Vitamin K, along with Beriplex, a Prothrombin Complex Concentrate, was prescribed for administration. The latter containing clotting factors II, VII, IX and X, which are dependent on Vitamin K, to reverse over anticoagulation in warfarin users, with clinically relevant bleeding and a raised INR (Ferreira 2013). To appreciate this clinical intervention the INR readings, require further consideration, particularly the usual or target range, that should be aimed for, for a patient with AF.

Simon et al (2004), Guyatt et al (2012) and NICE (2014) state the INR range for patients with AF should be 2.0-3.0, with a target INR of 2.5. The British Committee for Standards in Haematology (2011) state to aim for 2.5, however, in 2002 the guidance was given to aim for an INR of 2.0 in patients over 75 years of age with AF as it may be safer (Medicine Resource Bulletin 2002).

Although, the guidelines suggest a different range, and target INR, to the patients INR results it must be acknowledged that guidelines should not replace clinical judgement when providing clinical care to a patient. However, there is no mention in the case study what the INR history was, other than in the last few weeks prior to death, to elicit if the INR results had always been higher than the plethora of guidance available to clinicians, and why this was the case.

If the patients INR had been within range, as suggested by the guidance available, then the fact a stable INR had changed could indicate a problem that needs addressing. Garcia et al (2010) suggests changes in INR level, in a usually stable patient, may be due to several reasons, including:

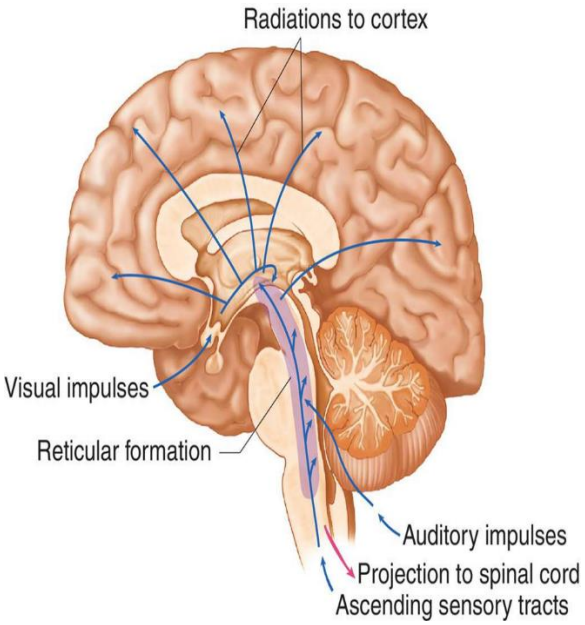
- Major changes in diet or alcohol intake
- Drug interactions, for example paracetamol and aspirin (Joint Formulary Committee 2016)
- Systemic or concurrent illness
- Non-adherence to dosage regimes
- Unknown cause

There is no indication from the case study that suggests whether the patient was being investigated or treated for any of the above reasons.

The patient had a Glasgow Coma Scale (GCS) of 3. To appreciate this score a brief explanation of the anatomy and pathophysiology of the brain is required.

The mechanisms responsible for arousal are in the core of the upper and lower brainstem, known as the ascending reticular activating system (ARAS) – Figure 2.

Figure 2.



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The ARAS acts as an on/off switch that keeps the hemispheres of the brain awake. If the integrity of this system is impaired consciousness is altered. Conscious behaviour is dependent on the interaction between the ARAS and the cerebral cortex (Ivan 2007).

In the condition of coma, either the arousal system is damaged, or there is no neural network to be aroused in the higher brainstem or the cortex. A coma becomes irreversible when nerve cells in the brainstem and the cortex are destroyed, by either a lack of oxygen or by increased pressure within the skull, which occurs following severe head injury and intracranial haemorrhage (Ivan 2007). Increased intracranial pressure, in this case due to haemorrhage, will shift the brain downwards and compress the mid brain where the bulk of the ARAS is located. The responsiveness of the nervous system is observed by performing a set of neurological observations, giving each observation a numerical value, resulting in the GCS, the gold standard of neurological assessment since its development in the 1970's (Teasdale and Jennett 1974) –Table 1:

Table 1: The Glasgow Coma Scale

Eye opening	E	Motor response	M	Verbal response	V
Spontaneous	4	Obeys commands	6	Orientated	5
To speech	3	Localises to pain	5	Confused	4
To pain	2	Withdraws	4	Inappropriate words	3
None	1	Abnormal flexion	3	Incomprehensible sounds	2
		Extension	2	None	1
		None	1		

The GCS score is out of 15, therefore:

GCS of 15 is fully alert, GCS of 13-15 suggests a favourable prognosis and a GCS of 3-5 signifies a poor prognosis (no eye opening, abnormal motor or verbal responses) (Ballinger and Patchett 2003).

The GCS grading system depends on clinical description –Table 2:

Table 2: Terms for responsiveness and clinical description.

Terms for decreased responsiveness	**Clinical description**
Drowsiness GCS 13-15 Excellent chance of recovery	Somnolent, lethargic, uninterested, easy to rouse, does not lapse into sleep immediately when left undisturbed
Stupor GCS 11-12 Good chance of recovery	Obtunded, disorientated, will lapse into sleep when undisturbed
Deep stupor or semi - comatose GCS 9-10 Reasonable chance of survival	Rouses on strong painful stimuli, may have focal neurological signs, motor responses are appropriate
Coma GCS 6-8 Fair chance of survival	Does not respond appropriately, may have decerebrate, decorticate posturing, breathes spontaneously
Deep coma GCS 3-5 Critical	Does not respond appropriately to any stimuli, limbs are flaccid, reflexes absent, may breathe spontaneously

Ref: Adapted from Ivan (2007).

The patients GCS score of 3 suggests the prognosis is poor due to the neurological damage sustained by the

Haemorrhage, which was reported on CT scan as occurring in the right hemisphere of the brain.

The patients' pupils were fixed and dilated suggesting catastrophic brain damage, or brain death, as the patient was intubated and ventilated prior to CT scan it suggests mechanical maintenance of respiration was necessary. As the patient died shortly after the withdrawal of mechanical support, it would be fair to suggest the patient may have died sooner without this supportive intervention.

The decision not to proceed with surgical intervention, due to futility, suggests the patients' clinical condition, as observed using the GCS score, pupil observation and, extent of haemorrhage viewed on the CT scan, all indicated a poor prognosis.

This deeper explanation of the patients' clinical condition prior to death demonstrates the criticality of the situation regarding prognosis and outcome. Once death has been verified the MCCD needs completing, it is at this juncture that a decision is required as to whether the deceased should be referred for coronial investigation.

Another factor that needs to be addressed is the patients' length of stay in hospital prior to death, as Simon et al (2004) state death that occurs less than

twenty four hours after hospital admission must be referred whereas, Ballinger and Patchett (2003) state it is usual to refer a death that occurs within twenty four hours of admission without a firm diagnosis being made. As the deceased in the case study had a definite diagnosis of right sided CVA, confirmed by CT scan, then using Ballinger and Patchett's guidance referral would not be made whereas, using Simon et al criteria, a referral would be made. It is, therefore, clear that further scrutiny of the patients clinical condition in the weeks, days and hours prior to death are explored to aid the decision making process at this time, to decide if the death was natural so the MCCD can be completed, or unnatural where coronial referral is required. This conflict in advice exemplifies how coronial investigation can be circumvented. Therefore, there should be one seminal source, to guide RMP's, for when coronial referral is necessary – see Appendix Two.

Case study two – Appendix Eight.

104-year-old lady – frail, deaf, moderate dementia – feisty – osteoarthritis – incontinence – dies relatively unexpectedly – GP review 12 days prior to death – vocal – disturbing others – good day prior to death.

CS2 refers to a 104-year-old lady, the pertinent points require some clinical explanation for contextual purposes prior to analysing the data.

Being frail could describe a fragility or delicateness or be used to describe weak health (Allen 1991), a combination of both descriptions appears to be relevant in this instance.

A moderate dementia process suggests difficulty concentrating, decreased memory of recent events, and difficulties managing finances or traveling alone to new locations (Reisberg et al 1982). People have trouble completing complex tasks efficiently, or accurately and may be in denial about their symptoms. They may also start withdrawing from family or friends as socialisation becomes difficult. At this stage detection of clear cognitive problems during a patient interview and exam are evident (Reisberg et al 1982). This suggests there are disturbances, leading to the decline of memory, thinking, orientation, comprehension, calculation, learning capacity, language and judgement. Guidance suggests a 7-10-year survival after diagnosis (Ballinger and Patchett 2003, Simon et al 2004). However, Wolfson et al (2001) dispute this, claiming the median

survival after the onset of dementia is much shorter than has previously been estimated.

Describing the lady as feisty could be indicative of her behaviour, if a constant environment is not maintained, due to the dementia process (Alzheimer's Society 2017).

Osteoarthritis is a disease of the synovial joints due to progressive destruction of and loss of articular cartilage, with an accompanying periarticular bone response (remodelling), leading to the development of bony spurs and deformity of the joints involved – usually hips, knees, fingers and spine. This process results in pain, joint stiffness and varying degrees of mobility and dexterity (Caplin and Sciarra 2006).

Incontinence is the involuntary loss of urine, which can cause hygiene problems and loss of skin integrity, with a risk of infection. It is not evident within the case study if the lady suffered from the identified sequalae.

Vocal and disturbing to others could be attributed to the dementia process, if a constant environment is not maintained. Alternatively, it could be due to pain, distress or discomfort, which could not be articulated any other way due to the dementia process affecting cortical brain function (Alzheimer's Society 2017).

The lady was reviewed twelve days prior to death by a GP, an important timeline as a review within fourteen days prior to death does not necessitate coronial referral, unless the MCCD cannot be completed (Ballinger and Patchett 2003, Simon et al 2004). Although, this review could influence referral it is clear there is no documentation suggesting death was expected. Therefore, in the absence of any clinical deterioration, further investigation is required before a cause of death can be considered for MCCD completion.

Summary

Both the decedent case studies required death investigation, not just to confirm or identify a cause of death, but also for safeguarding future patients receiving similar care for similar conditions.

How these two case studies were clinically considered by the respondents, and whether they were referred for death investigation, is explored in the following chapter.

Chapter Nine.

Findings.

To demonstrate, with clarity, the findings for each of the participant groups, as well as everyone within that group, an element of quantitative data is presented.

Primarily, only clarity of response was required, for objectivity, prior to any deeper analysis of the qualitative data to avoid any introduction of bias or assumption. At this point, it is interesting to demonstrate any patterns from the data

Table 3 clearly demonstrates one such pattern, in that the responses are mirror images. 47 respondents from all groups answered yes to both case studies, whilst 15 answered no. Closer inspection takes this further, in that the same number of respondents within each group answered the same for yes i.e. 11 coroners, 35 RMP's and 1 ME answered yes to both case studies.

Table 3 – Referral data for participant groups

	CS1	Coroner	RMP	ME	Total	CS2	Coroner	RMP	ME	Total
Yes		11	35	01	47		11	35	01	47
No		06	07	02	15		06	07	02	15

This same pattern is also seen for the no responses i.e. 6 coroners, 7 RMP's and 2 ME's answered no to both case studies.

As the case studies were clinically different, with different variables and narratives, these patterns may demonstrate the respondents could be focusing on pertinent words to provide a response. If this is the case, it suggests possession of EI and expertise (Abe 2011), as clinical relevance is attached to those pertinent words, with other words (variables) that do not support clinical relevance not being used as part of decision making. An example of this is the respondents who acknowledge age as a variable but do not allow it to influence the decision made, as it is not clinically relevant. It suggests they have expertise with equal levels of self-image, self-esteem and self-awareness, constituting EI, that lends to safe conclusions with appropriate decisions being made. Alternatively, it could demonstrate experience aligned to longevity, with decisions made using theoretical knowledge, experiential learning and EI (Kolb 1984; Abe 2011). This type of decision-making may not lead, necessarily, to an appropriate decision regarding referral. Indeed, respondents may be used to seeing certain pertinent words (variables) so could expect to see them within the

case studies. If respondents are less likely to focus on these variables, the deduction is the death has the characteristics of a natural death and thus not refer. For example, if a clinician sees a MCCD with a CVA as a cause of death, in the absence of trauma, they would expect to see a note of hypertension. If they do see hypertension, they may accept that hypertension caused the rupture which caused the haemorrhagic CVA, thus a natural death. Hypertension is a diagnosis that is prevalent in England affecting 1 in 4 adults, with 58% of men and women aged between 65-74 years being affected (Public Health England 2017). Due to it being so prevalent in older adults, it is arguable that any death perhaps attributed to it is acceptable. Further suggesting the view of the person has altered in the clinicians' mind. Indeed, the case study documented the age of the patient as 78 years old. Alternatively, if it was felt the death was due to, perhaps, a lesser standard of clinical management for the hypertension, or the anticoagulation, then the responses could reflect an acceptance of error as addressed in chapter two.

At this point, it is not clear if, for example, the same 11 coroners who answered yes to both case studies are indeed the same individual respondents. Nevertheless, the pattern is distinctive and deserves comment.

Table 4 Referral percentages

Group	Response Rate	No (%)	Actual %	Yes (%)	Actual %
Coroners	17	35%	35.2%	65%	64.7%
RMP's	42	17%	16.6%	83%	83%
ME's	03	67%	66.6%	33%	33.3%

The figures within Table 4 suggest for two of the participating groups, Coroners and RMP's, that the majority of respondents would refer both cases for further investigation. Interestingly, the majority of ME's would not, which has significance as ME's are, and will, once national implementation occurs, scrutinise all future MCCD's.

Clearly, at a superficial level this suggests that ME's would not consider the majority of deaths as requiring further coronial scrutiny or investigation. However, exploration of this finding is in more detail later when considering the qualitative data.

Of course, the raw data in Table 3 does not itself tell us, for example, that the 11 individual coroners who answered yes for CS1 are the same 11 individual coroners who answered yes for CS2. The same holds for the individual RMP's and ME's. However, the data in Table 5 clarifies this.

It is clear in Table 5 that the same respondent, no matter which group they professionally belong to, answered the

same for both case studies. For example, respondent 2 answered no for both case studies. The same pattern is evident for the yes responses for both cases for example, respondent 53 answered yes for both case studies.

Table 5 Referral data for individual respondents

Participants	Case Study 1			Case Study 2	
Coroners	**Yes**	**No**		**Yes**	**No**
2		x			x
3	x			x	
8		x			x
9	x			x	
13		x			x
16	x			x	
17	x			x	
23	x			x	
24	x			x	
26		x			x
27		x			x
29		x			x
30	x			x	
34	x			x	
36	x			x	
46	x			x	
48	x (11)	(06)		x (11)	(06)
RMP's					
38		x			x
39		x			x
53	x			x	
55	x			x	
57	x			x	
67	x			x	
68	x			x	
70	x			x	
71		x			x
79	x			x	
83	x			x	
88	x			x	
90	x			x	
91	x			x	
92	x			x	
94	x			x	
95		x			x
96		x			x
98	x			x	
100	x			x	
101	x			x	
103	x			x	
106	x			x	
107		x			x
108		x			x
110	x			x	
112	x			x	
115	x			x	
116	x			x	
117	x			x	
119	x			x	
120	x			x	
121	x			x	
123	x			x	
133	x			x	
134	x			x	
139	x			x	
149	x			x	
152	x			x	
153	x			x	
154	x			x	
156	x (35)	(07)		x (35)	(07)
ME's					
80	x			x	
141		x			x
144	(01)	x (02)		(01)	x (02)

The researcher identified variables, which the respondents ought to have considered, because they are medically relevant.

Variables for CS1

Although the case studies were explained in detail in chapter eight, set out below is a brief reminder, together with a note of how many respondents identified each variable in their response. Figure 3 and Table 6 demonstrate the frequency of each variable, and which respondent identified them.

Haemorrhage (9 Coroners, 9 RMP's, 2 ME's)

- Intracerebral haemorrhage diagnosed in the case study by CT imaging, indicating a rupture of a blood vessel in the brain.

BP – blood pressure/hypertension (0 Coroners, 3 RMP's, 1 ME)

- Indicating significance of the BP reading at time of death, but also hypertension as a co-morbidity treated with amlodipine.

Warfarin (11 Coroners, 20 RMP's, 0 ME)

- The anticoagulant medication prescribed to treat the diagnosed condition of AF. It reduces the natural clotting ability of the blood if haemorrhage occurs.

Collapse (2 Coroners, 4 RMP's, 0 ME's)

- Witnessed collapse suggestive of a mechanism of injury i.e. the haemorrhage caused the patient to fall to the floor.

INR (4 Coroners, 16 RMP's, 2 ME's)

- The blood test that denotes the quality of the therapeutic effects i.e. the pharmacodynamics and potentially the management of the warfarin treatment.

AF – Atrial Fibrillation (0 Coroners, 6 RMP's, 0 ME's)

- The diagnosed heart condition requiring anticoagulation treatment to minimise the risks of thrombi and emboli.

Age (0 Coroners, 2 RMP's, 0 ME's)

- The diagnoses of AF and hypertension are more likely diagnosed in older adults. The risk of haemorrhage is more likely also as hypertension is a risk factor for haemorrhagic CVA's.

Hospital (1 Coroner, 9 RMP's, 0 ME's)

- The length of time in hospital before a diagnosis is made when death occurs may require coroner referral as the MCCD may not be able to be completed due to the death not having an identifiable cause, if it was violent, suspicious or unnatural (Courts and Tribunal Judiciary 2016b).

Other (2 Coroners, 14 RMP's, 1 ME)

- Denotes responses such as natural causes, unexplained death, not seen by GP in a set time prior to death, not dealing with such cases.

Amlodipine (0 all groups)

- A recognised treatment for hypertension for a patient diagnosed with ischaemic heart disease (Joint Formulary Committee 2016). The potential quality of the

management for hypertension may influence the risks for haemorrhage.

Figure 3 – Variable frequency for participant groups for CS1

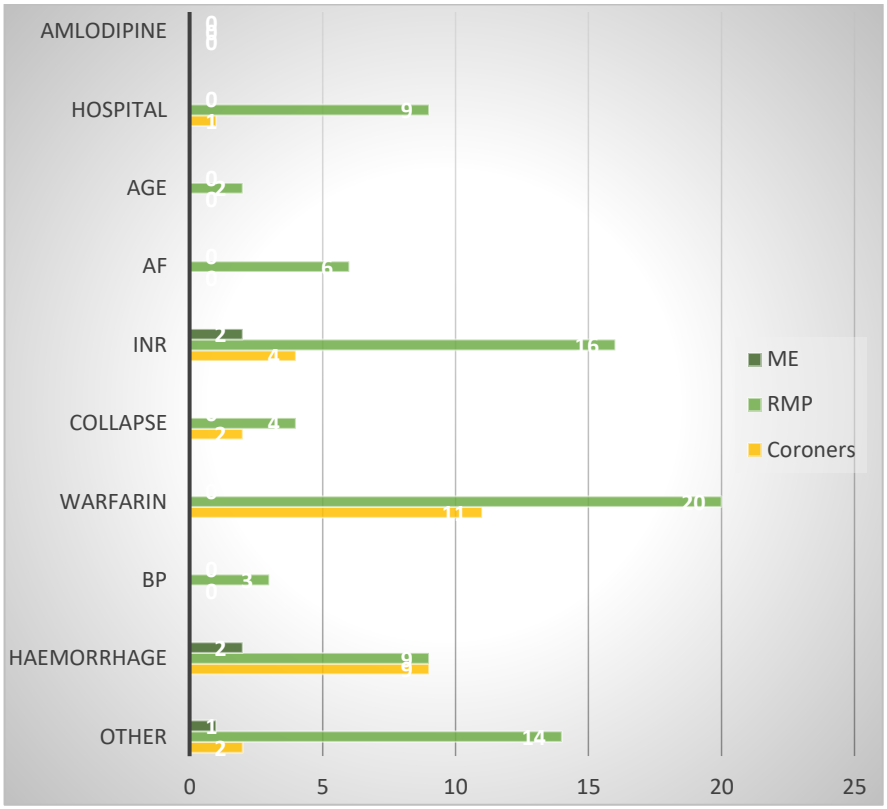


Table 6 Variables for individual respondents for CS1

	Other	Haemorrhage	BP	Warfarin	Collapse	INR	AF	Age	Hospital	Amlodipine
Coroners										
2						x				
3				x						
8									x	
9		x		x	x					
13	x									
16		x		x						
17		x				x				
23		x		x						
24		x		x		x				
26		x		x		x				
27	x									
29					x					
30				x						
34		x		x						
36		x		x						
46				x						
48		x		x						
RMP's										
38	x			x			x			
39	x	x		x	x	x				
53									x	
55				x						
57	x			x				x		
67						x	x			
68				x					x	
70	x									
71		x	x	x		x				
79		x	x	x						
83	x				x					
88									x	
90						x	x			
91				x		x				
92									x	
94									x	
95	x					x				
96	x									
98									x	
100									x	
101				x					x	
103		x		x		x				
106		x		x						
107	x									
108				x						
110	x				x	x				
112			x			x		x		
115		x				x				
116		x		x		x	x			
117				x						
119	x					x				
120				x						
121	x									
123				x						
133		x		x	x					
134	x									
139				x		x				
149	x			x						
152						x	x			
153		x				x	x			
154									x	
156	x			x		x				
ME's										
80		x				x				
141		x	x			x				
144	x									

Variables for CS2

Moderate Dementia (0 all groups)

- A cognitive condition that alters behaviour thus increasing the risk of accident or trauma by and to self or others.

Feisty (0 Coroners, 1 RMP's, 0 ME's)

- A description of altered behaviour that can indicate agitation, aggression, increased vocal responses – all of which can increase the risk of accident or trauma by and to self and others.

OA – osteoarthritis (0 all groups)

- A painful condition affecting the joints that can cause mobility problems increasing the risk of accident and injury. May become more vocal due to pain and difficulty articulating such discomfort.

Frail (1 Coroner, 2 RMP's, 0 ME's)

- Term used to suggest vulnerability, such vulnerability can increase the risk of trauma by self and others.

Deaf (0 all groups)

- The lack of this sense increases the risk of harm as warnings are unheeded, such as alarms or voice command. In addition, there can be an increased risk of rough handling, at times, if perceived to be old and stubborn, rather than having sensory deficits.

Unexpected death (3 Coroners, 14 RMP's, 0 ME's)

- A term used to suggest death occurred earlier or later than clinically anticipated, or clinical presentation suggests; i.e. the patient deteriorates becoming less

mobile, less independent and increasingly immobile (sleeping a lot) and more dependent.

12-day review (0 Coroners, 8 RMP's, 0 ME's)

- Pertaining to time limits within policies that states a certifying doctor needs to have seen the deceased prior to death otherwise coroner referral is required. Current advice is within 14 days before death (Courts and Tribunals Judiciary 2016b).

Vocal (0 all groups)

- Pertains to altered behaviour due to dementia and OA co-morbidities.

Age (9 Coroners, 10 RMP's, 3 ME's)

- In acknowledgement that dementia and OA are conditions more commonly diagnosed in older adults. However, it is also in recognition of the patient being a centenarian.

Other (7 Coroners, 15 RMP's, 3 ME's)

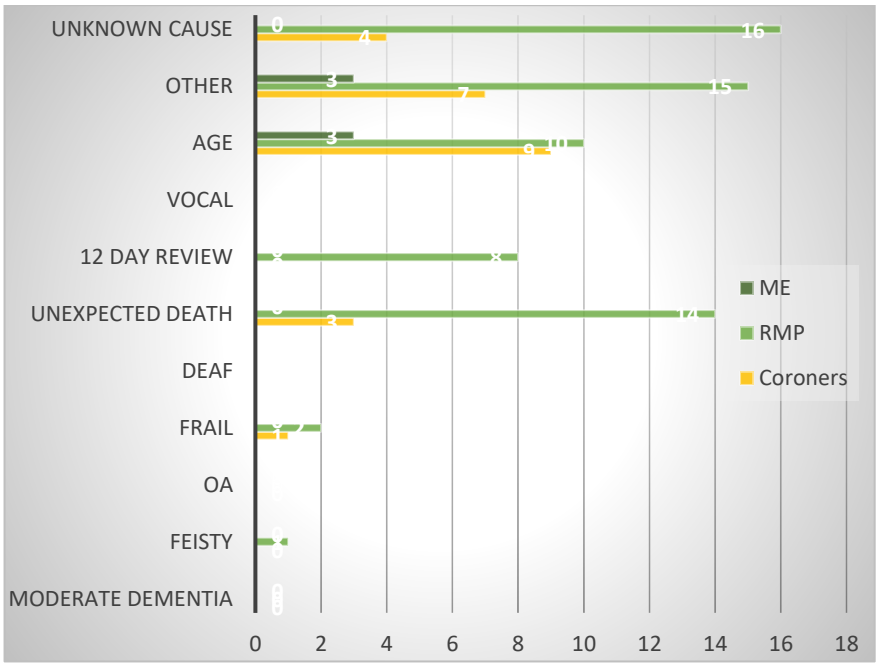
- For other reasons identified by respondents such as: deficiencies in care, misconduct in the nursing home, no trauma, GP/doctor happy to complete MCCD and DoL's authorisations.

Unknown cause (4 Coroners, 16 RMP's, 0 ME's)

- This variable derives from the raw data itself as coroners and RMP's identified this in their responses. It derives from the respondents not being able to offer a cause of death to the best of belief or knowledge for MCCD completion.

Figure 4 demonstrates the frequency of each variable

Figure 4 – Variable frequency for participant groups for CS2



Whereas, Table 7 demonstrates which respondents identified with which variable.

Table 7 Variables for individual respondents for CS2

	Moderate dementia	Feisty	OA	Frail	Deaf	Unexpected death	12 day review	Vocal	Age	Other	Unknown cause
Coroners											
2										x	
3						x					
8										x	
9										x	
13										x	
16									x		x
17									x		x
23				x					x	x	
24										x	
26									x		
27									x		
29									x		
30									x		x
34						x			x		x
36									x		
46										x	
48						x					
RMP's											
38				x					x	x	
39							x		x		
53										x	
55							x				
57										x	
67											x
68										x	
70										x	
71									x	x	
79											x
83						x			x	x	
88						x					
90						x				x	
91						x					
92						x	x				
94		x					x				x
95										x	
96									x	x	
98							x				x
100										x	x
101						x			x		
103						x					
106											x
107										x	
108									x		
110						x					x
112										x	
115											x
116						x				x	
117											x
119						x	x				
120						x					x
121							x			x	
123						x					
133						x					
134							x		x		
139						x					x
149											x
152				x					x		x
153									x		x
154											x
156											x
ME's											
80									x	x	
141									x	x	
144									x	x	

The figures and tables have demonstrated the frequency of referral for each group, as well as identifying the variables considered when arriving at a decision. This includes the frequency with which each group have considered the variables. To further the analysis comparisons of the variables is required.

This presentation of the findings suggest patterns are evident but does not demonstrate why they emerge. Alternatively, and more importantly, it does not of itself demonstrate how reliable these patterns are at demonstrating the quality of service provided by the respondents.

To address this the qualitative content of the responses needs consideration. The variables identified for both case studies are all part of the clinical history and have clinical relevance. They are natural variables, unique to the patient because of their diagnosed conditions, or co-morbidities, along with therapeutic drug regimens. Many of the variables are interlinked which is demonstrated in this chapter when considering the raw data and chapter eight.

Identification of themes.

To contextualise the responses provided, from which the variables were identified, the narratives including the rhetoric within needs exploration. This is especially useful as some of the rhetoric applies to medical terminology which may not be as clearly understood without such exploration. To further this contextualisation the narratives will be explored in tandem for both case studies, not just to address the patterns in decision making, which are evident in Table 5, but also to explore any commonality within decision making processes. By grouping all the responses after interpreting and comparing them, themes emerged that are related to the literature explored in chapter two mainly that of competence, acceptance of error, risk taking, personhood and care drivers (policy or guideline content). How these themes relate to death certification and investigation is discussed later in this chapter and in chapter ten.

Focusing firstly on the yes respondents it became clear that grouping them based on interpreting the narratives provided for both case studies allowed the following groups to form.

Identification of groups

Group 1 – Medically competent for both case studies;

Group 2a – Procedure focused, query medical competence;

Group 2b – Procedure focused; admits they do not know;

Group 2c – Procedure focused appears competent

Group 3 – Uncertain – leaves decision to others, issue of personhood:

Group 4a – Reliant on others, may lack competence;

Group 4b – Reliant on others, may still be competent

Group 5 – Medically competent, but issue of personhood;

Group 6a – Not competent, issue of personhood;

Group 6b – Not competent at all, no other issues;

Group 7 – Correct decision but very sparse response, query thought process;

Group 8 – Confident/competent in role;

Group 9 – Age affects decision, query likelihood of not investigating;

Group 10 – Unsure re: competence;

Group 11 – Highlights weakness in health care system/institutional setting.

Indeed, once the groups were identified the no respondents only populated four groups – Groups 4a, 6a, 6b and 10.

This grouping is not reliant on the number of variables each respondent identified, only their rhetoric and narrative that has illuminated why, or how, each decision was reached.

The raw data is available as follows: Coroner data for CS1 is in appendices 9 and 10, for CS2 see appendices 11 and 12. RMP data for CS1 is in appendices 13 and 14, for CS2 see appendices 15 and 16. ME data for CS1 is in appendices 17 and 18, for CS2 see appendices 19 and 20.

Group 1

Medically competent for both case studies.

The following respondents are included and are from all participant groups as follows:

Coroners: 3, 24, 30, 34;

RMP's: 55, 67, 90, 91, 103, 106, 112, 115, 116, 117, 120, 123, 133, 139, 149, 152, 156;

ME's: 80.

These respondents identified appropriate variables from the content of both case studies, without being concerned with information that is not pertinent i.e. their focus was the clinical information or picture, which is indeed the only information that is necessary to decide if a death is natural or unnatural. However, as clinical information can be used to argue, or rationalise, why a decision is made the narrative as to why these respondents would refer is important to understand. It will become evident later that identifying appropriate variables does not always results in a correct or appropriate decision. Therefore, the narrative, and, to some extent, the rhetoric requires scrutiny to highlight the knowledge that is being used to make decisions at all levels of death certification and investigation. As such exploring this will demonstrate competence of individuals within their professional roles.

These respondents have all demonstrated competence suitable for their professional roles with consistency, which is required for all the reasons discussed in chapter two.

All the coroner respondents are clear the medication has contributed to the death in CS1 by stating, in one instance “medication causative” (3). Although sparse it is succinct and accurate. To arrive at this decision the content of the case study must have been considered, particularly as there are other clinical diagnoses that could have been chosen as a cause of death but are in fact “red herrings”. To explore this further ischaemic heart disease and hypertension could be a cause of death for a novice certifier or coroner to arrive at. However, by stating the medication is a causative factor the circumstances around warfarin use and management have been considered. Such consideration is more easily evident in the narrative provided by respondent 24, “warfarin may well have caused the...bleed.” Indeed, respondent 24 questions “what steps were in place to monitor INR,” clearly linking the INR results to the risk of haemorrhage. This sentiment is echoed by respondents 30 and 34, who state the death is a “complication of medical treatment, not properly managed” (30), and “it raises…. questions of warfarin prescribing, administration and monitoring” (34), which is addressed later.

This type of knowledge acquisition and use can be for a variety of reasons. These respondents may be

medically, or legally qualified, gaining knowledge about medical conditions and treatments either during undergraduate medical education, or their time as a coroner for those from the legal profession. Whichever is the case these coroners appear to have either a lack of decaying medical knowledge, or good medical support in the form of GP's, RMP's and Pathologists, who have shared clinically accurate information when asked for an opinion by the coroner. Medical or clinical opinion is necessary to allow a coroner to decide if there is indeed a duty to investigate death (Coroners and Justice Act 2009 s1 (7)). With GP's and RMP's often being able to provide information about the decedent, prior to death, that is not necessarily easy to identify in medical records. For example, any concerns around behaviour of carers or relatives, or concerns about content of any conversations the doctor may have had with the patient prior to death. Or, for exploration of disease progression to enable the coroner to appreciate the clinical complexity and its expected progression in each unique case. Pathologists, on the other hand, may be invited to clarify points in PME reports, which the coroner also considers when deciding if investigation is necessary. This type of support allows, on the face of it, legally qualified coroners to maintain competence of

knowledge, to fulfil their role in death investigation with quality. If these coroners, in this group, are indeed medically qualified they appear to be applying medical knowledge appropriately when deciding if there is a reason to suspect the death requires investigation.

The fact that the professional background of the coroner respondents is unknown, or the longevity of their appointment to that role is less important for these respondents as they have also demonstrated similar thought process and decision making for CS2, which is less medically orientated than CS1.

Again, for CS2 a sparse narrative is provided by respondent 3 stating: “unexpected death.” With respondents 24, 30 and 34 providing more in the way of why they would investigate this death, i.e. it “does not appear to meet the criteria for….old age” (30); “the cause of death is unknown and unexpected” (34). Furthering this respondent 24 states a coroner would make initial inquiry with “the GP to see if…. able to give a medical cause of death,” however, states: “it appears unlikely on the facts.”

Narratives such as these demonstrate EI along with autonomy of thought and decision making, rather than being influenced by others such as the GP.

Again, these responses suggest only pertinent variables were considered, ones that have clinical relevance and not ones that, when considered appear to influence a coronial decision – as will be addressed in group 8.

Due to the vast clinical differences between the two case studies, as explored in chapter eight, these respondents are demonstrating thought processes and decision making that is appropriate and accurate in the coronial role. Further suggesting these coroners will investigate when it is required, due to using information that is pertinent, rather than interesting to know, but not helpful when deciding if death investigation is necessary. For example, age as a variable is interesting to know but is not pertinent when deciding whether to investigate a death.

The RMP respondents within Group 1 identified similar variables to the coroners, although warfarin and INR are identified more frequently, which will not necessarily be due to more RMP responses for CS1. It will reflect that these RMP's are employed in an acute health care environment and will be treating patients who are anticoagulated, whether that is by direct treatment i.e. managing the anticoagulation regimen, or, indirectly i.e. considering a patients' anticoagulation status when treating other diagnosed conditions. Thus, narratives

that are clinically orientated in a direct way are expected from these respondents.

The variables identified by RMP's in this group are appropriate i.e. warfarin and INR, for example, with the narrative provided demonstrating the importance of both variables and how they have contributed to the death of CS1.

Again, as with coroner respondents, some of the narrative is sparse: "warfarin related death" (55), "secondary to anticoagulation" (106) and "potentially iatrogenic" (123 and 133). Iatrogenic is a term that describes something pertaining to a physician (MacPherson 2004). This phrase has been used in the medical domain to explain that there are sometimes health events that occur due to a therapeutic intervention. In this instance, it is acknowledging the haemorrhage has been affected by a physician by prescribing a therapeutic anticoagulant treatment (warfarin) for a diagnosed condition (AF).

To exemplify this further, and to address the potential interpretation of medical error here, another iatrogenic occurrence can be that of acute myeloid leukaemia (AML). There are known cases of AML being diagnosed after radiotherapy and/or certain chemotherapy

treatments for other types of cancer, with these therapies being legitimate, evidence-based treatments for the type of cancer diagnosed (Williams et al 1987). However, because of the effects of chemotherapy on the bone marrow, which produces blood cells, the bone marrow may not recover with AML being diagnosed. This iatrogenic occurrence is not an error, or due to mismanagement of a previously diagnosed condition, it is an example of a fine balancing act that clinicians must weigh up when prescribing treatments for patients. Indeed, this fine balancing act is what CS1 demonstrates, but the difference is that without a clinical reason as to why a high INR was necessary then it becomes error, risk taking or negligence, rather than iatrogenic in its medical sense. Alternatively, the term iatrogenic could be the respondents' polite, or less accusatory, way of suggesting a clinical error, negligence or risk taking has indeed occurred.

This is clearer to understand in the narrative provided by respondent 116 and why referral is necessary: "intracerebral haemorrhage in a patient on warfarin and INR above target range for anticoagulation in atrial fibrillation." Which is similarly reflected by respondent 156 stating: "unexpected death", but then adds that "anticoagulation may have contributed and was outside

therapeutic range." Indeed, respondents 67, 90, 91, 103, 112, 120 and 139 identified the INR was outside a normal or target range when warfarin is the anticoagulant of choice for AF.

In furtherance of this, respondents 67, 91, 115, 117 and 152 raise questions about the management of the warfarin. Indeed, respondent 67states "it may indicate neglect by…. others." This is an issue as neglect is appropriate rhetoric as poor or inadequate management is commented on by other respondents. For example, "were any efforts made….to control warfarin dosage?" (91), "concern about whether…. received adequate management" (117) and was "monitoring frequency adequate" (152).

All pertinent narratives, but to return to neglect, which there is a case for here. For neglect to be appropriate three facts must be evident, 1) relevant damage was foreseeable, 2) proximity of relationship between the patient and doctor and 3) it is fair, just and reasonable to impose such a duty (*Caparo Industries plc v Dickman* [1990] 2 AC 605). To follow this to its logical conclusion for CS1 the haemorrhage was foreseeable as it is a recognised side effect of anticoagulation. Indeed, to mitigate this side effect there are guidelines for target INR's or target ranges to reduce the risk of side effects.

Proximity of relationship, or the neighbour principle, is proven as a registered health care professional, providing or managing care or treatment, must have the patient in their minds when directing acts and omission as part of that care or treatment. Harm occurred – a blood vessel rupture occurred which led to death due to hyper anticoagulation (*Donaghue v Stevenson* [1932] AC 562), the harm in this instance being that the clotting mechanism in the body could not affect the haemorrhage due to the hyper anticoagulation.

For this case, if the neighbour principle was found to be deficient, then neglect is an appropriate conclusion. However, in the current health care climate it may not be a GP, or RMP, who prescribes the dosages of warfarin anymore. The traditional model of health care is slowly being replaced, for a variety of reasons, so a doctor may not be the default professional anymore. A non-medical prescriber can be a registered nurse (RN), or registered paramedic, working in clinical areas that manage anticoagulation, who provides the prescriptions and manages the dosing requirements. Alternatively, phlebotomists may obtain blood for INR testing with prescribing done remotely over the phone i.e. what dosage of warfarin to take each day and when the next

INR test will be, by another registered health professional.

Regardless of the system in place, or the individuals involved, the patient needs more than a blood test to monitor INR levels, or telephone calls to advise on warfarin dosages. They also need a consultation to uncover any changes in lifestyle, including the use of common analgesics to remedy minor aches and pains, or any other signs and symptoms as discussed in chapter eight.

Indeed, respondent 110 considers the system in place by stating “may not have had contact with a medical practitioner despite having INR checks.” Therefore, the circumstances around the death that are a cause for concern are identified more clearly by the RMP’s, which may be due to working within mainstream NHS organisations and having experience of current systems.

These RMP’s also demonstrate a lack of acceptance of error, with respondent 149 stating “drug error implicated…,” or risk taking. With risk taking more evident as a concern in respondent 90’s narrative which includes the current acceptable INR range for AF “should be between 2 and 3.” This is not just an acknowledgement of evidence-based practice (NICE

2014), but also that any reading of 3 or above, which was the case in the weeks prior to death, is taking a risk. The risk, in this instance is that the hyper anticoagulation will affect how the body can respond to arrest any haemorrhage that occurs.

Similar thought processes and decision making is evident for CS2 as they all state the death is either “unexpected” (90, 91, 103, 116, 120, 123, 133, 139), “unexplained” (55, 103, 112), “unknown or no known cause” (67, 106, 115, 117, 120, 149, 152,156).

What is also interesting is respondent 120 stating “also in care” and how this links to acceptance of error or risk taking and potentially neglect. This respondent has considered CS2’s usual environment, one where staff are employed to provide care due to a person’s decline in being able to live independently. It is considered, as a third-party act, whether deliberate or accidental, or an omission, wilful neglect or a competence-based neglect, can result in death, which may not be clear initially. Only upon a deeper investigation could any issue with a care providing organisation be uncovered. This type of consideration could be due to the experience of the quality, or standard, of care for individuals, by way of

observing the clinical condition of patients when admitted to an acute care setting from a care or nursing home. Such clinical condition could include malnourishment, dehydration, unexplained marks/bruising, an unkempt appearance, poor hygiene to name a few, which reflects concerns identified by relatives when cases involving poor care and covert recordings are reported in the media.

Indeed, respondent 116 is more direct in identifying these types of concerns stating, “can’t absolutely rule out mishap or foul play.” Foul play can be perpetrated by residents not just by staffs, however, if staff are not aware of what residents are doing and reporting incidents, it could be due to a lack of quality of or standards in care. Potentially, this can be uncovered during death investigation so is an appropriate issue to consider.

The RMP respondents within Group 1 demonstrate competence, along with a lack of acceptance of error or risk taking, by focusing on variables that matter. They matter because, for CS1 they provide a picture of the circumstances and contributory cause of the death. For CS2 the variables do not provide a clear, cohesive picture that allows a cause of death to the best of belief and knowledge to be offered. The variables, or pieces of

the picture, are not made to fit because of any personal beliefs, or consideration of less appropriate variables, that highlight behaviours that are less admirable in individuals within death certification and investigation. Variables such as age do not influence the decision to refer, which would suggest a potential issue of personhood that is discussed in Group 5. Autonomy of thought processes and decision making influenced by knowledge competence are evident for these diverse case studies. Such competence would enhance the ME role, should any of these RMP respondents populate it.

The only ME - respondent 80, who demonstrates competence for both case studies does so with pertinent narrative and rhetoric. For CS1 the narrative demonstrates clearly why referral is necessary: “INR is high, and death is due to haemorrhage. Enquiry needs to be made to establish INR control before these results.”

Thus, the wider circumstances, which embrace competence, acceptance of error, risk taking, personhood and the influence of care drivers for registered health care professionals can be scrutinised. In doing this, individual practises and organisational

systems that can contribute to a death can be identified, and addressed, as part of safeguarding future patients. As such the ME supports, and arguably enhances, the safeguarding aspect of coronial investigation.

This safeguarding is also evident for CS2 by refuting an irrelevant variable to concentrate on and consider other variables to uncover a picture that supports a best of belief and knowledge cause of death. “Despite the age, the cause of death is unknown and there is a possibility of foul play. The coroner will need to make enquiries to ensure there is nothing unnatural (e.g. similar cases from the same NH, a check for injuries).”

All Group 1 respondents have demonstrated competence with varying degrees of medical knowledge, by applying it appropriately to the case studies. By being able to focus on relevant variables whilst not ignoring, but not using less relevant ones, to influence decisions, they view both case studies on their own unique merits. To follow this type of autonomous decision making to its end, these respondents will always consider each case on its merits, therefore, only investigating appropriate cases, or providing MCCD’s

that have a high degree of accuracy or referring only appropriate cases for investigation.

Group 2a

Procedure focused, query medical competence.

The following respondents are included and are from two of the participant groups:

Coroner: 46;

RMP: 53, 88, 92, 94, 98, 100, 121.

The one coroner respondent is allocated to this group as some of the narrative provided for CS1 suggests this is a legally qualified coroner.

A legally qualified coroner may be knowledgeable about court proceedings and etiquette by virtue of being experienced in presenting in a court. However, the word knowledgeable applies because this respondent wishes both case studies to be referred, providing a less succinct narrative as to why this decision is made.

For CS1 respondent 46 identifies “medical treatment had contributed to her death.” But then adds “I would need it to be explained to me.” Further scrutiny of the narrative illuminates “without medical background I would not be aware…from the notes above.” Although,

there is a potential reliance on a medical professional to provide a deeper explanation, this respondent knows something that suggests investigation is necessary and why.

This is like the narrative for CS2 i.e. there is knowledge as to why a referral should be made. Indeed, this respondent acknowledges without “a MCCD it would require reporting…,” suggesting the case study is lacking in information to provide a cause of death to the best of belief or knowledge. Interestingly, this respondent clarifies that regardless of cause of death “if subject to a DoL’s then would require reporting even if natural CoD.” Therefore, this respondent is knowledgeable of the statute that, at the time of responding to CS2, dictated automatic coroner referral. The changes to the DoL requirement are discussed in chapter four.

It appears this coroner respondent is knowledgeable, or procedure focused, for the office held, which could be enhanced further with the proposed ME tier, providing that any medical or clinical knowledge shared is not inaccurate or value laden. Any inaccuracy in knowledge, or value laden advice, influences the thought process and subsequent decision made in a negative way i.e. some cases may not be investigated when they ought to

be, as the Pathologist exemplar ably demonstrates, in chapter five when considering the Hutton Report. Why this is important will be discussed in chapter ten.

Being procedure focused is also evident in RMP responses, namely from respondents 53, 88, 92, 94, 98, 100, 121 and 154, which can indicate it is easier to fall back onto policy or guideline content rather than considering the case in question in any meaningful way, such as identifying relevant variables and using them in the thought process when making a decision. All the respondents did not identify any pertinent clinical variables for CS1, rather they use rhetoric that aligns to that found in policies or guidelines. For example, “died within 24 hours of hospital admission” (53, 88, 92, 94, 100 and 154), “for discussion as new attendance in hospital” (98) and “sudden, unpredicted death” (121).

As CS1 is medically focused the narratives provided do not reflect any clinical knowledge around pertinent clinical variables, only that of policy content. However, as the clinical environment in which these respondents practise, nor their longevity or seniority as an RMP is known, it would be unfair to suggest they lack competence with certainty. They could be making

appropriate decisions, in the best way possible, if they have a decaying knowledge base around care and management of anticoagulation patients. There is an element of safety by following policy or guideline content, however, over reliance on this can affect the quality of thought processes and decision making, as it aids knowledge decay by not using any clinical knowledge when making decisions. Alternatively, some of these respondents may be junior, perhaps just starting out on a medical career, and use policy content to guide decision making until they accrue, and feel clinically confident and competent with, their knowledge base and how they apply it in clinical situations.

Interestingly, this type of decision making is not evident in the narratives provided by the same respondents for CS2.

For this less clinical case study the respondents have appreciated referral to the coroner is necessary because “there is no obvious cause of death” (53, 94, 98, 100, 154). To arrive at this conclusion the information in CS2 must have been understood, otherwise a cause of death such as old age could have been offered with no referral necessary. Clearly, there may be other reasons for demonstrating clinical knowledge for CS2 but not for CS1, which will be addressed later.

Respondents 92 and 121 also display elements of policy content for CS2, as time when the decedent was last seen by a doctor is part of their narrative. With “not reviewed by doctor in last 7 days” (92) and “not seen in preceding 24hrs for current presentation” (121). However, respondent 92 also states it is an “unexpected death.”

All these phrases – cause of death unknown, unexpected death and the timings of any medical review can be found in policies that pertain to when coronial referral is required. What is of interest in the narratives for CS2 is that respondents 94, 98 and 154 allude to the environment the decedent lived in with “abuse or suspicious circumstances….her behaviour may have antagonised staff and …residents” (94), “possible misconduct in nursing home “ (98) and “exclude any deficiencies in care” (154). Certainly, this suggests little in the way of acceptance of error in home care environments, but not of the hospital or primary care environs for CS1.

All these RMP respondents, who would refer CS1 citing policy content, did not engage with the medical concerns in either a hospital (if hospital dosing of warfarin occurred) or primary care (GP management of warfarin) environment. Perhaps it is due to accepting error within

their own profession, for which staff in care homes do not belong, which RMP's are introduced to during undergraduate medical education. Or, it may be easier not to accept error in other professions such as nursing, or in others that are non-registered and, therefore, non-professional, such as health care assistants. Alternatively, it could be that the RMP respondents did appreciate the clinical picture for CS1, but perhaps as risk takers themselves, they did not feel it appropriate to suggest other medical colleagues take risks or make errors. They did not appear to find issue with practises they themselves are perhaps comfortable with, so policy content is an easier way to influence decisions regarding coronial referral.

Being procedure focused is not always beneficial to a role within death certification and investigation as the nuances, or variables, for each unique death are not considered widely enough to have an opportunity to address concerns around competence, acceptance of error or risk taking. As part of safeguarding an ME needs to allow statute, policies or guidelines to be an adjunct in decision making, not a replacement for it or the thought processes required to reach a decision.

Group 2b

Procedure focused, admits to not knowing.

The following respondents are included from one participant group.

RMP's: 68 and 134.

Both respondents would refer both case studies, even though, for one of the cases, they admit to not knowing if coronial referral is indeed necessary.

For CS1, respondent 68 relies on policy content: "death shortly after hospital admission," furthering this with "and potentially secondary to a medical intervention." The latter rhetoric suggests it could be the warfarin that has been considered. However, it could also suggest the medical interventions that occurred in the ED, which is also policy content for coronial investigation. As it is not clear in the narrative provided there is uncertainty as to what is meant. However, the response to CS2 may illuminate further as this respondent worked "in A&E" at the time of participating in this study. Any interventions carried out, inappropriately or to a poor standard, could also contribute to death so the cause of death is not necessarily known unless an investigation occurs. Regardless of the meaning this respondent is trying to convey, it does suggest there is a lack of acceptance of

error, as a medical intervention is within the medical domain and carried out by medical professionals.

Nevertheless, for CS2 respondent 68 offers no narrative as to why they would refer, “I work in A&E and don’t have experience to know whether this requires referral,” which is an honest response. It suggests that this respondent is perhaps more confident making decisions when variables in the clinical history are more readily identifiable, which they are for CS1. However, what is concerning is the rhetoric identifying an unknown cause was not used as this would demonstrate some medical knowledge application at the very least. This could be a concern as unknown cause is part of policy content for coronial referral, so in this instance, for CS2 a procedure focus was not the driver for this decision, which is surprising when policy content was applied to CS1. It is more surprising as there is usually only one organisational policy that provides the information to guide RMP’s as to when coronial referral is required.

However, admitting to not having experience in this instance could suggest respondent 68 is a junior RMP still acquiring knowledge and experience in death certification and investigation. Or, they could still be acquiring clinical knowledge and experience that develops to inform decision making when variables,

regardless of how evident they are, are identified and their relevance understood when deciding. However, working in A&E (now known as the Emergency Department) will not provide experience of MCCD completion as deaths that occur in this department usually require investigation.

Another interesting point that needs comment is that respondent 68 referred CS2 without knowing why it was necessary, which could be a lucky guess. However, if this pattern of behaviour continued, at some point a referral will not be appropriate, if this then becomes noticeable to a coroner, it could influence how that coroner views a referral from this RMP. Such a situation affects the quality of the coronial system as a belief about a certain RMP will influence the coroners view. So, if a death has been appropriately referred it may not be investigated because of the view held about that RMP, due to many previous referrals being erroneous. However, if this type of pattern did become evident a coroner ought to notify either the individual, or the employing organisation, so any educational deficit can be addressed. The ME system, once implemented, is in a favourable position to identify such practises and intervene at an individual or organisational level to remedy this. Although, with the introduction of ME's

there is also the fear that as MCCD's will be scrutinised, RMP's may not directly refer to a coroner when it is required, rather they may complete a MCCD for the ME to identify if coronial referral is necessary.

Whereas, respondent 134 displays the opposite pattern to respondent 68, by claiming they were "uncertain if need referral" for CS1, which has several clinical variables that are easily evident for decision making. The reason for this could be the area of speciality this RMP works in, either because they are a junior RMP who is acquiring knowledge and experience and is yet to encounter anticoagulated patients. Or, it is because they are a senior RMP demonstrating a decay in knowledge, as it is no longer used on any basis in their current clinical environment.

What is concerning here is that knowledge of a common condition and treatment has not been remembered from undergraduate medical education, in any way, as no clinical variable has been identified by this respondent. Not even a best guess from a medical professional who ought to be able to identify those variables in Table 6.

However, for CS2 where the variables are less evident, this respondent again claims, "uncertain if necessary to refer," then provides narrative that is procedure focused.

It is not just procedure focused; it is an accurate conclusion about the appropriateness of one policy. “Although seen within 2 weeks…by GP and old age is likely cause, I am not aware that old age is an acceptable cause of death.” Without the documented decline in general health and functioning over a long period of time in the absence of any identifiable disease or injury, old age cannot be the sole cause of death – see Appendix Twenty-One.

Such a narrative may demonstrate the level of seniority and/or clinical speciality of this respondent, for the reasons previously discussed.

Although these two RMP respondents have demonstrated competence from the perspective of the correct action to refer both case studies, there is concern over how they arrived at that decision.

Indeed, by choosing two quite different case studies it is no surprise that this outcome is evident. The importance of recognising this outcome provides a platform for the ME recruitment process, which ought to require applicants to demonstrate thought processes, and decision making, that ensures a reasoned discourse for making coronial referral, or accepting MCCD content, which enhances death certification and investigation.

Howsoever ME's are recruited, the recruitment process needs to be robust to identify RMP's who fulfil the statutory time element of being or practising as an RMP, but who also possess quality of thought and decision making to support and enhance death inquiry. As has been discussed in chapters two and three, accurate mortality data is required at both national and international levels to indicate what health resources are required and where, to promote health and safeguard individuals.

Group 2c
Procedure focused even though appears competent.

The following respondent is included from one participant group:

RMP: 101.

Respondent 101 primarily relies on policy content when deciding to refer CS1 – "death within 24 hours of admission." Nevertheless, they also identified warfarin as a possible contributory factor with, "possible contribution of treatment (warfarin) to her death." As warfarin is a pertinent variable, it appears as though respondent 101 has an awareness of the drug, and its potential to contribute to a haemorrhagic death. By

claiming it is “possible” suggests there may be a belief that such a death is acceptable as the haemorrhage is viewed as a complication of, rather than a side effect of warfarin. Therefore, there is an element of risk taking, or acceptance of error, whether the INR levels have been considered in this decision. It may be a belief of this respondent that even with good anticoagulation management a haemorrhage resulting in death is to be expected and is a natural event unless proven otherwise. However, with the narrative not including the INR as a variable it is difficult to be certain if respondent 101 has indeed considered more than one clinical variable to arrive at their decision to refer CS1. To address this uncertainty the narrative for CS2 needs considering.

Again, it is concise, “no obvious cause of death,” suggesting there are no easily identifiable variables that could be considered as causative factors, if not the cause of death. Interestingly, respondent 101 also adds “although elderly she has died unexpectedly at “home”.” The rhetoric suggests age is acknowledged but does not influence the decision to refer, rather it demonstrates the clinical variables have driven the decision. Dying unexpectedly is another type of death included in policy content as requiring coronial referral. The other point of

interest is the place of residence being identified as “home”. The use of speech marks indicates it is acknowledged as home as that is where the decedent recently lived, but it is not the residence which had been owned or rented by the decedent in life. Thus, the connotation is “home” is an environment where social, care or nursing needs are catered for, in a multi occupancy building where staff are employed to address the needs of the residents within. In such environments there is the potential for other residents, staff or visitors to behave in ways that cause harm, including the death of others. Therefore, it is clear respondent 101 has awareness of this potential which could be a contributory factor in the death for CS2. Further suggesting there is less of an acceptance of error perpetrated by other health care providers than there is for medical colleagues. Coronial investigation ought to uncover deficiencies in standards of care that contribute to, or cause death, but that is providing appropriate referrals are made in the first instance.

Nevertheless, respondent 101 arrived at the correct decision to refer both case studies, not necessarily by demonstrating clinical competence but by demonstrating procedure competence.

Group 3

Uncertain, prevaricates – leaves the decision to others and issue of personhood.

The following respondent is included from one participant group:

RMP: 57

Respondent 57 is aligned to this group as they have provided lengthy narratives for both case studies, without appearing to clearly articulate, they themselves have decided to refer.

For CS1 respondent 57 wants “to discuss the case with the Coroners Officer/ME,” which is laudable as it can help explore and clarify why referral is or is not required. However, CS1 is quite medically focused, therefore such uncertainty from an RMP is a concern. It may be uncertainty that is due to a lack of experience, or knowledge, a decay in knowledge or an issue with EI around self-esteem and self-image. Even though an attempt has been made to link a clinical variable by stating “she had an iatrogenic pre-disposition to the event,” respondent 57 toys with the idea the decedent “probably died of natural causes, although this has not necessarily been established.” Which suggests the potential for accepting error or risk taking in colleagues but attempts to refute this, as death by natural causes

cannot be established at this point, which is important as this is when MCCD completion is required. The uncertainty concludes with “her relatives may wish for coronial investigation,” which suggests it is an easier decision for this RMP if relatives make this known. What is interesting is the concluding sentence “if she had been 20 years younger I suspect most people would be referring this lady to the coroner.” This is a concern as it appears that age is being considered to arrive at a decision. Indeed, the narrative provided is a mixed picture suggesting uncertainty as respondent 57 provides data that is causing a conflict with decision making. If this death requires referral for someone younger, it requires referral for CS1, as the clinical variables would suggest the same in both instances, only age would be the altered variable.

Whether respondent 57 is aware of it, or not, there is an issue with personhood and a person’s worth as they decline in age and health. Therefore, it becomes clear why they had difficulty linking the clinical variables and what they could be suggesting for the circumstances of the death.

Rather than the lengthy narrative for CS1 demonstrating a clear, logical thought process, driven by the clinical variables, it appears to demonstrate a potential covert

bias due to age and how the decedent is then viewed. Such bias can collude with medical error and risk taking, as there will be a lack of urgency to refer for investigation that can uncover medical practises that contribute to death, if the decedent is viewed as less worthy of death investigation.

The narrative provided by respondent 57 for CS2 is initially less concerning, which is surprising due to the lack of clinical variables that could be used to identify a belief and knowledge cause of death.

Respondent 57 questions “what is the GP going to write on her death certificate as a cause of death?” rather than stating the cause is unknown and demonstrating decision making abilities. Perhaps, to address their own question, the narrative provides suggestions as to other potential causes of death. “Make it up and put down MI due to IHD on the grounds that everyone of that age has IHD,” adding “but she might have had a stroke so there is nothing to go on.”

The rhetoric illuminates an assumption that IHD is evident in all after a certain age, which ought to be a reasonable assumption, but PME would be able to confirm or refute that. However, chapter two has explored the fact that diagnosis and evidence at PME

can be quite different. It is also reasonable to suspect a stroke, again evidence of this would be found at PME.

To confound further, respondent 57 suggests a new category for cause of death, that of “unspecified natural causes.” Furthering this with “if it (unspecified natural causes) were acceptable…. otherwise the cause of death is just speculation.”

What does make this narrative concerning is the implication respondent 57 would prefer not to refer CS2. By suggesting a new category for cause of death the concern is that this respondent is happy to certify this death as natural, even when the cause of death is unclear. Indicating that unless there is concrete evidence of it being an unnatural death, then it must be natural and not require investigation. It is highlighting there is a possible belief that the system forces some deaths to be referred when certifiers would prefer not to, with an unspecified natural cause category allowing them not to.

Unspecified natural causes are an interesting suggestion that is not viable, especially as the phrase natural causes suggests to the layman, at least, that there is no evidence the death has been influenced by any person, the body and its systems have declined

naturally until cessation of function. NCEPOD (2006) claim that a natural cause death is generally taken to be the consequences of old age. Or a disease that did not, for example, involve a third party, drug toxicity, industrial complications, trauma, self-injury, or medical malpractice. It is this involvement that needs to be explored to establish natural causes, if the ONS (2010) criteria in Appendix Twenty-One is not evident.

There are many categories, to which a death can be ascribed to, such as accidental, suicide and misadventure, for example. These categories go some way to describe the circumstances around the death. Some would argue such deaths are unnatural, as an event occurred by either self, in cases such as suicide or misadventure (an accident that occurred due to a risk that was taken voluntarily). Or, by others in cases of accidental death (such as a slip and fall, traffic collision, or accidental poisoning to name a few). By ascribing a death to one of these categories suggests either self, or others, have some responsibility towards contributing to the outcome. It is this responsibility that needs exploring, by investigating the death, to ensure safeguarding is promoted for State members, providing there is any responsibility to apportion.

A death due to disease is not always considered natural, as is the case for Legionnaires Disease. Although the disease has a natural progression, it is the way it is contracted that makes it unnatural. It is a severe form of pneumonia that is contracted by inhaling the bacterium *Legionella* (Parr et al 2015). The risk of contracting Legionnaires Disease is increased if exposed to poorly maintained man-made water systems, for example air conditioning systems (Parr et al 2015). It is this type of contraction that makes a Legionnaires Disease death unnatural.

Thus, unspecified natural causes would provide a category for all decedents, whose deaths were viewed by RMP certifiers as natural, for example a Legionnaires Disease death, or less worthy of investigation. Therefore, errors and risks inherent within individual practises and systems would go unidentified and unchallenged. Thus, safeguarding would be affected, and in the case of Legionnaires Disease the living would be at risk of infection and premature death, but for, quality maintenance of systems that are now commonplace and depended upon.

What is a true statement by respondent 57 is that “the cause of death is just speculation.” Indeed, what this study can demonstrate is that deaths that need

investigating do not get referred, with belief and knowledge identifying a cause of death. Thus, if belief and knowledge as to a cause of death are inaccurate it can only be concluded the cause of death for many, does indeed derive from speculation, which ignores practises that are worthy of scrutiny to promote safeguarding.

Respondent 57 appears to be promoting a culture of accepting it is acceptable not to know how or why death occurred. Overtime this will introduce its own problems, that it is officially acceptable not to know why someone died, therefore, any pressure to inquire into death will diminish.

It is, therefore, unclear if respondent 57 has tried to demonstrate why CS2 would be referred by using examples to illustrate this decision. However, some of the narrative provided demonstrates how easy a belief and knowledge cause of death can be certified, that if left unchallenged a doctor, or other, can get away with murder. Which echoes the concerns in the Smith Report (2003). Indeed, unspecified natural causes as a category for a cause of death would encourage Dr Shipman type behaviours, therefore, MCCD scrutiny for all deaths is necessary to enhance death certification and investigation.

Group 4a

Reliant on others – may lack competence.

Respondents 9 and 29 are allocated to this group because of the narratives provided for both case studies, whereas, respondents 8, 13 and 38 are allocated because of their responses to CS2.

Both respondents, 9 and 29 are coroners, with respondent 9 wanting both case studies referred whilst respondent 29 did not want either case study referring.

For CS1 respondent 9 provides a narrative that suggests the clinical history provided has not been understood. This may indicate this coroner is a legal professional who lacks confidence with clinical terminology. Although, a lack of understanding is demonstrated around the cause of the haemorrhage, “was this a spontaneous bleed, or did the fall cause it, even though there was no “trauma”.” The clinical history indicates a witnessed collapse not a fall – which has been discussed in chapter eight.

This respondent perhaps views a fall as the action between losing consciousness when collapsing and landing on the floor, which is a misunderstanding of the mechanism of injury. If this respondent believes a

collapse causes a fall the mechanism of injury starts with the collapse.

However, respondent 9 attempts to link a pertinent clinical variable (warfarin) claiming “her death may be related her medical treatment,” suggesting some understanding that warfarin could be a contributory factor in the death. Although, confusion is again evident with “the cause of the collapse is unclear; was this a spontaneous bleed.” It could be that the cause of collapse is indeed unclear, in that two catastrophic events occurred at the same moment i.e. the brain haemorrhage and a myocardial infarction (heart attack), but this would be most unlucky and highly unlikely. If respondent 9 is questioning whether the haemorrhage could be caused by other means then it could, but the clinical history would indicate a fall with trauma evident on examination.

The case study clearly states there was no trauma, with signs being evident if a head injury had been sustained as the decedent travelled from a standing position to the floor. Such signs could be bruising, erythema or red discolouration, swelling or indentation at the point of impact with a hard object. Therefore, if trauma had occurred there would more than likely be some signs when the decedent was examined.

It is perhaps understandable, in the first instance, that the mechanism of injury is difficult to understand if respondent 9 is a legal professional. However, if there is a longevity as a coroner it becomes less understandable as mechanism of injury needs to be considered, and understood, in many investigations when concluding cause of death with a level of accuracy. If this coroner respondent, is in fact a medical professional, the narrative is concerning as there is a lack of medical competence demonstrated.

At the least this respondent demonstrates a knowledge deficit that could impact on competence of role as it will influence decisions around whether there is reason to suspect investigation is necessary, if there is a poor understanding of the circumstances of a death.

The competence of respondent 9 is no clearer when considering the narrative for CS2 as “if a cause of death cannot be provided by a treating doctor, it should be referred.” There has been no attempt to explore the variables for CS2, only that if a MCCD cannot be completed then referral is necessary. It can be more clearly stated that respondent 9 is a legal professional as they have not attempted to call the death unexpected, (which is stated in the clinical information for CS2), or unknown cause. Alternatively, this respondent may feel

an appropriate cause of death is that of old age, so if provided on a MCCD then no action would need to be taken. If this narrative is implying old age as a cause of death this respondent is clearly not aware of, or not applying the criteria that is to be demonstrated before old age can be acceptable as a cause of death – Appendix Twenty-One. Which further suggests role incompetence by not recognising deaths that do, indeed, give reason to suspect investigation is required.

Respondent 29 is also reliant on others and may lack competence, as they identify a cause of death for CS1 that is devoid of any reason to suspect investigation is required, claiming “her death is from natural causes and need not be reported.” Interestingly, they also go on to confuse the mechanism of injury, which can indicate whether the death is natural or unnatural. Respondent 29 claims “if there is no trauma and the doctor can give a cause of death on the fact that it was a simple collapse rather than a fall.”

Therefore, if a doctor provides a MCCD in these circumstances, it would be accepted with no further action taken. Such a stance colludes with poor practises that have the potential to be contributory factors to a

death. It also supports an acceptance of error (in care management), or risk taking (when prescribing warfarin) or a lack of personhood (the decedent is 78 years old; death is to be expected). By not investigating CS1, any of the behaviours can go unidentified and unchallenged, so safeguarding is ignored by respondent 29.

What is even more interesting is that the narrative implies investigation would be necessary if a fall had occurred rather than a collapse. Evidence of trauma or a fall suggests there would be a suspicion of third-party involvement in the death, for example a push, either deliberate or accidental, could be the cause of a fall. Or, that obstacles such as furniture or non-secured flooring caused a trip, resulting in a fall, which could be deliberate or accidental. These examples are overt whereas, a collapse has no such overt, deliberate or accidental intent. However, a collapse has an internal cause which could be contributed to deliberately or accidentally by neglect. Neglect can be deliberate i.e. poor management of the coagulation status or prescribing high doses of anticoagulants without a clinical rationale for this. Whereas, some may argue it could be accidental neglect if a lack of, or poor knowledge is the reason for such a situation, along with risk taking and accepting errors in practise. Yet the

narrative provided suggests the latter accidental neglect view would not be considered if a doctor provided a cause of death, so safeguarding is again compromised.

The lack of identifying pertinent clinical variables, along with the misunderstanding around mechanism of injury, suggests respondent 29 is a legal professional. If they are, indeed, a medical professional they appear to lack medical competence as well as competence of role.

However, respondent 29 does state “I would expect most doctors to report to the Coroner as a precaution.” Which implies referrals are indeed made for coronial investigation when it is not necessarily required. Such an example could be RMP’s who use care drivers in the form of policy content to refer for investigation, rather than clinical information being used when deciding i.e. the twenty-four-hour referral used by RMP’s within this study. The pure use of policy content without any clinical reasoning to support the referral for investigation can result in a “cry wolf” situation. If most deaths within twenty-four hours of hospital admission are concluded as natural causes, it is understandable that coroners may assume all deaths referred under this criterion will be natural causes. Unfortunately, this mind set influences coronial practice, so it will be less likely for a coroner to feel investigation is necessary. Thus, missing

the opportunity to investigate those deaths which are necessary, so the safeguarding aspect of the coroners' role has been affected negatively.

Interestingly, for CS2, respondent 29 demonstrates awareness of a policy, "given the age and the facts I expect most GP's would sign an MCCD showing Old age and Frailty." However, does not demonstrate knowledge of the content of such a policy – Appendix Twenty-One – as the decedent did not fulfil the criteria required for such a cause of death to be certified.

Respondent 29 could be demonstrating a lack of competence around knowledge or be colluding with an acceptance of error in care prior to the death. Alternatively, due to the age of the decedent, personhood plays a part with less of an appetite to investigate the death of a centenarian.

Even after reviewing the narrative for CS2 it is still difficult to identify the profession this coroner respondent belongs to, legal or medical. However, the narrative includes the abbreviation MCCD, which suggests a medical professional. Many RMP's are accustomed to MCCD's and completing them, which is not the experience of legal professionals. However, a legal professional who has longevity as a coroner may

recognise and know what a MCCD is due to experience within the role. Therefore, it is difficult to identify the professional background for respondent 29. What is less difficult to identify is a lack of competence of role due to the lack of clinical reasoning offered for the case studies, with a reliance on certifiers. This further suggests if a relative questioned the cause of death, for either of the case studies, this respondent would rely on the certifiers' documentation to provide an explanation because they could not "work it out" for themselves. This reliance would influence whether an investigation occurred, as the certifier could reasonably direct the coroner not to investigate. A situation such as this is reminiscent of Dr Shipman.

This type of role incompetence has the potential to be addressed by ME's by providing the clinical knowledge and narrative the coroner does not possess or articulate.

Other respondents within this group, 8, 13 and 38, have been allocated due to the responses for one case study, that of CS2. Respondents 8 and 13 are coroners whilst respondent 38 is an RMP.

Both coroner respondents identify "she died of natural causes" (8), or "clinical evidence of a natural death" (13).

Neither respondent has considered the wider circumstances of the death, indeed, respondent 8 appears to have concluded this either intentionally, or otherwise, due to the age of the decedent. It is implied due to the remaining narrative indicating time in hospital before death occurred, “it depends how long she was in hospital before she died,” which is a policy decision for referral. A narrative that is devoid of any acknowledgement of the wider circumstances of the death certainly suggests variables, such as age, are considered when deciding to investigate. Indeed, this is more so indicated by “it appears prime facie that she died of natural causes.” By suggesting this it appears there is a lack of knowledge to enable this respondent to appreciate the clinical information for CS2, who does require investigation. This decision can be influenced by experiences with similar cases i.e. they concluded as natural causes, so there is little motivation to investigate CS2.

Indeed, respondent 13 claims there is clinical evidence supporting a natural death conclusion, which concurs with respondent 8. However, these respondents are either legal professionals purporting to have clinical knowledge, or they are medical professionals who lack medical knowledge and competence.

Although, legal professionals will develop a clinical knowledge base whilst in the role of coroner, it will never be one that appreciates the unique clinical variables and therefore the complexity of death. Their knowledge will be superficial in the main as they have not consistently learned and applied it, in a clinical environment with patients, to internalise and synthesise it for future applications. Knowledge acquisition gains more strength when it is used as part of experiential learning, allowing reflection to consolidate its future application (Boud, Keogh and Walker 1979). A medical professional, on the other hand, has gained knowledge and applied it in a variety of clinical situations, so in theory, their clinical knowledge should be more than superficial in the main. Therefore, it is worrying that respondents 8 and 13 either purport to know more than they do, or, that they cannot appreciate the clinical variables within CS2. Thus, there are elements of behaviour that suggest a lack of competence of role along with a lack of clinical competence. If either of these respondents are medical professionals they may be accepting of error in the standard of care prior to death, which is not as common towards other professionals, only fellow RMP's, as this study identifies.

Alternatively, these respondents could be attempting to avoid a PME on a centenarian, as an act of kindness due to its invasive nature. If this is the case it is a way of colluding with poor practice, which Dr Shipman relied upon when ending the life of older patients.

Respondent 38, an RMP provides some clinical narrative “no traumas,” although does not acknowledge that being vocal and disturbing could have been due to pain rather than the dementia process –identified in chapter eight. This respondent states “presumably no suspicious circumstances and assuming family have no concerns about nursing home.” Suggesting any family would be capable of influencing the decision to refer for investigation, which acknowledges that information around the standards of care provision will be better known by others rather than self. For CS2 there are no known relatives so any concerns would not be forthcoming. With RMP’s having little time to enquire if any other person had an interest, such as if a friend or neighbour had a significant relationship with the decedent, who could provide information about the nursing home.

In the absence of trauma, suspicious circumstances and family concerns, respondent 38 offers “natural causes – GP can issue MCCD – frailty of old age.” Unfortunately,

this does not demonstrate knowledge of the criteria required for old age or frailty as a cause of death. It suggests respondent 38 lacks medical competence around the clinical variables that are more subtle for CS2 than for CS1, along with a lack of knowledge of a current care driver that guides clinical practice – Appendix Twenty-One.

It is interesting to note that respondent 8, 13 and 38 align to group 4a for CS2, whilst CS1 responses align to Group 6b which will be addressed later.

Group 4b

Reliant on others – may still be medically competent.

Only one respondent – 83, a RMP, is allocated here as they would refer both case studies for coronial investigation.

It is interesting to note only one variable is identified for CS1 that of collapse with "collapse out of hospital."

As no other pertinent clinical variables are identified it is potentially implying the cause of the collapse is of concern. It suggests respondent 83 could be aware of the pertinence of warfarin and the INR readings and how they contributed to the death. However, it could also reflect that a collapse out of hospital is somehow more

of a concern than a collapse when in hospital. It is possibly suggesting the cause of the collapse may be less evident when not in hospital i.e. there is little in the way of clinical information that would suggest a cause for the collapse, so investigation is necessary. Nevertheless, respondent 83 then states “but expect to be told ok to fill cert.” implying that even if advice is sought from a coroner that an investigation would not be necessary. The narrative provided, albeit a short one, suggests there is some medical knowledge being applied, but only to a point. Unless respondent 83 does indeed, know what the INR result is suggesting for CS1, but accepts it as inevitable when warfarin is the anticoagulant of choice, therefore, acceptance of error. Otherwise, the alternative is this RMP has a decayed knowledge base for common medical conditions such as AF and its management.

However, this is less evident in CS2, with respondent 83 demonstrating medical knowledge “an unexpected death. Need to know if agitation was an illness such as infection or pain and no suspicion of abuse.” This narrative suggests this respondent has more knowledge and experience with cases that show more vague clinical variables in older people. Particularly as they also state “hard to believe no comorbidities at 104 l

would ring GP first." Therefore, attempting to obtain information for a clear, concise clinical picture for the decedent so an appropriate decision can be made. But by stating "still an unexpected death" the implication is that regardless of what information the GP could provide, referral is still necessary. Within the narrative there is also a safeguarding element that of abuse by others, as the decedent had lived in a nursing home. For CS2 the wider circumstances are being considered, which was not evident in the narrative for CS1. This may be due to accepting error in colleagues, due to an appreciation of the difficulties, and complexities, when providing therapeutic management regimens to patients with multiple co-morbidities. Whereas, accepting error in other professionals is less well tolerated regardless of why it occurs. Even though abuse can be perpetrated by other nursing home patients or even visitors, any lack of recognition and action to prevent it, would be viewed as accepting error in other professionals who have a duty of care to patients i.e. RN's and carers.

Respondent 83 has demonstrated that decision making, along with behaviours and knowledge that influence that decision, can be uncovered by using case studies that are different. The case studies were chosen to reflect common clinical presentations that will become even

more so with the ageing population. Both CS1 and CS2 are complex, requiring the unique variables to be considered on their own merit and not be influenced by values, attitudes or beliefs that introduce a bias, which may be covert. This is important as ME's should be able to arrive at decisions based on the clinical facts of the case only. Therefore, it is equally important for this to be demonstrated during the selection process, with case studies being a part of that process.

Group 5

Medically competent, but issue of personhood.

The following respondents are allocated as follows:
Coroner: 23
RMP: 53.
Both respondents would refer both case studies.
However, on occasion the rhetoric suggests there is an issue with personhood, which is more so for CS2.

For CS1 respondent 23 uses rhetoric suggestive of a legal professional: "receiving warfarin and has spontaneous intracerebral bleed – likely on balance of probabilities to be related to the drug prescription therefore non-natural death." There is a level of medical knowledge by linking the warfarin to the haemorrhage but the phrase "on balance of probabilities" suggests a

legal professional. This is because this phrase is the lesser level of proof that is found in civil courts, that of probability rather than beyond all reasonable doubt which aligns to a higher level of proof in a criminal court.

If this respondent is indeed a medical professional, they have not identified pertinent variables that are common with warfarin, such as the INR. If the warfarin and the INR had been linked it would demonstrate clinical knowledge that is commonly required when practising as an RMP. Although, this respondent could have a decayed knowledge base if they have not practised as an RMP for a great length of time. Nevertheless, a medical professional ought to be able to suggest the normal INR range of 2-3 for the diagnosed condition of AF. This is particularly so as this INR range is the one for which most common diagnoses that require anticoagulation with warfarin align to (Guyatt et al 2012). Such information is the type that a legal professional would not necessarily be aware of, but a medical professional ought to be, even if it is a clinical guess, rather than internalised due to experience.

Therefore, respondent 23, by linking the haemorrhage to the drug prescription demonstrates a level of medical competence for the role of coroner, which is not evident for CS2.

With variables that provide the clinical picture but are vaguer in nature respondent 23 appears to allow the age of the decedent to influence the response, even though a referral would be made, suggesting an issue with personhood.

"Coroner can accept old age and general debility if over 80 years; likely to accept this even though no other medical cause."

Initially, this appears to demonstrate knowledge of guidance for old age to be acceptable as a cause of death. However, the criteria for this to indeed be acceptable is not evident or acknowledged by the respondent – Appendix Twenty-One.

By claiming that old age is likely to be accepted in the absence of any other cause is concerning as it infers an issue of personhood. The decedent in CS2 is a centenarian, so although it is reasonable to suspect old age ought to be the only cause of death, it is an assumption that without a PME the accuracy of such an assumption cannot be confirmed or refuted.

Respondent 23 appears to be suggesting that if there is no reason to suspect the death requires investigation, it avoids an invasive PME, which creates less anxiety for the bereaved. Some bereaved find comfort knowing

their loved one remains whole after death, as it gives the impression that there is nothing untoward by how death occurred. However, if this is a view held by a coroner it does not provide the bereaved with knowledge of how their loved one died with any clarity or accuracy.

Alternatively, this respondent could be using experiential learning, by reflecting on similar previous cases that were investigated, and concluded as natural causes due to old age. If this is the circumstance that has influenced respondent 23's rhetoric, it avoids the potential of unnecessary time and costs of investigating and upset to the bereaved.

But what this does do is collude with individuals who have hastened death, by accidental or deliberate acts, such as Dr Shipman, and more recently 450 deaths at Gosport War Memorial Hospital, due to the use of opiates without appropriate clinical indication (Gosport War Memorial Hospital The Report of the Gosport Independent Panel 2018). This report succinctly claims there was a disregard for human life with a culture of shortening life, and, when relatives complained they were let down by those in authority, by both individuals and organisations.

Sadly, this independent report supports the suggestion this respondents' narrative appears to demonstrate, that collusion occurs in death investigation. Respondent 23 states "likely to accept this even though no other cause." The implication here is that the initial investigation would include discussion with the decedents GP. If the GP did not provide any cause for concern, then no further inquiries would be made, so a death that needed investigating would not be. It also appears to suggest this coroner respondent would accept the referral but would not necessarily investigate it as thoroughly as it ought to be. It is implying that the system is set up to investigate such deaths, but in this instance the threshold to have a reason to suspect the death is unnatural is very high. Although, the motivation for such action could be kindness, time or cost, it could be demonstrating a view that the older the decedent is, the less relevant, or important, they are to necessitate death investigation. Thus, any systems or practises in the nursing home that need identifying and addressing are equally irrelevant and unimportant, even if they contributed to the death.

It is a similar pattern that emerges for respondent 153, in that they are clearer as to why CS1 needs referral:

“raised INR which is higher than it should be for AF may have contributed to the bleed.” This RMP respondent clearly demonstrates knowledge of the pertinent variables and their significance to the death.

Whereas, for CS2 although they state, “no cause of death can be given,” they go on to state: “although following discussion with the coroner it could be signed off as old age.” Again, this suggests that collusion is occurring in death investigation, particularly if the coroner asks if old age is a possible cause of death, this RMP could concur. This is a concern as a medical professional appears happy to alter their decision to refer after discussion with a coroner, even after accurately stating no cause of death can be given.

This can derive from the belief that if the coroner is happy with old age as a cause of death, no more will be said about it i.e. my decision will not be questioned as I am following advice.

Behaviour such as this contravenes the Coroners and Justice Act 2009, which requires a MCCD to be completed to the best of knowledge and belief. It also demonstrates how coroners could potentially lessen their workload and, therefore, costs by redirecting

deaths that are unnatural to be thought of as natural and certified to reflect this.

Respondent 153 is also demonstrating a trait around personhood by allowing, or suggesting, their original decision to refer is, or can be, influenced. It is as though the death of an older decedent does not warrant investigation as the cause of death does not really matter. It certainly implies that once over a certain age, how and why you die does not matter, it is not worthy of scrutiny as you must die sometime, and, to coin a phrase you have had a good innings. Clearly, this may have been the whole or part of the reason why guidelines became available for the criteria required for a cause of death to be attributed to old age and/or frailty. As Dr Shipman, and more recently Gosport War Memorial demonstrate, it is easy to certify any death when there is no appetite to investigate, even when the death is indeed unnatural in older decedents. Which further demonstrates an arguable institutional bias against older decedents, but this is not just evident in medical organisations and professionals but also in the coronial system and legal professionals.

Although, both respondents 23 and 153 would refer for investigation, there is a question as to how much scrutiny they do, or, would give to older decedents with

a vague history of clinical signs and symptoms prior to death, as demonstrated by CS2.

Group 6a

Not competent – issue of personhood.

The following respondents are allocated due to their responses to CS2, where they would not refer:

RMP – 96

ME – 141 and 144.

Respondent 96 questions “she is 104 – what is likely to be achieved?” Which is a response that could be borne out of concern that an invasive PME would conclude natural causes. That bereaved relatives would be upset if the death was referred. Or, it could suggest that after a certain age this respondent feels death investigation is not warranted. It is difficult to decide exactly what is being demonstrated here, however, it appears that the worth of the decedent is low for this respondent, otherwise a different decision would have been arrived at with the history for CS2.

What is more of a concern are the ME responses as neither respondent, 141 nor 144, would refer CS2 to the coroner. As these respondents are part of the ME pilot

sites since 2009, with this study being conducted in 2015, it suggests that many deaths that should have been investigated will not have been. This in turn casts doubt on some of the claims made in the Furness Review which was discussed in chapter six.

Exploration of the responses highlights several concerns. Respondent 141 states: “Ultimately the decision has more to do with the attending doctor who would have more facts than presented here.” Indeed, this is accurate, however, the ME has access to all medical records to ensure the MCCD is as accurate as it can be i.e. that the certified cause of death and any contributory factors do align with the clinical picture that is documented in the medical records.

Respondent 141 appears to be suggesting that if a MCCD is completed a cursory glance, in the form of scrutiny, would occur by the ME as the attending doctor knows the decedent. Interestingly, this may not be the case anymore. Due to the demands on health care provision many services, such as GP’s in primary care, have had to find innovative ways of providing services with reduced GP numbers. Indeed, some GP’s form co-operatives to provide care so more than one GP may attend a patient, with any one of those GP’s feeling capable of completing the MCCD once death occurs.

The days of a GP the patient is registered with providing any care, building a therapeutic relationship with them, getting to know the family unit and extensions of it are long gone. Therefore, a reliance on the certifying doctor to provide a best of knowledge and belief cause of death can be a folly. Notwithstanding the example provided by Dr Shipman.

Thus, respondent 141 appears to be accepting error, or lack of competence in other medical professionals, in so far as, appearing reluctant to question the cause of death for CS2.

Nevertheless, respondent 141 goes on to state: “however in a 104-year-old without any more disturbing information than is presented here, I would not refer.”

As an ME this respondent is a medical professional, yet they appear to have forgotten how older people with dementia behave and communicate, which may be due to decaying knowledge, or lack of such clinical experience when an RMP. As explored in chapter eight, there are variables that are a cause for concern, until proven otherwise by investigating the death.

Indeed, respondent 141 appears to identify the age of the decedent as a variable that is influencing the decision whether to refer or not. The implication here is

that if the clinical information provided applied to a younger decedent then referral would be made. Such an implication can suggest this ME holds beliefs, or attitudes, that are biased, with older decedents not worthy of having their death investigated when it ought to be.

Respondent 141 is circumventing the coronial system by not referring cases that require investigation, furthering this by suggesting “an alternative might be to offer an HMC referral recommending a 100A.”

A 100A is a form entitled Notification to the Registrar by the Coroner, notifying that there is no duty to investigate death under Section 1 of the Coroners and Justice Act 2009. No PME is held and a cause of death is provided, which is like the process for completing a MCCD i.e. the 100A can only be a best of knowledge and belief cause of death, which may have been arrived at after speaking to the GP.

By respondent 141 suggesting the use of the 100A they are demonstrating knowledge of coronial administrative forms, but if they suggest its use to the coroner, they are exerting influence over the final decision. This influence may be covert, just by suggesting this form will imply to some coroners that there is no reason to investigate, the

ME is the medical professional with the coroner being reliant on their advice when arriving at decisions. Some coroners may question the use of the form, but if satisfied with the ME's answers will probably concur and complete the form. Some coroners may disagree with the suggestion to use the 100A but still arrive at a decision not to investigate as the seed of doubt has been sowed. Particularly, if the GP does not provide any conflicting information to suggest the death is unnatural. Some coroners may disagree with the use of the 100A and investigate, however, the repercussions would be far reaching if the cause of death was anything other than old age. Any finding that contradicted the ME's advice to use the 100A could illuminate practices that do not, indeed support the coronial system. However, acknowledging this could mean old cases would have to be reviewed to uncover the breadth of the ME's incompetence.

Alternatively, this ME could be following a process that the coroner for that jurisdiction has requested, or insisted upon, as they themselves hold similar views about older decedents. Alternatively, the coroner may have limited knowledge and understanding, when trying to interpret the clinical presentation for the decedent prior to death. Therefore, being reliant upon the ME for

advice when arriving at a decision whether to investigate the death. The suggestion, therefore, to use the 100A may be the coroners sign that investigation is not indeed necessary. Which exemplifies how ME's can influence death investigation.

Respondent 141 is demonstrating how a lack of professional knowledge along with values, attitudes and beliefs can potentially affect the quality of death investigation which ME's are supposed to enhance. Which may not be acknowledged or addressed if the coroner for that jurisdiction is of similar ilk.

Whereas, respondent 144 is less succinct in decision making stating "based on this information provided this appears to be a natural death in a very elderly patient." This may be the case, but an investigation is necessary to conclude this. Again, there is a suggestion of lacking clinical knowledge and of holding attitudes and beliefs that older decedents are not worthy of having their deaths investigated.

Both these ME respondents appear to lack knowledge of current guidelines of the criteria for old age to be a cause of death. Indeed, if they lack this basic knowledge, they are not enhancing the scrutiny of

MCCDs, as they will not be able to put the clinical picture together if they are not aware of the criteria for a natural old age death in an older decedent. There is also the concern as to what other clinical knowledge they do not possess to be able to perform the ME role with competence, when deciding which deaths require investigation.

What is interesting for these respondents here, 96,141 and 144, is that they are allocated to the following group 6b for CS1 responses.

Group 6b

Not competent at all – no other issues.

The following respondents are allocated as follows and would not refer for investigation:

Coroners – 2, 8 (CS1), 13 (CS1), 26 and 27

RMP's – 38 (CS1), 39, 71, 95, 96 (CS1), and 108

ME's – 141 (CS1) and 144 (CS1).

All the coroner respondents claim CS1 is a death due to natural causes with a variety of statements: "natural causes INR satisfactory. No trauma" (2); "it appears prime facie that she died of natural causes" (8); "clinical evidence of natural causes death" (13); "this is

ostensibly a natural death – the treatment predisposing the bleed was reasonable" (26), and, "this is a natural death" (27).

It is concerning that respondents 2,13 and 26 also claim that care prior to death was reasonable or satisfactory which implies that competence of role is lacking. If these respondents are legal professionals, they are making claims beyond their scope of professional knowledge. However, if they are medical professionals they are not concerned with the level of care, or that other medical colleagues could be accepting error and risk taking with the standard of care provided. This may be because as medical professionals they practised in a way that accepted error or took risks. Therefore, these respondents will not acknowledge this as being a cause for concern when potentially demonstrated by others.

Regardless of the type of profession these coroner respondents are from, they are not demonstrating knowledge that is commensurate with competence of role.

Therefore, even if CS1 was referred by an RMP there is a chance these respondents would decide there is no reason to suspect the death is unnatural and investigate. Indeed, this can occur should ME's refer to a coroner, as

once the referral has been made that is the end of their ME remit, unless the coroner refers the decedent back to them (Coroners and Justice Act 2009 s 20 (f) (h)).

Alternatively, if CS1 was referred, the coroner respondents 2, 8, 13, 26 and 27 could complete a 100A with an accurate cause of death – the cerebral haemorrhage – the why of the death, but completely ignore the how, the wider circumstances that provide the safeguarding element of the coronial role. Or, they could decide not to investigate further upon receipt of a PME report, regardless of whether further investigation was necessary. Particularly, if the answers to any questions posed by the coroner to the pathologist, gave reason not to investigate further, either accurately, or erroneously as the example in chapter five exemplifies.

For the RMP respondents 38, 39, 71, 95, 96 and 108, they all claim either a natural death, or make clinical statements that reflects their medical competence, with possible acceptance of error and risk taking in colleagues as well as themselves. This is particularly the case if they practise in a similar way as they will not necessarily recognise it in others to consider it a problem in health care provision. Exploring the rhetoric illuminates the levels of lack of competence.

Respondent 38 states: “her warfarin is not out of range – she has a stroke, a complication of both AF and vascular disease and being on warfarin. Natural causes – cause of death known – happy to issue and MCCD.” It is true a stroke can be a complication of AF and vascular disease. CS1 has ischaemic heart disease as a co-morbidity, which indicates that vascular disease that is responsible for ischaemia of the heart, in the form of atherosclerosis, will also be evident in blood vessels throughout the body. As such there will be ischaemic changes in the cerebral vessels, which increases the risk of ischaemic CVA. These ischaemic changes can be promoted and accelerated by hypertension, another co-morbidity CS1 has, via inflammatory mechanisms, (Virdis and Schiffrin 2003).

Hypertension can also increase the risk of vessel rupture. This is due to the high pressure being exerted against the vessel each time the heart beats, causing in this instance, a cerebral haemorrhage. However, what is being ignored here is the management of the hypertension. Respondent 38 does not mention, or allude to, any poor standards of diagnoses management which could have contributed to the death. It appears respondent 38 links pertinent variables that increase the risks of vascular events but accepts them without

questioning, which is exemplified when considering the INR levels.

Further concern is these respondents claim the INR is not out of range. It is certainly accepting error and risk taking but shows a distinct lack of knowledge of safe ranges for anticoagulation in an already high risk (of vascular events) patient.

Although clinical knowledge is possessed by respondent 38 it is not applied in a manner which promotes safe standards of care and safeguarding. It is potentially an indicator of respondent 38's own poor standards of practice.

On the other hand, respondent 39 claims "her bleed may have been worsened by anticoagulation," but then states, "but her INR is just about in range." An acceptance of an elevated INR without a clinical reason is not just accepting error occurs in medicine, but that colleagues take clinical risks when managing patients' treatment regimens. To then call it "a natural death" is rationalising poor practice as acceptable. Indeed, this acceptance is furthered by claiming "if she had fallen and then developed a subdural it would be different."

If CS1 had fallen and it was witnessed (as the collapse was) it would be accidental, in the absence of any

evidence to show the fall was orchestrated by another, for example, deliberately pushing her over. So, it is unclear as to why it would be different.

Interestingly, respondent 71 shows similar reasons for not referring CS1 by claiming “target INR 2-3, but 3.6 not unreasonable.” Again, without a clinical reason for such a high INR this is unreasonable, and suggests the care prior to death could be deficient, and be a contributory factor in the death. There is also a suggestion that this respondent feels such hyper anticoagulation is acceptable because the INR was “reversed as soon as ICH diagnosed,” sadly the irreversible damage occurred prior to the intracranial haemorrhage (ICH) diagnosis.

The lack of clinical competence, acceptance of error and risk taking is further compounded by claiming: “recognised s/e of Rx” – which is stating that any recognised side effect of treatment is acceptable, no matter what the severity of outcome is for the individual, in this instance the outcome was death. Also stating “Acceptable INR control, no trauma, witnessed collapse.” Implying the cause of the collapse is of no relevance or importance. Unfortunately, this type of decision and the rationale not to refer are flawed.

Poor decision making is evident in the narrative provided by respondent 95, “there is a slight increase in recent INR but against a target range of 2-3 this is not an issue for the coroner.” With the INR being consistently 3 - 3.6 in the weeks prior to death it suggests it is, indeed, an issue for the coroner. Respondent 96 appears to concur with this as they both state “the cause of death is clear” (95) or “……. known” (96), which it is. Neither of these respondents implies there is an issue with deficiencies in care which could be the reason for these respondents’ narratives.

Interestingly, respondent 108 claims “warfarin is a complex molecule and its levels are affected by many drugs. This is an adverse effect of starting warfarin.”

Haemorrhage is indeed classed as a common or very common side effect of warfarin (Joint Formulary Committee 2016). The misunderstanding here is that it is not documented as a new prescription, when INR readings can be erratic, until a maintenance dose is arrived at. A maintenance dose is reflected, more so, in stable INR readings within the accepted normal range for the disease the warfarin is prescribed to treat. Therefore, the clinical history for CS1 suggests stability which became instability in the weeks prior to death.

By claiming warfarin levels are affected by many drugs is partly true, changes to diet and alcohol consumption can also affect INR results – see chapter eight. Therefore, monitoring the effects of warfarin are required as well as enquiry into any changes in lifestyle or medications that could account for any changes in INR readings. Thus, respondent 108 may be suggesting the ingestion of medication that can be bought over the counter, such as paracetamol, could have been the cause of the high INR readings. Or, that prescribing colleagues have not considered polypharmacy, with resultant effects on warfarin, whilst prescribing medications for other conditions.

All these RMP respondents, by accepting the potential for error and risk taking when managing the warfarin regime are also suggesting a personhood issue, in that these behaviours are acceptable when the patient is older. If there is then an undesirable outcome it is a side effect of attempts to manage complex health issues. Which is reminiscent of burying mistakes, whereas, these behaviours would be less acceptable if the decedent had been younger. This may be a reasonable argument had these respondents demonstrated any medical competence for CS1. In the absence of reasoned medical rationale, the only conclusion is that

of incompetence. Having knowledge is not a marker on its own of competence, it is how that knowledge is used and applied to minimise the risks to patients that informs medical competence.

An underlying issue of personhood may be driving these respondents. However, the rhetoric does not support this overtly, but perhaps it is a covert bias that these respondents are not aware of, or do not recognise, in themselves.

Interestingly, both ME respondents demonstrate a lack of competence for CS1, without the overt personhood issues they demonstrated for CS2 in group 6a.

Respondent 141 acknowledges “her relatively high INR might be a factor in causing the ICH,” but then disregards this by claiming “ultimately I would regard this as a natural cause of death.”

Indeed, the ICH is caused by a vessel rupture which could not be arrested naturally by the body’s own clotting cascade (Smith et al 2015), because of the warfarin causing hyper anticoagulation. For this to be concluded as a natural cause of death without any investigation is a folly, as the clinical variables do not support this. Therefore, this ME is allowing a lack of competence to circumvent death investigation. There is also a

suggestion that this ME accepts risk and error in professional medical colleagues so will not refer such cases for further scrutiny by a coroner.

This is furthered by respondent 141 offering the following: “and would record the MCCD as:

1A Intracerebral haemorrhagic stroke

1B Hypertension.”

Inevitably, this is accurate, but what makes the death for CS1 unnatural are the circumstances prior to death. This ME is preventing the coroner from fulfilling the safeguarding aspect of the coronial role by identifying systems and/or practises that hasten death. Once identified relevant organisations can be informed that change is necessary to minimise future similar risks to others.

On the other hand, respondent 144 provides a less articulate rhetoric claiming, “this is a natural death with a clear cause of death.” The cause of death for CS1 is indeed clear, but at this point is not known to be natural. As respondent 144 has not acknowledged any of the pertinent variables for CS1 it can only be concluded that this respondent is incompetent.

Unfortunately, although both ME respondents identify a clear cause of death, they do nothing more by way of

considering pertinent variables, and how they may have influenced the outcome of the haemorrhage, or whether there is any cause for concern in standards of care. For there to be any certainty as to how natural this death is there needs to be an investigation. However, as this study is demonstrating, how thorough an investigation is, and what conclusion is arrived at will depend very much on the calibre of the individual who is the coroner.

A more worrying view of these ME responses is that another Dr Shipman could flourish, as an accurate cause of death is only part of death certification and investigation.

CS2 will now be considered for respondents 2, 26, 27, 39, 71, 95 and 108 only, who would not refer. They are as follows:

Coroner 2, 26 and 27

RMP 39, 71, 95 and 108.

All the coroner respondents demonstrate a lack of competence for both case studies, without other issues, by claiming:

“natural causes. No trauma, not injury. Seen by GP (2), “the doctor can issue a MCCD for old age” (26), and “the cause of death is old age and the doctor can issue” (27).

As with CS1, these coroner respondents have not understood the variables for CS2, regardless of whether they are from the legal or medical professions. Alternatively, they could have understood the variables but have ignored their relevance as they can be explained or rationalised as an old age issue. But what this demonstrates is a clear lack of knowledge as to the criteria for old age to be suitable as a cause of death – Appendix Twenty-One.

It is, therefore, easy to conclude these respondents lack knowledge and competence to fulfil the statutory role of coroner.

This conclusion is furthered by respondent 26 claiming if the doctor did not issue a MCCD “this would be an inquest without a pm.” Which is interesting as a PME often uncovers the cause of death as one that does not require further investigation, as it aids a more certain decision to be made. To suggest an inquest without a PME asserts that the information, needed to conclude a cause of death, will be evident within the medical records. Or, obtainable by discussing CS2 with health

care professionals who attended the deceased prior to death. But if the medical records only include the information that is presented for CS2 then it does not negate the need for a PME, it supports its necessity. Nor does information that is offered verbally that is not within medical records negate the need for a PME, as all medical records should depict accurate, concise, contemporaneous information that describes the clinical presentation of the patient. Any conversation would only be an opinion that could not be supported by medical records. However, that opinion having influence that could prevent a coroner from investigating and therefore, colluding with poor or deviant medical practises.

Respondent 26 may not wish to consider a PME for reasons other than cost, such as upsetting the bereaved further, which is kind but flawed. If it is based on cost alone, such as time and money, that is not enough of a reason outweighing the potential, for a PME, to conclude a cause of death that alerts the coroner to a safeguarding issue that needs addressing. If it is viewed by some as a reason to avoid thorough investigation there may as well be an arbitrary cut off as to when PME is necessary, and when it is not, as part of death investigation. Such a legal amendment to the Coroners

and Justice Act 2009 would be a retrograde step. Such a step would be reminiscent of Dr Shipman, in that some deaths are worthy of scrutiny and others are not, which allows poor or deviant behaviour to flourish within medical and health care professions.

Of all the RMP respondents only one – respondent 71 implies the death for CS2 is natural claiming “I hope I go the same way and at the same age.” It is also inferring the death was a good death i.e. pain free, particularly as the history suggests CS2 went to sleep at night and did not wake up again. What is not evident from the history is whether CS2 was checked, at regular intervals during the night to confirm this inference. Therefore, CS2 could have been in discomfort and not able to attract help – which implies a less than good death. Alternatively, CS2 could have died shortly after retiring to bed but was not found until morning. All these suggestions are possible until proven otherwise and would highlight standards of care in the nursing home that do not reflect an acceptable quality to that care.

Furthering this potential for concerns within the care environment, respondent 71 states “I would only refer if there was a sudden expected increase in “unexpected”

deaths in the home – a “Shipman effect,” or any other suspicious circumstances.” This RMP is aware of the effects the actions of Dr shipman have had on society, however, seems unclear in what types of death are indeed unexpected, as CS2 was. Or, that a sudden increase in unexpected deaths would be unexpected rather than expected. By expecting an increase in unexpected deaths, it implies health care standards are poor by way of promoting patient safety. Whereas, an unexpected increase in unexpected deaths is a cause for concern, until the circumstances of such deaths show otherwise. For respondent 71, until knowledge of what constitutes an unexpected death is demonstrated any patterns would be impossible to identify by them. Indeed, as an RMP it would be difficult to identify when working in secondary care – an acute hospital setting – as patient admissions would not all be from the same nursing home to the same ward for any pattern to be easily identifiable. However, a centralised unit could track hospital admissions to identify any patterns. Although, it would be doubtful if any NHS care provider organisation would view this type of service as anything other than mischievous. Particularly, as auditing other organisations practises is not part of their clinical governance remit.

Respondents 39 and 108 directly imply death is natural by claiming “frailty of old age is appropriate” (39) and “death due to old age” (108), with respondent 39 also stating “I would discuss with family but am sure an MCCD stating 1a Frailty of old age is appropriate.”

As CS2 had no known relatives’ efforts may not be made to find out who, if anyone was a regular visitor, who may be able to offer an opinion about the care prior to death. In the absence of this, respondent 39 would not refer for investigation even though there are variables that need exploration, as they cast doubt on a natural cause of death. Not only is this a concern but also that both respondents, 39 and 108, do not appear to be aware of the criteria for an old age and frailty cause of death.

Interestingly, respondent 39 claims, due to the age of the decedent, that “death cannot be unexpected,” which illuminates the potential reason for such a narrative. It is an easy cause of death to certify in a centenarian, even though the circumstances prior to death do not support it as an acceptable cause of death.

Perhaps, therefore respondent 95 claims there is “no indication to do so,” when providing the rationale for not referring for coronial investigation. Due to this sparse response it is difficult to conclude competence here, as

the unique variables for CS2 have not been considered, because if they were, along with knowledge of the criteria for old age as a cause, then referral could be the only decision to arrive at. The rhetoric of “no indication” certainly suggests the age of the decedent has played a part in the decision, in that it can only be a natural cause conclusion, as death is expected at such an age. More insidiously, respondent 95 could be displaying bias against older, infirm adults who have more than one co-morbidity requiring treatment and care. Any bias that appears negative, in this instance, by not referring for investigation, may only become apparent when challenged directly in the manner this study has. Therefore, if respondent 95 became an ME any such pattern would take time to emerge, but by then it would be too late to investigate as thoroughly, retrospectively, as evidence is destroyed during disposal of bodies by embalming and cremation. A paper review of medical records could indicate flawed decisions that have denied investigation when it was required. However, the remedy for that would bring the ME role into disrepute, the coroner would have to review all cases the ME did not refer, incurring time and cost to an already busy workload.

The issue of competence is difficult to navigate as some respondents, 8, 13, 38, 96, 141 and 144, can be allocated to more than one group due to their responses to both case studies. Lacking competence may be disguised by relying on others, to either make the decision, or provide information that can be used to affirm an outcome. Reliance on others can often ensure the right decision is made, even if the person making it does not understand why it is the right decision. Whereas, providing information to affirm an outcome can often, as for CS2, allow an individual to follow an easier decision path by using less important variables, such as age to influence that decision.

Lacking competence is also evident if bias is involved in decision making, in this study personhood, or how a person is viewed once they lack good health or the ability to care for themselves. Bias may not be something that an individual acknowledges, or indeed accepts in themselves. Nevertheless, the respondents in group 6a, 96, 141 and 144, do demonstrate a personhood trait which has influenced their decision. Without this bias they may well be competent of medical knowledge for their professional roles, however their responses to CS1 suggest this is not the case.

Group 7

Correct decision to refer but sparse response – no thought process demonstrated.

The only respondent allocated is an RMP - respondent 70 who would refer both case studies.

For both case studies the response was “unexplained death,” which may demonstrate a lucky guess. Alternatively, it may be this respondent is clinically knowledgeable with experience of medical practice that allows decisions to be accurate. Respondent 70 may possess cognitive acumen that allows them to consider all pertinent clinical variables along with what those variables are suggesting or demonstrating. Indeed, this aligns to Benner (1984), with respondent 70 being identified as an expert by having an intuitive grasp of the clinical information which is rooted in a deep understanding of each case study. The lack of narrative could suggest this respondent does not waste time considering information that is felt to be extraneous, with no clinical usefulness, as they have accurately identified with relevant information allowing their practise to be proficient and fluid. Which suggests even if this respondent is not experienced in death certification and investigation, they have a high analytical ability required for such situations.

As the narrative is concise and accurate for both case studies it is difficult to arrive at a firm conclusion as to the respondents' abilities in decision making.

Group 8

Confident, competent in role e.g. Legal coroner

The respondents allocated to this group are coroners – respondents 17, 36 (CS1) and 48, with respondents 17 and 48 referring both case studies for investigation.

For CS1 respondents 17 uses rhetoric which suggests they belong to the legal profession, "there is no information as to whether the INR is within normal range." It does appear they have knowledge of, or at least recognise the term INR and that there is a normal range for safe anticoagulation. This is furthered by stating "if it is outside it has not caused the death but will have contributed to an increased bleeding tendency."

However, this response can imply respondent 17 is a medical professional, but may have forgotten, due to a decaying knowledge base, what the INR range is for AF. Although, a medical professional ought to be able to suggest the normal range of 2-3, especially as this is the most common range (Guyatt et al 2012).

Respondent 17 is displaying a level of medical knowledge and role competence for CS1, which is also demonstrated for CS2. “Although she is over the age of 80 and old age would be a possible cause of death she has no known underlying morbidities and no gradual decline.” Which demonstrates good knowledge of current guidelines for old age to be an acceptable cause of death. Furthering this “her death is of unknown cause and even with the low level of to the best of my knowledge and belief there is nothing the treating clinician can offer which would be acceptable.” Further scrutiny of the rhetoric, particularly the use of the word morbidities and the phrase best of my knowledge and belief, suggest this respondent may indeed be a medical professional, as these terms are common to a medical professional who has completed MCCD’s. If respondent 17 were in fact a legal professional they may have used the phrase reason to suspect rather than best of knowledge and belief, as this is more aligned to the legal profession.

Nevertheless, respondent 17 has considered both case studies on their merits, by seeing beyond the age of the decedents, considering only the clinical variables and the circumstances of each death. Such characteristics

for a coroner do suggest a quality to the investigatory service being provided in that coronial jurisdiction.

Similar competence is displayed by respondent 36, but only for CS1, the more medically orientated case study, by claiming: “it’s a marginal level but there is “reason to suspect” that this is an unnatural death, in that the medication, however correctly given, is a factor in the death.”

It is clear respondent 36 has identified a pertinent variable, warfarin, with attempts to link it to the haemorrhage. Furthering this “Some might argue that the warfarin level is not high enough to start a bleed, merely that it would prevent clotting. But even if that is true the medication is a factor.” This is a description of the effects of anti-coagulation and mechanism of injury, which has been discussed in chapter eight and throughout this chapter.

There is a suggestion that respondent 36 is a legal professional, as they do not provide any narrative around any other pertinent clinical variables such as the INR, which a medical professional ought to do. Although, they do “want to investigate properly whether there was any history of trauma.”

Although, respondent 36 appears competent in role, it may depend on the type of case and what variables are more evident, for decisions as to whether investigation is necessary are made. This will be more evident when addressing respondent 36 narrative for CS2 in group 9.

The narrative provided by respondent 48 shows similar competence to respondent 17 for both case studies. For CS1 referral is “to enable consideration to be given to whether the Brain haemorrhage is a complication of her warfarin therapy or a natural event.” It appears respondent 48 recognises that until investigated the cause of death is clear, but the circumstances leading to the death are not. The haemorrhage is indeed the cause of death, but why the haemorrhage occurred is not clear, nor why there was hyper anticoagulation, a clinical reason or poor management.

There is a suggestion that respondent 48 is a legal professional as they do not attempt to link the INR to the warfarin, or haemorrhage, which a medical professional ought to do.

For CS2 respondent 48 demonstrates clarity as to why referral is necessary “the death is sudden and unexpected.” The rhetoric is an accurate description of

the death, however, there is no attempt to offer subjective causes such as old age. Which possibly supports the assertion that this is a legal professional as they use the term sudden which is evident in previous Coroners Acts in 1887 and 1988 (Coroners Act 1887 3 (1); Coroners Act 1988 s8 (1) (b)), whereas, the current statute does not include this term (Coroners and Justice Act 2009 s1 (2)). Asserting a legal professional knows the letter of the law, and its history, more so than a medical professional.

These respondents, 17, 36 and 48, demonstrate objectivity is possible when deciding if investigation is necessary, albeit at times with limited rationale. However, this objectivity is only consistent with respondents 17 and 48.

Group 9

Age affects decision – increased likelihood of not investigating.

Two coroner respondents who would refer are allocated to this group, respondent 16 for both case studies and respondent 36 for CS2.

For CS1 respondent 16 “would want the case referred to see the clinicians view as to the relevance of warfarin to the bleed.” Although there is no suggestion age has

influenced this decision, there is the implication that if a clinician holds the view that the warfarin was not relevant to the clinical outcome, then this death would not necessarily be investigated. So, if the clinician had an age bias, whether it was known to them or not, then age would affect this decision.

Therefore, it highlights a flaw in the current system, that a clinician can influence a coroners' decision if they are eloquent enough. For some coroners, particularly if a legal professional, this can happen if they do not understand, or appreciate, the clinical content of such a discussion. It may also happen for coroners regardless of profession, if they apply "reason to suspect" so narrowly that they never have a reason to suspect the death needs investigating, after discussing it with a medical professional.

It is clear from the rhetoric this respondent lacks medical knowledge and could therefore fall foul of a clinician who is well versed in obfuscation.

For CS2, respondent 16 states: "Although she is 104 years there appears to be no obvious cause of death. I would try to avoid a pm if at all possible." Respondent 16 is correct in that there is no obvious cause of death, so investigation is indeed necessary. However, trying to

avoid a PME is concerning, particularly as a PME can identify a cause of death, which will inform the coroner whether further inquiry is necessary. On the face of it, it appears as though respondent 16 is considering age, in that the PME is invasive, so it is perhaps being viewed as a final insult at such a great age. Or, it could be due to the belief that the conclusion of the PME will be natural causes, because of the age of the decedent. So scarce resources of money and time are influencing the decision, even if the respondent is not aware of this. Alternatively, respondent 16 may look for a reason not to suspect the death is anything other than natural during any discussions with a medical professional.

Regardless of the reason why respondent 16 is reluctant to request a PME, it suggests personhood is being eroded, in that the circumstances of the death are not the only considerations. As has been stated throughout, age is not a pertinent variable that indicates how or why death occurred, it is therefore, irrelevant when deciding whether to investigate any death.

Nevertheless, similar narrative is provided by respondent 36, “this isn’t really a death from old age which requires a witnessed deterioration. But I’d be very reluctant to order a PM.” Such a narrative suggests respondent 36 is competent to a point by recognising old

age is not an appropriate cause of death to the best of knowledge and belief. However, the reluctance to order a PME is concerning as it may confirm or refute old age as the cause of death, with evidence. If it refutes old age it could uncover concerns with care providing environments, for example evidence of injury, such as osteoporotic fractures, that could answer why CS2 behaviour was vocal and disturbing prior to death.

Both respondents, 16 and 36, appear to want to avoid invasive investigatory techniques, possibly being more willing to fully investigate if imaging techniques were readily available in death investigation. Nevertheless, until imaging PME's, discussed in chapter two, are routinely available, how fully any death is investigated should not be dependent upon the age of the decedent.

But to continue this theme of wishing to avoid certain types of investigatory techniques, there is nothing to suggest that this type of thought process would not eventually be applied to imaging. In that, after a certain age, the time and cost of imaging would become something to avoid "if at all possible," even though it is not invasive like current PME's. Suggesting, regardless of investigatory techniques available for coroners to order, there would still be a reluctance to investigate, or an increased likelihood to not investigate some deaths.

Group 10

Unsure.

The respondents allocated to this group are both RMP's, respondent 79 who would refer CS1, with CS2 allocated to group 11, and respondent 107 who would not refer either case study.

Respondent 79, for CS1, states: "Because the bleed could be as a result of poorly controlled anticoagulation and poorly controlled BP." Looking closely at this narrative, pertinent clinical variables have been linked – the anticoagulation and the blood pressure, which suggests clinical knowledge. The anticoagulation could pertain to the warfarin and/or the INR, with the high blood pressure – the latter being a causative factor in blood vessel disease (Pantoni 2010), which includes vessel weakness and rupture.

What has influenced allocation to this group is that respondent 79 has used the phrase "could be," therefore, a suggestion of some doubt. Also, it is the fact that CS1 identifies hypertension as a co-morbidity, but the blood pressure reading in the history provided is not reflective of overall blood pressure management, only the reading at admission, after the haemorrhage occurred. What this narrative demonstrates is that variables will be linked if they are related to the clinical

situation. Perhaps, respondent 79 expected to see a high blood pressure prior to having a haemorrhagic CVA. Although, it could be linked due to the long-term effects on blood vessels of poor hypertension management at any point (Pantoni 2010). For there to be any concerns about the management of the hypertension prior to death the medical records will demonstrate the quality of that management. Thus, linking the blood pressure is acceptable but its relevance will only be ascertained upon investigation. Alternatively, this link may have been made not just because it is clinically reasonable, but because there is potential evidence of one treatment regimen, that of the warfarin, not being adequately managed. Therefore, respondent 79 is possibly assuming that if there is evidence of poor care in one area of disease management it may well be the case for all disease, or co-morbidity management.

Whereas, respondent 107 provides narrative that is succinct for both case studies “Because I don’t deal with such cases.” Albeit an honest response, it is concerning as they would not refer either case study.

The concern stems from the belief that an RMP ought to have some knowledge that they learned either in undergraduate or post graduate medical education, for a more clinical narrative to be provided. In the absence

of this, there is no attempt to suggest such deaths would be referred due to hospital policy guiding decisions. Therefore, this RMP respondent may be junior in the profession and still constructing a clinical knowledge base. Or, they could be quite senior but perhaps work in a highly specialised environment where they do not treat patients who have AF, are anticoagulated, or have any other older age-related conditions. Such an environment could be paediatrics, for example.

Alternatively, this respondent could have provided such responses to be helpful i.e. responding to the study, but not providing data that can be explored, with any certainty. However, what can be suggested is that this respondent has a decayed knowledge base for common conditions with no knowledge of current policy that guide clinical decisions within employing organisations. All of which could link back to working in a specialised environment as previously suggested. As this has not been recognised by this respondent the safer course of action would be to refer both case studies.

Interestingly, what respondent 107 has demonstrated is that a robust recruitment process is necessary for ME's to ensure more appropriate characteristics or traits, other than the statutory time constraint, are demonstrate.

Group 11

Highlight weaknesses in the health care system/institutional settings.

Three RMP respondents are allocated – respondents 79 (CS2), 110 and 119 for both case studies – all respondents referring for investigation.

Respondent 79 identifies for CS2 “Patient was in care and I do not have a cause of death.” Which suggests that the home environment has been considered, along with the fact the clinical variables do not readily identify a cause of death. This respondent may have awareness of standards of care provided by institutions or organisations that are not part of mainstream NHS provision. For example, this RMP could work in the ED, or on a medical ward, and have witnessed signs of poor care when patients have been admitted from care or nursing homes.

Alternatively, it could be that they are cognisant of media reports about standards of care in non-NHS environments, or even heard relatives voice concerns.

Nevertheless, some environments may not be as safe as they ought to be for residents/patients, which can be for a variety of reasons. It could be that there are staffing issues, that staff are carers rather than registered health

professionals, that some residents are aggressive due to cognitive disease, the environment is not safe i.e. no stair gates, for example. The reasons for making this statement can be many, but this response does suggest consideration for the circumstances of the death in the months, weeks or days prior to death has occurred.

This similar identification is also seen in the narrative provided by respondent 110 for CS2 stating: “unexpected and unexplained death in an institution.” Which suggests the environment the decedent resided in prior to death is important when making decisions about coronial referral. Particularly, as an investigation has the potential to uncover issues in care provision that caused or contributed to death. It also implies that any explanation as to the circumstances of the death are inextricably linked to the “home” environment.

These two respondents are implying any failings in institutional care are not to be tolerated, which is interesting as many RMP respondents have demonstrated tolerance of risk taking and acceptance of error in their own profession. However, respondents 70 and 110 appear to suggest they would not necessarily be tolerant of such behaviour in the medical profession.

Whereas, for CS1 respondent 110, along with respondent 119, highlight weaknesses in health care provision. As has already been explored, medical practitioners may not be the contact professional for disease management. This is evident as respondent 110 states: “Death following collapse, could be classed as an accident. Also may not have had contact with medical practitioner despite having INR checks.” Which is furthered by respondent 119 stating “Presumably only had INR checked and not reviewed by doctor?”

All of which speculates on the management of patients receiving anticoagulants such as warfarin. To address the workload of medical practitioners’ other health professionals, such as RN’s and phlebotomists, may be involved in managing patients requiring anticoagulation. On the face of it this sounds acceptable, but if this approach fragments care, with appropriate consultations not occurring, then patient safety is compromised. Which is the potential situation for CS1, as phlebotomists may obtain the INR blood sample. A RN may inform the patient of the warfarin dosage needed until the next blood test, but without asking the patient if anything has changed, or if there are any signs of spontaneous bruising or bleeding, as discussed in chapter eight. Therefore, any therapeutic contact will not

count as a safe patient contact. The management of warfarin, for some has become task orientated rather than being patient centred.

Easing workload pressures is acceptable, if the systems in place which allow this provide for training and support for the individuals taking over traditional medical roles. Care needs to be patient centred, safe and in the patients best clinical interests.

These two respondents, 110 and 119, are suggesting that an RMP is the appropriate health professional, which is no doubt the case, due to their medical education and experiences. However, it still does not mean the patient will be safe, if the RMP is complacent or, does not consult appropriately with the patient to uncover something that will influence the warfarin management. Any decision needs to be informed, with as much information as possible, to ensure patient safety as far as possible.

The narratives provided by respondents 110 and 119 for CS1 are highlighting the potential for error and risk taking. But rather than absolving the medical professional concerned they appear to question the system they preside over. Therefore, although it appears to only criticise or question care provided by others, it

does reflect the standard to which is deemed acceptable in a primary care environment.

The bigger weakness in the healthcare system that is evident here is that allocating tasks, rather than allocating patients, seems to have occurred. It appears that systems have sprung up that look at who can do venepuncture, or prescribe warfarin dosages, such as phlebotomists and non-medical prescribers.

It could be argued that it is the responsibility of the patient to notify a health care professional if they have problems, but this is just abdicating responsibility for providing safe and effective consultations, often due to time constraints.

Some areas may rely on a phlebotomist or RN to obtain the INR blood test, with the medical professional reviewing the INR result and prescribing the dose of warfarin until the next blood test. However, if whoever obtained the blood does not enquire about, and annotate, any concerns the prescriber will prescribe a warfarin dosage without having all relevant information. Thus, the patient may receive a dose that is deemed safe based upon an INR result that is within the target range, but not necessarily so if the patient is experiencing spontaneous bruising or bleeding.

Therefore, death investigation for CS1 could identify systemic and/or individual practises that cause or contribute to death, which these respondents appear to consider.

Having explored the narratives provided by the respondents in the participant groups, weaknesses, deficits and errors occur at all levels. Errors occur at coronial level, with the competence of individual coroners demonstrating that the current death investigation system is not error proof, i.e. some coroners would not have inquired about either case study. It is also clear the motivation for this can be multi-faceted and has been explored in the thematic groups identified.

This finding alone suggests improvements to death certification and investigation are required.

Individual RMP's, as certifiers of cause of death, show similar errors, questioning clinical knowledge and competence, which is twofold. For those RMP's who demonstrate, or suggest error and risk taking is acceptable in the medical arena, it will manifest for the living with poor outcomes. These outcomes include

failure to improve, experiencing side effects and fatalities, that are potentially avoidable.

In the latter circumstances, should they occur, the data shows that the same RMP's may well believe the death is natural and certify it as such.

This type of behaviour, coupled with error, or competence issues at coronial level, create a perfect scenario for deaths which need investigating to bypass the very system society relies on for a final truth and peace of mind.

What is also clear is that, where ME's are situated, they do not necessarily improve the error rate, as they too made errors, particularly respondents 141 and 144.

It is arguably not surprising that ME's make the same errors as RMP's, as RMP's are the recruitment pool for ME's.

Clearly, the introduction of ME's alone, will not necessarily address the issue, for example, of the 57% of all deaths in 2017, that were not scrutinised in any meaningful way. Once ME's are nationally implemented this statistic should decrease to almost zero, as MCCD's will be scrutinised. But whether the quality of that scrutiny supports how meaningful it is, is another matter. Therefore, whether the statistic of 43%, in 2017, of

deaths reported to the coroner changes will be dependent upon the quality of MCCD scrutiny by the ME. Particularly, how they view the causes and circumstances of the deaths. Any changes to the PME statistic, of 37% in 2017, will again depend on the competence of the individual coroners, when investigating deaths, and how they allow any ME opinion to influence their own coronial practice.

Therefore, although the coronial system is there to support the publics expectations of knowing how and why their loved ones died, the individuals within that system, at times, do not fulfil those expectations. As the exploration of the qualitative data shows, there are a variety of reasons as to why those expectations are not being met.

The System.

The coronial system itself is confined to limited professional types who can populate its ranks, currently legal and medical professionals, in fact, since 2009 only legal professionals can now become coroners. Although, there are still medically qualified coroners who were recruited before 2009. This new restriction ought to keep the system streamlined and effective. However, although the coronial system is founded on legal

principles, that of holding court, there is a heavy leaning towards clinical knowledge for that inquiry to be pertinent and concluded appropriately, with some degree of accuracy.

To include more clinical knowledge, as death is a clinical outcome for a variety of clinical reasons, ME implementation was addressed in the Coroners and Justice Act 2009. This is the most radical system change since 1887, with the idea it will enhance death certification and investigation. Unfortunately, this study has shown this will not necessarily be the case.

The Individuals

By using two common, but clinically different case studies, this study has demonstrated that the individuals working within the system are the weakest components.

All individuals, whether coroners, RMP's or ME's are people who have been influenced, not just by their upbringing, but by their education and experiences within their chosen professions.

It has been identified in chapter two, that undergraduate medical education, for example, accepts error. Teaching that error is acceptable, is necessary in some circumstances, so individuals do not feel they are

incompetent when error occurs, even when all care has been taken. However, some individuals may view accepting error as something that could occur, but that it is not worthy of scrutiny when it does. This type of practice numbs the medical professional, not just to the needs of the patient, but also to their worth. Indeed, the EI of an individual will provide an indication as to whether error is viewed as part and parcel of coronial and medical practice.

The certainty with which some individuals have responded to the case studies suggest those with a self-perceived high EI, with high self-image and self-esteem, and arguably low self-awareness, will be the ones that will not refer, will be reluctant to refer or, will provide rationale that is not accurately linked to the history of the case studies. Indeed, respondent 57 (Group 3) is a good example of this reluctance and inaccuracy.

This type of EI can eventually manifest in a manner that suggests the patient, or in this study, the decedents have no worth. Intrinsic beliefs about someone, whether borne out of one's own beliefs due to upbringing, or contributed to by others' views, such as mentors during professional education, can influence individual practises. Indeed, the findings of this study demonstrate bias as influencing decision making, for example as

demonstrated by respondents in thematic groups 3, 5, 6a and 9.

The individuals within the ME participant group demonstrate how EI, bias and clinical competence influences death certification and investigation. Arguably, these respondents did not alter their practise when moving into this role for the pilot sites. Thus, any intrinsic beliefs or bias transferred with them and are part of their decision making.

It is, therefore, important that any recruitment process identifies, in so far as it can, any traits that suggest acceptance of error, risk taking, bias or belief is influencing coronial referral decisions.

If ME's can refer when the clinical history indicates it is appropriate to do so, then coroners who currently appear to lack knowledge, or competence may improve the quality of their service, if they allow themselves to be guided by clinically competent medical professionals.

However, if the recruitment process only mirrors the statutory requirement of time served, then there will be little improvement to the current system, as the findings of this study demonstrate.

Therefore, chapter ten makes recommendations for change.

Chapter Ten

Conclusion and Recommendations

The findings have demonstrated prevalent themes that appear within each of the professional groups that impact on the quality of death certification and investigation. The themes range from: competence, uncertainty, incompetence, personhood issues, reliance on policy, acceptance of error and risk taking. All of these are intrinsically linked, not just to knowledge, but also to the EI of everyone in the professional groups. A combination of the themes, individual knowledge and EI all impact on the accuracy of certified causes of death.

Accuracy satisfies the States requirement to safeguard its individual members providing, of course, that the accuracy also includes the consideration of the circumstances that surround each death.

Any inaccuracy, howsoever it is borne out, undermines not just the national safeguarding, but also safeguarding at a local level, where its effects may be more acutely felt.

At a local level mortality inaccuracy affects the provision of resources for research, health promotion initiatives and health care provision. However, it also has the potential to undermine public trust in death investigation, or the coronial system. That system was reviewed, not

just post Dr Shipman, by Luce and Smith in 2003 with the subsequent enactment of the Coroners and Justice Act 2009, but in 1971 by Brodrick.

This study has demonstrated that any effort to provide a consistency of quality, by making recommendations that target only the coronial system, will fall short in meeting, to some extent, the expectations of law makers and the public.

A more global view needs to be taken which, if heeded and implemented, will take time to provide not just the coronial system that is deserved, but also a medical profession that views a human being with dignity and respect, that of its advocate in life and in death.

This study has demonstrated that death can be complex with elements of Holmesian fallacy in the absence of anything more concrete. Nevertheless, concrete needs to be strived for, as far as possible, always.

Unless there is a change in the law, all future coroners will have a legal background, rather than a medical background, which will compound this study's findings of reliance on medical professionals. Such reliance, in the absence of a deeper understanding of death, and how unnatural it can be, needs reducing as far as possible.

Just adding another tier of scrutiny is not going to address the concerns, or achieve the visions, set out in the Smith Report and Luce Review post Dr Shipman.

This study has demonstrated that although more coroners and RMP's in the participant groups would refer both case studies, the opposite is the case for ME's, i.e. more ME's would not refer both case studies – Table 3. Therefore, based on this study alone, (and acknowledging the small number of participant ME's) ME's are not currently adding anything to death certification and investigation, other than time, complexity and expense to scrutinise MCCD's for no gain in quality of service.

Limitations

To explore death certification and investigation the current coronial system has been the focus, i.e. what is happening now, as there is no scope to look beyond it to enquire how MCCD's are scrutinised. This is particularly the case as national implementation of ME's is still awaited. Thus, ME data originates from the limited number of pilot sites still operating. Nevertheless, the data provided by ME's is transferable as they are RMP's by profession and similar findings are common to both professional groups.

Once national implementation of ME's occurs any future study, with a potentially bigger participant sample group, can replicate this study's methodology to compare findings, or focus on how MCCD's are scrutinised. Future studies can then confirm or refute the claims here around enhancement of death certification and investigation.

At this time there is no other coronial system anywhere else scrutinising MCCD's, so comparisons with other studies cannot be made to identify any commonality of themes that have emerged here. Although Scotland does scrutinise MCCD's (explored in chapter six), it is only a small percentage of all MCCD's provided, so any comparison would not be like for like.

Contribution to knowledge

This study has demonstrated the following, which is not currently evident in the literature reviewed:

- That error exists at all levels of death certification and investigation, i.e. among coroners, RMP's and ME's.
- There is a coronial reliance on medical opinion, which is not always accurate for cause of death.

This includes specialist medical opinion during death investigation, for example Pathologists.

- There is an over reliance by some RMP's on guidelines or policy content rather than a clinical reason for the decision made.
- Errors are intrinsic requiring wider considerations to address completely.
- That death is complex, requiring the professionals who provide a MCCD, or investigate death, to keep safeguarding foremost when making decisions. Particularly as such decisions affect mortality statistics, funding for research and health promotion initiatives, treatments and care provision guidelines and policies.
- ME pilot sites have not improved the system as inequalities exist in differing coronial jurisdictions.

Recommendations

A variety of recommendations can be made that encompass a global view, including changes to the law that gives statutory significance to the remit of a ME.

Firstly, it must be considered if anyone other than a ME could enhance death certification and investigation. Many traditional medical roles have been undertaken by health professionals, other than RMP's, for many years

now, so there is no reason to consider the ME role could not follow that precedent. Advanced Practitioners provide care that includes diagnosing and prescribing, two traditional medical roles with some quality. Indeed, a multi - professional workforce that focuses on the needs of the decedent and the bereaved is necessary. This mirrors what is already available in many medical specialities for the living (Crouch and Brown 2018), without impinging on quality of service or patient safety. However, to transcend into an ME type role, the safety aspect would be safeguarding others in the future.

RN's have shown they can be educated to fulfil traditional medical roles, for example Advanced Practitioners, so the recommendation here is they could be trained to scrutinise MCCD's and refer to a coroner appropriately. This may become more so in the future as ME's need to be implemented nationally before this recommendation will be considered. However, although RN's may bring a different insight to this type of role, they will share some of the characteristics and traits demonstrated by the RMP's in this study. This is because the RN's will have worked in similar clinical environments, alongside RMP's, and experienced similar workload pressures, so can be tainted with similar values and attitudes. They will also display

varying levels of clinical knowledge and competence, personhood issues, acceptance of error and risk taking.

Problems with the environment, that can influence clinical practice due to attitudes and beliefs, may be addressed by considering healthcare professionals who work in different environments, for example, we can consider medical researchers or lecturers. However, this may bring problems of its own. Medical researchers have expertise, that may be phenomenal but narrow in its focus. While this study did not seek data from researchers, we can still see the problems of narrow expertise in the data. For example, respondent 83 clearly identified with CS2, in such a way that suggests this RMP's experience lies in providing care for older patients. However, they did not identify with CS1, the more medically complex case, and made clear errors in relation to it.

Healthcare lecturers, on the other hand, may demonstrate a breadth of clinical knowledge and how to apply it. However, they may not have practised in a clinical environment for a considerable amount of time. Arguably this should not necessarily be an insurmountable barrier should this recommendation be

considered in the future, because their practice can potentially be refreshed with time back in practice. Of course, this then exposes them to the very environment which this study has identified as problematic.

Secondly, an alternative future recommendation is the use of artificial intelligence (AI), with policy makers exploring the capabilities of AI playing a part in this process. Although, it is outside the scope of this study, it might be possible for algorithms to be devised that could identify an unnatural death, at least one that no-one has tried to cover up. For this to be effective medical records would need to be accurate and the algorithm sound, so it could raise a red flag. ME's could then review the red flag cases, with an obligation to provide a compelling reason not to refer, when AI suggests referral is necessary for coronial investigation.

In time, AI could also identify patterns against MCCD certifiers, which could identify training or educational needs to be addressed, or indeed, another Dr Shipman. Patterns are already being identified in current health care provision, with many handheld AI systems being used to alert medical staff when patients require urgent medical reviews. However, this is dependent upon the user of the handheld AI inputting accurate data, for the system to identify and send alerts appropriately.

Therefore, human error or deliberate wrongdoing still undermines the efficacy of AI systems.

Although it appears as though AI is moving in the right direction, it may be many years before it supports death investigation in a direct way.

Those recommendations are for the future, but the following ones could have a more immediate effect if considered and implemented.

Death certification and investigation sits within legal and medical domains, so any recommendations are inclusive of this.

As errors exist at all levels, the first recommendation addresses education.

Education

Legal education – if coroners are recruited from the legal profession, we cannot rectify their lack of medical or clinical knowledge. As this study shows, the weakness with coroners lies with the lack of medical knowledge. Therefore, this thesis considers what can be done within medical education.

Medical education – in order to start off on the right foot, undergraduate medical education needs to include coronial law, death certification and investigation as core components, especially as Preston –Shoot et al (2011) found this to be lacking in the medical curriculum. This is particularly so as ME's will become a recognised medical speciality, over time, once national implementation has occurred. This core component will also include ME placements for medical students', so they are exposed to the practicalities of such a role.

Post graduate medical education ought to offer a core ME component for those medical professionals who wish to pursue the role of ME, including clinical experience within the ME speciality. This component could be modified, becoming part of CPD requirements to ensure ME's remain current with knowledge and competent in role. A robust CPD component would also address the education issue for those who make a choice later in their career to become ME's.

Selection

Selection will only address the selection of ME's to this role. This is because universities have their own selection processes for individuals wishing to pursue legal or medical programmes of study. It is, therefore,

beyond the scope of this study to suggest how these processes may need to change.

RMP's are eligible to become ME's after having practised for five years or within five years. However, this eligibility does not consider the knowledge, experience or appropriateness of that individual to become a ME. Nor does it consider where the RMP studied a medical programme of education. Nevertheless, the recommendations made here will equally apply to ME's who work in England and Wales with overseas medical qualifications.

The same selection process needs to apply to all RMP's wishing to become ME's, so there is equality for all, with the long-term goal of providing a quality ME service which enhances death certification and investigation.

The recommendations are that selection should include:

- Case studies for RMP's to address, this study has demonstrated attitudes and values can be identified along with how they affect decision making.
- Psychometric testing to identify problematic attitudes and values that some individuals may be able to hide or control in the previous recommendation. However, psychometric testing

may affect recruitment, particularly as some individuals may not wish to undergo such a process. The advantages and disadvantages of this need careful consideration before rejecting it as part of selection.

Continuous Professional Development of ME's

Once selected, a programme of CPD is necessary to ensure ME decision making remains clinically appropriate. Again, case studies could be used, the benefits of which would be twofold. Firstly, they would show any strengths or weaknesses in knowledge and competence, as this study has ably demonstrated. Secondly, case studies provide the opportunity to identify values and attitudes, such as personhood issues, that can impact on the quality of the ME service, and, therefore, the coronial service, which this study has demonstrated.

As ME's will be throughout England and Wales any CPD needs to be available thus, Information Technology (IT) is a viable and feasible medium for this. That is providing the assessment tests what it purports to test, with a result that is valid for the individual. Using IT could also send a copy of the results to the NME for audit and quality purposes as part of clinical governance.

The issue here is that any ME who does not demonstrate and apply clinical knowledge appropriately would need to have this addressed. Which is something the NME can address as part of clinical governance, as it is outside the scope of this study to recommend anything other than there needs to be a system in place to support poorly performing ME's.

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Appendix One

Department of Health findings comparing MCCD content

- in 78% of cases the underlying cause of death remained unchanged
- the broad underlying cause of death (as defined by the International Classification of Diseases) changed after medical examiner scrutiny in 12% of cases
- in the remaining 10% of cases the underlying cause changed but remained in the same International Classification of Disease chapter
- following scrutiny by the medical examiner, there were 1% more death certificates with an underlying cause of cancer (neoplasm), and an increase of 6% in the proportion that were attributed to diseases of the circulatory system
- the percentage of deaths attributed to a respiratory disease underlying cause decreased by 7% after medical examiner scrutiny
- in general, more conditions were mentioned on the death certificate as a result of scrutiny by medical examiners.

The case study analysed just over 5000 records comparing the cause of death proposed by the certifier and the cause confirmed by a medical examiner after scrutiny.

Although the case study had limitations in that the pilot areas were not a statistically representative sample of deaths that occur in England and Wales and the results are not statistically comparable across the study sample, the results of the study suggest that the introduction of the medical examiner scrutiny of all medial practitioner certified deaths will impact on mortality statistics.

Medical examiner scrutiny can change the number, sequence and type of conditions mentioned on the medical certificate of cause of death. This suggests that medical examiners' analysis of the information relating to the cause of death, obtained both from the medical notes and in discussion with relatives, results in better understanding of the sequence of conditions that led to the death. If the conditions and sequence are recorded more fully, this may lead to a change in the underlying cause of death. The results of this case study indicate that the medical examiner scrutiny is likely to affect trends in causes of death reported in mortality statistics.

Ref: DoH (2012) Death certification reforms update: newsletter issue 1 September 2012.

Appendix Two

Notes for doctors reporting a death

Ministry of Justice

Registrars of births and deaths, doctors or the police must report deaths to a coroner in certain circumstances. These include where it appears that:

- no doctor saw the deceased during his or her last illness;
- although a doctor attended the deceased during the last illness, the doctor is not able or available, for any reason, to certify the death;
- the cause of death is unknown;
- the death occurred during an operation or before recovery from the effects of an anaesthetic;
- the death occurred at work or was due to industrial disease or poisoning;
- the death was sudden and unexplained;
- the death was unnatural;
- the death was due to violence or neglect;
- the death was in other suspicious circumstances; or
- the death occurred in prison, police custody or another type of state detention

  Ref: MoJ (2014) Guide to Coroners Services S3.

Types of cases to refer

You are not legally obliged to report a death to the coroner, though in practice you should if there's any doubt or suspicion about the cause of death. You should also be aware of the circumstances in which the registrar has to refer to the coroner (see below).

Many coroners publish local guidelines advising doctors in their jurisdiction of the types of cases which they expect to be referred. These usually include:

- deaths which may be due to an accident, suicide, violence or neglect
- deaths which may be due to an industrial disease
- deaths in, or shortly after, release from prison or police custody
- deaths during, or shortly after, an operation or anaesthetic
- drug abuse
- non-therapeutic abortion
- still births where there is a possibility that the child may have been born alive, or there is cause for suspicion
- cases where the cause of death is unknown or uncertain.
- Some coroners require notification of all deaths which occurred within 24 hours of admission to hospital.

Ref: MDU (2018) Coroners Inquiries.

Appendix Three

Summary of the Brodrick recommendations

https://www.bmj.com/content/4/5785/498

Death Certification and Disposal of Bodies : Summary of Committee's Recommendations

Medical Certification of the Cause of Death

The "qualification" to give a medical certificate of the fact and cause of death

1. Before a doctor is allowed to certify the fact and cause of death for registration purposes he must:

(i) be a fully registered medical practitioner; and
(ii) have attended the deceased person at least once during the seven days preceding death.

The doctor's obligations

2. If a doctor who is called upon to certify the fact and cause of death is qualified under the terms of paragraph 1 above to give a certificate, he should be obliged to:

(i) inspect the body of the deceased person, and
(ii) EITHER send a certificate of the fact and cause of death to the registrar of deaths, OR report the death to the coroner.

3. The Secretary of State for the Social Services should have power to make regulations, which may be national or local in their application, prescribing certain categories of death as "reportable deaths" and a doctor should be obliged to report to the coroner any death which he has reasonable cause to believe falls within one of these categories.

Circumstances in which a "qualified" doctor should issue a certificate

4. A qualified doctor should issue a certificate of the fact and cause of death only if:

(i) he is confident on reasonable grounds that he can certify the medical cause of death with accuracy and precision;
(ii) There are no grounds for supposing that the death was due to or contributed to by any employment followed at any time by the deceased, any drug, medicine, or poison or any violent or unnatural cause;
(iii) he has no reason to believe that the death occurred during an operation or under or prior to complete recovery from an anaesthetic or arising out of any incident during an anaesthetic;
(iv) the cause or circumstances do not make the death one which the law requires should be reported to the coroner;
(v) he knows of no reason why in the public interest any further inquiry should be made into the death.

The "unqualified" doctor

5. Any doctor who is not qualified to give a certificate of the fact and cause of death and who, in the course of his professional duties, is informed of the death of a person whom he has previously attended, or who attends someone whom he finds to be dead, should be obliged to report the fact of the death to the coroner together with any information which may assist the coroner's inquiries. He should not report a death to the coroner without first seeing the body and establishing the fact of death.

Procedure for reporting deaths

6. A doctor should be obliged to report a death to the coroner as soon as possible after he has decided that a report is necessary. An oral report should be followed up as soon as possible by the issue of a certificate. The certificate which the doctor sends to the coroner should be a new certificate of the fact and cause of death. In future this should be sent either to the registrar of deaths or to the coroner as appropriate.

The Registrar of Deaths

7. In relation to the certification of the medical cause of death, the registrar of deaths should retain his present functions and in drawing up his instructions to registrars the Registrar General should have regard to the specific categories of "reportable deaths."

The new certificate of the fact and cause of death

8. The new certificate should specify the circumstances in which the doctor should report to the registrar and to the coroner.

9. The new certificate should have space for:

(i) the National Health Service number;
(ii) the recording of major morbid conditions which have not caused or contributed to death;
(iii) the provision of information about surgical operations performed within three months of death;
(iv) the inclusion of details of serious accidents occurring within twelve months of death.

Registration of still-births

10. The time allowed for registering a still-birth should, in future, be the same as the time allowed for registering a death.

A new certificate of perinatal death

11. A single certificate of perinatal death should be introduced for use in the case of still-births and the deaths of children within seven days of birth.

12. The qualification of a doctor to give a certificate of perinatal death should be the same as of a doctor giving a certificate of the fact and cause of death.

Still-births: Circumstances in which a doctor (or midwife) should issue a certificate of perinatal death or report the death to the coroner

13. A doctor (or midwife in the case of a still-birth) who has attended at the birth should be obliged to give a certificate of perinatal death or to report the still-birth to the coroner, but a certificate should only be given if:

(i) the certifier is confident on reasonable grounds that he (or she) can certify the fact and the medical cause of still-birth with accuracy and precision;
(ii) there are no grounds for supposing that the still-birth was due to or contributed to by any employment followed at any time by the mother, any drug, medicine or poison, any surgical operation, any administration of an anaesthetic, or any other violent or unnatural cause;
(iii) the certifier knows of no reason why, in the public interest any further inquiry should be made into the still-birth.

14. In every case where neither a doctor nor a midwife is present at the birth, an alleged still-birth should be reported to the coroner. An obligation to make this report should be placed first on any doctor or midwife who is called to see the body and then on any person present at the moment of still-birth.

The registrar's obligation to report a still-birth

15. The registrar of births and deaths should be obliged to report a still-birth, or alleged still-birth to the coroner in three sets of circumstances, viz:

(i) when he is unable to obtain a certificate from a doctor or midwife in respect of a still-birth which has been reported to him;
(ii) when he has reason to believe that the still-birth should have been reported to the coroner by the certifying doctor or midwife; and
(iii) when it is suggested to him by any person that a product of conception certified as a still-birth may have been born alive.

Medical Certificates for the Disposal of Dead Bodies

Disposal of still-births

105. The procedure for the disposal of still-births should, in future, be the same as for dead bodies.

Disposal certification procedure

106. A disposal certificate issued either by a registrar of deaths or by a coroner to whom a death has been reported should be sufficient authority for disposal by any method.

107. The existing cremation forms and certificates and the office of medical referee should be abolished.

Embalming

109. Preservative treatment should in future never be started before either (*a*) a death has been registered on the basis of a certificate given by a doctor qualified to issue such a certificate or (*b*) if the death has been reported to the coroner, the consent of the coroner has been obtained.

Responsibility for issuing disposal certificates

110. The registrar should be responsible for issuing the certificate for the disposal of a dead body in all cases except where an inquest is held.

111. In every case in which a coroner holds an inquest he should be obliged to issue a disposal certificate to a person who appears to him (that is, the coroner) to be responsible for arranging the disposal of the body.

112. When a body of someone who has died outside this country is brought back for disposal, the certificate authorizing disposal of the body should be issued by the registrar of deaths unless the death is one on which a coroner has decided to hold an inquest.

113. When a review of the registration service is next arranged, special study should be given to the question of whether a closer degree of integration could or should be sought between the two services.

114. Consideration should be given to the appointment of an Advisory Committee representative of coroners, doctors, and other relevant interests.

Appendix Four

New MCCD template including interval from onset to death.

Finally, record the time interval between the onset of each condition entered on the certificate and the date of death. Where the time or date of onset is not known you should record a best estimate. Enter the unit of time (minutes, hours, days, weeks, months, years).

Example

	Cause of death	Approximate interval between onset and death
I Disease or condition directly leading to death *)	(a) Cerebral haemorrhage due to (or as a consequence of)	4 hours
Antecedent causes Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last	(b) Metastasis of the brain due to (or as a consequence of)	4 months
	(c) Breast cancer due to (or as a consequence of)	5 years
	(d)	
II Other significant conditions contributing to death, but not related to the disease or conditions causing it	Arterial hypertension Diabetes mellitus	3 years 10 years

**This does not mean the mode of dying, e.g. heart failure, respiratory failure. It means the disease, injury, or complication that caused death.*

- **Write clearly** and do not use abbreviations.
- Be sure the information is **complete**.
- **Do not speculate** on the cause of death; rather record "cause unknown".
- Do not fill in laboratory results or statements like "found by wife".
  (there may be separate fields on the form for this kind of information)
- **One condition per line** should be sufficient.

Ref; WHO (2010) Cause of Death on the Death Certificate In line with ICD-10.

Appendix Five

University ethics approval

Content below taken from email content dated 31/10/14 entitled: Professional Doctorate Ethical Approval Confirmation - Carol Vaughan - Document 3, 4, and 5.

Dear Carol,

Thank you for submitting an ethical approval application for Prof D Document 3, 4 and 5.

I am pleased to confirm that your ethics application has been approved.

Kind regards

D J

Graduate School Administrator

Nottingham Trent University

Burton Street, Nottingham, NG1 4BU

Appendix Six

Research and Development Approval from NHS Trust

Project Authorisation

NHS Permission for Research to Commence

STH ref:	18530
REC ref:	N/A
Study title:	An evaluation of the medico-legal knowledge of Medical Examiners (ME's).
Chief Investigator:	Carol Vaughan
Principal Investigator:	Xxxxxxxx (anonymised)
Sponsor:	Employing HEI (anonymised)
Funder:	None

MANDATORY REPORTING OF RECRUITMENT

The Research department is obliged to report study set up and recruitment performance for the Trust to NIHR and to report research activity for all studies to the Trust Board. In order to meet these reporting recruitments please be advised that it is now a mandatory condition of STH project authorisation that recruitment to all research studies* at STH is reported to EDGE (the Accrual Collation and Reporting Database). It is essential that recruitment is entered into EDGE real-time to enable directorates to accurately monitor performance. Please see item 2 of the "Conditions of R&D Authorisation" for further details.

Please be informed that failure to report recruitment to EDGE may result in loss or delay in funding to the Trust and to the Directorate

*Information regarding EDGE eligibility for reporting is detailed in the "Conditions of R&D Authorisation".

Footnote: It is a requirement for this NHS Trust to have a named Principal Investigator attached to all research undertaken. For the avoidance of doubt all research was conducted by the Chief Investigator and not the Principal Investigator.

Appendix Seven

Preamble

Dear Doctor,

I am currently studying a Doctorate in Legal Practice at Nottingham Trent University. For my research project I would like to evaluate medico-legal knowledge and its application to the death certification process.

Using the survey link below there are two case studies for you to review. I would be grateful if you would complete the survey to support my project by providing data that will be used for my thesis.

The survey is anonymous as the only personal data is acknowledgement of your designation.

The case studies require one yes/no answer each and provide a free-text box for the rationale for that decision. It should take approximately five to ten minutes to complete.

Any data collected will be destroyed upon completion of the Doctorate programme, as the responses will provide pilot study data they may be reproduced for publication at a later date.

http://limesurvey.derby.ac.uk/index.php/947685/lang-en

Thank you for considering my request by responding to the survey.

Carol Vaughan RGN, BSc (Hons), LLM (Health Law)

D. Legal Practice student.

Appendix Eight

Case studies

Case study 1:

78-year-old woman takes warfarin for atrial fibrillation. She also has ischaemic heart disease and hypertension treated with amlodipine. In the last few weeks, her INR is consistently 3 to 3.6. She is admitted to the Emergency Department following a witnessed collapse in her living room. There is no trauma. She is assessed promptly in the resuscitation room where her vital signs are normal apart from a Glasgow Coma Score of 3 and blood pressure 198/90 mmHg. Pupils are fixed and dilated. She is intubated and ventilated for CT scan, which shows substantial right sided intracerebral haemorrhage. INR is 3.6 in the Emergency Department. Her warfarin is reversed with Beriplex and Vitamin K. Neurosurgery are contacted but surgical intervention is not possible on the grounds of futility. With family consent, supportive treatment is withdrawn, and she dies shortly after the endotracheal tube is removed. Organ and tissue donation are not broached.

Case study 2:

A 104-year-old lady in a nursing home has no known relatives. She was frail, very deaf and had a moderate dementia process. She was considered by staff to be 'feisty'. She has no other significant medical problems but has some osteoarthritis and incontinence. She dies relatively unexpectedly; there were no major systemic problems or complaints on the night she died, and she had a good day the day before. She had been vocal and disturbing to other residents according to staff. She was found deceased in bed in the morning by staff at 0700 hours. She had been seen for routine review by her GP 12 days before death.

Appendix Nine

Coroners responses CS1 – refer

ID	Response
3	Medication causative
9	Her death may be related her medical treatment and the cause of the collapse is unclear; was this a spontaneous bleed, or did the fall cause it, even if there was no “trauma”.
16	I would want the case referred to see the clinicians view as to the relevance of warfarin to the bleed.
17	There is no information as to whether the INR is within normal range. If it is outside it has not caused the death but will have contributed to an increased bleeding tendency
23	Receiving warfarin and has spontaneous intracerebral bleed – likely on balance of probabilities to be related to the drug prescription therefore non-natural death.
24	On the information available, it appears at least possible this is an unnatural death, in that warfarin may well have caused the intracerebral bleed. Added to that, there are potential questions about what steps were in place to monitor INR.
30	This is likely an unintended complication of medical treatment, not properly managed, which has caused death
34	Intra cerebral haemorrhage is likely to be spontanious. But was the warfarin level of a degree that may have prolonged the bleeding and made the haemorrhage worse thus contributing to her death. And the death may therefore have been unnatural. It raises potential questions of warfarin prescribing, administration and monitoring.
36	Admittedly it’s a marginal level but there is “reason to suspect” that this is an unnatural death in that the medication, however correctly given, is factor in the death. I’d also want to investigate properly whether there was any history of trauma. Some might argue that the warfarin level is not high enough to start a bleed, merely that it would prevent clotting. But even if that is true the medication is a factor.
46	I wouldexpect this to be referred to me if there was any suggestion that her medical treatment had contributed to her death. Without medical background however I would not be aware of this from the notes above. I would need it to be explained to me.
48	To enable consideration to be given to whether the Brain Haemorrhage is a complication of her Warfarin therapy or natural event.

Appendix Ten

Coroners responses CS1 – no referral

ID	Response
2	Natural causes. INR satisfactory No traquma
8	It appears prime facie that she died of natural causes it depends how long she was in hospital before she died
13	Clinical evidence of natural causes of death.
26	This is ostensibly a natural death – the treatment predisposing the bleed was reasonable
27	This is a natural death
29	If there is no trauma and a doctor cane give a cause of death based on the fact that it was a simple collapse rather than a fall, then her death is from natural causes and need not be reported. In practice I would expect most doctors to report to the Coroner as a precaution.

Appendix Eleven

Coroners responses CS2 - refer

ID	Response
3	Unexpected death
9	If a cause of death cannot be provided by a treating doctor, it should be referred.
16	Although she is 104 years there appears to be no obvious cause of death. I would try to avoid a pm if at all possible .
17	Although she is over the age of 80 and old age would be a possible cause of death she has no known underlying morbidities and no gradual decline. Her death is of unknown cause and even with the low level of to the best of my knowledge and belief there is nothing the treating clinician can offer which would be acceptable
23	Coroner can accept old age and general debility if over 80 years, likely to accept this even though there is no medical cause .
24	Although in these circumstances, the Coroner is likely to consult with the GP to see is s/he would feel able to give a medical cause of death. It appears unlikely on the facts.
30	The cause of death is unknown. The death does not appear to meet the criteria for a diagnosis of old age as set out in the GRO guidance on death certification. At least this case should be discussed with the coroner. If cross sectional post mortem imaging is avaialble in this jurisdictiom that would be a useful adjunct to the death investigation.
34	Yes cause of death is unknown and death was unexpected. Given her age could consider old age as COD but no history of documented deterioration over a period of time in the abscence of an acute illness
36	This isn't really a death from old age which requires a witnessed deterioration. But I'd be very reluctant to order a PM.
46	If there is no MCCD then it would require reporting to Coroner. If patient was subject to DOLS then it would require reporting even if natural COD.
48	The death is sudden and unexpected.

Appendix Twelve

Coroners responses CS2 – no referral

ID	Response
2	Natural causes No trauma not injury Seen by GP
8	Not if the GP was happy to issue the MCCD
13	Assuming GP was in a position to certify the death.
26	The doctor can issue a MCCD for old age – if not this would be an inquest without a pm
27	The cause of death is old age and teh doctor can issue
29	Given her age and the facts I expect most GP's would sign an MCCD showing Old Age and Frailty.

Appendix Thirteen

RMP responses CS1 – refer

ID	Response
53	Died within 24 hours of hospital admission
55	Warfarin related death
57	I would want to discuss the case with the Coroner's Officer/ME. This lady was previously well and has probably died of natural causes, although this has not necessarily been established and she had an iatrogenic pre-disposition to the event. Her relatives may wish for coronial investigation. If she had been 20 years younger I suspect most people would be referring this lady to the coroner.
67	Her INR has been consistently higher than indicated for af therefore this may indicate "neglect by self or others"
68	Death shortly after hospital admission and potentially secondary to a medical intervention.
70	Unexplained death
79	Because the bleed could be as a result of poorly controlled anticoagulation and poorly controlled BP.
83	Collapse out of hospital, but expect to be told OK to fill cert
88	Death within 24hrs of admission to hospital
90	INR for AF should be between 2 and 3
91	INR raised. Were any efforts made by GP to control warfarin dosage?
92	Death within 24 hours of admission to hospital
94	The death occurred within 24 hours of admission
98	For discussion as new attendance in hospital
100	Haven't done emergency medicine for years but used to have to discuss all patients who died in hospital within 24 hours of getting there. I don't know if this has changed.
101	Death within 24 hours of admission plus also possible contribution of treatment (warfarin) to her death.
103	On warfarin and INR high which could have contributed towards her spontaneous intercerebral bleed
106	Her intra cerebral haemorrhage could be regarded as secondary to her anticoagulation.
110	Death following a collapse, could be classed as an accident. Also may not have had contact with medical practitioner despite having INR checks
112	Persistently elevated INR levels above target range in an at risk person (over age 75 years, hypertension)
115	The poorly – controlled INR appears to have been recognised on several occasions prior to the intra-cranial bleed which lead

	to her death. There may have been an opportunity for this to have been addressed, which needs to be investigated by the Coroner, as it may have prevented the fatal bleed.
116	Intracerebral haemorrhage in a patient on warfarin and INR above target range for anticoagulation in atrial fibrillation.
117	There is concern about whether she received adequate management of her anticoagulation which may have contributed to her death
119	Hasn't seen a doctor in last 21/28days. Presumably only had INR checked and not reviewed by doctor?
120	Related to excess treatment with warfarin which was known
121	Sudden unpredicted death. Not seen before for this presentation
123	Potentially iatrogenic
133	Potentially iatrogenic but also the question of whether she collapsed because she bled or collapsed and then bled
134	I am uncertain if need referral
139	INR not therapeutic, despite monitoring and warfarin likely cause of death
149	Trauma and drug error implicated in her death.
152	INR was too high for management of AF. Was monitoring frequency adequate. What steps were taken to lower INR? Therefore further questions need to be answered.
153	Raised INR which is higher than it should be for AF may have contributed to the bleed.
154	On the assumption that the patient died within 24hrs of admission.
156	Unexpected death. (Plus anticoagulation may have contributed and was outside therapeutic range)

Appendix Fourteen

RMP responses CS1 – no referral

ID	Response
38	Her warfarin is not out of range – she has a stroke, a complication of both AF and vascular disease and being on warfarin. Natural causes – cause of death known – happy to issue and MCCD.
39	She collapsed and died of a bleed, her bleed may have been worsened by anticoagulation but her INR is just about in range. This is a natural death, if she had fallen & then developed a subdural it would be different
71	ICH a/w warfarin & hypertension. Target INR 2-3, but 3.6 not unreasonable and reversed as soon as ICH diagnosed. No trauma.
95	The cause of death is clear. There is a slight increase in recent INR but against a target range of 2-3 this is not an issue for the Coroner.
96	Cause of death known
107	Because I don't deal with such cases
108	Warfarin is a complex molecule and its levels are affected by many drugs. This is an adverse effect of starting warfarin

Appendix Fifteen

RMP responses CS2 – refer

ID	Response
53	No obvious cause of death although could be natural causes
55	Not recently seen by GP unexplained death
57	What is the GP going to write on her death certificate as a cause of death? He/she can make it up and put down MI due to IHD on the grounds that everyone of that age has IHD, but she might have had a stroke and there is nothing to go on. If it were acceptable to say that the lady died of unspecified natural causes then that might be allowed, but otherwise the cause of death is just speculation.
67	The cause of death is unknown
68	I work in A&E and don't have the experience to know whether this requires referral
70	Unexplained death
79	Patient was in care and i do not have a cause of death
83	Hard to believe no co morbidities at 104 I would ring GP first. Still an unexpected death. Need to know if agitation was an illness such as infection or pain and no suspicion of abuse.
88	Unexpected death – GP may be happy to write death certificate, I cannot
90	No disease process apparent, thus no cause. In your text it states unexpected after a good day. The coroner wants to know about unexpected deaths
91	Unexpected death.
92	Unexpected death, not reviewed by doctor in last 7 days
94	No clear cause of death unless identified by GP when last reviewed. Whilst there is nothing to suggest abuse or suspicious circumstances, these cannot be ruled out and there is a comment that her behaviour may have antagonised other residents.
98	Concern re possible misconduct in nursing home had been seen within 12 days and well so no cause of death
100	No cause of death
101	No obvious cause of death. Although elderly she has died unexpectedly at "home".
103	Unexpected death
106	The cause of death is not known.
110	Unexpected and unexplained death in an institution.

112	Unexplained cause of death
115	The cause of death is not clear, and the case study describes circumstances in the period prior to death which raise concerns that the death might t have been non- natural.
116	Difficult one but the death is said to be unexpected. No obvious history of deterioration with an infection in the preceeding days. Can't absolutely rule out mishap or foul play.
117	Cause of death unknown
119	Not expected and not reviewed recently by doc
120	Unexpected and unknown cause of death so the death sertificate could not be issued. Also in care.
121	Sudden death, not seen in preceeding 24hrs for current presentation
123	Unexpected death
133	Unexpected death
134	Uncertain if necessary to refer. Although seen within 2 weeks of death by GP & old age is likely cause. I am not aware that old age is an acceptable cause for certificate
139	Unexpected death in community, no clear cause for certificate
149	Unable to complete cause of death.
152	The only cause of death that the study might suggest is the frailty of old age but it doesn't sound like she faded away with frailty. There is therefore no clear cut cause of death.
153	No cause of death can be given, although following discussion with the coroner it could be signed off as old age.
154	To establish cause of death and exclude any deficiencies in care.
156	I have no idea what the Cause of death is

Appendix Sixteen

RMP responses CS2 – no referral

ID	Response
38	No trauma, presumably no suspicious circumstances and assuming family have no concerns about nursing home. Natural causes – GP can issue MCCD – frailty of old age.
39	She was 104, death can not be unexpected, there are no suspicious circumstances, she has been seen within 2 weeks. I would discuss with family but am sure an MCCD stating 1a Frailty of old age is appropriate
71	I hope I go in the same way and at the same age! I would only refer if there was a sudden expected increase in "unexpected" deaths in the home – a "Shipman effect", or any other suspicious circumstances.
95	No indication to do so.
96	She is 104, what is likely to be achieved?
107	Because I don't deal with such cases
108	Death due to old age

Appendix Seventeen

ME responses CS1 – refer

ID	Response
80	INR is high and death was due to haemorrhage. Enquiry needs to be made to establish INR control before these results.

Appendix Eighteen

ME responses CS1 – no referral

ID	Response
141	Whilst I could not deny that her relatively high INR might be a factor in causing the ICH, ultimately I would regard this as a natural cause of death and would record the \MCCD as: 1A Intracerebral haemorrhage stroke 1B Hypertension
144	This is a natural death with a clear cause of death

Appendix Nineteen

ME responses CS2 – refer

ID	Response
80	Despite the age, the cause of death is “unknown” and there is a possibility of foul play. The coroner will need to make enquiries to ensure there is nothing unnatural (e.g similar cases from the same NH, a check for injuries).

Appendix Twenty

ME responses CS2 – no referral

ID	Response
141	Ultimately the decision has more to do with the attending doctor who would have more facts than presented here. However, in a 104 year-old without any more disturbing information than is presented here I would not refer. An alternative might be to offer an HMC referral recommending a 100A.
144	Based on this information provided this appears to be a natural death in a very elderly patient.

Appendix Twenty-One

Old age Criteria for MCCD

The following extracts have been taken from the Office of National Statistics Death Certification Advisory Group. Revised July 2010.

Page 3: Law requires the doctor should complete the MCCD even when a death has been referred to the coroner. In practice, if the coroner has decided to order a post mortem or hold an inquest, he may tell the doctor not to complete the MCCD.

If the coroner does not investigate the registrar will need to obtain MCCD from a doctor who attended the deceased before the death can be registered.

Page 4: Coroner can only legally certify the cause of death if he has investigated it through autopsy.

Page 7: 5.3 Avoid "old age" alone.

Old age should only be given as the sole cause of death in very limited circumstances. These are that:

- You have personally cared for the deceased over a long period (years or many months)
- You have observed a gradual decline in your patients' general health and functioning
- You are not aware of any identifiable disease or injury that contributed to the death
- You are certain there is no reason that the death should be reported to the coroner

ONS DCAG has recommended that deaths certified as due to old age or senility alone should be referred to the coroner, unless the

deceased was 80 or older, all the conditions listed above are all fulfilled and there is no other reason that the death should be referred. Similar terms such a “frailty of old age” will be treated in exactly the same way.