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Assessing the functionality and value of introducing Death Investigators into forensic pathology service in South Africa

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Dissertation submitted in fulfilment of the requirements for the *Magister Scientiae* degree in Medical Criminalistics

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hereby declare that this dissertation submitted to the University of Pretoria for the degree MSc (Medical Criminalistics), and the work contained herein, is my own original work and has not previously been submitted to any university in order to obtain a degree. Where previously published work was used, the proper acknowledgment to the author(s) is provided in the reference list which can be found in the last section of this dissertation.

Signed at Pretoria on this 13 day of November 2020

This research dissertation is dedicated to our man in the arena:

THE MAN IN THE ARENA

It is not the critic who counts; not the man who points out how the strong man stumbles, or where the doer of deeds could have done them better. The credit belongs to the man who is actually in the arena, whose face is marred by dust and sweat and blood; who strives valiantly; who errs, who comes short again and again; who spends himself in a worthy cause; who at best knows in the end the triumph of high achievement, and who at worst, if he fails, at least fails, while daring greatly, so that his place shall never be with those cold and timid souls who neither know victory nor defeat.

Theodore Roosevelt

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EXECUTIVE SUMMARY

In modern society the medico-legal investigation of death is a prerequisite for the administration of justice and for the betterment of public health. These investigations require a high level of skill, professionalism and ethics and have far reaching effects. South Africa's high level of unnatural deaths, combined with limited human and fiscal resources, specifically a scarcity in practicing Forensic Medical Practitioners, a lack of adequate training of Forensic Officers and members of the South African Police Service, discrepancies in available statistics and a lack of accreditation and quality control, to name a few, leave the South African medico-legal system overburdened. Death investigation needs to evolve and improve constantly and improvements in death investigation need to occur across a wide spectrum of parameters.

In the United States of America, to combat systemic issues such as those experienced in South Africa, Death Investigators have been introduced in a supportive capacity and as an extension of services rendered by Forensic Medical Practitioners. These investigators, who are not medical practitioners but may have some level of training or vocational experience within the medical or investigative field, attend and help to analyse death scenes, collect relevant ante-mortem data, assist during autopsies, expedite special investigations, liaise with other stakeholders and provide testimony if warranted. Multiple benefits are associated with the introduction of these death investigators, with the collection of relevant (pre-autopsy) information which will assist and direct the Forensic Medical Practitioner probably being the most pertinent in the context of this research.

The aim of this study was to assess the functionality and value of introducing such Death Investigators into forensic pathology service in South Africa. Specifically, this research focused on the nature and scope of information currently being provided to Forensic Medical Practitioners prior to conducting an autopsy and assessed whether the introduction of these investigators would improve the quality of pre-autopsy information.

To determine this, participating Forensic Medical Practitioners were asked to evaluate the quality of information currently provided to them prior to conducting an autopsy and to evaluate the quality of information contained in a Death Investigator worksheet that was completed hypothetically for the same case, as an example of the type of information that would be collected by a Death Investigator. Additionally, the disposition of Forensic Medical

Practitioners and external stakeholders to the proposed introduction of Death Investigators was assessed through a questionnaire process.

Findings of this research showed that there is a significant deficit in the quality of pre-autopsy information being provided to Forensic Medical Practitioners at present. The current pre-autopsy information received an average information quality score of 21.4%. However, the Death Investigator worksheets received and average information quality score of 84.9% representing a marked improvement. Forensic Medical Practitioners had a favourable disposition to the proposed introduction of Death Investigators and agreed that Death Investigators would provide an improved knowledge and understanding of the circumstances and setting of the death, which in turn would , enhance their ability to strategise a post-mortem approach, to request appropriate special investigations and to better interpret their autopsy findings.

Overall, the results of this research suggest that the introduction of Death Investigators would add value, specifically by improving the gathering of appropriate information and would be welcomed by Forensic Medical Practitioners. While this research was conducted in Pretoria, it was done on the premise that the poor-quality pre-autopsy information experienced in Pretoria, is probably, to a greater or lesser extent experienced in other medico-legal laboratories in South Africa. It is recommended, that a multi-centre audit of pre-autopsy information quality is undertaken to verify the results found at the Pretoria Medico-legal Laboratory. Furthermore, to facilitate the introduction of Death Investigators as a new professional category, it is recommended that a working group be convened to further interrogate the added-value potential of this introduction as well as to determine prerequisite educational requirements and acceptable recognised prior learning, and to develop guidelines and scope of practice documents. It is also recommended that should this introduction come to fruition, provision be made to accommodate such Death Investigators on a professional board affiliated with the Health Professions Council of South Africa, to guide training and qualification requirements, advise on best practice and professional standards against which Death Investigators can be held accountable.

Key words: medico-legal death investigation, South Africa, Forensic Medical Practitioners, Death Investigators, information quality, added-value

CONFERENCES AND PUBLICATIONS

Preliminary results for this research were presented at the PathCape 2018 congress:

Saayman G, De Villiers K, Morris N. The introduction of medico-legal death investigators to forensic pathology services in South Africa: time for action? Presented at the 56th International FSASP Congress on rejuvenating pathology; 2018 August 16-18; Stellenbosch; South Africa.

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LIST OF ABBREVIATIONS

ABMDI	American Board of Medico-legal Death Investigators
ASFM	African Society of Forensic Medicine
CRFSS	Criminal Record and Forensic Science Service
CSE	Crime Scene Examiner
DHA	Department of Home Affairs
DI	Death Investigator
EAAF	Equipo Argentino De Antropologia Forense
FMP	Forensic Medical Practitioner
FPO	Forensic Pathology Officer
FPS	Forensic Pathology Service
GDP	Gross Domestic Product
HPCSA	Health Professions Council of South Africa
ICRC	International Committee of the Red Cross
IO	Investigating Officer
ME	Medical examiner
MOU	Memorandum of Understanding
NAME	National Association of Medical Examiners
NDoH	National Department of Health
NPR	National Population Register
NYC	New York City
%	Percentage
PI	Principal Investigator
PML	Pretoria Medico-legal Laboratory
PPP	Purchasing Power Parity
RPL	Recognised Prior Learning
SA	South Africa
SAMRC	South African Medical Research Council
SAPS	South African Police Service

SIDS	Sudden Infant Death Syndrome
SOP	Standard Operating Procedure
SUDA	Sudden Unexpected Death in Adults
SUDI	Sudden unexpected death in infants
SWGMDI	Scientific Working Group for Medico-legal Death Investigation
UK	United Kingdom
UNISA	University of South Africa
UP	University of Pretoria
USA	United States of America
USD	United States Dollar
WHO	World Health Organisation
ZAR	South African Rand

CHAPTER 1

GENERAL ORIENTATION

This chapter provides a general overview of death investigation and forensic medicine, with a specific focus on the medico-legal investigation of death. It includes a desktop literature review which establishes a theoretical framework for the research, reviews local and international perspectives, defines key terms and identifies previous applicable studies. This chapter also includes the relevance of this research, the research aims and objectives and the layout for the forthcoming chapters.

1.1 Introduction and literature review

Mankind has always had an intrinsic desire to understand and learn from death. Evidence from ancient papyri, such as the Ebers and Hearst Papyri, indicates that the relationship between medicine and law extends back to the ancient Egyptians, whose civilisations existed 3000BC.[1-3] The ancient Egyptians and Babylonians practiced mummification and whilst no attempts were apparently made, at that time, to understand disease processes in the living from the dead, they did have a considerable knowledge of human anatomy - which most other ancient cultures did not have, due to social and religious prejudices of the time.[2,3] Greek civilisation began to emerge around 1000 BC, however, little is known about their medical practices prior to 500 BC.[2] A common feature of ancient civilisations was that the practice of medicine was associated with magico-religious beliefs.[1,2] Hippocrates (c. 460 – 377 BC) however, adopted a naturalistic philosophy to medicine and asserted that disease was a result of 'natural causes', a view which placed medicine on a more rational and scientific path.[1-2] Greek physicians had a decent understanding of surface anatomy, but cultural objections to human dissection remained and this limited their understanding of internal anatomy, which they were forced to ascertain from the examination of wounds and the dissection of animals.[2] There was substantial emancipation and advancement of medicine in ancient Greece, specifically, notable developments in the field of jurisprudence - the application of medical sciences and related specialities to the law.[1,4] Some debate exists about whether medical knowledge was officially used in establishing proof in the courts, during this time.[1] Amundsen and Ferngren assessed the role of physicians as expert witnesses in classical Greece and concluded that, when necessary, medical testimony was used and furthermore, greater

credibility was given to testimony provided by physicians.[1,4,5] Later, between 529AD and 564AD, in ancient Rome, the Justinian Code came into effect.[1] This Code provided regulations for the practice of medicine, surgery and midwifery and specifically stated that "physicians are not ordinary witnesses, but give judgement rather than testimony." [1,4] Additionally the Justinian Code stated that the function of the medical expert is to assist the judiciary by impartial interpretation and opinion, based on specialised knowledge.[1] These enactments, represent a significant milestone in the development of forensic medicine in the ancient world. However subsequent to these, little comparable progress was made until the end of the Dark and Middle Ages.[1]

In 1410, Pope Sixtus passed a bill permitting human dissection by students of anatomy in Padua and Bologna and by the middle of the 15th century, autopsies were common practice in some regions of Italy.[2] In 1553 the *Constitutio Criminalis Carolina* or the Caroline Code was proclaimed by Emperor Charles V of Germany.[1-4] The Caroline Code amplified the importance of forensic medicine as a speciality and expert medical testimony became a prerequisite in cases of murder, wounding, poisoning, hanging, drowning, infanticide and abortion.[1, 3, 4] Additionally, the performance of autopsies was allowed by the Caroline Code and by 1556 the autopsy was accepted by the Catholic Church.[2] Over time, two different settings for the autopsy have emerged.[6] Firstly, the anatomical autopsy, performed to determine the nature and degree of underlying disease processes, to teach and to perform research and, secondly, the medico-legal autopsy performed, as mandated by law, to facilitate further legal proceedings.[6]

Today forensic medicine lies at the intersection between medicine and law and involves a variety of scientific disciplines to assist the courts in adjudicating criminal and civil disputes and issues.[7] Collectively, these disciplines now constitute the domain of "forensic science" and include a wide variety of scientific fields and techniques, ranging from DNA analysis to ballistics and toxicology.[8,9] The growth of forensic science was aided by the industrial revolution in the 19th century.[1, 10] Many instruments and principles employed in forensic laboratories today are as a result of innovations made by scientists during this time, for example, the ultraviolet spectrophotometer which is dependent on Johan Ritter's discovery of ultraviolet radiation in 1804, as well as the combined work of Johan Purkinje, Henry Fauld and Sir Francis Galton in the 1800's which resulted in the scientific classification of

fingerprints, still used today.[10] The realisation that forensic medicine and medico-legal death investigation require specialised knowledge and expertise continues to grow and in modern society, science has inserted itself as an essential component of medico-legal investigation.[1]

1.1.1 Medico-legal death investigation systems

Initially, the main objective of undertaking a medico-legal investigation of death was to determine whether a law had been broken regarding the death of an individual.[11] Such investigations were (and still are) mandated by legislative provisions and regulations, which authorise in-depth interrogation of the circumstances surrounding certain (generally, unnatural) deaths, and which facilitate the collection of evidence and information in order to empower the courts.[6, 11] Dr Randy Hanzlick stated that these investigations carry broad societal importance for criminal justice and public health.[12] Whilst there are, of course, other perspectives (of a non-medical nature) which are important and relevant in the investigation of presumed unnatural death, there is growing appreciation and acknowledgement of the scope and importance of medico-legal investigation of death, with reference also to the full spectrum of scientific disciplines which may be incorporated here. Globally, the legal and organisational framework within which medico-legal investigation of death takes place, varies significantly from one country to the other, but it may be fair to say that many of these systems were heavily influenced by medical and legal expertise and systems which originated in Europe and were carried and implemented afar, during the almost global colonisation by European countries over the last almost 500 years.[13] Substantial regional differences have subsequently evolved, driven by local socio-political developments and of course, the availability of human and other resources.

A particular perspective which has become much debated is the distinction between systems where executive and/or operational decision-making power, pertaining to death investigation, lies with an elected or appointed official (often with no specific qualifications in medicine or biomedical forensic science) and systems where such authority lies with a qualified medical professional (forensic pathologist). Simplistically put, this perspective is perhaps best illustrated by the differences between coroner offices and Medical Examiner (ME) offices in the United States of America (USA).

1.1.1.1 The coroner system and the medical examiner system

The coroner system was first established in England and was based on the 1194 Articles of Eyre.[3, 13, 14] These articles provided for Keepers of the Pleas of the Crown, from which the term 'coroner' is derived, who were responsible for investigating deaths, to ensure that the appropriate fiscal value was paid to the crown.[13] Today, coroners no longer serve this function, but rather oversee the investigation and certification of deaths.[3, 13] Coroners are usually elected officials and are not legally required to be medically trained.[16,17] Therefore coroner's must rely on pathologists to assist in their investigations and to perform autopsies.[18] For natural deaths, the doctor who provided care for the deceased will complete the medical certificate of cause of death.[15] The coroner is only involved in the determination of cause of death when that death is suspected to be unnatural, when the death is as a result of unknown causes or when the treating doctor is unable to complete the medical certificate of cause of death.[15, 16] Under these circumstances the coroner has the authority to arrange an autopsy and/or to hold an inquest.[15]

In 1960, in Maryland, law was enacted which required the Coroner to consult with a physician.[14] In 1877, Massachusetts replaced its coroners with physicians and, nearly 40 years later, New York City (NYC) abolished the office of the coroner in favour of the ME system.[14,17] Multiple differences exists between the coroner and ME systems, perhaps most notable is that coroners are not required to be medically trained, whereas MEs are physicians, pathologists or forensic pathologists.[12] Variation also exists in the procedures initiated by the various medico-legal systems. In general, however, ME and coroners offices provide death investigation services which include death scene investigation, medical investigations, review of medical records, medico-legal autopsies, determination of cause and manner of death and completion of the death certificate.[19]

It is important to be aware that the medico-legal investigation of death is not static.[20] Death investigation systems must continually evolve in order to remain relevant. For example, statutory reforms were made recently to the system in the United Kingdom (UK) following three inquiries into Dr Harold Shipman who killed at least 215 of his patients over a 24-year period.[21] These inquiries found that the arrangements for death registration, cremation, certification and coronial investigation in the UK were inadequate and, ultimately, provided opportunity for the crimes of Dr Shipman to go undetected.[21] Following on the judicial

Shipman Inquiry, reforms to death certification in England and Wales were published in March 2016, which provided for the introduction of MEs.[21,22] Under these reforms, unnatural deaths will be reported to a coroner for further investigation and natural deaths will be reviewed and scrutinised by an independent ME before the natural cause of death is accepted and the certificate issued.[22,23] It is important to note that there are fundamental differences between the newly introduced MEs in the UK and the MEs operating in the USA. For example MEs in the UK are medical practitioners (practising or retired) and it is recommended that they be senior doctors or general practitioners with a comparable level of experience who assume the role of an ME as an additional reponsibility.[23] In contrast, MEs in the USA are more medically specialised (usually forensic pathologists), as mentioned above and operate in a full-time capacity .[12] Reforms to the medico-legal death investigation system are not exclusive to statutory advancements, as seen in the UK, and include, but are not limited to, the accreditation of facilities, as driven by the National Association of Medical Examiners (NAME) in the USA, the enhancement of competency through training and the development of protocols and guidelines to inform the practice of death investigation.

1.1.2 Overview of medico-legal death investigation process in South Africa

The South African legal system is essentially a product of Roman Dutch common law and English statutory law.[24] Roman Dutch common law provided for inquisitorial investigations before a magistrate and English statutory law provided certain legal components, including the Inquest Act (Act 58 of 1959).[24] South African law has evolved over time and today comprises a unique combination of characteristics.[25]

When an unnatural death occurs in South Africa (SA), an investigation into the circumstances surrounding that death must be undertaken in accordance with the provisions stipulated in Section 3 of the Inquests Act (Act 58 of 1959). [26] Here it mandates that, if a person is believed to have died from other than natural causes, the circumstances of death must be investigated and, if the body is available, it must be examined by a medical practitioner who, if he/she deems it necessary, will perform an autopsy.[26] This section was amended in 1991 and previously stated that where a person has died from other than natural causes, a magistrate shall instruct a medical practitioner to conduct a medico-legal investigation of death. This amendment of 1991 was significant because it recognised that the service is not discretionary based upon the opinion of a magistrate and gave due recognition to the inherent importance

of having scientific, biomedical and medical professionals rendering the service. Over time as expertise in forensic science and other biomedical sciences grew, it became apparent that toxicologists, anthropologists and odontologists, to name a few, complement and enhance the medico-legal death investigation system. The Regulations Regarding the Rendering of Forensic Pathology Services promulgated under the provisions of the National Health Act (Act 61 of 2003) provide a statutory mandate for the Forensic Pathology Service (FPS) to engage and participate in the medico-legal investigation of unnatural deaths.[27] These regulations prescribe that a forensic pathology service be established and managed within every provincial health department and further dictate the application of the service to deaths which appear to be due to unnatural causes.[27] In SA, unnatural death is defined as any death due to physical or chemical influence, direct or indirect, or related complications; any death including those deaths which would normally be considered to be a death due to natural causes, which may have been the result of an act of commission or omission which may be criminal in nature; any death of a person undergoing or as a result of a therapeutic, diagnostic of palliative procedure as contemplated in section 56 of the Health Professions Act (Act 56 of 1974); and any death which is sudden and unexpected, or unexplained, or where the cause of death is not apparent."[27-29]

The Investigation into unnatural deaths thus clearly falls within the spheres of responsibility of both the South African Police Service (SAPS) and the FPS. The responsibilities of the FPS include conducting a death scene investigation in consultation with the SAPS, obtaining medical records, taking witness statements, taking custody of the body from removal at the scene until release for burial or cremation, assisting with identification of the deceased, conducting autopsies, retaining evidence, requesting and conducting special investigations and providing testimony.[27] The procedure for the management of crime by the SAPS is outlined in SAPS Policy 2 of 2005 and consists of ten phases, from activation to investigation to handover and, finally, to self-evaluation.[30] A Memorandum of Understanding (MOU) between the SAPS and the National Department of Health (NDoH), under which FPS falls, details the relative roles and responsibilities of the two agencies in the management of all stages of the unnatural death investigation process.[31] These responsibilities include, but are not limited to, the following aspects:

- The SAPS will report all unnatural deaths to the FPS

- The FPS will attend the scene upon request by the SAPS
- In circumstances specified in Section 4, subsection 10 of the MOU, the Forensic Medical Practitioner (FMP) must be informed of the scene of death in order to decide whether attendance by the FMP is necessary. These include, but are not limited to:
    - Aircraft accidents
    - Mass disasters
    - Where a member of the SAPS was possibly involved in the cause of death
    - Death of an individual in custody of the Correctional Services
    - Fatalities involving possible sexual assault
    - Unnatural death of a patient in a public or private health care facility
    - Sudden Unexpected Death in Infants (SUDI)
- The SAPS officials on scene must ensure that all relevant documentation is made available to the FPS
- Once the relevant documents are completed, the body will be removed and taken to the relevant Forensic Pathology Laboratory for an autopsy[27]

Section 11 of the Regulations Regarding the Rendering of Forensic Pathology Service specify that a post-mortem examination can only be performed by an authorised medical practitioner.[27] An authorised medical practitioner is defined by the regulations as being registered as a forensic pathologist or medical practitioner in accordance with the terms of the Health Professions Act (Act 56 of 1974).[27] These professionals must provide impartial, scientifically-defensible determinations of cause and manner of death, interpret the nature and mechanism of injury, gather evidence, rule out confounding conditions and provide attorneys with vital information.[32] The Regulations Regarding the Rendering of Forensic Pathology Service and the National Code of Guidelines for Forensic Pathology Practice address all aspects of the post-mortem examination process, including the correct procedures for conducting an external and internal examination and the correct procedures to be initiated when collecting and handling evidence for special or ancillary investigations.[27, 33] Once the autopsy is completed, the FMP compiles a post-mortem report and completes the DHA-1663 notice of death form, which will be submitted to the Department of Home Affairs (DHA) so that a death certificate and authorisation to dispose of the body (by burial or cremation) can be issued.[31, 34] Finally, a report containing details of the circumstance of death is submitted to

the office of the public prosecutor who may request further information from the investigating officer.[20] Once this is received, the report is submitted to the district magistrate.[20, 27] If the magistrate is reasonably convinced that the death is due to unnatural causes then he or she is required, by the Inquests Act (Act 58 of 1959), to open an inquest and to ensure that all relevant steps are taken to determine the circumstances and manner of death.[20,27] Should the inquest reveal that a criminal offence has been committed, a decision must be taken as to whether the case has merit for further prosecution or not.[35] If so, the inquest is closed, the guilty party charged, and criminal trial proceedings commence.[20,35] It is important to note that while the magistrate is responsible for overseeing the process of death investigation where there is uncertainty regarding the nature of the circumstances of death, cases which appear to be or are deemed to be homicidal from the outset circumvent the inquest magistrate. The SAPS, the FPS, the various forensic science laboratories and the Department of Justice and Constitutional Development must work co-operatively in order to provide an effective investigation service.

A diagram (Figure 1.1) illustrating the general steps in the medico-legal investigation in SA is provided below:

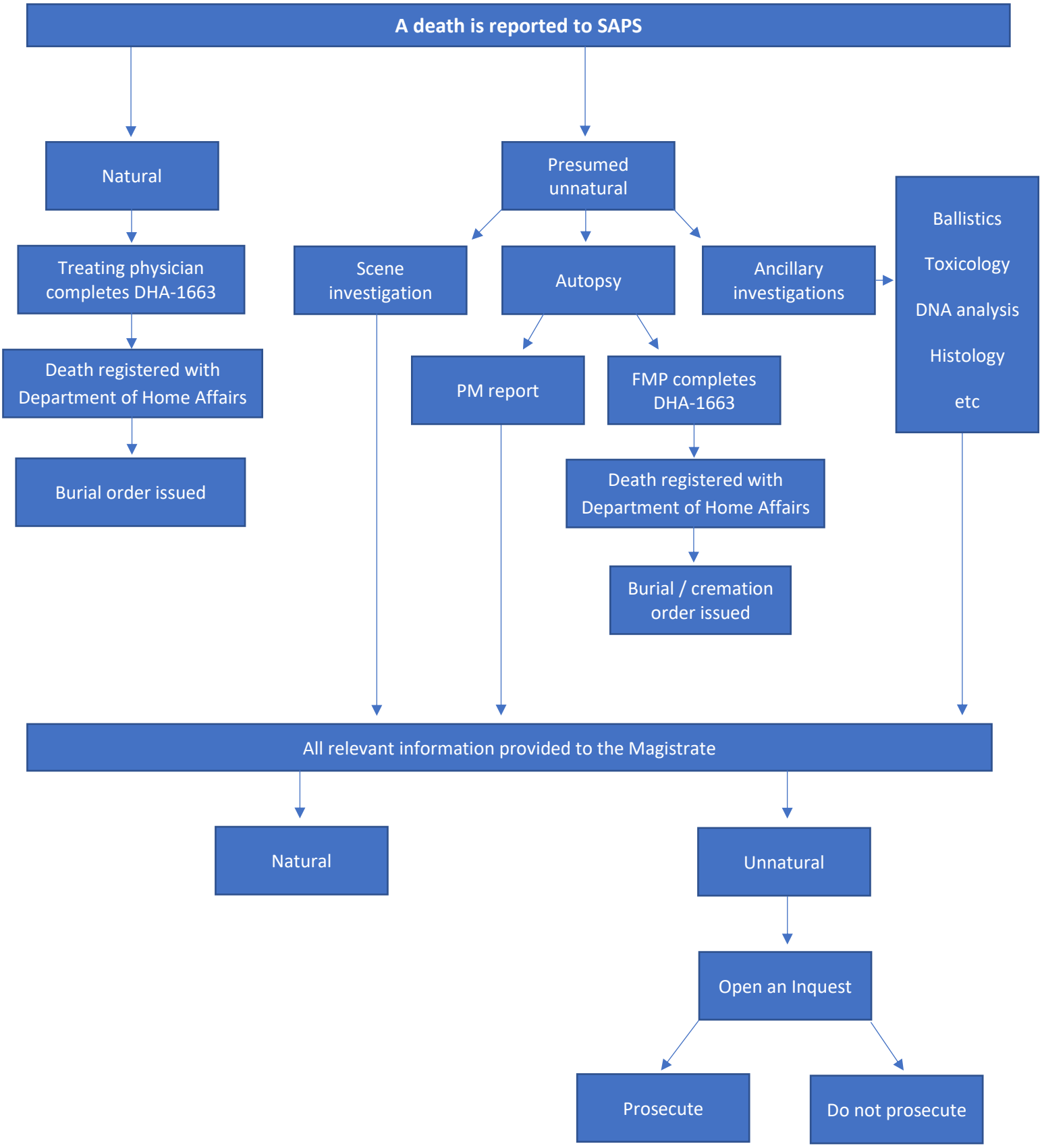


Figure 1.1 Flow diagram illustrating the general steps in a medico-legal investigation

1.1.2.1 Review of the medico-legal death investigation process in South Africa

In 2017, the crude death rate, as reported by the Central Intelligence Agency for SA, was 9.4 per 1000 population.[36] The latest statistical release by Statistics SA revealed that the proportion of unnatural deaths in SA, in 2017, was 11,5% which equates to over 51 000 unnatural deaths.[37] According to Statistics SA, the majority of these unnatural deaths (67,1%) were as a result of other external causes of accidental injury, followed by assault and transport accidents, which accounted for 15,0% and 11,5% of unnatural deaths, respectively.[37] Further interrogation of these statistics is required. Firstly, when there is insufficient detail provided to Statistics SA to code a cause of death accurately, the death is coded as 'other external causes of accidental injury or as an event of undetermined intent.'[37] These results should therefore be interpreted with caution and with cognisance that three-quarters of unnatural causes of death were not adequately classified in this latest release.[37] This results in discrepancies between the available statistics and specifically what appears to be a relative low number of transport accidents and assaults. According to statistics released by the SAPS there were over 20 000 homicides in the 2017/2018 year whereas Statistics SA only reported 7688 fatal assaults for the same time period.[37, 38] Additionally the State of the Road Safety Report compiled by the Road Traffic Management Corporation indicates that in 2017 there were over 11 000 fatal crashes in South Africa and that most of these were pedestrian vehicle incidents.[39] Ultimately, the statistics available in SA need to be viewed critically, however looking at both the data released by Statistics SA and by the South African Medical Research Council (SAMRC), approximately 11% of all deaths were due to unnatural causes in 2017.[37,40] All of these cases would have been subject to a medico-legal investigation, including an autopsy. It is important to note, however, that Statistics SA uses death notification forms as its data source and that the SAMRC uses the National Population Register (NPR).[37,40] This is relevant because, in practice, some deaths are provisionally managed as unnatural and therefore undergo a medico-legal investigation, including an autopsy, after which they are retrospectively classified as natural, which is reflected in the death notification form and eventually the NPR. It is, therefore, more accurate to say that, on average, as many as 70 000 to 80 000 medico-legal autopsies are conducted annually in SA.[6, 41] These numbers bring to light two perspectives which need to be considered. Firstly, the percentages of cases reported which are not overtly violent in nature (such as car accidents

and gunshot wounds) but which are not fully explained at the time of death and therefore require a medico-legal investigation are by comparison, substantially higher in developing countries such as the UK than in SA. In general, in the UK, 55% of cases reported to the coroner require neither a post-mortem nor an inquest.[42] In SA, this number is considerably lower. This brings into question whether the criteria SA employs for submitting cases for review or investigation are in fact adequate or whether cases such as alleged medical negligence or parental neglect are not been reported allowing for miscarriages of justice. It further calls into question whether there are professionals in SA, with appropriate expertise and understanding of the broader medico-legal process to interrogate such cases and to inform the reports of either the inquest magistrate, the pathologist or the public prosecutor.

The second perspective that should be considered is whether SA has the resources to appropriately investigate the 70 000 to 80 000 autopsies that are, on average, required annually[6, 41]. According to the Health Professions Council of South Africa (HPCSA), in 2017, there were 87 registered forensic pathologists in SA, although in practice the actual number may be considerably lower.[43] Unfortunately, the high unnatural death rate combined with the relatively small number of qualified forensic pathologists (approximately 50 practising forensic pathologists), results in thousands of autopsies being conducted by non-specialist medical practitioners, who may have little or no formal training in autopsy pathology.[6, 41] In addition, the NAME recommends 250 autopsies per forensic pathologist per year and recommends a maximum of 350 autopsies per year - recommendations with which SA is unfortunately not able to comply.[44] Due to the relatively small number of FMPs practicing and the high unnatural death rate, it is not possible for FMPs to attend all death scenes.[9, 17] FMPs must therefore rely on information collected by the police and Forensic Pathology Officers (FPO) who attend the scene. A FPO is a trained assistant, who assists the FMP by collecting the body, eviscerating the body, manoeuvring the body and closing the body.[45] They are, most often, non-medical personnel who have received in-house training.[45] According to previous research conducted at the Pretoria Medico-legal Laboratory (PML), scene photographs and sketches, which are valuable sources of information, are rarely included in the pre-autopsy information received by FMPs.[20] Therefore, should the FMP be unable to attend the scene, they often only manage to ascertain a vague concept of the

circumstances of death and of the body *in situ* from the information provided to them by FPO's and the SAPS member who attended the scene.[20]

According to the SAPS crime statistics for the 2018/2019 year, the police recorded over one million contact crimes in SA, including unnatural deaths.[38] The Detective Service report compiled by the Department of Community Safety in the Western Cape indicated that, on average, detectives are at any one time responsible for between 50 to 60 cases.[46] Furthermore, the Police Advisory Council reported in 2007 that 24% of investigators had not completed the prerequisite training.[30] Both the SAPS and the FPS have resource limitations. The agencies also serve different mandates. Specifically, the SAPS function is to "prevent, combat and investigate crime", whereas the FPS function is to investigate unnatural death, which is not limited to matters involving or implicating criminal activity.[31] It can be argued that deaths with suspected criminal activity are likely to be prioritised by the SAPS over unnatural deaths where a criminal element is not suspected. For example, in cases of Sudden Unexpected Death in Adults (SUDA) and Sudden Unexpected Death in Infants (SUDI), as well as cases of probable suicide and procedure (medical) related deaths, sub-optimal pre-autopsy information has been identified in previous studies.[20, 47-49]

Sudden Unexpected Death in Infants is an umbrella term used to describe the phenomenon of sudden and unexpected death that occurs during infancy.[50] The incidence of this condition varies substantially from country to country and within communities, but unfortunately it remains a common occurrence. The majority of these deaths are undoubtedly due to natural diseases/conditions – but a significant number of these deaths may be attributable to unnatural causes. In order to ensure that such unnatural causes (including physical injury and poisoning) are identified, thorough medico-legal investigation of these incidents is essential. The internationally prescribed/expected protocol of investigation advises that in all such cases, a thorough medical/circumstantial history should be obtained, a full scene investigation should be undertaken (including doll re-enactment) and a full post-mortem examination (with relevant special investigations such as toxicology, microbiology and genetic studies) should be performed.[46, 48] In countries where good resources are available, such thorough investigation may establish a specific cause of death in up to 35% of such sudden infant deaths.[48, 53] However, if such prescribed investigative protocols are not followed, a specific cause of death may only be established in 10% (or less) of cases as was demonstrated

in a study conducted in 2013 in SA.[51] These conditions/diagnoses may range from unsuspected congenital abnormalities, metabolic diseases and overlaying to wedging.[48, 50] In cases where such thorough investigation however reveals no specific cause of death, the death is then (i.e. by exclusion) categorised as Sudden Infant Death Syndrome (SIDS).[48, 50] In SA, a multicentre audit of SUDI cases admitted to the Pretoria and Tygerberg medico-legal laboratories between 2000 and 2004 revealed that a death scene investigation was not completed for any of the 512 cases admitted over the researched time period.[48] Another multicentre audit, which included medico-legal laboratories in Durban, Pretoria, Cape Town, Bloemfontein and Johannesburg showed that from 2005 to 2009, death scene assessment in SUDI cases was, again, almost always neglected.[51] Of the more than 2500 cases admitted during the research period, a scene investigation and or doll re-enactment was only done in 14 cases.[51] Furthermore, it was suggested that the 'unascertained' cause of death, which accounted for 15% of admitted cases, could be attributed to a reluctance by the FMP to diagnose SIDS without a comprehensive scene examination.[51] It is therefore clear that the thorough and internationally expected/prescribed investigation of these cases is far from adequate in SA and that, in particular, substantially more effort should be put into establishing an appropriate medical history and interrogating the scene and circumstance of such deaths, by persons who fully understand the nature of the condition under consideration.

Sudden death is defined by the World Health Organisation (WHO) as a death which takes place within twenty-four hours of the onset of symptoms.[52] Again, the great majority of such deaths are attributable to pre-existing or underlying natural disease conditions, such as ischaemic heart disease, hypertension and pulmonary thromboembolism (to name but a few).[52] However, a significant percentage of these cases may be due to unnatural causes. In cases of sudden and unexplained death, medical practitioners are not in a position to issue a medical certificate stating the cause of death and accordingly, such events must be referred for further investigation to the SAPS and FPS - in accordance with the statutory provisions pertaining to unnatural deaths.[27] In a study conducted in Cape Town on SUDA cases, 16.5% of the researched cases were found to be unnatural.[47] An accidental manner of death was determined in 9.1% of cases, followed by homicidal and suicidal manners of death in 1,8% and 1,2% of cases, respectively.[47] These results emphasise the importance of a medico-legal

investigation in sudden deaths where unnatural death cannot be excluded.[47] Of particular significance, is that the authors in this study reported that there was a lack of useful pre-autopsy information which was attributed to, among other reasons, police officers not providing adequate or appropriate information (or seeking information which is unhelpful to the FMP) and to the lack of medical training of FPO's.[47]

It is estimated that between 5514 and 7582 suicides occur annually in SA.[50] This represents up to 21 suicides per day.[53] Establishing the manner of death (in contrast to the primary medical cause of death) is dependent on a multiplicity of factors beyond the autopsy findings which must also be taken into consideration. In particular, considerations pertaining to prior medical history, financial affairs, personal relationships and relevant findings at the scene of death, are all essential in arriving at a validated categorisation of a suicidal manner of death.[49] Research conducted into the validity and reliability of suicide mortality data in SA, showed that suicide deaths receive a low priority by the medico-legal death investigation system.[54] This is partly attributable to the high injury and violence rates experienced in SA.[54] FMPs participating in a study cited the lack of pre-autopsy information, a poor transfer of information between the SAPS and FPS and a lack of police investigation prior to autopsy as some of the difficulties faced when investigating a suicide-related death.[49]

A study conducted in 2011 at the PML, which scrutinised cases of sudden and unexplained death, death which occurs in a hospital within 24 hours of admission and deaths which occurred *en route* to the hospital, revealed that in 73% of cases, insufficient information was made available to the FMP.[20] This lack of quality, relevant pre-autopsy information can affect the ability of the FMP to strategise his or her investigative and post-mortem approach. This could result in doctors performing autopsies on cases where it may not have been necessary (i.e. if appropriate pre-autopsy information had been made available to the forensic medical practitioner) or in requesting or performing unnecessary special investigations in an already resource-limited country.[20, 47] Furthermore, providing the FMP with appropriate information, may serve to alert the latter as to the possibility of potentially infectious conditions such as tuberculosis or viral infections, which may constitute a serious occupational health-related risk for FPS personnel at autopsy. This particular perspective has become of great significance with reference also to the global coronavirus pandemic.

According to Jentzen (1998) the "proper evaluation of the death scene represents the single best opportunity to gain the most accurate, comprehensive, and timely collection of information regarding a death".[17] Furthermore, he explains that these initial observations are of maximal importance to the overall success of the investigation.[17] The previously mentioned studies demonstrate that in certain cases, sub-optimal information is being collected from death scenes which could have far-reaching effects and requires serious review.[20, 47-49] Very few countries have the luxury of sufficient medical personnel (and in particular, medical personnel who are specifically trained or knowledgeable in respect of the medico-legal investigation of death), who will be available to attend all death scenes and/or to obtain further information and generally, conduct the investigation which is required, before performing an autopsy. This insufficiency, coupled with the lack of adequate training of police officers and the high caseload in SA, seriously compromises and, indeed, undermines the process of medico-legal investigation of death. It almost inevitably contributes towards the legal and administrative processes surrounding death being compromised.[6] In a review of the South African criminal justice system in 2008, it was concluded that if policies and resource allocations are not radically improved, the outcomes of the system will remain dysfunctional.[55] Human and other resource limitations have of course been experienced and described in many other countries – including first world or highly-developed countries such as the USA. In order to address these inadequacies, appropriately trained persons who – from a medico-legal perspective – can attend and analyse death scenes, help to gather relevant information (from family members, witnesses and/or medical personnel), liaise with police officers, scientists and prosecutors, expedite special investigations and more, have been deployed.[17, 23, 32]

1.1.3 Defining a Death Investigator

A Death Investigator (DI) is a frontline, non-physician investigator who performs scene and background investigations in a supportive role to the FMP.[32] This vocational category has perhaps best been defined and implemented in the USA, over the past number of decades - but similar death investigation expertise may be found in other countries, under different names or job descriptions. Official guidelines for DIs were first published in 1997 and renamed and published again in 1999 as *Death Investigation: A Guide for the Scene Investigator*.[56,57] These guidelines identified 29 tasks to be performed.[57] These include;

- Exercising scene safety
- Establishing a chain of custody
- Descriptive documentation of the scene
- Safeguarding evidence
- Interviewing witnesses
- Conducting an external body examination
- Documenting post-mortem changes
- Documenting deceased's medical and social history and
- Ensuring security of remains.[56]

In 1994, Clark identified 52 essential duties completed by DIs including demonstrating a knowledge of forensic pathology and forensic science, providing testimony and facilitating analysis of evidence as required.[17] The responsibilities of a DI are not limited to death scene analysis and include assisting the FMP during post-mortem examinations and acting as an expediter of ancillary investigations and a liaison between involved agencies thereafter. Over time, DIs have become valuable members of the medico-legal system in the USA. However, until more recently, DIs received mostly "on-the-job" training and had no specified prerequisite educational requirements.[32] Since then, a critical skillset, such as those outlined in *Death Investigation: A Guide for the Scene Investigator* to assume the role of a DI, have been identified, and in 1998, the American Board of Medico-legal Death Investigators (ABMDI) began testing, registering and certifying DIs.[58, 59] The ABMDI developed a standard training curriculum and examination programme which needs to be completed in order to be recognised as a registered and certified DI with the organisation.[59] The purpose of this board is to encourage a high standard of professionalism and ethics and to recognize qualified individuals.[54] According to the ABMDI certificant directory, as of July 2020, the ABMDI has registered over 2000 DIs.[60] The practice, registration and certification of DIs in the USA has been formalised, making the USA, the world leaders and biggest advocates for the inclusion of DIs in medico-legal death investigation systems.

While in the USA professional affiliations, training, registration and certification initiatives have improved the proficiency and professionalism of medico-legal DIs, in general, registration and certification with the ABMDI are not statutory provisions.[32, 59] Research indicates that individuals with medical or scientific skills are most often employed as DIs.[17]

Research conducted by Haglund and Ernst in the late 1990's found that, whilst at the time the currently employed DIs had backgrounds in various professions, such as medicine, law enforcement and embalming, 70% of their respondents envisioned either an associate's degree of bachelor's degree as the minimal prerequisite for future hires.[61] Today, DIs are usually university-educated in criminal justice or one of the physical science disciplines and undergo intensive on-the-job training covering different investigative techniques and procedures.[58] The accuracy of the FMPs conclusions rely on the decisions made and procedures initiated by DIs who perform the initial investigation.[32] A high-quality medico-legal death investigation system should employ highly-trained and qualified FMPs who are supported by competent investigative personnel.[32]

1.1.3.1 Added value of Death Investigators

In a research survey conducted by Haglund and Ernst, 61 Medical Examiners were asked to classify the value of DIs to the operations of their office.[61] Eighty percent of respondents, agreed that DIs were essential to their operation, the highest category possible and none indicated no importance.[61] In 1982, the performance of trained DIs was assessed by retrospectively comparing and correlating the DIs suspicions regarding major toxicants and the eventual toxicological findings.[62] The research showed that the trained investigators correctly identified that a drug death had occurred in 96% of cases assessed and, furthermore, they were able to identify the abused toxicant in 84% of the cases.[62] More recent research has shown that high performing Crime Scene Examiners (CSE) instil confidence in detectives, reduce staff time in forensic laboratories by collecting high quality evidence, reduce resource use and have a substantial impact on resource allocation.[63]

The DI provides value to FMPs by assuming many of the duties otherwise completed by the FMP, such as scene attendance and collection of relevant information.[64] They provide value to policing agencies by enabling the police to be released from a death scene to complete other responsibilities.[64] They provide value to the bereaved as DIs are required to attend all death scenes, regardless of when the death occurs, and act as an intermediary with the affected family, which imparts confidence and instils reassurance.[9,64] The liaison role of the DI adds value to multiple stakeholders within the medico-legal death investigation system by providing a link between agencies which could increase efficiency, increase consistency and decrease human errors.[19]

1.2 Relevance of study

There are several areas that require improvement in the South African medico-legal death investigation system and there are multiple methods that could be employed to address these shortcomings. Various studies will be required to identify these deficiencies and to interrogate possible interventions or improvements. Unfortunately assessing all these parameters was beyond the scope of this research project. This research project, therefore, focused specifically on assessing whether there is a need for the introduction of DI's in SA and whether this may lead to an improved outcome in the medico-legal investigative process, with reference primarily to the quality of pre-autopsy information. This project focused on the lack of adequate pre-autopsy information at the time of autopsy and proposes the introduction of DI's as a method to address this deficiency. In addition, this study focuses specifically on the Pretoria Medico-legal Laboratory (PML). While it would have been optimal to conduct this research at multiple centres, such a study would have been too large and too costly at a Master's level. Therefore, this research was conducted on the premise, that the lack of adequate pre-autopsy information identified at the PML is probably also, to a greater or lesser extent, relevant in other medico-legal laboratories across the country. However, the outcomes of this research do not necessarily reflect the situation in other provinces.

Research in SA shows that sub-optimal information received prior to an autopsy is an issue facing FMPs. Without relevant contemporaneous information, the ability of the FMP to strategise a post-mortem approach, predict the use of special techniques and select ancillary investigative techniques is compromised.[20] This could have far reaching effects that affect public health, criminal proceedings, civil proceedings, policy development and more. Fair and true justice outcomes can only come to fruition if the death scene is investigated professionally and effectively.[64] In SA, due to the high unnatural death rate and inadequate number of practicing FMPs, it is not possible for all death scenes to be attended by the FMP. One of the most critical functions of a DI is to provide high quality, relevant death scene information to the FMP "every scene, every time."[56]

Supportive manpower in the healthcare industry is not a novel concept in SA. Many supportive roles have been introduced to relieve the pressures of an overburdened system, for example, emergency medical personnel, nurse practitioners, radiographers, dental assistants and medical technologists. It is therefore reasonable to suggest that there should

be forensic specialists who support FMPs and the service delivery of the FPS. The amalgamation of all of these reasons, such as limited human resources, poor pre-autopsy information, acceptance of supportive manpower in other healthcare sectors and the perceived benefits of DIs, as seen in the USA, highlighted the need for, and the benefit of, doing this study.

The outcome of this research may show that introducing DIs is a feasible concept and that their introduction may provide added-value to the FPS in SA. If in the future, the introduction of DIs is accepted and becomes customary and or statutory practice in the medico-legal death investigation system, this research could see the University of Pretoria (UP) becoming a leader in the training and deployment of such professionals.

1.3 Aims and objectives

The primary aim of this study was to assess the functionality and added-value of introducing DIs into the medico-legal death investigation system in SA. Specifically, for this research, the added-value component refers to the assessment of pre-autopsy information quality. Additionally, the research briefly assessed the functionality and practicalities associated with the introduction of DIs.

The objectives of this study were to:

- Assess whether the FMPs are satisfied with the contemporaneous information currently provided to them prior to post-mortem examinations.
- Develop DI worksheets which are of an internationally acceptable standard, while remaining pragmatic for the South African context.
- Assess whether the information contained in the DI worksheet will provide added-value to FMPs through the improvement of information quality.
- Assess whether the information contained in the DI report will provide added-value to external stakeholders, such as magistrates, lawyers, presiding officers and members of the SAPS.

1.4 Chapter layout

The research is presented as follows:

Chapter 2: Methods and Materials

Chapter 2 explains the study method and materials used to conduct this research. Specifically, this chapter includes information on study design, setting and sampling.

Chapter 3: Results

In chapter 3, the results achieved from this research are presented. Firstly, the descriptive statistics are presented. They are followed by a comparative analysis of information quality and the added-value assessment, including the disposition of FMPs and external stakeholders of the system.

Chapter 4: Discussion

Additional considerations such as personnel requirements, training, registration and certification opportunities, delegation of responsibilities and the fiscal impact of the introduction of DIs are deliberated in Chapter 4.

Chapter 5: Conclusion

Chapter 6: Limitations and recommendations

Chapter 7: References

CHAPTER 2

METHODS AND MATERIALS

Prior to the commencement of this study, a research protocol was submitted to the Research Ethics Committee of the Faculty of Health Sciences at the University of Pretoria. Ethical approval was received on the 01st of March 2018 (Protocol No: 377/2017). The Research Ethics Committee approval letter and the MSc committee approval letter are provided in appendix I and appendix II, respectively.

This chapter outlines the materials and methods used to address the research objectives. Specifically, this chapter provides the research method, including research design, setting and sampling.

2.1 Overall research methodology

After a review of the available literature, it became evident that there are multiple areas for improvement in the medico-legal death investigation system in SA and, in turn, multiple interventions that require consideration. Unfortunately, assessing all of these is beyond the scope of this research. It was, therefore, decided to focus on one potential intervention- the introduction of DIs as supportive manpower to the FPS in SA. The DI operates in many capacities and in many facets within the death investigation system. Upon reflection, the most obvious area where a DI could provide value in SA, is at the interface of the post-mortem examination. It was, therefore, decided to focus on the quality of pre-autopsy information as a specific parameter for assessing whether DIs could add value to forensic pathology service in SA.

A scoping study was conducted to assess the proposed method of data collection. Ten scenarios were assessed by the Principal Investigator (PI) and FMPs working at the PML. As a matter of routine, it was found that FMPs find the lack of appropriate contemporaneous information at the time of autopsy to be one of the biggest obstacles in their profession and, furthermore, they identified specific case profiles in which this obstacle is most detrimental. During this study, FMPs critically assessed the analytical tools developed by the PI for data collection. Potential weaknesses in the analytical tools and research method were identified and subsequently addressed. This is a novel and previously undefined field of research and

vocational endeavour in SA and, therefore, no international standardised guidelines or templates exist for assessing information quality in death investigation. The analytical tools, namely rubrics and worksheets, developed for this research are therefore open for review and critique. The rubrics for pre-autopsy information are provided in Appendix III. The rubrics for the potential pre-autopsy information are provided in Appendix IV and the DI worksheets are provided in Appendix V.

2.1.1 Research design

To investigate the research aims and objectives, a prospective mixed-methods design was used. This approach was preferred because it allowed for the detection of unanticipated factors, opinions and findings. The research method followed a 3-fold approach:

1. The quality of pre-autopsy information currently received by FMPs at the PML was assessed. FMPs working at the PML and the PI completed rubrics to assess the quality of the pre-autopsy information provided to them prior to completing an autopsy.
2. The quality of pre-autopsy information collected by a DI was assessed. The PI hypothetically completed the relevant DI worksheet for each case assessed in step 1. Conceptually, this represents the type of information a DI could provide to FMPs. The FMPs completed rubrics to assess the quality of the pre-autopsy information contained in the DI worksheet.

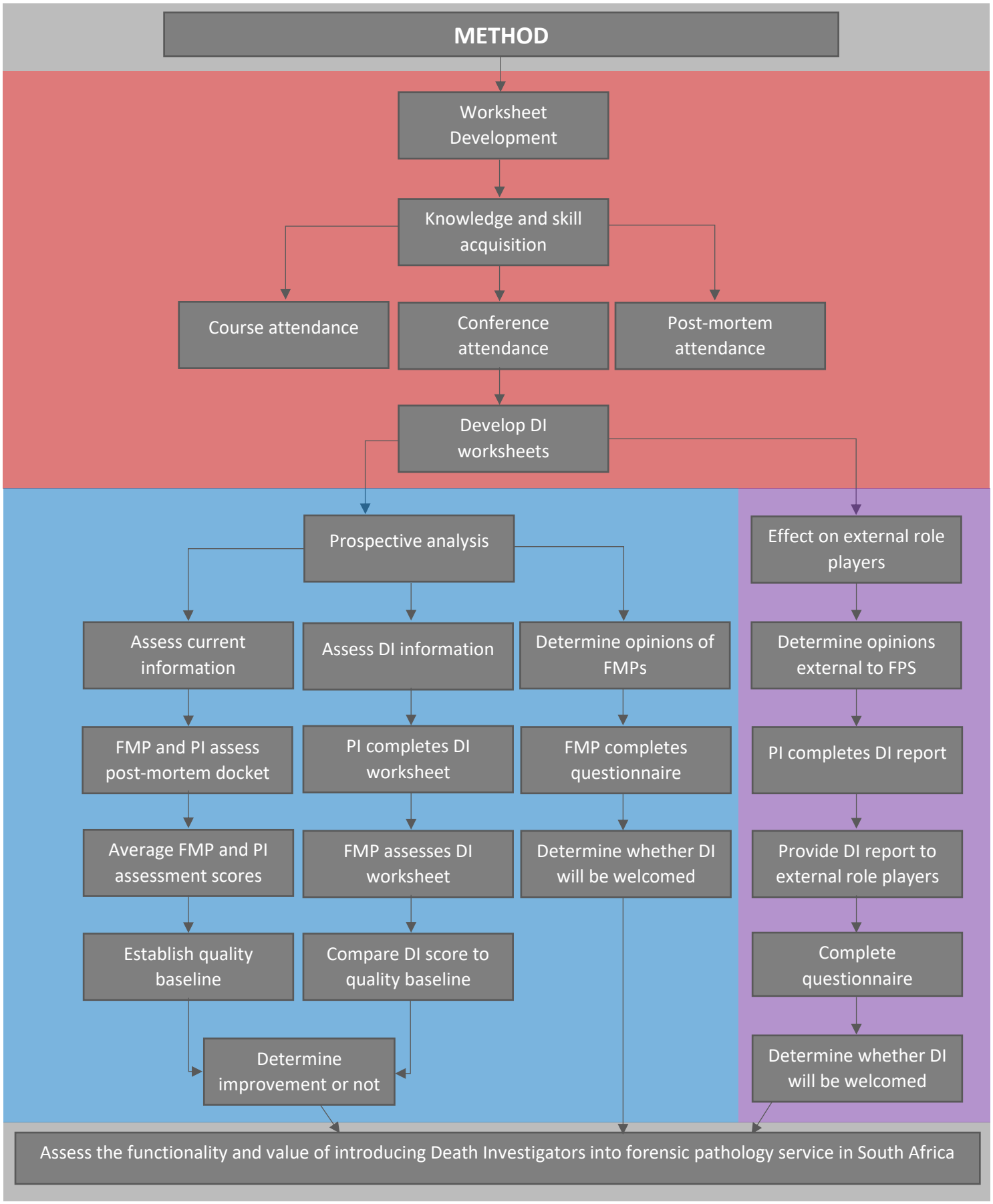
Some aspects of death investigation are common among all profiles of death. However, certain aspects of a death investigation are profile specific. To account for this, each death profile was assessed using a profile-specific rubric. For example, observations are made at all death scenes. However, for example, relevant observations in the case of a water-related fatality would relate to the body of water and the deceased's relative position to it, whereas in the case of a SUDI, observations would include associated risk factors such as co-sleeping.

In order to fairly represent the DI and the quality of information collected by one, the PI embarked on a knowledge and skills acquisition process. This included attending a Continuing Education Course offered through the ABMDI in the USA, 2 days spent at the Office of the Chief Medical Examiner in New York, including an on-call shift with a medico-legal investigator, completion of the African School for Humanitarian Forensic Action offered by the International Committee of the Red Cross (ICRC) and the Equipo Argentino De

Antropologia Forense (EAAF), attendance of the sixth annual African Society of Forensic Medicine (ASFM), attendance of the inaugural meeting of the South African Academy for Forensic Sciences (SAAFS) and continued attendance and participation in post-mortem examinations at the PML. An autopsy attendance log is provided in Appendix VI.

3. The disposition of FMPs working at the PML and external stakeholders to the proposed introduction of DIs was assessed. Forensic medical practitioners completed a questionnaire for each case in which they assessed information quality (step 1 and 2). The questionnaire contained mainly quantitative questions, using a Linkert rating scale, but was embedded with a minor qualitative component to address objective 3. The questionnaire assessed both the pre-autopsy information currently being received by FMPs and the DI worksheet for a comparative analysis. The questionnaire given to participating FMPs is provided in Appendix VII.

   Various external stakeholders such as Investigating Officers (IO) and magistrates were sent DI worksheets used in step 2 and asked to complete a questionnaire to assess whether the information contained in the DI worksheet would provide value to their respective roles within the system. Again, the questionnaire contained mainly quantitative questions and a minor qualitative component to address objective 4. The questionnaire given to participating external stakeholders is provided in Appendix VIII. Figure 2.1 provides a schematic representation of all components of the research method and their relationship to one another.



Key

Red= Phase 1
DI= Death Investigator

Blue= Phase 2
FMP= Forensic Medical Practitioner

Purple= Phase 3
PI= Principal Investigator

Figure 2.1 Schematic representation of the research method

2.1.2 Research setting

The study was conducted at the PML as well as the Department of Forensic Medicine at the UP. The latter plays a broad and significant role in the Faculty of Health Sciences, as well as in the community in general. Apart from academic training for medical and law students, it also caters for diverse groups in the South African society, including South African police detectives, students in the field of criminology, other health professionals and auxiliary medical personnel. It also provides expert opinion and specialist forensic pathology services to diverse groups, such as legal practitioners, the insurance industry, and healthcare managers. Members of the Department play an important part in the administration and development of medico-legal investigative services in Gauteng province.

2.1.3 Sampling

Ten case profiles were identified based on an intensive desktop review and from personal communications during the scoping study as either being neglected or as areas where DIs could add value. Three of each of these profiles were included in the research. The assessed death profiles were:

- Unattended death
- Dead on arrival at a medical facility
- Road traffic fatalities
- Firearm fatalities
- Sharp force trauma fatalities
- Asphyxial death
- SUDI
- Suspected poisoning fatalities
- Water-related fatalities
- Custody-related fatalities
    - Including death due to police action

Non-probability convenience sampling was used to identify the cases included in this research. Due to the unpredictable nature of medico-legal death investigation, the PI attended the PML daily and when one or more of the death profiles predetermined by the

scoping study and thereby included in the research was admitted, the case was included in the research. Consequently, non-probability convenience sampling was used to identify the officials at the PML who participated. The FMPs were assigned to cases, as per the Standard Operating Procedures (SOP) of the PML. If the case to which the FMP was assigned met the inclusion criteria of the study, he or she were asked to participate. Purposive sampling was used to identify the external stakeholders who participated in the questionnaire process.

CHAPTER 3

RESULTS

This chapter includes the analysis and results for all components of the research. Results from the quality assessment of the current pre-autopsy information and the DI worksheet and results obtained from the questionnaire to FMPs and the questionnaire to external stakeholders are presented in this chapter. The prospective data collection of this study was conducted over a three-month period, from March 2018 until June 2018.

3.1 Descriptive statistics

Three cases of each predetermined death profile were assessed. Therefore, a total of 30 cases was included in the research population. Demographic information was not used as inclusion or exclusion criteria, however, ancestry, gender and age of the deceased were noted. Figure 3.1, 3.2 and 3.3 depict the ancestry, gender and age of the research population respectively.

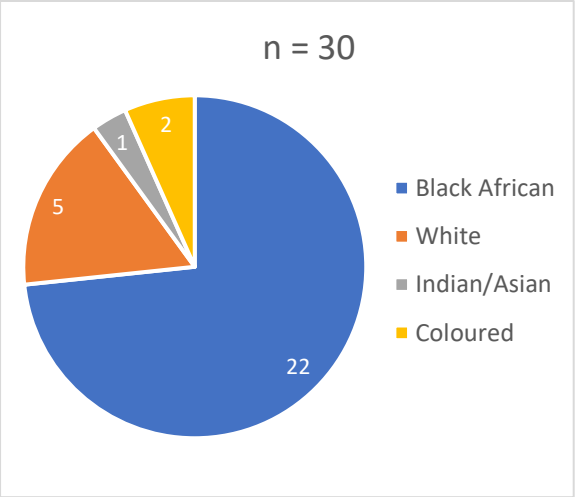


Figure 3.1 Number of deaths in research sample by ancestry

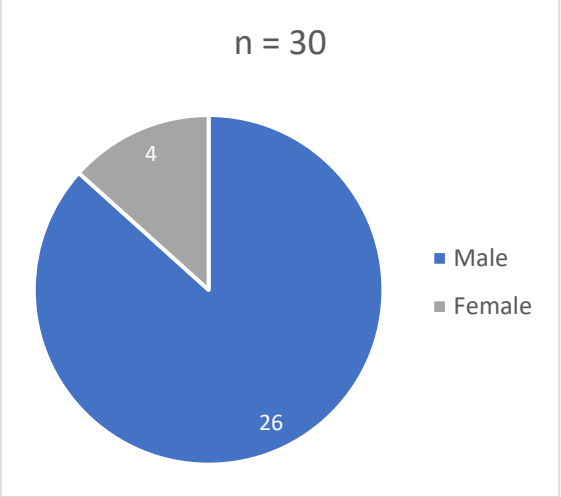


Figure 3.2 Number of deaths in research sample by gender

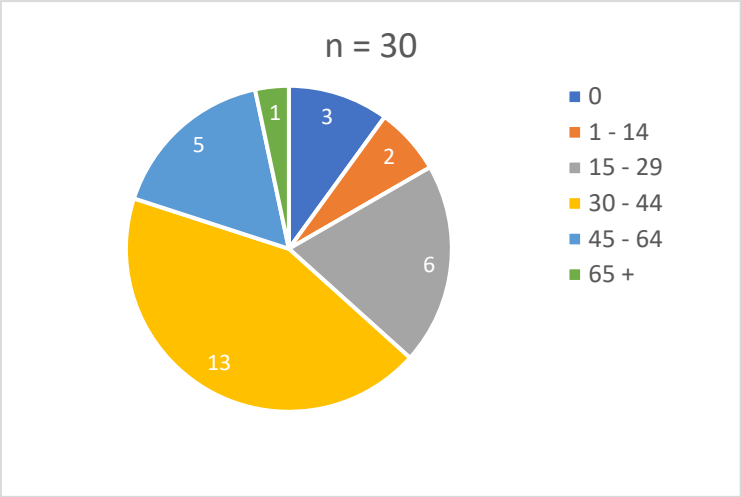


Figure 3.3 Number of deaths in research sample by age group

Black Africans had the highest percentage deaths (73.3%) in our research sample followed by white deaths (16.7%), coloured deaths (6.7%) and Indian deaths (3.3%). The majority (86.7%) of our research population was male and 43.3% were between ages 30 and 44.

The demographic information associated with each unnatural death profile included in the research sample is provided in Table 3.1.

Table 3.1 Demographic information by unnatural death profile.

Case Profile	Ancestry	Gender	Age
Unattended death	White	Male	64 years
	Black	Female	30 years
	Black	Male	53 years
Dead on arrival at medical facility	Black	Male	25 years
	Black	Male	30 years
	Black	Male	24 years
Road traffic fatality	Black	Male	87 years
	White	Male	29 years
	Black	Male	30 years

Firearm fatality	Black	Male	35 years
	Black	Male	33 years
	White	Male	45 years
Sharp force trauma fatality	White	Male	58 years
	Black	Male	32 years
	Black	Male	30 years
Asphyxial fatality	Indian	Male	36 years
	Black	Male	38 years
	White	Male	22 years
Sudden Unexpected Death in Infants	Black	Male	5 months
	Black	Female	5 months
	Black	Male	4 months
Suspected poisoning fatality	Black	Male	39 years
	Black	Male	30 years
	Black	Female	21 years
Water-related fatality	Coloured	Male	4 years
	Black	Male	35 years
	Black	Female	10 years
Custody-related fatality	Black	Male	36 years
	Coloured	Male	60 years
	Black	Male	28 years

Figure 3.4 provides the designation of the FMPs who participated in the research.

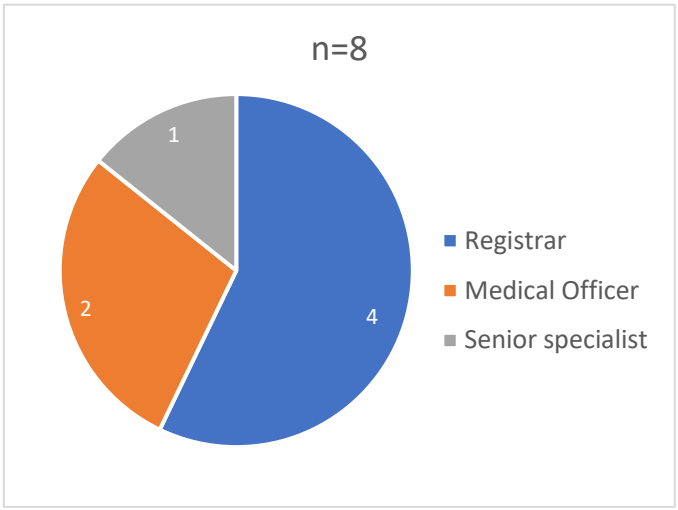


Figure 3.4 Designation of participating FMPs

The majority of participating FMPs were registrars (57.1%). In order to be placed in an institution as a registrar, the individual must have a Bachelor of Medicine and a Bachelor of Surgery (MBChB) and must be registered with the HPCSA.[65] The remaining participants were comprised of two medical officers and one senior specialist.

3.2 Interrater assessment

As previously mentioned, 30 unnatural deaths were included in the research population. The quality of the pre-autopsy information for each of these cases was assessed by the responsible FMP and the PI. Consequently, a total of 60 rubrics was completed for this step of the research. From the scoping study, through personal communications with FMPs and with a view to being contextually pragmatic, it was predetermined that an information quality score of 60% would be considered acceptable.

Cohen's Kappa Statistic was used to determine the interobserver agreement between the PI and the FMP. The agreement between the two raters was established using a binary system of acceptable quality of information (60 % or higher) and unacceptable quality of information (less than 60%) for each section on the rubric for each death profile. Table 3.3 shows the Kappa statistics achieved for each death profile, using the following guidelines:

- ≤ 0.00 = No agreement
- 0.01 – 0.20 = Poor agreement

- 0.21 – 0.40 = Slight agreement
- 0.41 – 0.60 = Fair agreement
- 0.61 – 0.80 = Good agreement
- 0.81 – 0.92 = Very good agreement
- 0.91 – 1.00 = Excellent agreement[66]

Table 3.2 The Kappa Statistic and associated level of agreement per death profile.

Case Profile	**Kappa Statistic**	**Level of agreement**
Unattended death	0.57	Fair agreement
Dead on arrival at medical facility	0.31	Slight agreement
Road traffic fatality	0.68	Good agreement
Firearm fatality	0.40	Slight agreement
Sharp force trauma fatality	0.65	Good Agreement
Asphyxial death	1.00	Excellent agreement
SUDI	0.62	Good agreement
Suspected poisoning fatality	0.17	Poor agreement
Water-related fatality	0.83	Very good agreement
Custody-related fatality	0.80	Good agreement

An acceptable level of agreement was determined in seven out of the 10 death profiles included in this research. Suspected poisoning fatalities demonstrated poor interrater agreement. On closer inspection of the suspected poisoning fatalities included in this research sample, it was established that in two of the three included cases, the FMP assessing the information quality was also the FMP on-call. The FMP on-call liaises directly with the FPO

and SAPS member through telephonic discussions regarding the case. Therefore, the on-call FMP, completing the assessment rubric, had greater knowledge of the case and knew more information than what was included in the pre-autopsy information collected by the FPO. Both FMPs concerned commented on this potential 'bias' in their assessment of the pre-autopsy information.

The overall Kappa statistic across all rubric sections and all case profiles was calculated as follows:

1. Calculate P_0

P_0 is the relative observed agreement between raters (i.e. number in agreement/total)

The FMP and the PI agreed on Pass and Fail 182/210= 0.867

2. Find the probability that the raters would both randomly say Pass

Rater $_{(FMP)}$ said pass 51/210

Rater $_{(PI)}$ said pass 45/210

The total probability of the raters both saying pass is (51/210)*(45/210)= 0.052

3. Find the probability that the raters would both randomly say Fail

Rater $_{(FMP)}$ said fail 159/210

Rater $_{(PI)}$ said fail 165/210

The total probability of the raters both saying fail is (159/210)*(165/210)= 0.594

4. Calculate P_e

P_e is the hypothetical probability of chance agreement

P_e = 0.052 + 0.594

P_e = 0,646

5. Calculate Kappa Cohen

$$\kappa = \frac{p_o - p_e}{1 - p_e} = 1 - \frac{1 - p_o}{1 - p_e},$$

k= [(0,867)-(0,646)/1-(0,646)]

k= 0,624

Therefore, overall, across all sections and all case profiles, there is good agreement between the FMP and the PI.

3.3 Comparative analysis of information quality

Through comparative analysis, the research compares the quality of pre-autopsy information currently provided to FMPs versus what the quality of pre-autopsy information could be, when collected by a DI. Figure 3.5 provides the average information quality score for the current pre-autopsy information and the potential pre-autopsy information per death profile. The red line represents the predetermined acceptable quality of information score (60%).

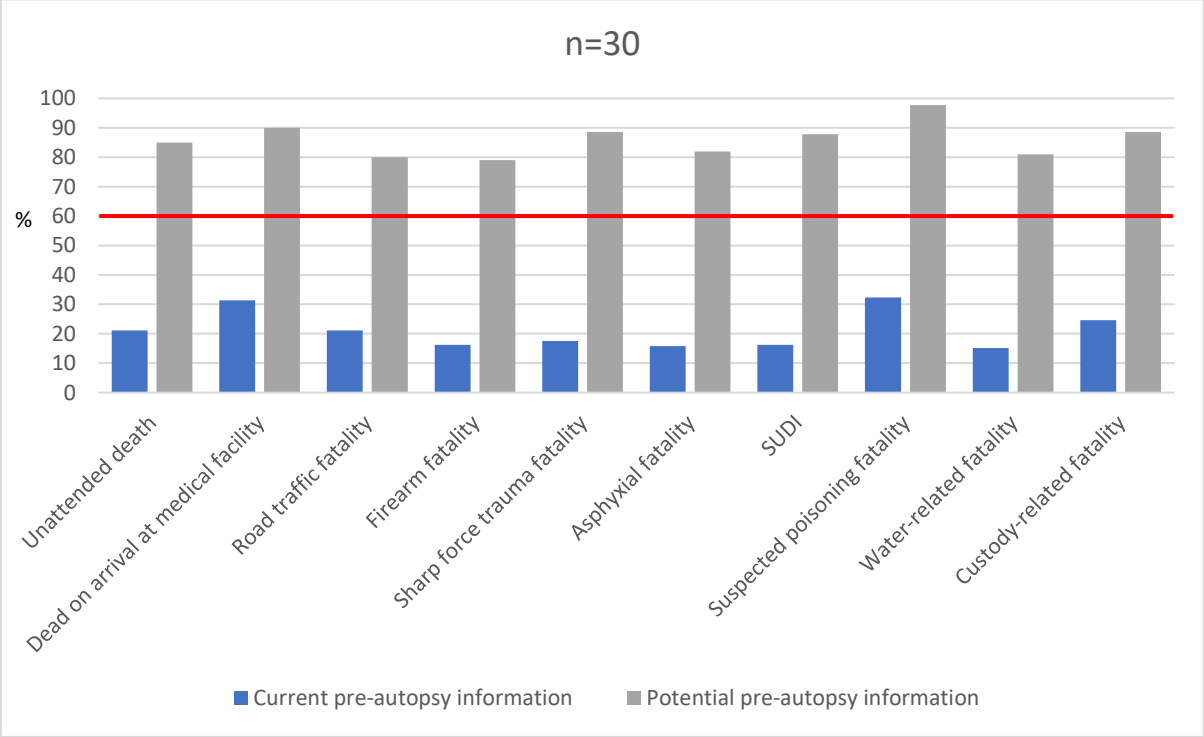


Figure 3.5 Average information quality scores (current pre-autopsy information vs potential pre-autopsy information)

The current pre-autopsy information received by FMPs was considered unacceptable in all of the death profiles assessed in this research. The average information quality score across all death profiles of the pre-autopsy information currently received by FMPs was 21,14%. The

lowest information quality score was seen in water-related fatalities (15.16%) and the highest information quality score was seen in suspected poisoning fatalities (32.38%). Comparatively, the potential pre-autopsy information was considered acceptable by the FMP for all death profiles assessed in this research. The average information quality score across all death profiles of the pre-autopsy information that could be included by DIs was 85.94%. The lowest information quality score was seen in firearm fatalities (79.04%) and the highest information quality score was seen in suspected poisoning fatalities (97.67%). Table 3.3 shows the average information quality score achieved per rubric section for each death profile.

Table 3.3 Average information quality score per rubric section by death profile (%)

Current pre-autopsy information

Profile	Administrative data	Circumstances of death	Medical history	Social history	Action after incident	Hazards	Scene evaluation	Observations	Personal history	Weapon details	Airway compromise	Observations: risk factors	Body description	Mental state	Apparent mechanism of death
UD	63,33	46,67	6,67	0,00	0,00	13,33									
DOA	60,00	40,00	30,00	3,33			30,00								
RTF	76,67	50,00	0,00	0,00	0,00			3,33							
FF	66,67	56,67	0,00	0,00	6,67			0,00	0,00	0,00					
SFTF	56,67	50,00	10,00	0,00	10,00			6,67	0,00	6,67					
AD	66,67	46,67	0,00	0,00	0,00			0,00	0,00		10,00				
SUDI	56,67	33,33	3,33	0,00	16,67				0,00			3,33			
SPF	63,33	53,33	20,00	13,33	26,67			33,33	16,67						
WRF	56,67	40,00	0,00	3,33	0,00			10,00	0,00				3,33		
CRF	56,67	50,00	30,00	0,00	16,67			6,67						30,00	6,67

Potential pre-autopsy information

Profile	Circumstances of death	Medical history	Social history	Action after incident	Hazards	Scene evaluation	Observations	Personal history	Weapon details	Airway compromise	Observations: risk factors	Body description	Mental state	Apparent mechanism of death
UD	80,00	100,00	73,33	86,67	80,00									
DOA	93,33	80,00	86,67			100,00								
RTF	93,33	53,33	80,00	86,67			86,67							
FF	73,33	73,33	86,67	86,67			73,33	93,33	80,00					
SFTF	80,00	93,33	86,67	73,33			93,33	93,33	100,00					
AD	86,67	66,67	80,00	80,00			93,33	86,67		80,00				
SUDI	86,67	86,67	80,00	86,67				100,00			86,67			
SPF	100,00	100,00	93,33	86,67			100,00	100,00						
WRF	80,00	86,67	46,67	86,67			93,33	80,00				93,33		
CRF	93,33	100,00	73,33	80,00			80,00						100,00	93,33

Table 3.3 key:

UD=	Unattended death	AD=	Asphyxial death
DOA=	Dead on arrival at medical facility	SUDI=	Sudden Unexpected Death in Infants
RTF=	Road traffic fatality	SPF=	Suspected poisoning fatality
FF=	Firearm fatality	WRF=	Water-related fatality
SFTF=	Sharp force trauma fatality	CRF=	Custody-related fatality

The current pre-autopsy information did not achieve above 60% for the majority (91.5%) of rubric sections. Administrative data was the most successful component of the current pre-autopsy information. The quality of the administrative data exceeded the predetermined acceptable standard of information quality in 60% of death profiles assessed in this research. Administrative data was considered unacceptable in suspected poisoning fatalities, SUDI, water-related fatalities and custody-related fatalities. No other rubric sections achieved an average information quality score of more than 60% in any of the death profiles assessed. The potential pre-autopsy information achieved or exceeded 60% for the majority (96.7%) of rubric sections. Medical history in road traffic fatalities and social history in water-related fatalities, however, achieved 53.3% and 46.7% respectively. Figures 3.6 and 3.7 look at these specific rubric sections for each case assessed in this research.

Figure 3.6 Information quality scores for medical history in road traffic fatalities (potential pre-autopsy information)

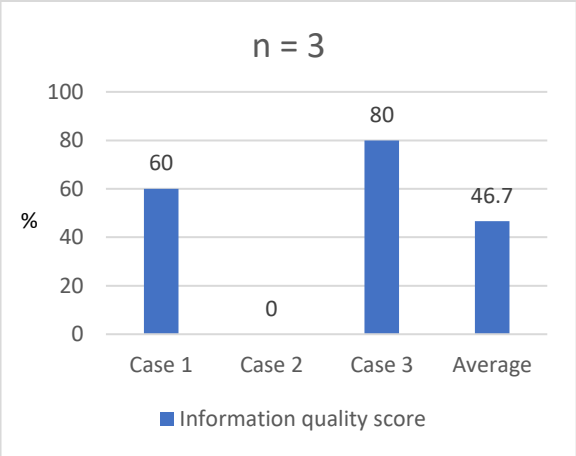


Figure 3.7 Information quality sores for social history in water-related fatalities (potential pre-autopsy information)

Table 3.4 shows a direct comparison of the information quality for medical history in road traffic fatalities and social history in water-related fatalities between the current pre-autopsy information and the potential pre-autopsy information.

Table 3.4 Medical history in road traffic fatalities and social history in water-related fatalities (current pre-autopsy information vs potential pre-autopsy information).

	Case 1	**Case 2**	**Case 3**	**Average**
Medical history for road traffic fatalities				
Potential	60.00%	60.00%	40.00%	53.33%
Current	0.00%	0.00%	0.00%	0.00%
Social history for water-related Fatalities				
Potential	0.00%	60%	80.00%	46.67%
Current	0.00%	0.00%	10.00%	3.33%

While the potential pre-autopsy information was deemed unacceptable in these rubric sections, it was still considerably better than the current pre-autopsy information received for these sections. Figure 3.8 shows the improvement in information quality between the current pre-autopsy information and the potential pre-autopsy information.

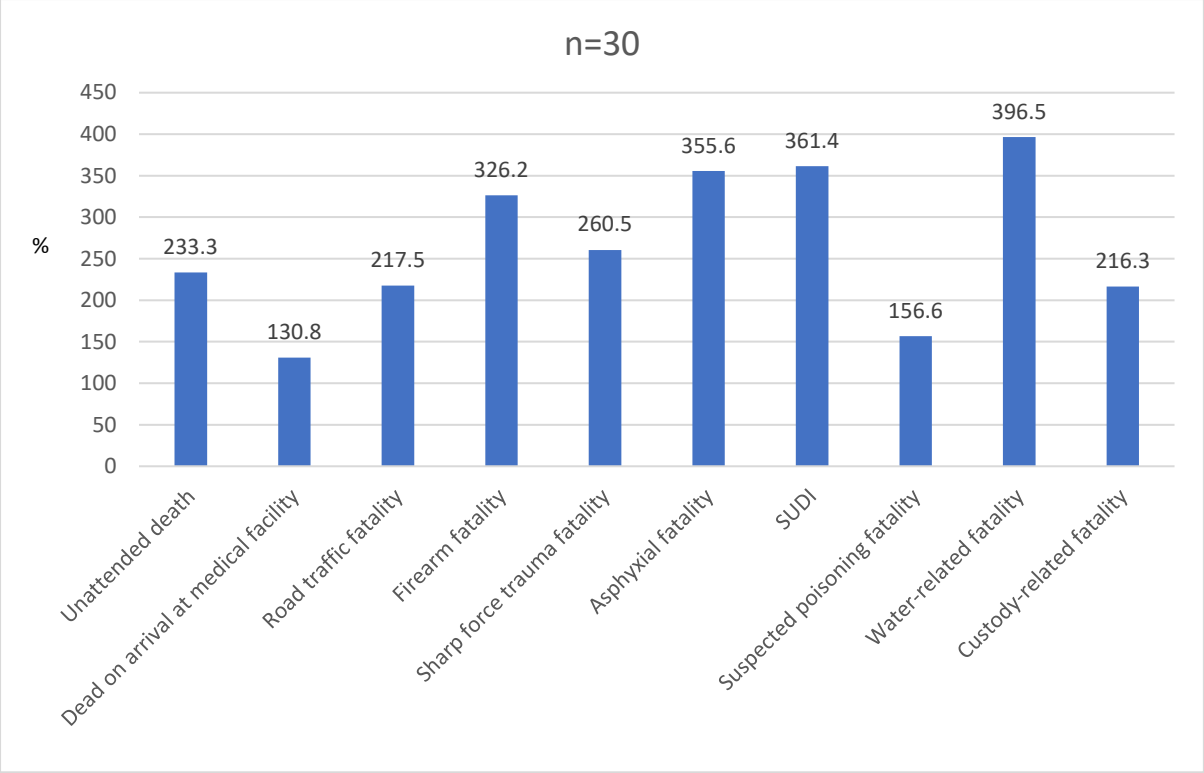


Figure 3.8 Percentage increase in information quality

An improvement in information quality from the current pre-autopsy information to the potential pre-autopsy information was seen in all death profiles assessed. Water-related fatalities showed the greatest improvement with a 369.5% increase and dead on arrival at a medical facility showed the least improvement with a 130.8% increase. Overall, across all death profiles, there was a 251.3% improvement in pre-autopsy information from the current pre-autopsy information to the potential pre-autopsy information.

3.4 Added-value assessment

Consent was obtained from all participants prior to the commencement of the questionnaire.

3.4.1 Forensic medical practitioners

For the quantitative component of the questionnaires, the participants assigned a score out of five to various statements relating to the current pre-autopsy information and/or the potential pre-autopsy information and the concept of introducing DIs into SA. The following levels of agreeability were assigned:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

A total of 29 questionnaires was submitted by FMPs. The FMPs were asked to complete a questionnaire for each case they were assigned to that met the research inclusion criteria. Therefore, some FMPs completed the questionnaire multiple times, however they answered each questionnaire with reference to the specific case at hand. In two of the questionnaires submitted, not all questions were answered. Therefore, in total, 27 questionnaires were completed fully and included in the results. Forensic Medical Practitioners were asked to assign a level of agreeability to various statements when posed in relation to the current pre-autopsy information and potential pre-autopsy information for the specific case. Table 3.5 provides a summative overview of the agreeability achieved for each statement.

Table 3.5 Level of agreeability per questionnaire statement.

Statement	*"I am satisfied with the contemporaneous information"*				
Agreeability	**% Strongly disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly Agree**
Current	22.2	37.0	22.2	18.5	0.0
Potential	0.0	3.7	14.8	59.3	22.2
Statement	*"I have enough information to confidently and precisely request special investigations"*				
Agreeability	**% Strongly disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly agree**
Current	7.4	37.0	25.9	22.2	7.4
Potential	0.0	3.7	18.5	51.9	25.9
Statement	*"The information provided empowers me to implement a case-specific and structured post-mortem approach"*				
Agreeability	**% Strongly Disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly Agree**
Current	3.7	37.0	29.6	22.2	7.4
Potential	0.0	3.7	14.8	59.3	22.2
Statement	*"The information provided improved my ability to complete my role in an inquest"*				
Agreeability	**% Strongly disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly agree**
Current	11.1	25.9	44.4	18.5	0.0
Potential	3.7	3.7	18.5	63.0	11.1
Statement	*"There is crucial information missing from the case"*				
Agreeability	**% Strongly disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly agree**

Current	7.4	18.5	18.5	33.3	22.2
Potential	18.5	44.4	18.5	18.5	0.0
Statement	*"I am confident that the information missing from the case can be collected by a…"*				
Agreeability	**% Strongly disagree**	**% Disagree**	**% Neutral**	**% Agree**	**% Strongly agree**
FPO	7.4	22.2	48.1	22.2	0.0
DI	3.7	7.4	7.4	63.0	18.5

Only 18.5% of the participating FMPs were satisfied with the current pre-autopsy information, 22.2% preferred to remain neutral and the remaining 59.3% either strongly disagreed or disagreed with the statement "I am satisfied with the contemporaneous information provided." In the same assessment of the DI worksheet, 81.5% of the FMPs were satisfied with the pre-autopsy information, 14.8% remained neutral and 3.7% disagreed with the statement. When asked whether the FMPs had sufficient information to confidently and precisely request special investigations based on the current pre-autopsy information, less than a third (29.6%) of participants agreed or strongly agreed that the information was sufficient, whereas more than two thirds (77.8%) agreed or strongly agreed with the statement when assessing the potential pre-autopsy information.

Participants were asked to use the Linkert rating scale to determine their level of agreeability with the following statement "The information provided empowers me to implement a case-specific and structured post-mortem approach." The current pre-autopsy information received the following scores: 7.4% strongly agreed, 22.2% agreed, 29.6% were neutral to the statement, 37% disagreed and 3.7% strongly disagreed. The same statement was posed to the participants concerning the potential pre-autopsy information. The potential pre-autopsy information received the following scores: 22.2% strongly agreed, 59.3% agreed, 14.8% remained neutral, 3.7% disagreed and 0.0% strongly disagreed. Overall agreement with the statement whether it be strong or not was seen in 81.5% of the responses when assessing the potential pre-autopsy information and in 29.6% of the responses when assessing the current pre-autopsy information. When asked whether the information provided improved their ability to complete their role in an inquest, the FMPs agreed that the current pre-autopsy information did so in 18.5% of the cases and agreed that the potential pre-autopsy information did so in 74.1% of the cases. It is interesting to note that the highest level of

agreement, being strongly agree, was not achieved at all by the current pre-autopsy information with regards to this statement.

The participants were asked whether crucial information was missing from the pre-autopsy information. In over half of the cases (55.6%), FMPs felt that crucial information was missing from the current pre-autopsy information and in 18.5% of the cases they felt that crucial information was missing from potential pre-autopsy information. The previous statement was further interrogated by determining in whom the FMPs would place their confidence to collect the missing information. In the majority of cases (81.5%) the FMPs placed their confidence in the DI compared to 22.2% who placed their confidence in the FPO.

The remaining questions concerned the potential pre-autopsy information and the DI specifically. Figure 3.9 shows the results for the following statement: "The DI information provided made a material difference to my approach to the case"

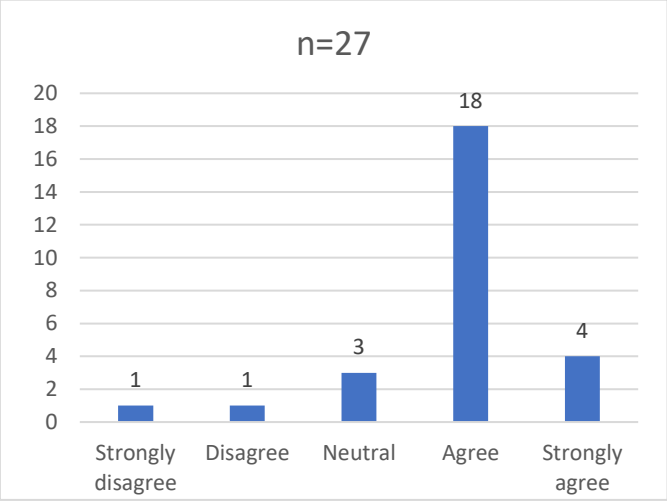


Figure 3.9 Level of agreeability for "The Death Investigator information provided made a material difference to my approach to the case"

In 81% of the cases, the FMP felt that the potential pre-autopsy information made a material difference to his or her approach to the case. In 7% of the cases, they felt that the information made no difference to their approach and in the remaining cases the FMP remained neutral to the statement. The participants were asked to justify their response to this statement. Some of the justifications received were:

- "Focused my investigation on poisoning with agro-chemicals instead of general chemical autopsy"
- "The information aids in the manner of death."
- "Supplied information that the FPO did not supply"
- "The medical history, history around the incident and social background history assist how to further investigate the death"
- "Evidence at the scene assisted with corroborating the findings made at autopsy"

The more thorough death scene information and the history of the deceased in the potential pre-autopsy information appeared to make a fundamental difference to the way in which FMPs approached the cases.

Lastly, the FMPs were asked whether the proposed introduction would add value to their role within the medico-legal system specifically and whether it would add value to the medico-legal death investigation system at large. Figure 3.10 and figure 3.11 shows the responses.

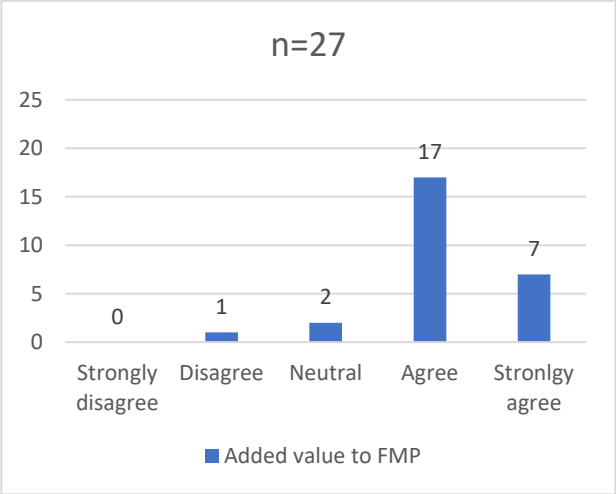


Figure 3.10 Level of agreeability for "The introduction of Death Investigators would add value to the forensic medical practitioners"

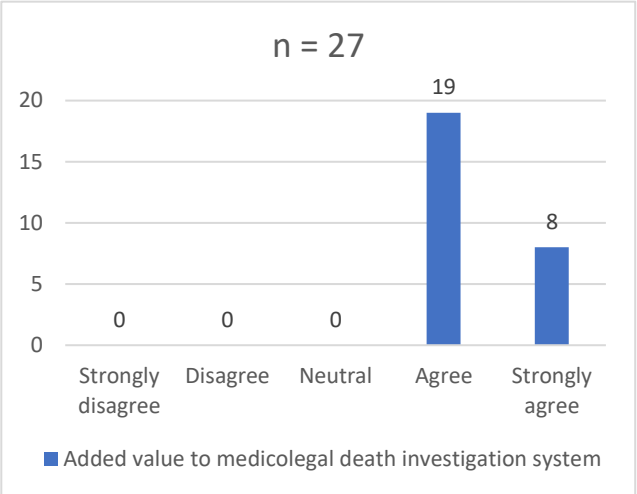


Figure 3.11 Level of agreeability for "The introduction of Death Investigators would add value to the medico-legal death investigation system"

Overall, the response from participants was that the introduction of DIs would add value to both the FMP and the medico-legal death investigation system at large. One hundred percent

of respondents felt that it would add value to the system in its entirety and 89% felt that it would add value to the role of an FMP.

3.4.2 External stakeholders

The final phase of this research, being the disposition of external stakeholders to the proposed introduction of DIs, was conducted over a period of two months, from May 2018 until the end of June 2018.

The results from the questionnaire process involving the FMPs at the PML showed that all participating FMPs agreed that the introduction of DIs in South Africa would add value to the medico-legal death investigation system in SA. However, an introduction of this nature would not only affect FMPs, but other external stakeholders of the system as well. To evaluate this, external stakeholders who would be affected by the proposed introduction were targeted and asked to use their experience and accumulated wisdom to assess the proposed introduction of DI through a questionnaire process. Twenty-six external stakeholders were identified and asked to participate. Each participant received a unique and random combination of DI reports and was asked to complete the questionnaire process for at least one of the four reports sent. Unfortunately, despite reminders and multiple attempts to increase participation, only five responses were received. It is not possible to reliably extrapolate data from such a small sample size, however the results received are provided below for interest. Figure 3.12 shows the designation of the external stakeholders who participated.

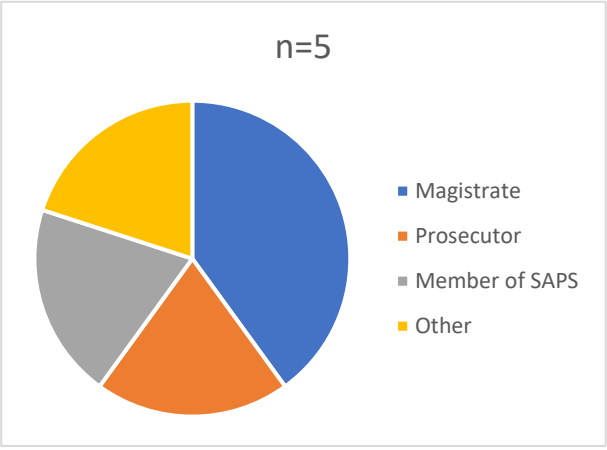


Figure 3.12 Designation of external stakeholder participants

Two magistrates participated in the questionnaire process, one prosecutor one member of the SAPS and one advocate (other). Between these participants, unattended deaths were assessed three times, dead on arrival at a medical facility once and asphyxial deaths once. Table 3.5 shows the qualitative responses received from the external stakeholders.

Table 3.6 Responses received from external stakeholders.

"Is it your opinion that the current medico-legal system implemented in South Africa is adequate?"		
Yes	**No**	**I am not sure**
1	3	1
Please rate the quality of the information contained in the DI report vs what contemporaneous information you currently receive for such a case profile		
Lower quality	**Same quality**	**Higher quality**
1	1	3
The DI report provides important details that I would not normally receive for such a case profile		
True	**False**	
3	2	
Do you think routine access to medico-legal reports of this nature (DI Report), compiled during the investigative stage, would enhance the current quality of medico-legal death investigation and the facilitation of justice?		
Yes	**No**	**I am not sure**
5	0	0
Do you think such reports should be compiled by members of the South African Police Service or would it be more beneficial for specifically-trained medico-legal death investigators to provide such information?		
SAPS	**Medico-legal Death Investigator**	**I am not sure**
0	5	0
Based upon your experiences, do you think a more scientific and standardised approach to non-natural death investigation is necessary?		
Yes	**No**	**I am not sure**
5	0	0

Do you think the introduction of supportive medico-legal professionals would add value to your role within the medico-legal death investigation system?		
Yes	**No**	**I am not sure**
3	1	1

Most of the participants (60%) felt that the current system implemented in SA was inadequate. Some of the justifications for this response were:

- "Enormous delays"
- "Where the cause of death cannot easily be determined, the quality of the investigation and information available in the case docket is a problem"
- "The system can only benefit with qualified DI visiting scenes and supplying information the police do not take note of or are not qualified to understand that it is necessary for the investigation"

There was 100% agreement that a more scientific and standardised approach to unnatural death investigation is necessary in SA. Furthermore, all participants agreed that medico-legal reports such as that of the DI report would enhance the current quality of the medico-legal death investigation system and the facilitation of justice. Additionally, all participants agreed that medico-legal reports of this nature should be compiled by DIs as opposed to members of the SAPS. Most of the participants, irrespective of their roles, believed that the introduction of DIs would add value to their roles within the medico-legal death investigation system. More specifically, participants were asked to identify which death profiles they believed would benefit most from the introduction of DIs. Most participants believed that unattended deaths would benefit most, followed by water-related fatalities. No participants selected firearm fatalities as a death profile which would benefit from the proposed introduction. Figure 3.13 shows the death profiles where participants believed the introduction of DI would add the greatest value.

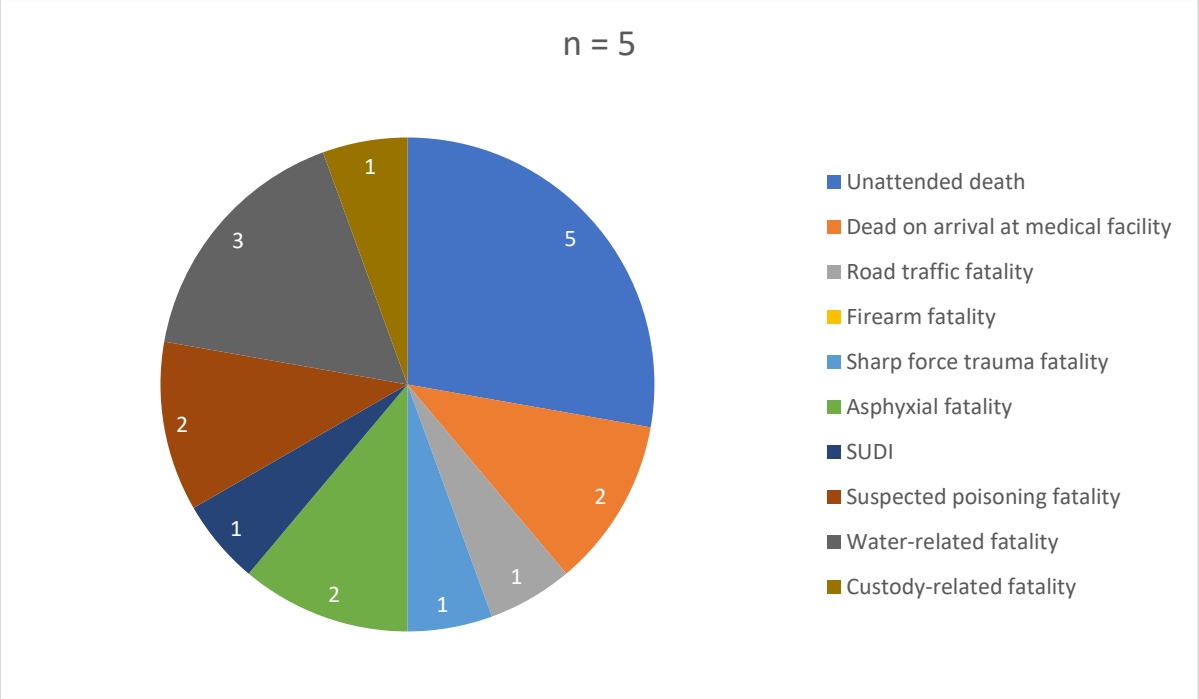


Figure 3.13 Death profiles where the introduction of Death Investigators will add greatest value

CHAPTER 4

DISCUSSION

4.1 Introduction

Sub-optimal pre-autopsy information has been identified in multiple studies in SA.[20, 44-46] Inadequate pre-autopsy information can have far-reaching effects. Forensic medical practitioners use this information to strategise their post-mortem approach, to determine which special techniques are required and to determine what special investigations, if any, must be undertaken.[20] Poor quality pre-autopsy information therefore can result in unnecessary ancillary investigations, superfluous autopsies and personnel attrition in an already resource-scarce country.[20, 47] In the USA, similar personnel and fiscal resource limitations are experienced and DIs have been introduced in a supportive capacity to FMPs.[32] These individuals support the FMP by attending death scenes, assisting during post-mortem examinations, expediting ancillary investigations, providing testimony and acting as a liaison between government agencies.[17, 19, 32, 56]

The primary aim of this study was to assess the functionality and value of introducing DIs into FPS in SA. To achieve this, and considering the literature, the quality of pre-autopsy information was chosen as the parameter for assessment. Results were obtained by comparing the current quality of pre-autopsy information with the quality of pre-autopsy information that conceptually could be expected if collected by a DI.

Specific unnatural death profiles were chosen to be included in this research. Therefore, the demographic trends seen in the research sample are not expected to be the same as the trends seen for all unnatural deaths in SA. Despite this, some similarities were noted. The ancestry proportions of the research sample were indicative of the variations in population size by ancestry in SA. Black Africans account for the highest proportion of total population followed by White, Indian/Asian and Coloured as was reflected in the research sample.[37] The expected pattern of unnatural deaths is that males have a higher proportion of death due to unnatural causes than females. This pattern was seen in the research sample where male deaths accounted for 86.7% of the research sample.[37] The age group mostly affected by unnatural causes of death in our research sample was age group 30 – 44, which accounted

for 43.3% of the research sample. This was not in keeping with the trend seen in the Statistics SA release of 2017 where the most affected age group for unnatural deaths was age 15 - 29.[37]

Overall, the potential pre-autopsy information was considered acceptable by participating FMPs. Closer inspection shows that the potential pre-autopsy information received an unacceptable information quality score twice during the research period. This was for medical history in one road traffic fatality case and social history in one water-related fatality case. The road traffic fatalities included in this research sample were two pedestrian vehicle incidents and one motor vehicle incident in which the deceased was traveling as a passenger. This motor vehicle incident received an unacceptable score (40%) for medical history. One water-related fatality received a zero score for social history as this section was regrettably omitted in the DI worksheet. These individual cases resulted in the average score for these sections being unacceptable. It is therefore fair to say that in most of the road traffic fatalities assessed, the quality of information for medical history was acceptable. The same can be said for social history in water-related fatalities. Medical history for road traffic fatalities in the potential pre-autopsy information received an average score of 53.3%. While this is considered unacceptable, the same section in the current pre-autopsy information received a zero score. Most likely, this means that medical history was not included in the current pre-autopsy information for the three cases of road traffic fatalities assessed. Likewise, social history was not included in current pre-autopsy information for two of the three cases of water-related fatalities assessed. Despite these two unacceptable information quality scores for potential pre-autopsy information, there was a significant improvement in information quality when comparing the current pre-autopsy information to the potential pre-autopsy information. This is indicative that DIs would add value, at least, by improving pre-autopsy information quality. Multiple factors require deliberation before introducing a new category of professional. These factors include personnel requirements, training, registration and certification opportunities, delegation of responsibilities and fiscal considerations. While the purpose of this research was not to establish the precise positioning and statutory control of DIs but rather to determine whether there is a need for DIs and whether they will add value to the system, provisional comments on these factors have been considered briefly and are discussed in Chapter 4.

4.1.1 Personnel requirements

In 2013, the Scientific Working Group for Medico-legal Death Investigation (SWGMDI) released recommendations regarding personnel quantities per 1000 medico-legal cases.[67] Table 4.1 applies these recommendations to the PML.

Table 4.1 Application of the Scientific Working Group for Medico-legal Death Investigation recommendations to the Pretoria Medico-legal Laboratory.

Parameter	Recommendation (per 1000 cases[67])	Recommendation for PML (calculated for 3000 cases[68])	Actual values for PML
Number of FMPs	6	18	7
Number of investigators	9	27	0
Number of autopsy assistants	7	21	25[20]

The data from table 4.1 indicates that a mortuary, such as PML, where on average 3000 medico-legal cases are investigated annually, should employ 27 investigators full-time. Extending these recommendations to the whole of SA, which has an average annual autopsy rate of between 70 000 and 80 000, would mean that between 630 and 720 DIs should be hired to fulfil the recommendations set out by the SWGMDI.[6, 38, 67]

4.1.2 Training considerations

A search of the ABMDI job database in 2019 identified eight opportunities for DIs.[69 - 76] Table 4.2 provides a summative overview of each opportunity.

Table 4.2 Job opportunities for Death Investigators through the American Board of Medico-legal Death Investigators (2019).

Designation	Duties	Job requirements
Forensic investigator[69]	Scene investigation Report preparation Transporting bodies[69]	<u>Experience in:</u> Investigations (including conducting interviews) Determining compliance with laws, rules, regulations etc Providing testimony Narrative report writing <u>Knowledge of:</u> Civil and criminal proceedings Forensic, medical and legal terminology[69]
Medico-legal investigator 1[70]	Conduct death investigations Writing reports Obtaining medical records Interviewing witnesses Examining bodies Identify evidentiary value of items Testify in court[70]	Baccalaureate degree from accredited college in police science, forensic science, criminal justice, sociology or another related field of study[70]
ME investigator 1[71]	Investigate natural and unnatural death Compile reports Secure and take inventory of decedent property Communicate death investigation findings to pathologists Provide testimony[71]	Bachelor's degree in nursing, biological science, criminal justice or a related field and one- year experience in medical or criminal death investigation Or Any combination of experience and education that is equivalent to the above[71]
Medical Examiner Investigator 1[72]	Conduct investigations of deaths Secure physical and pathological evidence	Not listed

	Take death scene photographs Prepare reports Provide public information to news media Notify public health department (if necessary)[72]	
Medico-legal Death Investigator[73]	Initiate and conduct death investigations Fielding phone calls Gathering information relating to decedent Paperwork[73]	Master's degree in related field or bachelor's degree with three years of relevant experience[73]
Medico-legal Death Investigator[74]	Communicate and co-ordinate with all members of the death investigation system Inspect and document the body and all pertinent objects Assist Medical Examiner Obtain ante mortem data Act as official representative of the Medical Examiner (as appropriate)[74]	Bachelor's degree in a related field and three years acceptable experience or Master's degree in related field and one-year acceptable experience[74]
Medico-legal Death Investigator[75]	Communicate and co-ordinate with members of the death investigation system Make preliminary external examination of the decedent Obtain pertinent past and present decedent information Ensure preservation of evidentiary items[75]	Bachelor's degree or Master's degree (preferred) with two-years proven experience or a combination of education and work experience to equal ten years of related experience[75]
Medico-legal Investigator[76]	Performing investigative and quality control duties for the Medical Examiner's office Responds to scenes on behalf of Medical Examiner	Bachelor's degree in criminal Justice, Mortuary Science, Nursing or a closely related field and two years of experience in appropriate field[76]

	Assumes custody of decedent personal effects Gathers information in locating next of kin Provides court testimony Prepares and delivers lectures to law enforcement agencies[76]	

As can be seen in Table 4.2, tertiary education is a sought-after prerequisite and a Bachelor's degree is a popular minimum prerequisite when hiring DIs. Only 19% of DIs, in the USA, have only a high school education and the remainder have pursued tertiary education to higher levels.[17] It is evident that individuals from fairly diverse vocational backgrounds are eligible to become DIs however common grounds of knowledge and understanding will be required. For example, a thorough knowledge of biomedical ethics, of the governing legal framework, a basic knowledge of human physiology, pathology and anatomy and a basic knowledge of the applicable forensic sciences. However, the extent to which this knowledge should be formalised requires further deliberation and possibly further research.

Many universities in SA offer degrees of a biomedical nature, including the University of SA (UNISA), the University of the Western Cape, UP, University of the Witwaterstrand, University of the Free State, University of Kwazulu-Natal and the University of Cape Town.[77 - 87] Table 4.3 provides a brief summary of tertiary education options available in SA.

Table 4.3 Tertiary education in biomedical science or related fields in South Africa.

University	Programme	Core subjects (non-exhaustive)	Purpose (non- exhaustive)
UNISA[77]	BSc in Life Science[77]	Biology Chemistry Microbiology Clinical Pathology Biomedical Techniques Haemotology[77]	To produce science graduates who have a holistic and coherent body of knowledge and understanding of concepts and principles[77]
UNISA[78]	BA Honours in Forensic Science and Technology[78]	Forensic Methods and Techniques Advanced Forensic Crime Intelligence Research report in Forensic Science and Technology[78]	To enhance the investigation knowledge and skills of investigators to an advanced level[78]
University of the Western Cape[79]	BSc Medical Bioscience BSc Honours Medical Bioscience MSc Medical Bioscience[79]	Anatomy Physiology Medical Microbiology[79]	Develop critical thinking skills and the ability to collect and analyse scientific information[79]

UP[80]	BSc Medical Science[80]	Chemistry Anatomy Biochemistry Biometry Microbiology Physiology[80]	Train students in basic medical science with the objective of research, laboratory work and or academia[80]
UP	BSc Honours Medical Criminalistics MSc Medical Criminalistics[81]	Forensic Science Law and ethics Pathology Toxicology[81]	Primary focus is to expose the biomedical student to forensic medicine and participation in the Medico-legal investigation of death[81]
University of the Witwaterstrand[82]	BHSc Biomedical Sciences[82]	Medical Sciences Human Anatomy Physiology and Medical Biochemistry Chemistry Pharmacology[82]	Expose students to opportunities in the biological sciences[82]
University of the Witwaterstrand[83]	BHSc Forensic Sciences[83]	Forensic Anthropology Forensic Entomology	Expose students to different fields of forensic science and to teach students how they operate. To encourage students to conduct research[83]

		Investigative Psychology and Analysis Forensic Toxicology Forensic Pathology[83]	
University of the Free State[84]	BSc Biological Sciences[84]	Biochemistry and Microbiology Biochemistry and Physiology Human Molecular Biology Forensic Science[84]	Not listed
University of the Free State[85]	BMedSc Honours Anatomical Pathology[85]	Laboratory technique Histochemistry and Immunochemistry Mechanisms of Basic Pathology[85]	Not listed
University of Kwazulu-Natal[86]	Bachelor Medical Science[86]	Chemistry Physics for life sciences Anatomy Biomolecules	Offer a unique programme in Health Sciences that allows a wide variety of specialisation post- graduation[77] Acquire comprehensive knowledge of the human body and skills to enable the student to observe, investigate and report in accordance with scientific methods and principles[86]

		Bioenergetics[86]	
University of Cape Town[87]	MSc Medicine[87]	Research based by dissertation. Students can select from a wide range of disciplines including, but not limited to; • Anatomical pathology • Biomedical Sciences • Forensic Medical Microbiology • Forensic Medicine[87]	To equip students with knowledge attitude and skills in their chosen specialisation[87]

It is evident from the data in table 4.3 that multiple tertiary education opportunities, appropriate for DIs, exist in SA. Not only do most of the prominent universities in SA offer undergraduate degrees in biomedical sciences or related fields, some in addition offer postgraduate degrees which further specialise the biomedical scientist. In addition to a base of scientific knowledge, other key attributes are required. Research into key attributes of CSEs shows that top-performing CSEs possess cognitive ability, which allowed CSEs to adapt and strategise their death scene assessments, a holistic understanding of the investigative process, an appreciation for how investigators add value to the system, a dedicated and passionate work ethic, communication skills and a professional demeanour.[63]

Table 4.2 also indicates that experience is an important prerequisite. One institution required a minimum of one-years' experience while the rest required two or more years. Whilst a theoretical base is an important component of becoming a DI, appropriate experience also provides added value. In SA, one could argue that some FPOs have, through experience, acquired essential prerequisite knowledge. Bearing this in mind, it is important to consider Recognised Prior Learning (RPL) and to provide opportunities to those who have it and who want to enhance their experience and skills.

4.1.3 Registration and certification opportunities

According to NAME, an efficient, high-quality death investigation system requires the development and promotion of accreditation and professionalism for all aspects of a medico-legal investigation.[32] In 2015, the National Committee of Forensic Science approved and applauded recommendations calling for certification of DIs in the USA.[19] This decision was largely regarded as a positive step towards ensuring that the USA medico-legal death investigation system provides a competent service and that staff are qualified, having obtained requisite knowledge and skill to perform their duties effectively.[23] Deputy Attorney General Sally Yates stated that "accreditation is one of the most important tools for ensuring that forensic science is practiced in a reliable, scientifically-rigorous way."[88] The ABMDI provides the only mechanisms through which DIs can be certified in the USA. Registry certification offered by the ABMDI is the entry level certification.[89] To achieve registry certification, DIs must have a completed secondary education level, employment in a ME's or Coroner's office, a minimum of 640 hours of experience, adoption of the ABMDI Code of Ethics and successful completion of the registry examination.[19, 89] To attain board certification

status, an investigator must first have completed registry certification, have an associate's degree, a minimum of 4000 hours of experience and must have completed the board certification examination successfully.[19]

In SA, according to the Health Professions Act (At 56 of 1974), no person shall be entitled to practice any of the healthcare professions, including the physical examinations of persons, unless he or she is registered in terms of the Act.[28] Currently in SA, the HPCSA is the primary regulatory body for the health professions and aims to maintain excellent standards of ethical and professional practice within the health professions.[90] There are several medical boards with which members of the health profession can register, depending on their specific field and the registration requirements. For example, in 2017, SA embarked on professionalising FPOs and the HPCSA announced that FPOs who met the requirements would be given the opportunity to register with this professional body under the Professional Board of Medical Technology.[91] The professional Board of Medical Technology includes medical laboratory scientists, medical technologists, medical technicians and laboratory assistants.[92] Whereas the Medical, Dental and Medical Science Board includes medical specialists and medical biological scientists. Death Investigators, by the very nature of their work are involved in obtaining what is potentially highly confidential medical information at a sensitive stage of the investigation, they will need to have access to confidential medical records and confidential personal information and they will be involved with legally sensitive information pertaining to the inquest and therefore should be dutifully and ethically bound by the principles that guide health professionals. Given this and in accordance with the Health Professions Act (Act 56 of 1974) and following the trend to professionalise the medico-legal death investigation system, it is clear that these professionals should be registered with a professional body that observes the highest respect and upholds the highest levels of ethical conduct. The professional body in SA, that meets these requirements is the HPCSA. Forensic biomedical scientists such as toxicologists, odontologists, geneticists and anthropologists, for example can register with the HPCSA, the difference between these biomedical scientists and DIs is that DIs come from a variety of educational and professional backgrounds. It therefore could be argued that it wold be appropriate to create a separate board or a separate category within an existing board to accommodate the registration of DIs. While this requires further

interrogation, registration with the HPCSA is essential. A proposed schematic for how to become a DI in SA is provided in Appendix IX.

4.1.4 Delegation of responsibilities

There are multiple stakeholders of the medico-legal death investigation system in SA. All stakeholders are required to work together in a cohesive and supportive manner in order to facilitate the pursuit of justice. In 2018, updated Regulations Regarding the Rendering of Forensic Pathology Service were published. Amongst the amendments made were some which could work in favour of the introduction of DIs into the FPS in SA. These regulations define an authorised person as an individual who works for the FPS which includes "forensic pathology specialist investigators".[27] Section 3, subsection 2, paragraph (a) of these regulations mandates that The Service, previously defined in Section 1 as the FPS in the Province, where appropriate, can commence a death scene investigation in consultation with the SAPS, which can include interviewing witnesses, examining the death scene and photographing the death scene, exhibits and specimens.[27] Paragraph (e) of the same subsection states that the service can take into custody, document and maintain evidence and specimens related to the body.[27] These functions of the service are further reiterated in Section 5: Attending to death scene.[27]

Section four of the MOU between SAPS and NDoH outlines the procedures and roles to be initiated at a scene of death.[31] In this section it states that "a specialist forensic investigator or scientists will be allowed onto a crime or death scene… to investigate in conjunction with the SAPS".[31] It further states that this specialist will perform examinations that are relevant to the medico-legal investigation of death, as they are on the scene in addition to or in place of FMPs.[31] These examples show that both of these documents have made provision for the addition of supportive or specialised investigators such as DIs. Between the two documents, DIs would be allowed to assess the death scene in conjunction with and collaboratively with the SAPS.[27, 31]

In order to facilitate an easier introduction of DIs, it is important to determine the Key Performance Areas for DIs to ensure that all agencies work together cohesively. Proposed Key Performance Areas for DIs are provided in appendix X.

4.1.5 Fiscal considerations

It is inevitable that an introduction of a new category of professional would have a fiscal impact on the NDoH. It is, however, important to remember that while an introduction of this nature will cost money initially, in the long term it could allow for more effective allocation of resources. A study conducted in 2012 which investigated the impact of 'good' CSEs showed that they had a positive effect on resource allocation, from both the point of view of the police and the forensic scientists.[62] Managers and forensic scientists who took part in the study specified a reduction in resource use and in personnel time due to the fact that the evidence collected by the CSEs was of a higher quality.[62]

The Institute for Economics and Peace developed the Violence Containment Cost.[94] This parameter is defined as "economic activity that is related to the consequences or prevention of violence where the violence is directed against people or property."[94] Essentially, economic spending on containing violence is an essential public good, however it is only economically efficient when it effectively prevents violence for the least expense.[94] South Africa has the 30th highest economic containment cost in the world, which constitutes 8.5% of our Gross Domestic Product (GDP) at more than 1000 United States Dollars (USD) per capita.[94] Despite this spending, unnatural death remains high in SA.[37] This could indicate that a new strategy should be investigated in order to have peace expenditure which is pragmatic and effective.

During the previously mentioned search of the ABMDI database for job opportunities, an average salary range of 40 000 USD – 75 000 USD was identified.[67 - 75] In order to estimate a South African based salary for DIs the concept of Purchasing Power Parity (PPPs) was used. When making comparisons between countries, it is important to convert values to a common currency so that a fair comparison can be made.[95] The purchasing power of a currency refers to the amount of currency required to purchase a unit of goods or services.[95 - 98] Consequently, the PPP fundamentally is equalising the purchasing power of two currencies and in so doing can provide an indication of relative salaries, which would maintain the same standard of living between individuals living in the two countries.[95 - 96, 98] Purchasing Power Parity allows us to make comparisons between countries, whilst maintaining the welfare of their inhabitants.[94] The World Bank produces a 3-yearly report which compares countries in terms of PPPs and the USD.[95] The latest report covered 190 countries, including SA and was released

in April 2014 by the International Comparison Program and referenced year 2011.[97, 99] This report showed that 1 USD is equivalent to 4.774 South African Rand (ZAR).[99] This is based on data from 2011 and it would be reasonably to assume that the ZAR has weakened since then. However using the available data, this means that spending one USD on goods or services in the USA is the equivalent to spending 4.774 ZAR in SA.[99] Therefore, in order to maintain an equal standard of living between DIs in the USA and DIs in SA, USA salaries would need to be multiplied by a factor of 4.774.[99] Using the latest PPP calculated by the International Comparison Program this would equate to an annual South African salary between 190 960 ZAR and 585 050 ZAR, depending on qualification and experience required. A dissertation submitted in 2011, recommended a salary range of 300 000 ZAR to 420 000 ZAR per annum for DIs operating in SA.[20] This was based on the annual salary of a senior FPO and then increased due to the higher prerequisite qualifications required to be a DI.[20] Salaries would most likely be dependent on the applicant's qualifications, level of experience and the jurisdiction in which the job opportunity is available. Smaller jurisdictions in which fewer death investigations are required would fall into the lower spectrum of the salary range. However, opportunities at laboratories which serve a larger population such as the PML, which conducts on average 3000 post-mortem examinations and associated death investigations per annum, would yield a higher annual salary.

Even though the introduction of DIs requires further investigation and interrogation, this study has set in motion the principle that DIs would improve pre-autopsy information quality and thereby add value to the medico-legal death investigation system in SA and hopefully, one day, the introduction of these professionals will come to fruition.

CHAPTER 5

CONCLUSION

As a result of a high unnatural death rate, combined with a wide spectrum of deficiencies, such as limited fiscal and personnel resources, inadequate training, lack of accreditation, lack of supportive manpower and more, the medico-legal death investigation system in SA is overburdened. These inadequacies can result in miscarriages of justice and an unacceptably high risk to public health.[32] Over the past few decades there has been significant growth in the application of scientific techniques and methodologies in death scene processing and subsequent medico-legal investigations globally. In many countries, specialised investigators, specifically qualified to assist during medico-legal investigations, have been introduced in a supportive role to FMPs. These DIs contribute by conducting death scene assessments, assisting during autopsies and obtaining appropriate further information, as required, which will expedite, enhance and complement the investigation and examination carried out by the FMP and the police. Strengthening a medico-legal death investigation system is essential for improving the precision and dependability of death investigations and for assisting in the development of public health surveillance and intervention.[19] Research into mechanisms by which SA can strengthen its medico-legal death investigation system are important in order to promote higher levels of competency. It is perhaps, axiomatic, that proposals to reduce inadequacies in the South African medico-legal death investigation system should be seriously considered.

One limitation facing the medico-legal death investigation system in SA, is the lack of high-quality pre-autopsy information being provided to FMPs currently. The results of this study concurred with this view and assessed more death profiles than previous studies in this regard. Research conducted at the PML, previously, recommended the introduction of DIs as a new professional subgroup. However, an attempt to quantify the added-value of DIs has not been done previously in SA. This research bridged that gap through the development of DI worksheets and analytical rubrics which allowed for comparative analysis between the current pre-autopsy information and the potential pre-autopsy information should DIs be introduced. The results showed an almost four-fold improvement in the quality of pre-autopsy information contained in the DI worksheet. With high-quality pre-autopsy information, FMPs are better able to strategize their post-mortem approach. They can

request ancillary investigations more precisely and advocate for partial autopsies, which may have a positive impact on resource allocation and time management and they can more safely guard against post-mortem health and safety risks.

A fundamental difference between the current pre-autopsy information and the potential pre-autopsy information lies in the fact that the current pre-autopsy information is collected by FPOs, with little or no training in medico-legal investigation. While the role of FPOs is an essential one, their lack of appropriate training hinders their ability to collect appropriate pre-autopsy information on behalf of the FMP. The NAME and the ABMDI, to name two, have been promoting accreditation and certification for many years. They consider it imperative that DIs have appropriate knowledge of forensic pathology and related forensic issues if a reliable and comprehensive death investigation service is to be delivered.[32] The results of this research are indicative that appropriate and relevant training has a positive impact on the quality of information gathered. Students with biomedical or related skills are perhaps best positioned to transition into the role of DIs as they would be able to anticipate and understand what information would be pertinent to a FMP.

Finally, the disposition of FMPs towards the proposed introduction of DIs illustrated that FMPs would be supportive of the proposal. All participating FMPs agreed that the introduction of DIs would add value to the medico-legal death investigation system in SA and almost 90% believed it would add value to their specific roles within the system. Improvements in the FPS have downstream effects as members of the FPS, the SAPS, various forensic science laboratories and The Department of Justice and Constitutional Development are required to work collaboratively to facilitate the ends of justice. It is therefore, reasonable to assume that improvements to the FPS would add value to these external stakeholders as well. Unfortunately, due to a small sample size, accurate inferences in this regard were not obtainable from the research.

In conclusion, the results of this study suggest that DIs would add value to the medico-legal death investigation system in SA, specifically by improving the quality of pre-autopsy information provided to FMPs. By improving the standard of pre-autopsy information quality, FMP's will be able to more confidently strategise their post-mortem approach, more precisely request ancillary investigations and advocate for partial post-mortem examinations - all of which have the potential to benefit resource allocation in a resource-scarce country.

To facilitate this introduction, it is recommended that a working group be convened to further interrogate the added-value potential of this introduction as well as to determine prerequisite educational requirements and acceptable recognised prior learning, and to develop guidelines and scope of practice documents. Furthermore, should this introduction come to fruition, it is recommended that provision be made to accommodate such DIs on a professional board affiliated with the HPCSA, to guide training and qualification requirements, advise on best practice and professional standards against which DIs can be held accountable. Further debate is required to determine whether a category within the boards of the HPCSA currently exists where DIs could register or whether one should be created.

Since the research technique used in this study was a novel concept, with no publications reporting the use of this technique under these circumstances in SA or elsewhere, this study was not without limitations. While the study has laid a foundation for the comparative assessment of pre-autopsy information quality, it has also exposed possibilities for further research, which can address some of the recognised limitations and expand on the body of knowledge established to date.

CHAPTER 6

LIMITATIONS AND RECCOMENDATIONS

The technique used in this research for the comparative analysis of pre-autopsy information quality is a novel concept, which has not been employed before in SA, or internationally, prior to this study. For that reason, some limitations were noted over the research period, which need to be considered and explained, so that future research strategies can be improved.

Firstly, the analytical rubrics were developed by the PI. This resulted in the PI having prior knowledge of what was expected of the pre-autopsy information. Whilst the PI did not prepare the DI worksheets with the assessment rubrics in hand, the PI did have knowledge of what was expected of them. The rubric used in this research is a novel analytical tool which requires interrogation and critique. Preferably, a study like this should be replicated after the rubric has undergone peer review. Additionally, the individual completing the DI worksheets should be blind to the assessment rubric.

At the commencement of this research, DIs were not recognised by South African regulations or legislation. Therefore, the DI worksheets were completed hypothetically to represent the type of information that would be collected by DIs because the PI was not legally allowed to assess death scenes. Since then, amendments to the Regulations Regarding the Rendering of Forensic Pathology Services have opened avenues through which future researchers could potentially attend death scenes and assume the role of a DI explicitly under the position of forensic pathology specialist investigators defined as authorised persons in the regulations. It is recommended that, if it is ethically and legally permitted, future researchers attend and assess death scenes and complete the DI worksheets in practice.

Another limitation of this study was the disappointing response received from external stakeholders to the questionnaire. Participation in questionnaires is not compulsory and therefore this limitation is somewhat unavoidable yet unfortunate. However previous studies have shown a greater response with telephonic or face-to-face interviews. It is therefore recommended that the use of an online questionnaire is circumvented as far as possible. Should a better response be received, more accurate inferences regarding the disposition of external stakeholders to the introduction of DIs can be achieved.

Pre-autopsy information quality is one area where the introduction of DIs had the potential to add value. It is recommended that future research strategies focus on, or include, more parameters such as resource allocation and efficiency. Likewise, there are multiple interventions which could be considered for the betterment of medico-legal death investigation in SA. Additional research into other proposed interventions, such as increasing the number of FMPs or improving legislative frameworks, should be investigated.

With assistance from a biostatistician, it was decided that a sample size of 30 cases would be enough to yield statistically significant results. It is recommended, however, that future research of this nature incorporate a bigger sample size in order to minimise outliers and increase accuracy of the results. Additionally, this research only included one medico-legal laboratory in SA and it is recommended that a multi-centre audit of pre-autopsy information and the assessment of DIs be completed in order to determine whether the results obtained in Pretoria are representative.

Despite these limitations, this research has provided a foundation that strongly advocates for the introduction of DIs in SA. It has exposed areas for adjunctive research and future research opportunities. The thorough investigation of all interventions is an important component for the promotion of a medico-legal death investigation system that is scientifically vigorous, robust, functional, ethical and just.

CHAPTER 7

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APPENDIX I

RESEARCH ETHIC COMMITTEE APPROVAL LETTERS

The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.
- FWA 00002567, Approved dd 22 May 2002 and Expires 03/20/2022.
- IRB 0000 2235 IORG0001762 Approved dd 22/04/2014 and Expires 03/14/2020.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences Research Ethics Committee

31/08/2017

Approval Certificate
New Application

Ethics Reference No: 377/2017

Title: Assessing the functionality and value of introducing Death Investigators into forensic pathology services in South Africa

Dear Ms Katherine de Villiers

The **New Application** as supported by documents specified in your cover letter dated 18/08/2017 for your research received on the 24/08/2017, was approved by the Faculty of Health Sciences Research Ethics Committee on its quorate meeting of 30/08/2017.

Please note the following about your ethics approval:
- Ethics Approval is valid for 1 year
- Please remember to use your protocol number (**377/2017**) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, or monitor the conduct of your research.

Ethics approval is subject to the following:
- The ethics approval is conditional on the receipt of **6 monthly written Progress Reports**, and
- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

Dr R Sommers, MBChB, MMed (Int), MPharMed,PhD
Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.
- FWA 00002567, Approved dd 22 May 2002 and Expires 03/20/2022.
- IRB 0000 2235 IORG0001762 Approved dd 22/04/2014 and Expires 03/14/2020.

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences Research Ethics Committee

1/03/2018

Approval Certificate
Amendment
(to be read in conjunction with the main approval certificate)

Ethics Reference No: 377/2017

Title: Assessing the functionality and value of introducing Death Investigators into forensic pathology services in South Africa

Dear Ms Katherine de Villiers

The **Amendment** as described in your documents specified in your cover letter dated 21/02/2018 received on 22/02/2018 was approved by the Faculty of Health Sciences Research Ethics Committee on its quorate meeting of 28/02/2018.

Please note the following about your ethics amendment:
- Please remember to use your protocol number (**377/2017**) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committe may ask further questions, seek additional information, require further modification, or monitor the conduct of your research.

Ethics amendment is subject to the following:
- The ethics approval is conditional on the receipt of **6 monthly written Progress Reports**, and
- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

*** Kindly collect your original signed approval certificate from our offices, Faculty of Health Sciences, Research Ethics Committee, Tswelopele Building, Level 4-60*

Dr R Sommers; MBChB; MMed (Int); MPharMed; PhD
Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health).

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UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Faculty of Health Sciences

Institution: The Research Ethics Committee, Faculty Health Sciences, University of Pretoria complies with ICH-GCP guidelines and has US Federal wide Assurance.

- FWA 00002567, Approved dd 22 May 2002 and Expires 03/20/2022.
- ICRG #: IORG0001762 OMB No. 0990-0279 Approved for use through February 28, 2022 and Expires: 03/04/2023.

10 June 2020

Approval Certificate
Annual Renewal

Ethics Reference No.: 377/2017
Title: Assessing the functionality and value of introducing Death Investigators into forensic pathology service in South Africa

Dear Ms KAD de Villiers

The **Annual Renewal** as supported by documents received between 2020-05-25 and 2020-06-10 for your research, was approved by the Faculty of Health Sciences Research Ethics Committee on its quorate meeting of 2020-06-10.

Please note the following about your ethics approval:

- Renewal of ethics approval is valid for 1 year, subsequent annual renewal will become due on 2021-06-10.
- Please remember to use your protocol number (377/2017) on any documents or correspondence with the Research Ethics Committee regarding your research.
- Please note that the Research Ethics Committee may ask further questions, seek additional information, require further modification, monitor the conduct of your research, or suspend or withdraw ethics approval.

Ethics approval is subject to the following:

- The ethics approval is conditional on the research being conducted as stipulated by the details of all documents submitted to the Committee. In the event that a further need arises to change who the investigators are, the methods or any other aspect, such changes must be submitted as an Amendment for approval by the Committee.

We wish you the best with your research.

Yours sincerely

Dr R Sommers
MBChB MMed (Int) MPharmMed PhD
Deputy Chairperson of the Faculty of Health Sciences Research Ethics Committee, University of Pretoria

The Faculty of Health Sciences Research Ethics Committee complies with the SA National Act 61 of 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 and 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes, Second Edition 2015 (Department of Health)

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Fakulteit Gesondheidswetenskappe
Lefapha la Disaense Sa Maphelo

APPENDIX II

MSC COMMITTEE APPROVAL LETTER

UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

MSc Committee
School of Medicine
Faculty of Health Sciences

MSc Committee
21 February 2018

Prof G Saayman
Department of Forensic Medicine
Faculty of Health Sciences

Dear Prof,

Ms KAD de Villiers, Student no 10164449

Please receive the following comments with reference to the MSc Committee submission of the abovementioned student:

Student name	Ms KAD de Villiers	**Student number**	10164449
Name of study leader	Prof G Saayman		
Department	Forensic Medicine		
Title of MSc	The introduction of death investigators into the medico-legal death investigation system in South Africa.		
Date of first submission	July 2017		
	• Thank you for submitting the revised protocol and MSc form.		
September 2017	• Thank you for submitting the ethics approval certificate.		
January 2018	• Thank you for submitting an amended protocol.		
Decision	This protocol has been approved. Ethics approval has been obtained. The internal and external examiners can be nominated and submitted to the MSc Committee six months prior to submission of the dissertation. Please ensure that the CV of the examiners includes: supervision, examination and publication records.		

Yours sincerely

Prof Marleen Kock
Chair: MSc Committee

MSc Committee, School of Medicine
Faculty of Health Sciences
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APPENDIX III

RUBRICS FOR CURRENT PRE-AUTOPSY INFORMATION QUALITY ASSESSMENT

Unattended death	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including diagnosis) has been provided through witness statements	A brief medical history (including diagnosis) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those

		detail as to what has been provided				involved (Emergency services etc.), or absence has been accounted for
Hazards	No data	Hazards have been mentioned but no further detail has been provided	Types of hazards have been noted but no further detail has been provided	Hazards have been noted based on witness statements	Potential hazards have been mentioned based on witness statements and an examination of the scene	The identified hazards have been documented and explained in detail relative to the deceased, or absence has been accounted for

Dead on arrival at medical facility	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, emergency personnel who declared the DOA, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Scene evaluation	No data	The suspected mechanism by which the deceased reach his or her demise has been noted with no further detail	The suspected mechanism by which the deceased reach his or her demise has been noted and the informant has been identified	The suspected mechanism has been provided with an informant identified and explanation for the suspicion has been provided	The suspected mechanism has been provided with an informant identified and explanation for the suspicion has been	A primary scene has been identified and relevant information and observation regarding the scene have been provided or absence accounted for

					provided. A primary scene has been identified.	

Road traffic fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History (including vehicular information) provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including diagnosis) has been provided through witness statements	A brief medical history (including diagnosis) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency

						services etc.), or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Vehicular damage accounted for	Observations regarding abuse have been accounted for and evidence provided. Vehicular damage accounted for and scene examination regarding tire marks and scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Firearm related fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for

Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including most recent life events which may have contributed	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Weapon Details	No data	Reference has been made to a weapon but no further detail has been provided	Reference has been made to a weapon and corroborated by the Investigating Officer	A description of the weapon has been provided	A description of the weapon has been provided and a scene examination has been conducted to include number of projectiles located and relative position of the weapon to the deceased	All weapon details have been completed, including scene tests such as GSR and trajectory included, or absence has been provided for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Blood Spatter Pattern has been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding Blood Spatter Pattern and scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Sharp force trauma fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for

Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including most recent life events which may have contributed	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Weapon Details	No data	Reference has been made to a weapon but no further detail has been provided	Reference has been made to a weapon and corroborated by the Investigating Officer	A description of the weapon has been provided	A description of the weapon has been provided and a scene examination has been conducted to include relative position of the weapon to the deceased	All weapon details have been completed, or absence has been provided for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Blood Spatter Pattern has been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding Blood Spatter Pattern and scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Asphyxial death	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc), or absence has been accounted for

Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including most recent life events which may have contributed	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Airway compromise	No data	Reference to airway obstruction has been made but no further detail has been provided	Reference to airway obstruction has been made and the mechanism thereof stated	Reference to airway obstruction has been made with detail and the mechanism thereof stated.	A description of airway compromise has been provided through witness statements and a scene examination has been conducted	All information regarding airway compromise has been provided, or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided and scene hazards have been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

SUDI	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history of the deceased has been provided through witness statements	A brief medical history of the deceased and a maternal history have been provided	A medical history (deceased, maternal and paternal) has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The maternal social history has been provided	The maternal social history including when abuse took place in relation to pregnancy has been provided for	A maternal and paternal social history have been provided	A maternal and paternal social history have been provided including the most recent incidences of abuse	A complete social history (maternal, paternal and caregiver) has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for

Personal history	No data	A maternal personal history has been provided	A maternal personal history has been provided including any significant life events	A maternal personal history has been provided including any significant life events any previous child deaths	A maternal and paternal personal history has been provided including any previous child deaths	A personal history (maternal, paternal and caregiver) has been provided based on witness statements including previous child deaths, or absence has been accounted for
Observations risk factors	No data	Observed risk factors have been mentioned with no further detail provided	Observed risk factors have been mentioned and detail regarding position of the deceased has been provided	Observed risk factors have been mentioned and detail regarding position and sleep environment of the deceased has been provided	Observed risk factors have been mentioned and detail regarding position and sleep environment of the deceased and evidence of abuse has been provided	All observed risk factors have been provided through scene examination and witness statements, or absence has been accounted for

Suspected poisoning fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency

						services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including most recent life events which may have contributed	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Observations	No data	Suspected poisoning has been mentioned and no further detail has been provided	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements and presence of poisoning at the scene has been mentioned	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements and presence of poisoning at the scene has been described in detail	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Water-related fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	Diseases or other conditions which may impair the deceased's ability in water are mentioned with no further detail	Diseases or other conditions which may impair the deceased's ability in water are mentioned with detail	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified. A full description of conditions or diseases which may impair the deceased's ability in water have been described or absence accounted for
Social history	No data	A history of abuse has been mentioned with no further detail	A history of abuse has been mentioned and an explanation for this description has been provided	A history of abuse has been mentioned and an explanation for this description has been provided including most recent incident and detail thereof	A substantial social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been	The type of action after incident has been stated but no	Action after incident has been accounted for	Detailed information about what action after incident was conducted,	Action after incident has been accounted for through witness

		taken but no further detail as to what has been provided	further detail provided	through witness statements.	by whom and how have been provided	statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including most recent life events which may have contributed	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Body description	No data	The body position has been mentioned but no further detail provided	The body position has been mentioned and further detail including relative position to body of water has been provided	The body position and evidence of drowning have been provided	The body position, drowning evidence and possible mechanism for drowning has been provided	All information regarding body description has been provided, or absence accounted for
Observations	No data	The body of water has been mentioned	The body of water has been mentioned and further detail provided	The body of water has been mentioned, further detail provide, evidence provided and scene hazards have been mentioned	The body of water has been mentioned, further detail provided and evidence provided. Scene examination regarding scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Custody-related fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Administrative data	No data	FPS 003 only contains DR number	FPS 003 completed	FPS 003 completed FPS 377 completed OR FPS 380 completed	FPS 003 completed FPS 377 completed AND FPS 380 completed	FPS 003 completed FPS 377 completed FPS 380 completed CL document completed
Circumstances of death	No data	FPS 002 completed but no information provided for under History	FPS 002 completed but a case profile given under History, only	FPS 002 completed and more than case profile only provided under History	FPS 002 completed with substantial History provided, custody information and witness statement provided	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency

						services etc.), or absence has been accounted for
Mental state	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation for this description has been provided	The deceased has been described as unstable/ troubled and an explanation for this description has been provided including condition upon being taken into custody	The deceased mental state prior to death has been provided based on witness statements	The deceased mental state prior to death has been provided based on witness statements including suicidal ideation, or absence has been accounted for
Apparent mechanism of death	No data	Reference to mechanism of death has been mentioned but no explanation has been provided	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements and an independent assessment	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements and an independent assessment with detailed reasoning	All information regarding the apparent mechanism of death has been provided, or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided	Observations regarding abuse have been accounted for and evidence provided and scene hazards have been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding scene hazards, and the body of water has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

APPENDIX IV

RUBRICS FOR POTENTIAL PRE-AUTOPSY INFORMATION QUALITY ASSESSMENT

Unattended death	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including diagnosis) has been provided through witness statements	A brief medical history (including diagnosis) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for

Hazards	No data	Hazards have been mentioned but no further detail has been provided	Types of hazards have been noted but no further detail has been provided	Hazards have been noted based on witness statements	Potential hazards have been mentioned based on witness statements and an examination of the scene	The identified hazards have been documented and explained in detail relative to the deceased, or absence has been accounted for

Dead on arrival at medical facility	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, emergency personnel who declared the DOA, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Scene evaluation	No data	The suspected mechanism by which the deceased reach his or her demise has been noted with no further detail	The suspected mechanism by which the deceased reach his or her demise has been noted and the informant has been identified	The suspected mechanism has been provided with an informant identified and explanation for the suspicion has been provided	The suspected mechanism has been provided with an informant identified and explanation for the suspicion has been provided. A primary scene has been identified.	A primary scene has been identified and relevant information and observation regarding the scene have been provided or absence accounted for

Road traffic fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including diagnosis) has been provided through witness statements	A brief medical history (including diagnosis) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Vehicular damage accounted for	Observations regarding abuse have been accounted for and evidence provided. Vehicular damage accounted for and scene	All observations have been provided through scene examination and witness statements, or absence has been accounted for

					examination regarding tire marks and scene hazards has been completed	

Firearm fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal

			for this description has been provided	provided including most recent life events which may have contributed		ideation, or absence has been accounted for
Weapon Details	No data	Reference has been made to a weapon but no further detail has been provided	Reference has been made to a weapon and corroborated by the Investigating Officer	A description of the weapon has been provided	A description of the weapon has been provided and a scene examination has been conducted to include number of projectiles located and relative position of the weapon to the deceased	All weapon details have been completed, including scene tests such as GSR and trajectory included, or absence has been provided for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Blood Spatter Pattern has been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding Blood Spatter Pattern and scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Sharp force trauma fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal

			for this description has been provided	provided including most recent life events which may have contributed		ideation, or absence has been accounted for
Weapon Details	No data	Reference has been made to a weapon but no further detail has been provided	Reference has been made to a weapon and corroborated by the Investigating Officer	A description of the weapon has been provided	A description of the weapon has been provided and a scene examination has been conducted to include relative position of the weapon to the deceased	All weapon details have been completed, or absence has been provided for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided. Blood Spatter Pattern has been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding Blood Spatter Pattern and scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Asphyxial death	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal

			for this description has been provided	provided including most recent life events which may have contributed		ideation, or absence has been accounted for
Airway compromise	No data	Reference to airway obstruction has been made but no further detail has been provided	Reference to airway obstruction has been made and the mechanism thereof stated	Reference to airway obstruction has been made with detail and the mechanism thereof stated.	A description of airway compromise has been provided through witness statements and a scene examination has been conducted	All information regarding airway compromise has been provided, or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided and scene hazards have been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

SUDI	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history of the deceased has been provided through witness statements	A brief medical history of the deceased and a maternal history have been provided	A medical history (deceased, maternal and paternal) has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The maternal social history has been provided	The maternal social history including when abuse took place in relation to pregnancy has been provided for	A maternal and paternal social history have been provided	A maternal and paternal social history have been provided including the most recent incidences of abuse	A complete social history (maternal, paternal and caregiver) has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	A maternal personal history has been provided	A maternal personal history has been provided including any significant life events	A maternal personal history has been provided including any significant life events any previous child deaths	A maternal and paternal personal history has been provided including any previous child deaths	A personal history (maternal, paternal and caregiver) has been provided based on witness statements

						including previous child deaths, or absence has been accounted for
Observations risk factors	No data	Observed risk factors have been mentioned with no further detail provided	Observed risk factors have been mentioned and detail regarding position of the deceased has been provided	Observed risk factors have been mentioned and detail regarding position and sleep environment of the deceased has been provided	Observed risk factors have been mentioned and detail regarding position and sleep environment of the deceased and evidence of abuse has been provided	All observed risk factors have been provided through scene examination and witness statements, or absence has been accounted for

Suspected poisoning fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal

			for this description has been provided	provided including most recent life events which may have contributed		ideation, or absence has been accounted for
Observations	No data	Suspected poisoning has been mentioned and no further detail has been provided	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements and presence of poisoning at the scene has been mentioned	Suspected poisoning has been mentioned and a mechanisms by which has been suggested from witness statements and presence of poisoning at the scene has been described in detail	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Water-related fatality	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Personal history	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	A personal history has been provided based on witness statements	A social history has been provided based on witness statements including suicidal

			for this description has been provided	provided including most recent life events which may have contributed		ideation, or absence has been accounted for
Body description	No data	The body position has been mentioned but no further detail provided	The body position has been mentioned and further detail including relative position to body of water has been provided	The body position and evidence of drowning have been provided	The body position, drowning evidence and possible mechanism for drowning has been provided	All information regarding body description has been provided, or absence accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided.	Observations regarding abuse have been accounted for and evidence provided and scene hazards have been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding scene hazards has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

Custody Related Fatality-DI	None (0)	Very Poor (1)	Poor (2)	Average (3)	Good (4)	Very Good (5)
Circumstances of death	No data	Case profile only provided as history	More than Case profile only provided as history	Substantial history provided	Substantial History provided, and witnesses have been interviewed	All information regarding circumstances of death has been provided, or absence accounted for
Medical History	No data	The deceased has been described as sick with no further detail	The deceased has been described as sick, symptoms have been provided by witnesses	A brief medical history (including mental illness) has been provided through witness statements	A brief medical history (including mental illness) has been provided through witness statements and a Medical practitioner has been identified	A medical history has been provided by the deceased's medical practitioner, or absence has been accounted for
Social history	No data	The deceased has been described as a drug addict and or alcoholic with no further detail	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided	The deceased has been described as a drug addict or alcoholic and an explanation for this description has been provided, including most recent incident and detail thereof	A social history has been provided based on witness statements	A complete social history has been provided based on witness statements and evidence identified at the scene, or absence has been accounted for
Action after incident	No data	It has been noted that action after the incident has been taken but no further detail as to what has been provided	The type of action after incident has been stated but no further detail provided	Action after incident has been accounted for through witness statements.	Detailed information about what action after incident was conducted, by whom and how have been provided	Action after incident has been accounted for through witness statements and through corroboration with those involved (Emergency services etc.), or absence has been accounted for
Mental state	No data	The deceased has been described as unstable/ troubled with no further detail	The deceased has been described as unstable/ troubled and an explanation	The deceased has been described as unstable/ troubled and an explanation for this description has been	The deceased mental state prior to death has been provided based on witness statements	The deceased mental state prior to death has been provided based on witness statements including suicidal

			for this description has been provided	provided including condition upon being taken into custody		ideation, or absence has been accounted for
Apparent mechanism of death	No data	Reference to mechanism of death has been mentioned but no explanation has been provided	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements and an independent assessment	Reference to mechanism of death has been mentioned and an explanation for this has been provided by witness statements and an independent assessment with detailed reasoning	All information regarding the apparent mechanism of death has been provided, or absence has been accounted for
Observations	No data	Observations regarding abuse have been mentioned	Observations regarding abuse have been accounted for and evidence provided	Observations regarding abuse have been accounted for and evidence provided and scene hazards have been mentioned	Observations regarding abuse have been accounted for and evidence provided. Scene examination regarding scene hazards, and the body of water has been completed	All observations have been provided through scene examination and witness statements, or absence has been accounted for

APPENDIX V

DI WORKSHEETS

Unattended death **DI 001**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

• Discovery information
  ○ Who found the deceased?
  ○ How was the deceased found?
  ○ When was the deceased found?
  ○ Where was the deceased found?
  ○ When was the deceased last seen alive?

Action after incident

• Was the deceased moved?
  ○ If so, by whom and why?
• Was the scene altered?
  ○ If so, by whom and why?
• Where the paramedics called?
  ○ If yes, what action did they take?
  ▪ Resuscitation?
  ▪ Blood transfusion?
  ▪ Hospital?
  ▪ Other?

Medical history

• Was the deceased ill?
  ○ Vomiting?
  ○ Diarrhoea?
  ○ Nausea?
  ○ Headache?
  ○ Other?
• Does the deceased have any diagnosed illnesses?
• Does the deceased suffer from mental illness?
  ○ Depression?
  ○ Schizophrenia?

- Bipolar disorder?
- Other?

- Does the deceased have any conditions which may impair breathing?
- Does the deceased have any history of cardiac failure?
- Does the deceased suffer from epilepsy?
- Does the deceased suffer from mental health conditions?
- Does the deceased suffer from any handicaps?
  - Physically?
  - Mentally?

Social history

- Does the deceased have a history of abuse?
  - Illicit drugs?
  - OTC medication?
  - Prescription medication?
  - Alcohol?
  - Other?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Have any recent significant life events occurred?
  - Marriage?
  - Divorce?
  - Children?
  - Occupation?
  - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Hazards

- Are there any potential hazards identified at the scene?
  - Exposed electrical wires?
  - Illegal wiring?
  - Hypothermia?
  - Hyperthermia?
  - Gas leakage?
  - Water?
  - Other?

Observations

• Is there any evidence of a fall?
• Is there any evidence of assault?
• Is there any evidence of a struggle?
• Is there any evidence of an asphyxia death?
• Is there any evidence of a water-related death?
• Was a suicide note found?
• Is there any evidence of abuse?
  ○ Alcohol?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription drugs?
  ○ Other?

DOA at medical facility **DI 002**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death
• What happened to the deceased? • Why was emergency action required?   ○ What action initiated chain of events?

Action after incident

• Who declared the deceased DOA?
• What actions, if any did emergency personnel take?
  ▪ Resuscitation?
  ▪ Blood transfusion?
  ▪ Hospital?
  ▪ Other?

Medical history
• Did the deceased have any diagnosed illnesses? • Did the deceased have any conditions which may impair breathing? • Did the deceased have any history of cardiac failure? • Did the deceased have any underlying conditions which may have contributed to his death?

Social history

• Does the deceased have a history of abuse?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription medication?
  ○ Alcohol?
  ○ Other?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Observations
• By what did the deceased apparently reach his or her demise?   ○ Who provided this suspicion and why? • Where is the primary scene where the incident took place? • Complete relevant DI Worksheet for scene profile

Road traffic fatalities **DI 003**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

□ Motor vehicle □ Motorbike □ Cyclist □ Pedestrian □ Other: _____

Circumstances of death

- Discovery information
  - Who found the deceased?
  - When was the deceased found?
  - Where was the deceased found in relation to the vehicle(s) involved?
- What vehicles where involved?
  - Make?
  - Model?
- Was the deceased the driver, passenger or other?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation?
    - Blood transfusion?
    - Hospital?
    - Other?

Medical history

- Does the deceased suffer from any illnesses (or history thereof) which may have contributed to the accident?
  - Epilepsy?
  - Myocardial Infarction?
  - Diabetes?
  - Blackouts?
  - Dementia?
  - Parkinson's disease?
  - Visual impairment?

- Physical impairment?

Social history

- Does the deceased have a history of abuse?
  - Illicit drugs?
  - OTC medication?
  - Prescription medication?
  - Alcohol?
  - Other?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Observations

- Where was the vehicle damaged?
- Are there any potential hazards which may account for the RTF?
- Where the airbags deployed?
- Was the deceased wearing a seatbelt?
- Is there evidence of breaking?
- Is there any evidence of abuse?
  - Alcohol?
  - Illicit drugs?
  - OTC medication?
  - Prescription drugs?
  - Other?

Firearm fatalities **DI 004**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
  - When was the deceased last seen alive?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation?
    - Blood transfusion?
    - Hospital?
    - Other?

Medical history

- Does the deceased have any diagnosed illnesses?
- Does the deceased suffer from mental illness?
  - Depression?
  - Schizophrenia?
  - Bipolar disorder?
  - Other?

Social history

- Does the deceased have a history of abuse?
  - Illicit drugs?
  - OTC medication?
  - Prescription medication?

- Alcohol?
- Other?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Have any recent significant life events occurred?
  - Marriage?
  - Divorce?
  - Children?
  - Occupation?
  - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Weapon details

- Was a firearm found?
  - Where was the firearm found relative to the deceased?
- Where projectiles found?
  - If yes, how many?
  - Where were the projectiles found?
- Where any cartridges found?
  - If yes, how many?
- Firearm description
  - Type?
- Calibre?
- Could a trajectory be established?
  - If so, what was the trajectory?
- Where GSR test performed?
  - If yes, on whom and what were the results?

Observations

- Was a suicide note found?
- Is there any evidence of abuse?
  - Alcohol?
  - Illicit drugs?
  - OTC medication?
  - Prescription drugs?
  - Other?
- Was blood spatter found at the scene?
  - If yes, describe?

Sharp force trauma fatalities **DI 005**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
  - When was the deceased last seen alive?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action, if any did they take?
    - Resuscitation?
    - Blood transfusion?
    - Hospital?
    - Other?

Medical history

- Does the deceased have any diagnosed illnesses?
- Does the deceased suffer from mental illness?
  - Depression?
  - Schizophrenia?
  - Bipolar disorder?
  - Other?

Social history

- Does the deceased have a history of abuse?
  - Illicit drugs?
  - OTC medication?
  - Prescription medication?

- Alcohol?
- Other?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Have any recent significant life events occurred?
  - Marriage?
  - Divorce?
  - Children?
  - Occupation?
  - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Weapon details

- Was a weapon found at the scene?
- Where was the weapon found in relation to the deceased?
- Weapon description
  - Point or tip?
  - Blade?
  - Blade length?
  - Spine?
  - Bolster?
  - Handle?

Observations

- Was a suicide note found?
- Is there any evidence of abuse?
  - Alcohol?
  - Illicit drugs?
  - OTC medication?
  - Prescription drugs?
  - Other?
- Was blood spatter found at the scene?
  - If yes, describe?

Asphyxial fatality **DI 006**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
  - When was the deceased last seen alive?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation?
    - Blood transfusion?
    - Hospital?
    - Other?

Medical history

- Does the deceased have any diagnosed illnesses?
- Does the deceased suffer from mental illness?
  - Depression?
  - Schizophrenia?
  - Bipolar disorder?
  - Other?

Social history

- Does the deceased have a history of abuse?
  - Illicit drugs?
  - OTC medication?
  - Prescription medication?

- Alcohol?
- Other?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Have any recent significant life events occurred?
  - Marriage?
  - Divorce?
  - Children?
  - Occupation?
  - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Airway compromise

- Describe the position of the deceased?
  - Hanging?
    - Suspension type? (full, partial etc)
  - Positional Asphyxia?
  - Choking?
  - Smothering?
    - What was used?
  - Auto-erotic?
  - Gassing?
- Is there something obstructing the airway?
  - If yes, what and how?

Observations

- Was a suicide note found?
- Is there any evidence of abuse?
  - Alcohol?
  - Illicit drugs?
  - OTC medication?
  - Prescription drugs?
  - Other?
- Is there evidence of auto-erotic behaviour?
  - Mirror?
  - Pornographic material?
  - Recording equipment?
  - Fail safe mechanism?
- Is there evidence of gassing?

- What was used?

Sudden Unexpected Death in Infants DI 007

DR number: _____

Date of evaluation: _____

Contact Person:

1. Parent/ Guardian
    a. Name: _____
    b. Contact: _____
2. Relative/ Friend
    a. Name: _____
    b. Contact: _____
3. Medical Practitioner
    a. Name: _____
    b. Contact: _____
4. Witness/ Other
    a. Name: _____
    b. Contact: _____

Circumstances of death

- Discovery information
    - Who found the deceased?
    - How was the deceased found?
    - When was the deceased found?
    - Where was the deceased found?
    - When was the deceased last seen alive?
- Whose care was the infant in at time of death?

Action after incident

- Was the deceased moved?
    - If so, by whom and why?
- Was the scene altered?
    - If so, by whom and why?
- Where the paramedics called?
    - If yes, what action did they take?
        - Resuscitation
        - Blood transfusion
        - Hospital
        - Other

Medical history	Deceased

• Does the deceased have any congenital abnormalities?
• Was the deceased ill?
  ○ Vomiting?
  ○ Diarrhoea?
  ○ Nausea?
  ○ Headache?
  ○ Other?
• Does the deceased have any diagnosed illnesses?
• Does the deceased have any conditions which may impair breathing?
• Does the deceased have any history of cardiac failure?
• Does the deceased suffer from epilepsy?
• Does the deceased suffer from any handicaps?
  ○ Physically?
  ○ Mentally?
• Did the deceased have any unexplained recent weight loss?
• Did the deceased diet change recently?	

Medical history	Mother

• What prenatal care was undertaken?
• Where there any difficulties during pregnancy or child birth?
• Are there any known hereditary diseases in the maternal family?
• Did the mother suffer any illness or injury during pregnancy? (non-pregnancy related)
• Does the mother suffer from mental illness?
  ○ Depression?
  ○ Schizophrenia?
  ○ Bipolar disorder?
  ○ Munchausen's disease?
  ○ Other?	

Medical history	Father

• Are there any known hereditary diseases in the paternal family?
• Does the mother suffer from mental illness?
  ○ Depression?
  ○ Schizophrenia?
  ○ Bipolar disorder?
  ○ Other?	

Medical history	Caregiver

• Does the mother suffer from mental illness?
  ○ Depression?
  ○ Schizophrenia?
  ○ Bipolar disorder?
  ○ Other?	

Social history	Mother

• Does the mother have a history of abuse?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription medication?
  ○ Alcohol?
  ▪ If so, did the abuse take place during pre-pregnancy, during pregnancy, post-pregnancy or a combination thereof?	

Social history	Father

• Does the father have a history of abuse?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription medication?
  ○ Alcohol?	

Social history	Caregiver

• Does the caregiver have a history of abuse?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription medication?
  ○ Alcohol?	

Personal history	Mother

• Have any recent significant life events occurred?
  ○ Marriage?
  ○ Divorce?
  ○ Children?
  ○ Occupation?
  ○ Other?
• Is there a history of previous child deaths associated with the mother?	

Personal history	Father

• Have any recent significant life events occurred?
  ○ Marriage?
  ○ Divorce?
  ○ Children?
  ○ Occupation?
  ○ Other?
• Is there a history of previous child deaths associated with the father?	

Personal history	Caregiver

• Have any recent significant life events occurred?
  ○ Marriage?
  ○ Divorce?
  ○ Children?
  ○ Occupation?
  ○ Other?
• Is there a history of previous child deaths associated with the caregiver?	

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

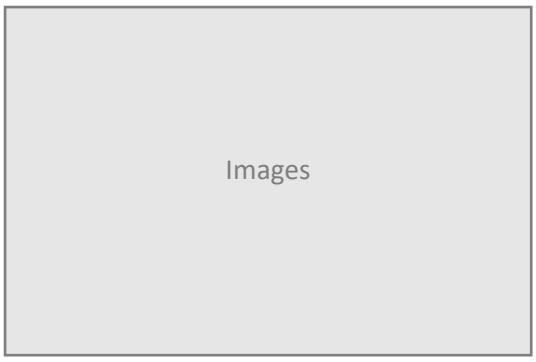
Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

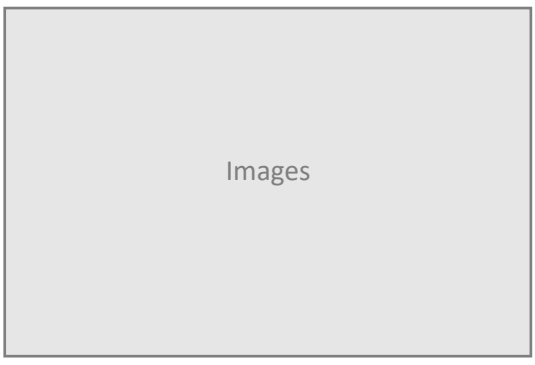
Observed risk factors

• Is there evidence of co-sleeping?
• Description of sleeping environment:
  ○ Sleep surface?
  ○ Coverings?
  ○ Sleep position?
• Is there evidence of abuse?
  ○ Alcohol?
  ○ Illicit drugs?
  ○ OTC medication?
  ○ Prescription drugs?
  ○ Religious, cultural or ethic remedies?
  ○ Other?
• Is there evidence of asphyxia?
• Are there pets in the home?
• Is there evidence of child abuse?
• Is there evidence of negligence?

DOLL RE-ENACTMENT PHOTOGRAPHS:

AS PLACED





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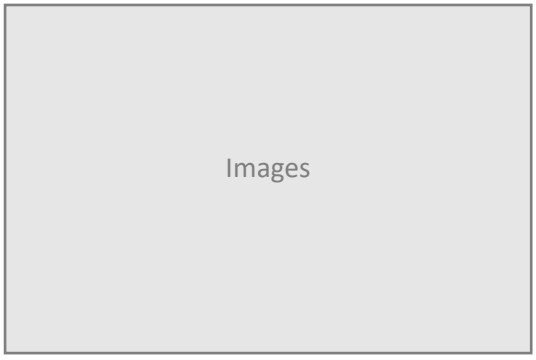
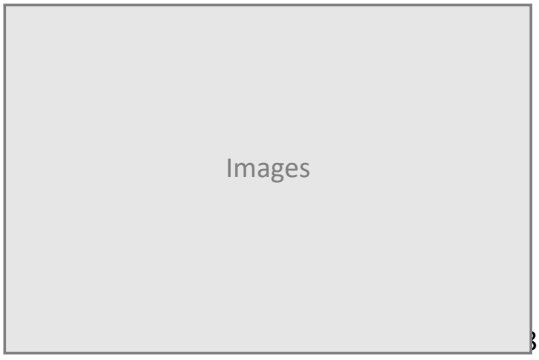




Suspected poisoning fatality **DI 008**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
  - When was the deceased last seen alive?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation?
    - Blood transfusion?
    - Hospital?
    - Other?

Medical history

- Was the deceased ill?
  - Vomiting?
  - Diarrhoea?
  - Nausea?
  - Headache?
  - Other?
- Does the deceased have any diagnosed illnesses?
- Does the deceased suffer from mental illness?
  - Depression?
  - Schizophrenia?
  - Bipolar disorder?
  - Other?
- Does the deceased have any conditions which may impair breathing?

- Does the deceased have any history of cardiac failure?
- Does the deceased suffer from epilepsy?
- Does the deceased suffer from mental health conditions?
- Does the deceased suffer from any handicaps?
    - Physically?
    - Mentally?

Social history

- Does the deceased have a history of abuse?
    - Illicit drugs?
    - OTC medication?
    - Prescription medication?
    - Alcohol?
    - Other?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Have any recent significant life events occurred?
    - Marriage?
    - Divorce?
    - Children?
    - Occupation?
    - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Observations

- Was a suicide note found?
- Is there any evidence of abuse?
    - Alcohol?
    - Illicit drugs?
    - OTC medication?
    - Prescription drugs?
    - Other?
- Was any evidence of poison found?
    - Insecticides?
    - Pesticides?
    - Cyanide?
- Did the deceased eat prior to death?
    - If so, what?

Water-related fatality **DI 009**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Was the event witnessed?
  - If so, by whom?
- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
  - When was the deceased last seen alive?
- Whose care was the deceased in at the time of incident?
- Was the deceased left unattended?
- What was the deceased's swimming ability?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation
    - Blood transfusion
    - Hospital
    - Other

Medical history

- Was the deceased ill?
- Does the deceased have any diagnosed illnesses?
- Does the deceased suffer from mental illness?
  - Depression?
  - Schizophrenia?
  - Bipolar disorder?
  - Other?
- Does the deceased have any conditions which may impair breathing?

- Does the deceased have any history of cardiac failure?
- Does the deceased suffer from epilepsy?
- Does the deceased suffer from mental health conditions?
- Does the deceased suffer from any handicaps?
    - Physically?
    - Mentally?

Social history

- Does the deceased have a history of abuse?
    - Illicit drugs?
    - OTC medication?
    - Prescription medication?
    - Alcohol?

Personal history

- Did the deceased receive a recent terminal diagnosis?
- Did the deceased receive bad news recently?
    - Marriage?
    - Children?
    - Occupation?
    - Other?
- Has the deceased expressed any suicidal ideation?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Body description

- What is the position of the body relative to the body of water?
- Was the deceased wet or dry?
- Is there evidence of drowning?
    - Foam cone?
    - Washerwoman hands and feet?
- Was the airway obstructed in any way?
- Was the deceased restrained?
- Was the deceased entangled?

Observations

- Is there any evidence of potential hazards at the scene?
- Describe the body of water?
- Was a suicide note found?

- Is there any evidence of abuse?
    - Alcohol?
    - Illicit drugs?
    - OTC medication?
    - Prescription drugs?
    - Other?
- Is there evidence of a struggle?

Custody-related fatality **DI 010**

DR number: _____

Date of evaluation: _____

Contact Person:

Name: _____

Details: _____

Relationship to deceased: _____

Circumstances of death

- Was the event witnessed?
  - If so, by whom?
- Discovery information
  - Who found the deceased?
  - How was the deceased found?
  - When was the deceased found?
  - Where was the deceased found?
- Custody information
  - What was the condition of the deceased upon being brought into custody?
  - Why was the deceased in custody?
  - How long was the deceased in custody?

Action after incident

- Was the deceased moved?
  - If so, by whom and why?
- Was the scene altered?
  - If so, by whom and why?
- Where the paramedics called?
  - If yes, what action did they take?
    - Resuscitation
    - Blood transfusion
    - Hospital
    - Other

Medical history

- Was the deceased ill?
- Does the deceased have any diagnosed illnesses?
- Does the deceased have any conditions which may impair breathing?
- Does the deceased have any history of cardiac failure?
- Does the deceased suffer from allergies?
- Does the deceased suffer from mental health conditions?
- Did the deceased express any complaints regarding his health?

Social history

- Does the deceased have a history of abuse?
    - Illicit drugs?
    - OTC medication?
    - Prescription medication?
    - Alcohol?

Mental state

- Was the deceased compliant with correctional services?
- What was the deceased's mental state prior to death?
- Did the deceased express suicidal ideation?
- Was the deceased breathing heavily?
- Was the deceased perspiring profusely?
- Was the deceased shaking?
- Did the deceased have shortness of breath?
- Did the deceased make any requests?

Scene evaluation

Was the scene attended to prior to the removal of the body? □ Yes □ No

Initial impression: □ Homicide □ Suicide □ Accident □ Unknown

Apparent mechanism of death

- Airway compromise?
- Physical trauma?
- Weapons?
- Police action?
- Possible self-inflicted trauma?

Observations

- Is there any evidence of potential hazards?
- Was a suicide note found?
- Is there evidence of abuse?
    - Alcohol?
    - Illicit drugs?
    - OTC medication?
    - Prescription drugs?
    - Police?
    - Inmate?
    - Self?

APPENDIX VI

AUTOPSY ATTENDANCE LOG

DR Number	FMP	Case	Special Investigations	Comment
174210	719	Poisoning?	Toxicology: • blood • stomach contents	
179900	1113	Poisoning?	Histology Toxicology: • Stomach contents	Hospital intervention has been remove
164471	2019	Poisoning?	Histology Toxicology: • Urine • Stomach contents	Aspirated food in lungs
195730	1918	Poisoning?	Histology Toxicology • Urine	History of eating a poisonous mushroom Hospitalised • Jaundice • Renal failure Subendocardial haemorrhage Yellow appearance of liver
165220	719	Poisoning	Histology	Problematic intubation
168071	1918	Poisoning	Histology Toxicology:	No blood in stomach or intestines, inconsistent with history of vomiting blood

			• Urine • Vitreous humour • Stomach contents	
173710	113	Electrocution	Histology Toxicology: • Blood Skin: • Electrothermal injury sites retained	
176010	719	Electrocution	Histology Toxicology: • Blood	Decomposed Sent for CT prior to post-mortem examination (Research project)
178041	182	Electrocution	Histology Skin: • Electrothermal injury sites retained	Electrical petechiae over lungs→ Current path through chest
195220	1913	Electrocution	None	Possible lightning strike Area of burning and soot over left inferior aspect of buttocks Pneumomediastinum→ Barotrauma?
199630	1219	Electrocution	None	Joule burn noted right medial aspect of big toe

				Electrothermal injury noted on the right hand between thumb and index finger Electrothermal injury noted on the right palm, inferior to thumb
169940	514	Drowning	None	History of epilepsy Lodox: evidence of craniotomy
191530	182	Drowning	Histology	Hospitalised Medical paraphernalia in situ
199730	1918	Drowning	None	Suicide note found at scene Evidence of Hypertension Enlarged prostate Marbling of the lungs
169171	2019	Choking	Histology	Possible aspiration
179061	719	Choking	Histology	Hospitalised to undergo Mitral Valve replacement
175800	2019	Drug overdose	Histology Toxicology: • Urine	
195140	412	Drug overdose	Histology Toxicology • Blood	Pink discolouration of trachea mucosa Possible pneumonia
173800	2019	Dog bite	None	Bloodless neck dissection

179450	113	Gassing	Toxicology • Blood→ Carbon Monoxide	General cherry pink appearance Early cardiac failure
178051	2019	Fall	Histology • Whole brain	No evidence of fall from height→ Possible stroke
177951	412	Fall into woodchipper	DNA • Toenail	Body completely mangled
178061	719	Burns		40% burns Multi-system insult
175951	412	Burns	Histology	Lungs are pink→ Carbon monoxide poisoning
176761	412	Burns	Histology Toxicology • Blood	Organs are pink→ Carbon monoxide poisoning Soot in trachea→ Alive at time of fire
176751	182	Assault ?	Histology Toxicology • Blood Blood (TB Study)	Linear base of skull fracture • Below hat line → Accidental
178271	412	Assault		Possible mob justice Hospitalised
176051	2019	Assault	Histology • Whole brain	Ateriovenous Malformation (AVM) Subdural and Subarachnoid Hemorrhage

175310	2019	Assault	Histology DNA Skull sample Fingertip retained	Possible mob justice
173210	719	Assault	Toxicology: • Blood	Club fingers- TB
176171	2019	Assault	None	Unknown ID
192500	412	Assault	None	Multiple linear abrasions Subendocardial haemorrhage Possible mob justice
199110	1913	Assault	None	Possible fate embolism syndrome
180310	2019	Assault Rape	Rape Kit	Vagina: reddening of left margin Bloodless neck dissection • Haemorrhage over thyroid cartilage and sternothyroid muscle Base of skull fracture
197530	182	Assault	Toxicology • Blood	Possible mob justice Multiple blunt force trauma
164910	719	Foetus	None	Still born- no autopsy required
163670	719	Foetus	None	Not viable- no autopsy required
177831	182	Foetus	DNA	Lungs are liver-like and tight against mediastinum

			• Femoral head retained	Lung floating test= negative→ Still born
174950	2019	Foetus	DNA	Not viable- no autopsy required
173150	113	Foetus	None	Not viable- no autopsy required
178450	113	Foetus	None	Decomposed→ COD unascertainable at autopsy Sanitary pads, Lucky Star Can, Punctate instruments found with foetus→ Possible abortion
174761	182	Foetus	None	Not viable- no autopsy required
163510	719	Found dead		Myocarditis/ viral disease- Natural
160940	514	Found dead		Bronchial pneumonia- limited post-mortem examination
166740	514	Found dead/ fall?		Pulmonary embolism found
163350	412	Found dead	Histology	Pulmonary embolism found
161730	719	Found dead/ overdose?	Histology Toxicology: • Blood • Urine	
175361	719	Found dead	None	Decomposed
177271	412	Found dead	None	Medicine found on body • Panado • Still Pain • Glucophage

				• Aspen Colchicine • Lomanor • Pan113or • Corenza • Eno
194510	182	Found dead	None	Decomposed 2 x Tattoo's noted→ Possible method for ID Possible neck injury
177751	182	PVA	Toxicology • Blood	Subarachnoid haemorrhage, Cerebellar haemorrhage, Blood in 4th ventricle
175840	514	PVA	Toxicology • Blood	C1 occipital condyle fracture→ Dead on impact
170710	113	PVA	Toxicology: • Blood	Deceased was blind in one eye
165670	416	PVA	Toxicology: • Blood	Base of skull hinge fracture
156220	719	PVA	Brain Swab	Meningitis
165171	2019	PVA		Severe traumatic brain injury
199010	412	PVA	Toxicology • Blood	Multiple skull fractures and subscalp haematoma Lodox: Left and right Sacroiliac Joint fracture

190210	1913	PVA	Toxicology • Blood	R2-8 on Right hand side laterally fractured L2/L3 fracture of spine Lodox: Air tract in subcutaneous tissue on Left hand side Lacerated Right atrium
191310	2019	PVA	None	Hospitalised General pallor of organs→ Blood loss Subendocardial haemorrhage
192220	1913	PVA	None	Multiple fractures and abrasions Fracture of T3/T4
194630	1219	PVA	Toxicology • Blood	Full thickness tear of root of aorta Laceration of the liver Imprint abrasion over face Bilateral TibFib fractures
172160	2019	MVA	Toxicology • Blood	Dwarfism Fresh surgical wound
178060	2019	MVA	Histology	Pneumonia
178900	1113	MVA	None	Lodox: Right heart margin bulging→ possible embolism
176671	1918	MVA	Toxicology: • Blood	Passenger
177671	1918	MVA	Toxicology:	Driver

			• Blood	
169071	1918	MBA/PVA		Cardiac disease
167530	719	MVA	Toxicology: • Blood • Vitreous humour (research project)	
199210	2019	MVA	Toxicology • Blood	Medical equipment in situ Polytrauma
190320	113	MVA	None	Hospitalised Medical paraphernalia in situ Diffuse axonal and rotational injury
195330	412	MVA	None	Hospitalised Medical paraphernalia in place TibFib fracture left leg
172710	113	MBA	Toxicology: • Blood	
173531	2019	Section 56	Histology	Tetralogy of Fallot 1. VSD 2. PV stenosis 3. Overriding Aorta 4. RV hypertrophy
179600	113	Section 56	Histology Pericardial sac retained	
161510	719	Section 56	Histology	

176951	412	Section 56	Histology	History of a fall in hospital→ No sign of brain injury noted Lobular pneumonia of Left lung
193510	182	Section 56	Histology	Procedure: Total right hip replacement Patient developed hypotension and died during surgery Lodox: Right lung whiteout Extreme calcification of Abdominal Aorta
190140	412	Section 56	Histology Retained Aortic arch and branches	Hospitalised • Severe pneumonia • ECMO veno-venous procedure Medical paraphernalia in situ Injury to right lung with associated haemorrhage→ Possibly from ECMO inserted into jugular vein
172331	719	SUDI	Histology Toxicology • Blood	Pericardial effusion noted in situ
172931	182	SUDI	Histology Toxicology • Blood	Alleged overlay
170160	2019	SUDI	Histology	

			Toxicology • Blood	
168471	2019	SUDI	Histology Toxicology: • Blood	
172451	412	Sudden death	Histology • Upper heart • Lun719	Heamopericardium • 800ml Rupture of pulmonary trunk Scoliosis
166471	2019	Sudden death	Histology Toxicology: • Blood	Decomposed
179500	113	Sudden death		Myocardial infarction
160271	2019	Sudden death	Histology Toxicology: • Blood	
168171	1913	Sudden death/ suicide?	Histology Toxicology: • Blood	Suspicious note found at death scene
171150	1113	Sudden death		Pericardial effusion, anaemia→ Heart failure→ Natural
179761	412	Sudden death	Histology Toxicology	Small pale granules in stomach contents

			• Blood • Urine • Stomach contents	Corpus Luteum in ovary→ Pregnant (early stages)
178161	412	Sudden death	Histology	Collapsed at work Myocardial Infarction
171231	412	Hanging	Toxicology • Blood	Bloodless neck dissection 2 x ligatures present
176950	2019	Hanging	Toxicology • Blood	Bloodless neck dissection Discontinuous ligature mark
175450	113	Hanging		Bloodless neck dissection
177610	182	Hanging	Toxicology: • Blood	Bloodless neck dissection
178210	1113	Hanging		Bloodless neck dissection
179210	1113	Hanging		Bloodless neck dissection
175210	719	Hanging	Toxicology: • Blood	Bloodless neck dissection Ligature removed prior to examination
162350	412	Hanging	Toxicology: • Blood	Bloodless neck dissection Ligature removed prior to examination
166670	416	Hanging	Toxicology: • Blood	Bloodless neck dissection
164171	1918	Hanging	Histology	Bloodless neck dissection

			Toxicology: • Blood	Ligature removed prior to examination Death in detention
198500	412	Hanging	None	Bloodless neck dissection • Haemorrhage • Hyoid bone fracture, no vital reaction Non circumferential ligature mark
197010	412	Hanging	Toxicology • Blood	Bloodless neck dissection • Haemorrhage around Left greater horn of thyroid cartilage, no fracture Ligature in situ Contusion over sternum→ possible resuscitation artefact
193730	1918	Hanging	None	No ligature present Multiple contusions and abrasions Bloodless neck dissection Subendocardial haemorrhage
161371	182	Gassing	Histology Toxicology: • Blood	Party gas tank found at scene
193320	113	Gassing	Toxicology • Urine	Found at scene: • Sulphuric acid 500ml (empty)

			• Stomach conten2019 • Bile • Blood Histology Skin sample from wound area Clothing and particulate sample from wound area Thoracic cavity air→ Spirometry	• Methanoic acid 50ml (empty) • Cilift blister pack 10/10 pil1219 • Epitec blister pack 6/10 pil1219 • Glass bottle with approximately 80ml of unknow fluid (slight yellow colour and cloudy) • 250ml beaker with tissue paper (black substance soaked into tissue paper and present on the bottom of the beaker) General pink discolouration of organs Possible chemical burn to medial aspect of right lower limb
177600	113	Cut wounds	Toxicology: • Blood	Suicide note found History of marital difficulties
179051	2019	719W	Toxicology • Blood DNA	Bloodless neck dissection • Trajectory through neck
172310	2019	719W	Toxicology: • Blood	Suicide note found
164671	1918	719W	Toxicology:	Dyadic death

			• Blood	
166271	24	719W	Toxicology: • Blood	Dyadic death
179361	412	719W	Toxicology • Blood	Dyadic death
170461	412	719W	Toxicology • Blood	Dyadic death
172761	2019	719W	Toxicology • Blood DNA T-shirt→ GSR	Shored exit wound and no defensive injuries→ possibly incapacitated
173761	2019	719W	Toxicology • Blood DNA	Projectile tract through liver
172431	719	719W		2 x Projectiles retained
177950	2019	719W	Toxicology • Blood	3 x Projectiles retained • 1 x Old projectile (oxidised)
178950	2019	719W	Toxicology • Blood	1 x Projectile retained
177940	514	719W	Toxicology • Blood	600ml blood in peritoneal cavity Projectile tract through bifurcation of abdominal Aorta
178610	182	719W	Toxicology:	1 x Projectile retained

			• Blood DNA	
170310	1113	719W	Toxicology: • Blood	1 x Projectile retained
165271	514	719W	Toxicology: • Blood	3 x Projectiles retained Dyadic death
165671	1918	719W	Toxicology: • Blood	Dyadic death
175250	1113	719W		2 x Projectiles retained
197500	412	719W	Toxicology • Blood	1 x projectile retained
194220	1913	719W	None	1 x partial projectile retained Diffuse subarachnoid haemorrhage
196320	113	719W	None	1 x projectile retained Left and right ling collapse
198330	412	719W	None	120ml blood in pericardial sac 1000ml blood in Right chest cavity
191140	412	719W	None	Hospitalised 1 x projectile retained Injury to Left renal vein, Abdominal Aorta and Right renal artery, left splenic artery Stomach is perforated

175060	2019	Stab wound	Histology • Whole brain	Hospitalised for 2 weeks prior to death
170550	113	Stab wound	Toxicology • Blood DNA	Minimum of 24 stab wounds noted • Overkill phenomenon • Psychiatric case
178150	1113	Stab wound	Toxicology • Blood	900ml blood in left thoracic cavity Defensive injuries
177310	2019	Stab wound	DNA	
171800	2019	Stab wound		SFT to neck- bloodless neck dissection
166371	514	Stab wound	Toxicology: • Blood	Suspected knife fight
179131	412	Stab wound	Histology Toxicology • Blood DNA	Bloodless neck dissection (SFI to neck) Wound has screwdriver appearance Defensive injuries Cardiac tamponade
175561	719	Stab wound	None	Cardiac tamponade
195010	412	Stab wound	None	GSW and SFT identified 1 x projectile retained SFT to Right lung
192530	182	Stab wound	None	General pallor of organs SFT to apex of the heart

				SFT to LAD 1200ml blood in Left chest cavity
195630	1219	Stab wound	None	1000ml blood in left chest cavity Punctate wound to the apex of the left lung

APPENDIX VII

FORENSIC MEDICAL PRACTITIONER QUESTIONNAIRE

Assessing the functionality and value of introducing Death Investigators into forensic pathology service in South Africa

The following questionnaire forms part of an MSc study conducted through the University of Pretoria

All pre-requisite approvals from the MSc Committee and the Research Ethics Committee have been obtained prior to the commencement of this study.

Please note, that your identity will remain anonymous.

Administrative information

Do you give your consent for the researcher to use your answers, provided in this questionnaire, for analysis as part of the Master of Science research entitled: Assessing the functionality and value of introducing Death Investigators into forensic pathology service in South Africa?

□ Yes □ No

Please provide the Death Registration number: _____

Please select the relevant case profile:

□ Unattended death

□ Dead on arrival

□ Road traffic fatalities

□ Firearm related fatalities

□ Sharp force trauma related fatalities

□ Asphyxial fatalities

□ Sudden Unexpected Death in Infants

□ Suspected poisoning fatalities

□ Water related fatalities

□ Custody related fatalities

Contemporaneous information

Please assign a score for the following statements based on the contemporaneous information received for this case.

Please provide a score between 1 and 5 where:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

I am satisfied with the contemporaneous information provided

□ 1 □ 2 □ 3 □ 4 □ 5

I have enough information to confidently and precisely request special investigations

□ 1 □ 2 □ 3 □ 4 □ 5

The information provided empowers me to implement a case-specific and structured post-mortem approach

□ 1 □ 2 □ 3 □ 4 □ 5

The information provided improved my ability to complete my role in an inquest

□ 1 □ 2 □ 3 □ 4 □ 5

There is crucial information missing from this case

□ 1 □ 2 □ 3 □ 4 □ 5

I am confident that the information missing from this case can be collected by a Forensic Officer

□ 1 □ 2 □ 3 □ 4 □ 5

Death Investigator worksheet

Please assign a score for the following statements based on the information contained in the Death Investigator Worksheet provided for this case.

The Death Investigator Worksheet has been sent to you via email for your perusal.

Please provide a score between 1 and 5 where:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

I am satisfied with the information contained in the DI Worksheet

□ 1 □ 2 □ 3 □ 4 □ 5

I have enough information to confidently and precisely request special investigations

□ 1 □ 2 □ 3 □ 4 □ 5

The information provided empowers me to implement a case-specific and structured post-mortem approach

□ 1 □ 2 □ 3 □ 4 □ 5

The information provided improved my ability to complete my role in an inquest

□ 1 □ 2 □ 3 □ 4 □ 5

The DI information provided made a material difference to my approach to the case

□ 1 □ 2 □ 3 □ 4 □ 5

Please justify your answer above: _____

_____

There is crucial information missing from this case

□ 1 □ 2 □ 3 □ 4 □ 5

I am confident that the information missing from this case can be collected by a Death Investigator

□ 1 □ 2 □ 3 □ 4 □ 5

Additional comments: _____

_____

_____

Introducing Death Investigators into forensic pathology services in South Africa

A Death Investigator is a frontline, highly-trained, non-physician investigator who works in a supportive role to the Forensic Medical Practitioner and the Medico-legal Death Investigation System at large.

A Death Investigator's role includes:

- Death Scene Analysis

- Post-mortem Assistance

- Expedition of information during and after post-mortem examinations

- Liasing between departments

Please assign a score for the following statements based on your experience and expertise as an active member of the Medico-legal Death Investigation System.

Please provide a score between 1 and 5 where:

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

The role described above is currently being fulfilled in South Africa

□ 1 □ 2 □ 3 □ 4 □ 5

The introduction of Death Investigator's would add value to my role as a Forensic Medical Practitioner

□ 1 □ 2 □ 3 □ 4 □ 5

The introduction of Death Investigators would add value to the Medico-legal Death Investigation System in South Africa

□ 1 □ 2 □ 3 □ 4 □ 5

Additional comments: _____

_____

Thank you for your participation.

Should you have any queries, please contact:

Katherine de Villiers katherineaddv@gmail.com

APPENDIX VII

EXTERNAL STAKEHOLDR QUESTIONNAIRE

Assessing the functionality and value of introducing Death Investigators into forensic pathology services in South Africa

The following questionnaire forms part of an MSc study conducted through the University of Pretoria

All pre-requisite approvals from the MSc Committee and the Research Ethics Committee have been obtained prior to the commencement of this study.

Please note, that your identity will remain anonymous.

Administrative

1. Do you give your consent for the researcher to use your answers, provided in this questionnaire, for analysis as part of the Master of Science research entitled: Assessing the functionality and value of introducing Death Investigators into forensic pathology services in South Africa?

   □ Yes □ No

2. What is your role in the Medico-legal Death Investigation System?
   □ Magistrate
   □ Attorney
   □ Prosecutor
   □ Member of SAPS
   □ Other, Please specify: _____

A Death Investigator (DI) report has been sent to you via email. This report is an example of additional information you could receive if DI's are introduced into forensic pathology services in South Africa.

Once you have read the DI report, please complete the following questions:

3. Please select the relevant case profile for which you are responding:

   □ Unattended Death
   □ Dead on Arrival at a Medical Facility
   □ Road Traffic Fatality
   □ Suspected Poisoning Fatality
   □ Firearm Related Fatality
   □ Sharp Force Trauma Related Fatality
   □ Asphyxial Fatality

□ Sudden Unexpected Death in Infants
□ Water Related Fatality
□ Custody Related Fatality

4. Is it your opinion that the current system is adequate?

   □ Yes □ No □ I am not sure

   Please justify: _____

5. I currently receive high quality information which empowers me to complete my role with confidence/ certainty

   □ True □ False

   Comment: _____

6. Please rate the quality of the information contained in the DI Report Vs what contemporaneous information you currently receive (generally) for a case of the same nature:

   □ The DI Report is of a lower quality than the current contemporaneous information I receive

   □ The DI Report is of the same quality as the current contemporaneous information I receive

   □ The DI Report is of a higher quality that the current contemporaneous information I receive

   Please justify: _____

7. The information contained in the DI Report provides important details that I would not normally receive for such a case profile

   □ True □ False

   Please justify: _____

8. The information contained in the DI report shows an understanding of the case profile and provides case-specific relevant information

   □ True □ False

Please justify: _____

9. Based on your experience, please select the case profile(s) where you think the introduction of DI Reports would add the greatest value

□ Unattended Death
□ Dead on Arrival at a Medical Facility
□ Road Traffic Fatality
□ Suspected Poisoning Fatality
□ Firearm Related Fatality
□ Sharp Force Trauma Related Fatality
□ Asphyxial Fatality
□ Sudden Unexpected Death in Infants
□ Water Related Fatality
□ Custody Related Fatality
□ All
□ None

Please justify: _____

Introducing DI's into forensic pathology services in South Africa

10. Do you think routine access to Medico-legal reports of this nature (DI Report), compiled during the investigative stage would enhance the current quality of Medico-legal Death Investigation and the facilitation of justice?

□ Yes □ No □ I am not sure

Please justify: _____

11. Do you think such reports should be compiled by members of the South African Police Service or would it be more beneficial for specifically trained Medico-legal investigators to provide such information?

□ SAPS □ Medico-legal Investigator □ I am not sure □ Other:

12. Based upon your experiences, do you think a more scientific and standardised approach to non-natural death investigation is necessary?

□ Yes □ No □ I am not sure

Please justify: _____

13. Do you think the introduction of supportive Medico-legal professionals would add value to your role within the Medico-legal Death Investigation System?

□ Yes □ No □ I am not sure

Comment: _____

Thank you for your participation.

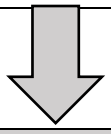
Should you have any queries, please contact:

Katherine de Villiers katherineaddv@gmail.com

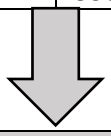
APPENDIX VIII

PROPOSED STEPS FOR BECOMING A DEATH INVESTIGATOR

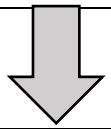
1. BSc Biomedical Science
<u>Prerequisite subjects:</u> Anatomy Physiology



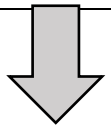
2. BSc (Hons) Medico-legal investigation or similar	
<u>Prerequisite subjects:</u> Law and ethics Forensic pathology Forensic science Death investigation	<u>Practical component:</u> Death scene attendance Death Scene assessment Report writing Autopsy attendance Court attendance



3. Traineeship at a medico-legal laboratory
Assume the role of a DI under direct supervision from FMP



4. Register with HPCSA
Medical technology board Medical, dental and medical science board



5. Continued development
Annual attendance of relevant seminars, courses and conferences Qualified DI's to successfully pass internal proficiency testing

APPENDIX IX

KEY PERFORMANCE AREAS FOR DEATH INVESTIGATORS

KEY PERFORMANCE AREAS OF A MEDICO-LEGAL DEATH INVESTIGATOR				
Key Performance Areas	**% of time spent**	**Activities / Objectives / Tasks**	**Results / Outcomes**	**Competencies**

1) Death Scene Analysis	40	• Attend unnatural death scenes
		• Complete Death Investigator worksheets
		• Document the death scene
		• Collect evidence
		• Interview witnesses
		  ○ First responder
		  ○ Family
		  ○ Emergency personnel (if applicable)
		  ○ Other
			• Accurate contemporaneous death scene information
			• Accurate information such as photographs and sketches of death scenes provided to Forensic Medical Practitioner (FMP) contemporaneously
			• Accurate and relevant history and circumstances of death provided
				• Task related knowledge and skills
				• Communication
				• Building interpersonal relationships
				• Quality commitment
				• Initiating action
				• Safety Awareness

2) Autopsy Assistance	30	• Present death scene information to the FMP responsible for the case
		• Assist FMP's during post-mortem examinations
		  ○ Scribe
		  ○ Prepare collection for special investigations
			• Ensure understanding of the death scene prior to commencement of the post-mortem examination
			• Ensure tailored case-specific approach to post-mortem examination
			• Accurate and updated records available
			• Expedite post-mortem examination process	

3) Post Autopsy Assistance	20	• Follow up pending special investigations • Liaise with other departments involved • Provide testimony in court of law	• Expedition of special investigations • Efficient completion of cases • Accurate and updated records available • Empowerment of the pursuit of justice	
4) Administration	10	• Complete Death Investigator reports • Maintain records weekly • Complete on / off duty register	• Accurate and updated medico-legal records • Accurate and updated administrative records	