A CRITICAL DISCOURSE ANALYSIS OF A QUEENSLAND CORONIAL INVESTIGATION REPORT

A Thesis submitted by

Samantha Jane Serginson

B.N. (ACU), GradCert. Peri-Op (ACN), IPN (QH), M.Nur (USQ)

For the award of

Master of Professional Studies

2021

ABSTRACT

Patient safety is an important issue for hospitals. However, despite efforts to reduce patient harm, adverse events continue to occur. Sudden or unexplained death, the most serious outcome of patient harm, requires mandatory reporting to the coroner. This study set out to examine the language used in coronial investigation reports, as a way of exploring a new perspective of patient safety. Using critical discourse analysis, the study has examined a coronial investigation report published in May 2020 and relating to a March 2018 death in a health care facility. Using Fairclough's (1989) model and method of critical discourse analysis (CDA), the thesis examined the ways in which language is used in the coronial investigation report that frames patient safety. The analysis of the language indicated three discourses: legal, medical, and patient safety/harm. It identified the de-personalised nature of the interactional context of the report and the narrow focus that excluded many aspects of the broader sociocultural context. The findings suggest that hospitals should use proactive strategies with reactive investigations and that is important to think about a wider range of perspectives than those presented in the coronial investigation report.

CERTIFICATION OF THESIS

This is a thesis by publication and Samantha Jane Serginson completed the majority of ownership of the paper submitted for publication (51%) included in Chapter Three. The work is original and has not previously been submitted for any other award.

Principal supervisor: Associate Professor Coralie Graham

Associate supervisor: Associate Professor Robyn Henderson

ACKNOWLEDGEMENT

I wish to acknowledge Associate Professor Coralie Graham and Associate Professor Robyn Henderson for their expert guidance, knowledge, advice, support, and assistance. As part of this thesis by publication, for the award of Master of Professional Studies, the article was written with co-authorship with my supervisors which I formally acknowledge here. My supervisors' contribution was 49% and my contribution was 51% in line with the University of Southern Queensland's higher research degree thesis by publication policy.

To my supervisors Associate Professor Robyn Henderson and Associate Professor Coralie Graham: There are no words that can express my thanks and gratitude. You have taught me many things. The value of tenacity in research, keeping focused and the attention to detail that is required. It hasn't been an easy road for me to get to this point and you have both provided steadfast support and kindness.

The concept of patient safety and preventable harm in health care became an area of interest early in my nursing career. This is where the topic for this research began. I feel privileged to work in health care alongside expert trained clinicians providing care for patients and families often, at the most vulnerable times in their lives. The central premiss for this research is to add to the voices advocating continued exploration into preventable harm in health care in meaningful ways. Patient harm in health care continues to be an important topic, despite considerable work on reducing patient harm. This research has allowed me to investigate patient safety in a previously unexplored way.

Although the coronial investigation report is published and freely available online, I wish to give thanks to Mrs D and her family. The report presents a stressful, difficult, personal, and painful experience. Thank you.

Lastly and most importantly I would like to acknowledge my family, John, Georgia, Domonique and Saskia for their support and encouragement. You are my everything now and always.

This research has been supported by an Australian Government Research Training Program Scholarship.

TABLE OF CONTENTS

LIST OF FIGURES

ABBREVIATIONS

CDA Critical discourse analysis

RCA Root cause analysis

CHAPTER ONE: INTRODUCTION

In this introductory chapter, I provide an overview of my research aims, outline my position as the researcher and how the concept of patient safety and unexpected harm in health care became a topic for my research. To provide context for the reader, I have outlined the role of the coroner in Australia and the importance of coronial investigations in the context of patient safety in health care. Following this, I have outlined patient safety and its evolvement in Queensland.

1.1 Research aims

This research aims to examine, from a critical discourse analysis perspective, how the chosen coronial investigation report represents patient safety. Coronial investigation findings are used to inform patient safety systems in Queensland public hospitals and the language used in the report is an important consideration when examining patient safety and patient harm in health care. This research offers a distinctive perspective to the current literature on preventable death in health care in Queensland.

1.2 Position of the researcher

I have worked within health care for over 30 years, including as a clinician in perioperative, critical care, cardio-thoracic surgical and intensive care. Subsequent roles as a patient safety officer (PSO) in two Queensland Health hospitals led to an interest in patient safety and harm reduction in health care. As a PSO I was directly involved in multiple investigations related to preventable patient harm. Core functions of the PSO role include convening and overseeing meetings with key staff to review the circumstances surrounding episodes of patient harm, coordinating investigative reviews, and assisting in the development of recommendations

to be implemented to reduce the risk of an undesirable outcome from similar circumstances in future.

Working as a PSO drew my attention to many points of health care delivery within Queensland Health, where patients were potentially vulnerable or experienced preventable harm. During my time in previous clinical roles, I became increasingly aware that, despite numerous internal reviews including formal root cause analysis investigations, system reviews, new or revised policy and procedure documents and staff education, I saw inconsistent change that improved patient safety within all clinical areas.

Reportable deaths associated with health care delivery or failure to provide health care are referred to the coroner (Queensland Courts, 2021). As part of a coronial investigation, subsequent findings and recommendations are recorded. The findings and more specifically the recommendations are provided to health care facilities to mitigate unexpected death or harm in health care in a similar set of circumstances. Given the authoritarian nature of the coronial investigations and the recommendations that follow, I considered that reviewing a coronial investigation report could add potential insights into a previously unexplored area of patient safety.

1.3 The role of the coroner in Australia

The history of the Australian judiciary traces back to England and colonisation (Freckelton, 2007, 2018; McIlwraith & Madden, 2009). It was not until the death of Azaria Chamberlain in 1980 that the coroner's role and police processes were evaluated and reviewed (Freckelton, 2007, 2018; McIlwraith & Madden, 2009). What followed was a transformation in the coronial system and establishment of forensic medicine institutes (McIlwraith & Madden, 2014).

Many sudden and unexpected deaths that occur in health care are categorised as 'reportable' deaths, including those following the provision of care and/or a failure to provide health care. After notification of a 'reportable' death, the coroner decides whether a coronial investigation is required

(Freckelton, 2007, 2018; Freckelton & Ranson, 2006; Gandhi et al., 2018; Leape, 1999; Patton, 2015). The objective of contemporary public health law in Australia is the regulation of people and activities, in an attempt to ensure and maintain the wellbeing of the population at large (McIlwraith & Madden, 2014; Middleton & Buist, 2014; Saar et al., 2017). Statutory bodies throughout Australia institute and oversee regulations and requirements concerning a wide variety of issues, including investigation into causes of death in certain circumstances (McIlwraith & Madden, 2014). Coronial inquest findings are deemed a matter of public interest and, as such, are available in the public domain. Public interest in this instance refers to any event or issue that affects the good order and functioning of community and government matters (McIlwraith & Madden, 2014; Starr, 2019; The State of Queensland (Queensland Courts), 2018). The release of the inquest findings is deemed to add to public health and safety and general welfare with an overarching role of avoiding mortal harm in a similar set of circumstances in the future. Further, the role of the coroner is to ensure that sudden or unexpected deaths are accounted for and to reveal criminal and negligent activity and identification of otherwise harmful practices (Freckelton, 2018; McIlwraith & Madden, 2014). In relation to health care provision, the coroner investigates deaths that occur suddenly, are of unknown cause and occur during or shortly after surgery or other invasive procedures.

The coroner is a magistrate and is given jurisdiction with wide ranging powers in all Australian states (McIlwraith & Madden, 2014; Starr, 2019). A powerful function of a coronial inquest is the public scrutiny of unsafe practices that provides the impetus for education and social change. Coronial inquests are a source of valuable information informing and guiding government departments such as health care facilities, with recommendations requiring that the department/s respond with actions that will reduce the incidence of death occurring in similar circumstances. The recommendations are meant to advise, shape, and improve patient safety systems and strategies within health care.

Under the Coroners Act 2003 (Section 12 (2) (b)), coroners are responsible for investigating reportable deaths that occur in Queensland. coroners investigate deaths that are ‘unnatural’, such as accidents, suicides, or homicides, deaths in custody or care, and deaths from unknown causes (Queensland Parliamentary Council, 2020). An unexpected death in health care is required to be reported to the coroner in the following circumstances:

Healthcare-related deaths.

Death following provision of health care.

Deaths following the failure to provide health care.

Violent or unnatural death.

Death in care.

“Cause of Death” certificate not issued and not likely to be issued.

(Queensland Parliamentary Council, 2020; The State of Queensland (Queensland Courts), 2018).

The investigation determines the identity of the deceased person, where they died, how they died and the medical cause of death. Upon completion of a coronial investigation, the coroner is required to make written findings about the deceased and recommendations to prevent similar deaths occurring in the future (Queensland Parliamentary Council, 2020). A copy of the completed findings and recommendations are provided to the health care facility where the death occurred, the Patient Safety and Quality Improvement Service, Queensland Health and the family of the deceased (The State of Queensland (Queensland Courts), 2018).

The coronial investigation report provides a clear and concise description of the chain of events, findings, and recommendations. The Coroners Court Act 2003 allows a coroner to make recommendations as part of their findings following an investigation. These can be made to any government minister or public statutory authority or other entity that may help prevent similar deaths (The State of Queensland (Queensland Courts), 2018; Queensland Parliamentary Council, 2020). The coroner cannot make a finding that a person is guilty of an offense or is civilly liable but can refer a matter to the Director of Public Prosecutions or a disciplinary body such as

the Australian Health Practitioner Regulation Agency (AHPRA) for consideration and possible further action (The Australian Health Practitioner Regulation Agency, 2021).

The recommendations and findings within a coronial inquest are directed to government agencies to improve practice, process, policies, and legislation to prevent similar deaths in the future given a similar set of circumstances. A formal written response must be made to all coronial recommendations within three-months, stating the actions that have been taken to prevent a similar set of circumstances occurring (Queensland Parliamentary Council, 2020). In Queensland, a response to coronial recommendations occurs to provide comfort and information to families and in the interest of public transparency (Queensland Parliamentary Council, 2020). Not all recommendations are instigated, although consideration and a response are provided to them all. The response outlines the considerations given by Queensland Health and, in some cases, the implementation of recommendations including the coroner's comments and the role public health law plays in informing the public (Middleton & Buist, 2014; Queensland Parliamentary Council, 2020).

Given the wide-ranging reaching powers of the coroner and the influence that findings, recommendations, and conclusions may have in public health discourse, an examination of the language, which frames harm reduction and patient safety, is necessary. To date, there has been extensive research on patient safety and harm reduction in health care and often this is informed by coronial findings, recommendations, and conclusions (Corrigan et al., 2015; Duckett & Jorm, 2018; Emanuel et al., 2008; Runciman & Lumby, 2020; Runciman & Merry, 2003; Runciman et al., 2003; Runciman et al., 2007; The State of Queensland (Queensland Courts), 2018). However, currently the literature is deficient of exploration of preventable death in the context of patient safety through examination of language and discourse.

1.3 A brief history of patient safety

Two seminal reports published in 2000 changed the way patient harm in health care was viewed and reported worldwide. First was the Institute of Medicine (2000) report: *To Err is Human: Building a Safer Health* System and second, *An Organization with a Memory* (UK Department of Health, 2000). Conventional thinking in relation to patient safety and patient harm was challenged by these reports globally (Berwick & Leape, 1999; Donaldson & Philip, 2004; Emanuel et al., 2008). Following these two critical reports, attention turned to patient safety: how it occurs, how it is reported, the response within health care and how it is managed (Berwick & Leape, 1999). A key shift was a move away from blame and punitive action relating to individuals, to organisational failure (Leape & Berwick, 2005; Leape et al., 2009). System failure and organisational culture were identified as key features of patient harm in health care (Berwick, 2016; Berwick & Leape, 1999; Institute of Medicine, 2000; UK Department of Health, 2000; Vincent & Coulter, 2002).

In 2005, media scrutiny of patient harm incidents at the Bundaberg Hospital in Queensland resulted in the establishment of the Davies Commission of Inquiry to review public demand for reform, health department restructure and process improvement for health care complaints (Habiba, 2014; Healy, 2016; Healy & Braithwaite, 2006; Morton, 2005; The Health Quality and Complaints Commission, 2005). An increased safety consciousness and awareness of health care improvements in patient safety and harm reduction was noted as disappointingly slow in producing positive outcomes (Leape & Berwick, 2005; The Health Quality and Complaints Commission, 2005). Substantial shifts in practice have occurred in response to these findings and health care governance has moved toward greater accountability to the public and other key stakeholders. Regulatory strategies have been adopted, aimed at building patient safety culture, quality improvement processes, mandatory reporting and peer learning (Duckett, 2020; Duckett & Jorm, 2018; Healy, 2016; Healy & Braithwaite, 2006; Wakefield et al., 2010).

Reason (2000) argues that safety design in health care must consider both human factors and system factors. The systems approach considers that human beings are fallible, and errors will occur (Reason, 1990, 2000, 2017; Saar et al., 2017). Error in this instance is defined as a violation, slip or lapse in implementing an imperfect procedure (Larouzee & Le Coze, 2020; Reason, 1990). Organisational systems and human error have been extensively explored within the literature (Duckett, 2020; Duckett & Jorm, 2018; Lupton, 1992; Reason, 2000). To gain a deeper understanding of human error, interventions are increasingly designed to reduce the occurrence of errors and to minimise harm (Kelly, 2016; Pedersen & Mesman, 2021; Reason, 2017; Runciman & Lumby, 2020; Runciman et al., 2007; Waring & Rowley, 2011).

In theorising the systems approach, Reason (1990) introduced the analogy of the layers of Swiss cheese pieces, as illustrated in Figure 1. It was proposed that, if all the holes line up on layers of Swiss cheese, defensive barriers represented by the cheese are absent or overlooked and error can occur despite the best intentions. In a complex system, error can be prevented from causing harm by a series of barriers. This model has been applied and explored extensively to describe harm and error in health care since its first publication in 1990 (Larouzee & Le Coze, 2020; Reason, 1990, 2000, 2017; Runciman & Merry, 2003; Runciman et al., 2003).

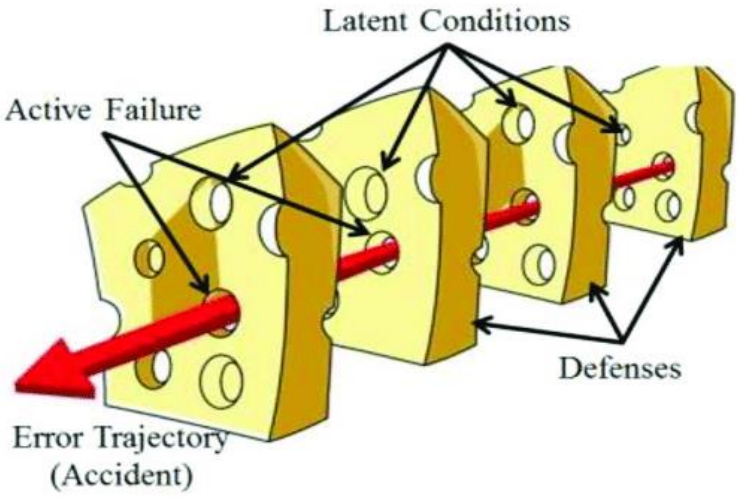

Figure 1: Swiss cheese model of error (Reason, 2000, p. 769)

The volume of literature exploring the multiple aspects of patient harm is vast and, due to the immense volume of literature relating to patient safety, it is beyond the scope of the literature review to explore every strategy, approach, process, and outcome related to patient safety at the local level. The literature included here explores the way patient safety has been conceptualised over time.

Since 1999, patient safety discussion has included conversation towards improving and refining health care delivery practices and management toward constructing health care practice to be the safest it can possibly be to reduce preventable harm. This has encompassed examination of human factors, human performance, and system failure (Leatherman & Berwick, 2020). Exploration and theories of error and harm moved from a culture of blame toward examination of human factors, technology, and system failure (Kelly, 2016). This included the fundamentals of improving patient safety and preventable harm (unexpected death): communication, movement away from human infallibility and the development of a non-punitive reporting of adverse events and contributing factors (Corrigan et al., 2015; Hofheinz, 2019).

It is close to 20 years since the publication of *To Err is Human* and *An Organisation with A Memory;* yet preventable harm and unexpected death in health care remain (Donaldson, 2021; Donaldson, 2002; Emanuel et al., 2008; Leatherman & Berwick, 2020; Runciman et al., 2007; UK Department of Health, 2000). Resource intensive interventions intended to improve patient safety and reliability of health care have been implemented, examined, and measured extensively. Despite the extensive identification of factors that contribute to patient harm, unintended harm and unexpected death continue to occur in health care. Complete transparency is required as we move into a more contemporary era of patient safety and health care (Corrigan et al., 2015; Leatherman & Berwick, 2020).

Patient harm and human error are studied and investigated from multiple perspectives: human error, system failure, under regulation, over regulation, poor leadership, and communication breakdowns between teams. However,

the language that frames patient safety has only begun to be examined (Waring, 2009; Waring et al., 2016; Waring & Rowley, 2011).

1.4 Setting the scene: Patient safety

There are many definitions to describe patient safety. The Institute of Medicine report: *To Err is Human: Building a Safer Health* System (Institute of Medicine, 2000) describes patient safety as the "freedom from injury." The World Health Organisation (2021) expresses that patient safety endeavours should "prevent harm to patients during the process of health care itself" and as "the absence of preventable harm to a patient during the process of health care" (World Health Organization, 2021). The Australian Institute of Health and Welfare (AIHW) describes the safety of the health care system, as defined by the National Health Performance Committee, as relating to the avoidance or reduction to acceptable limits of actual or potential harm from health care management, or the environment in which health care is delivered (Australian Institute of Health and Welfare, 2018, 2021; The National Health Information and Performance Principal Committee, 2017).

Patient safety is about harm minimisation and risk mitigation in a high-risk industry, such as health care delivery to people, where patients are in a vulnerable situation. It is only in recent times that health care delivery has been acknowledged as a high-risk environment in which patients and staff are interacting daily (Dixon-Woods et al., 2010).

Runciman and Lumby (2020) define a system as a collection of two or more interacting parts. The system of health care delivery in hospital is complex and the number of possible interactions is such that predicting its long-term behaviour on the basis of knowledge of its component parts becomes extremely difficult or at times impossible (Dekker et al., 2011; Pype et al., 2018). Perrow (2011) maintains that accidents are inevitable in complex systems. Indeed, health care delivery occurs in a very complex system, comprising patients, staff, infrastructure, therapeutic agents, and

technology all interacting in highly complex, infinitely variable ways (Holden et al., 2020; Leape, 2021b; Reason, 2000, 2017).

Health care occurs in a complex organisation which shares features with other hazardous high technology systems such as aviation, railways, marine operations, and nuclear plants (Carayon & Wood, 2010; Carayon et al., 2021). Health care takes place in a highly diverse environment (Duckett, 2020; Duckett & Jorm, 2018). The tasks of care delivery are widely diverse as are how they are carried out. The consumers of healthcare services are vulnerable, seeking healthcare due to illness or injury. Activity patterns within healthcare require human involvement and communication of information in an uncertain and often unregulated way (Hofheinz, 2019; Runciman & Lumby, 2020). Patient safety related issues include addressing human error and the contributing causes as a broader approach to systemic failure (Allen et al., 2016; Karkhanis & Thompson, 2020). Approaches to patient safety and harm focused on the underlying causes of adverse events and lessons learnt (Allison & Peters, 2021; Donaldson et al., 2021; Donaldson & Philip, 2004; Karkhanis & Thompson, 2020; Peerally et al., 2017; Singh, 2018).

1.5 Human factors and patient safety

Human factor principles acknowledge that human beings are fallible, and error will occur if vigorous systems are not in place to prevent error. The person-centred (punitive) approach was often the method taken in health care historically where an error in health care was explored (Carayon & Wood, 2010; Leape, 2021a, 2021b, 2021c; Parker & Davies, 2020). The person approach focuses squarely on the errors made by individuals, attributing blame (Carayon & Wood, 2010; Carayon et al., 2021; Reason, 2000, 2017). Although often not a productive or helpful method on a personal level, it does assume that people are their own agents and are capable of choosing between safe and unsafe modes of behaviour (Carayon & Wood, 2010; Gartrell & White, 2021; Holden et al., 2020; Parker & Davies, 2020). This approach focuses on the individual as the starting

point of an error, isolating unsafe acts outside of the context in which it occurred. The greatest risk is that, in a situation where the same set of circumstances is present, the error may occur again and may result in a more serious outcome (Reason, 2000). This approach does not seek out the error provoking factors that may be present and can be harmful to clinicians and the reluctance to report error for fear of career damage (Parker & Davies, 2020).

The systems approach acknowledges human fallibility. In this approach, errors are seen as consequences rather than causes related to poor system design (Reason, 1990, 2000, 2017). Counter measures are taken proactively, knowing that human nature cannot be altered but the conditions in which humans work can be changed to accommodate this (Carayon & Wood, 2010; Carayon et al., 2021; Carayon et al., 2014; Corrigan et al., 2015; Reason, 2000). Safety barriers and defence mechanisms are put in place to prevent error and to prevent patient harm (Holden et al., 2020; Pype et al., 2018). This approach acknowledges that human variability and fallibility are a component in considering patient safety (Carayon et al., 2021; Carayon et al., 2014).

This chapter has explored the role of the coroner and patient safety. Patient safety and patient harm in health care continue to challenge health care professionals. There is no quick fix or an easy answer. Modern health care delivery is extraordinarily complex (Pype et al., 2018). The risk of harm in health care is still present. Patient safety and prevention of harm have become a health care discipline that is evolving, with the aim to understand and contribute knowledge to reduce the risk of error and preventable harm.

CHAPTER TWO: SETTING UP THE STUDY

This chapter outlines the document chosen for analysis, trustworthiness in research, critical discourse analysis as a research theory, critical discourse analysis as a research methodology, ethics, and trustworthiness in research. I will then discuss how the critical discourse analysis model was used in this study, and associated ethics.

The report that was chosen was within the last five years, did not include infants, children, suicides, a high-profile inquest or an inquest where legal proceedings have taken place or are known to be taking place. In addition, it was ensured that the report chosen did not contain any identifying notations, such as patient, family and staff names, and the hospital in which the death occurred.

2.1 Trustworthiness

I have confidence that the findings of this study are credible. Fairclough (2015) provided guidelines for the linguistic analysis of text and the journal article included in Chapter Three contains examples of the linguistic analysis that was conducted. Other researchers should be able to see how the analysis was conducted. This provides evidence of the processes followed and the trustworthiness of the study (National Health and Medical Research Council, 2021). As a researcher, I have confidence that the credibility and the findings acknowledge the multiple truths within the coronial investigation report. Integrity in critical discourse analysis data examination was ensured through the data collection parameters and adherence to critical discourse analysis principles (Patton, 2015). This was done as an inductive approach. I anticipate that the study could be easily replicated for further analysis of coronial inquest reports and similar documents.

2.2 Research design

The completed document analysis, *A critical discourse analysis of a Queensland coronial investigation report*, forms the work undertaken to meet the requirements of the Master of Professional Studies (MPSR). Using a critical discourse analysis lens as a theoretical framework, the study examined the language within a single Queensland coronial investigation report.

The aim of this research was to explore the language used in a coronial investigation report as a pilot for more broadly focused research into patient safety in health care. Although this study was limited to an analysis of one report, the aim was to work with critical discourse analysis and to conduct a detailed analysis of the language used within the report, as a way of determining the discourses that were used. The questions informing this research were:

1. What does a critical discourse analysis lens reveal about the discourses within a coronial investigation report?
2. How is patient safety constructed within a coronial investigation report?

Connective statements were identified to examine the link between sentences and ideas. Sentence construction was reviewed, including interactional control and complexity of ideas. The analysis moved through processing analysis of text production and consumption in line with Fairclough's model (Fairclough, 1992, 2015, 2020). This included consideration of power, coherence of the text and intertextual connectedness within the text itself. As the model suggests, text, production and consumption, and social analysis are intermingled, and this component was included in the analysis. Finally, sociocultural practice through a social analysis of the discursive events was examined. This included socio-cultural

practice, power relations, ideologies, and ruling/dominant social or political context that the discourse may produce.

An examination from a critical discourse analysis perspective allowed for revelations which can inform public health discourse, organisational reflection, and accountability. Lupton (1992) explains that discourse analysis allows for exploration of the contemporary culture and society and linking it to social change. The method of CDA will allow for a micro investigation focusing on the rhetorical devices, linguistic structure, the context (coronial inquest and unexpected death in health care) and the ideology, which is produced within the themes of patient safety and preventable death. The research aims, through the analysis of a single coronial report, to provide insights into how the report works within the health care system, and hopefully this might offer some insights to assist future thinking about how to enhance patient safety and reduce patient harm.

The report chosen for analysis was *2018/1021 Non-inquest findings into the death of FD* (Kirkegaard, 2020). The key themes listed in the report include “Percutaneous Endoscopic Gastrostomy (PEG); post-PEG insertion care & complications; rural hospital presentation; delayed recognition & response to sepsis; Adult Sepsis Pathway; RESIST Sepsis Program; Queensland Sepsis Collaborative; delayed acceptance for interhospital transfer; management of urgent interhospital transfer from rural hospital to regional tertiary hospital. The full report is provided in Appendix C.

2.3 Critical discourse analysis as a research theory

Critical discourse analysis (CDA) is an interdisciplinary methodology for the study of language (Fairclough, 1995). CDA developed from the fields of critical semiotics and critical linguistics. Critical discourse analysis examines language and how it is used with consideration of the context it occurs in (Jørgensen & Phillips, 2002). This context includes the social, cultural, and political environment in which it is occurring. Wodak and Chilton (2005) stated that CDA is a theory stemming from linguistics.

It combines academic contributions from the social sciences, language philosophy, francophone discourse analysis and systemic functional linguistics (Wodak & Meyer, 2016). The blending of these different approaches provides a dynamic dimension as an analytical tool for investigation and scrutiny to ensure capture of elusive and indirect nuisances in text and speech as discourse (Wodak & Meyer, 2016). The language used in the coronial inquest reports, findings and recommendations is a social practice which influences patient safety discourse within health care.

Fairclough's (1992, 2015) work is the most appropriate model for this research as it provides a way of understanding how language, as part of the social world, occurs in health care in the presence of patient mortality. Understanding how and why the language is used to describe and discuss patient safety and patient harm in the chosen coronial inquest report will provide a way to understand the relationships between people or groups of people, as well as the context (Fairclough, 1992, 2015). Additionally, a critical discourse analysis can reveal what the text leaves out, and how text transforms social realities represented by the discourse (van Leeuwen, 2018).

To describe how discourse works, Fairclough (1992) developed a model (Figure 2) that explains the relationship between text, interaction, and context. The three-dimensional framework envisages that every communication event comprises the three dimensions of text, discursive practice, and social practice in a unity of social structure. Text is central to the model and results from the interaction, and the processes of both production and interpretation are dependent on context (Fairclough, 1992, 2015).

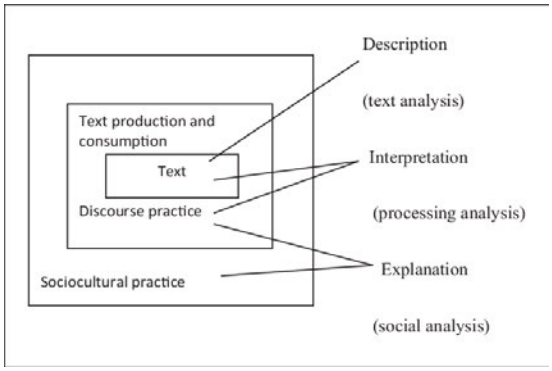

Figure 2: Fairclough's critical discourse analysis model (Fairclough, 2015, p. 58)

CDA seeks to explain why and how language (text and speech) does the work that it does, and who benefits (Fairclough, 1992, 2015). Text involves language and its interaction and context within the social and material world (Fairclough, 1989, 1995). Language is a sign that provides evidence of how the social world works (Fairclough, 1992). To understand the use of critical discourse analysis in the examination of the coronial investigation report, a brief history will be discussed to provide context along with a brief introduction to the underpinning theory.

Multiple health care disciplines are represented within health care. Within each discipline there is a specific and shared 'discourse' associated with that profession, with an agreed understanding of its language and context (Fairclough, 1989, 1992, 1995, 2015). Discourse reflects the world in which it occurs, and it projects imaginary, representations of possible worlds which are distinctly dissimilar from the actual world (Fairclough, 1989). Tension exists within the text, contingent on the directions it is projecting (Fairclough, 1992). These complex relationships between the people involved in the exchange of discourse and the variables within everyone, may either complement or compete, dominate, or defer. Fairclough explains that different discourses are different perspectives of the world, and they are associated with the different relationship's groups have in and with the material world. They are also dependent on the positions individuals hold, social and personal identities, and the social relationship and authority gradient they have with other people (Gee, 2015). Language is bound with

ideology, and it cannot be understood without consideration of this and the context in which occurs in (Fairclough, 2020; Gee, 2015).

The practice of ‘language’ is a key part of social practice. A phenomenon itself, language reflects, constructs and frames meaning (Fairclough, 1989, 1992, 1995, 2015, 2020). As a social semiotic, language is powerful, as a tool, and can construct a situated reality (Fairclough, 2015) (Wodak & Meyer, 2016). Language, when socially situated, can be especially influential and potent. Fairclough (1992) asserts that language is not neutral and is always ideological. In this sense, language plays a dominant role in influencing reality and shaping accepted truths. As the social practice of language is not neutral, discourse constructs in specific ways to represent a produced reality. Through this understanding, it can be affirmed that language is never arbitrary or impartial (Fairclough, 1995, 2020; Jørgensen & Phillips, 2002; Wodak & Meyer, 2016).

2.4 Critical discourse analysis as a methodology

Critical discourse analysis as a methodology encompasses the process of deconstructing and critiquing language and the socially situated context in which it occurs (Fairclough, 1989, 1992, 1995, 2015). CDA explores the idea that discourse is shaped and influenced by social structure and culture. As a methodology, it seeks to signify discursive practice as ways of being in the world that denote accepted roles and identities. CDA exposes sociocultural practice and links discourse, both text and dialogue, as representative of the world in which it occurs (Fairclough, 2020).

CDA as a methodological approach allowed for exploration beyond the signs contained in the coroner’s investigation report findings. CDA aims to analytically discover opaque relations of interconnection, such as seen in health care between broad practices, proceedings and texts, and wider social and cultural structures (Waring & Rowley, 2011). Utilising CDA facilitated an unimpeded (no field work) investigation, allowing the

researcher to analyse the coronial investigation report. This was particularly important during the COVID-19 lockdowns that impacted on face-to-face research.

Fairclough (1995) suggests that discourse is the use of language as a form of social practice and discourse analysis dissects how discourse works within a specific sociocultural political setting. Language as social practice specifically within health care facilities is specific, yet not clearly defined. Whenever discourse as text or talk is exchanged or provided, it is done so in ways that may have predetermined social effects. Even when social actors believe they are using language that contains no or little social influence, within the structure, there is social influence and social effect which maintain or change consequences (van Leeuwen, 2018). Fairclough (1989) explains that social actors internalise what is socially produced and submitted within society to engage in social practice and discourse. Discourse, therefore, has a powerful role in cognitive interpretations. Discourse holds the power to influence large social structures and society. Fairclough (2020) explains that discourse constructs knowledge, attitudes, social relationship, and identities. Critical discourse analysis questions how discourse creates, maintains, and questions domination and power relationships.

Through critical discourse analysis, this research seeks to examine the social structure contained within the coronial inquest report findings, to uncover how this specific discourse structure influences, produces, reproduces, and challenges patient safety construction.

This included consideration of:

1. What experiential values do the words have?
2. What relational values do the words have?
3. What expressive values do the words have?
4. What metaphors are used?
5. What experiential values do grammatical features have?
6. What relational values do grammatical features have?
7. What expressive values do grammatical features have?
8. How are (simple) sentences linked together?

9. What interactional conventions are used?
10. What larger-scale structures doe the text have?

(Fairclough, 1989, pp. 110-111)

CDA describes the analysis of the textual dimension of discourse as informed by systemic functional linguistics, focusing on aspects of a text, vocabulary, grammar, cohesion, and macro-textual structure (Fairclough, 1995, 2020). With the complex relationships between the people involved in the text exchange and the variables within, everyone may complement each other, compete, dominate, or defer. Discourse must be considered as part of the resource 'tool kit' that people deploy in relating to one another, maintaining separation, cooperating, competing, dominating, and seeking to change the ways in which they relate to one another (Fairclough, 1989, 1995).

Despite extensive investigations into preventable patient harm, patient safety and unexpected death in health care, harm and deaths still occur. Literature searches failed to identify any papers examining the language used in coronial inquest reports or how these influence patient safety systems in Queensland health care facilities. The overall aim of this research is to provide a CDA perspective in the realm of patient safety system development.

The discourse analysis followed the CDA model, beginning with the ten-step textual analysis process (Fairclough, 2015). The analysis included establishing the context. This involved reflecting upon the wider context which was explored within the literature review. Exploration of the production process followed, examining the production of the source material (a coronial investigation report), including the layout of the report. The material was then prepared through a coding strategy identifying the key language features. Coding the material allowed for the process of examining the structure of the text. From this point, a closer review of the material and examination of the discourse fragments followed. The next step was identifying linguistic and rhetorical mechanisms, such as word

groups and grammatical features, rhetorical literacy features, direct and indirect speech, modalities and evidentialities. The final part of the analysis completes with a presentation of the findings. The presentation of the findings is included in the article in Chapter Three.

Fairclough's critical discourse analysis model describes the three levels of analysis: Description of the language; Interpretation of the interactional context/relationships; Explanation of the sociological cultural context. Fairclough's guidelines spell out the analysis/description of the language that is required for a thorough critical discourse analysis.

2.5 Ethics

Ethical conduct involves acting in the right spirit, out of respect and concern for the welfare of one's fellow creatures (National Health and Medical Research Council, 2021). In keeping with this, an ethics application was submitted to and approved by the University of Southern Queensland Human Research Ethics Committee: Ethics approval number: H21REA012, shown within Appendix B.

Coronial inquest reports are available online as a matter of public interest. The contents of the documents include identification of the deceased, the family of the deceased, attending legal counsel representing the crown and the facility, the facility where the event took place, all staff involved including qualifications and any other relevant information (The State of Queensland (Queensland Courts), 2018). Coronial inquest reports are, by their very nature, distressing and confronting, with details of patients and staff exposed in a very complex way. In the document chosen for analysis, the patient is identified by initials and the specific locations are described in general terms, such as a "rural hospital."

CHAPTER THREE: THE JOURNAL ARTICLE, WITH OUTCOMES OF THE ANALYSIS

This chapter contains the journal article submitted for publication to the *Australian Journal of Advanced Nursing* and the contribution this research adds to the field of patient safety in health care.

The article draws on information from Chapters One and Two, although in a much briefer form to meet the journal's requirement for a word length of no more than 5,000, including the references. In particular, the journal article presents the outcomes of the data analysis, with discussion of how the findings might influence a rethinking of patient safety. Authorship of this article was in line with University of Southern Queensland higher research degree thesis by publication. My supervisors' contribution was 49% and my contribution was 51%.

3.1 Article submission

The *Australian Journal of Advanced Nursing* (AJAN) is a peer reviewed scholarly journal of the Australian Nursing and Midwifery Federation (ANMF). The journal provides a platform to present and promote a wide variety of original research and scholarly work, to inform and empower nurses, midwives, and other healthcare professionals to improve the health and wellbeing of all communities and to be prepared for the future. The article was prepared and submitted for review during my enrolment in the Master of Professional studies. Appendix A contains the receipt of article submission (The Australian Journal of Advanced Nursing, 2021).

Title Page

Rethinking patient safety/harm: A critical discourse analysis of a coronial investigation report.

This small study begins the process of rethinking patient safety, to consider how it might be addressed in future by hospitals and other healthcare facilities. It begins by framing how patient safety has been conceptualised over time, and it trials an approach that analyses the language of a coronial Investigation report.

Authors:
Samantha Serginson
Australian Catholic University
Nudgee Rd, Sanyo 4014

Associate Professor RobynHenderson
University of Southern Queensland
West St, Darling Heights QLD 4350

Associate Professor Coralie Graham
University of Southern Queensland
West St, Darling Heights QLD 4350

No funding support is associated with this article.

There are no conflicts of interest.

Rethinking patient safety/harm: A critical discourse analysis of a coronial investigation report

Abstract

Objectives: This small study begins the process of rethinking patient safety, to consider how it might be addressed in future by hospitals and other healthcare facilities. It begins by framing how patient safety has been conceptualised over time, and it trials an approach that analyses the language of a coronial Investigation report.

Background: Sudden and unexpected deaths of patients require mandatory reporting to the coroner and public hospital systems must consider the coroner's recommendations and implement change as required. Nevertheless, hospital-acquired complications still occur and indicate the need for further research relating to patient safety. A brief literature review maps out the background to current thinking about patient safety.

Methods: Document analysis, drawing on tools from Critical Discourse Analysis (CDA), was used to examine the linguistic properties of a single coronial inquest report and to consider its relationship to the sociocultural context.

Results: The analysis of the language of the coronial report indicated three particular discourses: legal, medical and patient safety/harm. It identified the de-personalised nature of the interactional context of the report and the narrow focus that excluded many aspects of the broader sociocultural context.

Discussion: The CDA analysis highlights the report's narrow focus on particular discourses and how proactive approaches and a wider view of patient safety can open up discussions about reducing patient harm.

Implications for Practice and Research: The study indicated that practice should incorporate proactive strategies with reactive investigations, with consideration of the wider range of perspectives than provided by coronial 'investigation reports. Further research is warranted, to investigate whether all coronial reports draw on the same discourses and to explore the everyday practices in healthcare facilities related to patient safety.

What is already known about the topic:

- Patient harm statistics indicate that patient safety continues to be an important topic, despite considerable efforts at reducing patient harm.
- Over the past two decades, patient safety has been conceptualised in different ways.

What this paper adds:

- CDA offers a way of conceptualising patient safety within its interactional and sociocultural contexts.
- The study showed that some discourses were prioritised over others and that this may mask the full situation when healthcare facilities address patient harm issues.

Keywords: patient safety, patient harm, coronial inquest investigation, Critical Discourse Analysis

Introduction

Healthcare in Australia isregarded as achieving good outcomes and a high level of patient safety.[1] Nevertheless, "preventable adverse events" do occur, with both financial and personal consequences.[1] Data from the Australian Commission on Safety and Quality in Health Care indicate that 140,393 hospital-acquired complications were sustained in Australian public hospitals in 2017-18.[1] More recent data from the Australian Institute of Health and Wellbeing shows 150,300 hospital-acquired complications for 2019-20. These data highlight the importance of keeping patient safety on the healthcare agenda and working towards reducing unsafety.[2]

The worst case scenario of hospital-acquired complications is unexpected death. Indeed, sudden and unexpected deaths are reportable, with a coroner having to decide whether a coronial investigation is required. In Queensland, this practice is driven by the Coroners Act 2003 which identifies the role of the coroner, as well as when deaths are reportable and the procedures for conducting inquests.[3] Along with "sudden, unnatural or suspicious" deaths, coroners investigate those that are "health care related," following the provision of care and/or a failure to provide health care.[4,3] This is a legal undertaking and, as part of the process and the findings that are released, coroners are able to make recommendations designed to prevent similar deaths in future.

Coronial inquests set out to determine what happened and not to attribute blame.[5] This mandated notification of reportable death is a complex task involving legal, technical, scientific and medical processes.[3,6] The coroner is expected to identify the deceased person, along with how, when, where and why the person died.[3] A coroner cannot make a finding that a person is guilty of an offence or is civilly liable, but the matter may be referred to the Director of Public Prosecutions or a disciplinary body (e.g., Australian Health Practitioner Regulation Agency) for consideration and possible further action.[3] Coronial inquest final reports are available online as a matter of public interest.

Objectives

To think further about patient safety and how it might be improved, this paper provides:

1) an overview of the literature and how patient safety has been considered;
2) an examination of a single coronial inquest report, focusing in particular on the language used and the way that patient safety discourse was constructed.

Although this small research project was limited in scope, the aim was to trial the methodology for a future more extensive study and to consider an innovative way of framing the issue of patient safety/harm. The process offered the opportunity to consider what is excluded from the report, and how new understandings might inform future reflections about patient safety.

Background

In 2000, two seminal reports changed the way that patient harm in health care was viewed and reported. The US Institute of Medicine's *To Err is Human* and the UK Department of Health's *An Organization with a Memory* challenged traditional thinking about individual errors as the sole cause of patient harm, and revealed that errors are common and costly, systems-related problems cause errors, and errors can be prevented.[7,9] Indeed, it was argued that "the focus must shift from blaming individuals for past errors to a focus on preventing future errors by designing safety into the system."[7] As a result, attention turned to a systematic exploration of patient

safety and harm: how harm occurs, how it is reported, how health services and providers respond, and how patient safety can be managed.[10 11]

Subsequently, there was a move away from assigning blame and focusing on punitive action on individuals towards a focus on exploring organisational or systems failure, which have been consistently identified as key features of patient harm in health care.[1,1 13] Early efforts largely focused on hospital safety, to reduce the risk of harm such as hospital-acquired infections, with some successful outcomes.[9] The systems approach to patient safety has focused on large scale reorganisations, centralised management resolutions and the use of safety technologies from other high-risk industries.[14]

Nevertheless, despite patient safety being part of a reform agenda since the early 2000s, it was identified as "a relatively new concept" as recently as 2011.[15] In the Australian context, considerations about the safety and quality of health care, especially "preventable adverse events," have become part of the national health agenda.[2] This involves the reporting of sentinel events from around 2002, the establishment of the Australian Commission on Safety and Quality in Health Care in 2006, the introduction of the National Safey and Quality Health Service (NSQHS) Standards, and the accreditation of health services against those standards[1,6] Such moves have been part of a global trend towards accountability, safety and professional standards.[1,7 20] This suggests that work is still needed in terms of risk mitigation.

Widespread media exposure of clusters of sentinel patient-harm events in particular health care facilities, such as the events surrounding Dr Jayant Patel at the Bundaberg Hospital, Queensland, provided further impetus for the discovery of causes and sharing learnings related to quality care and patient safety.[4] Recent attempts to enhance patient safety have involved collaborative exercises, such as the development of the NSQHS Standards, which involved the Australian Government, the states and territories, private health providers, health experts and patients and carers, with the aim of providing expectations for a nationally consistent level of healthcare.[16]

Recent discussions of patient safety have considered culture as a critical factor. Although the initial work tended to discuss cultural safety as relating to ethnicity, a wider view has developed to capture workplace culture.[2,024] In fact, many health care organisations have adopted the concept of high reliability safety culture.[9] This means that there has been a further significant shift in how patient safety is conceptualised, from a single cause to a systems engineering framework, with the goal of improving systems to support health care professional by making mistakes hard to make.[9,14] In these approaches, partnership relationships are emphasised. The Australian Commission on Safety and Quality in Health Care, for example, advocates partnerships with patients, consumers and communities and "informed, supported and organised" safety and care.[2] In particular, Standard 2 of the NSQHS acknowledges and recognises the need for consumer experience and expertise to inform decisions about the health care that is provided.[16]

Healthcare, then, is moving toward an era where it is known that measuring and monitoring safety is much more than reviewing past harm.[18] Nevertheless, the contributing factors to clinical incidents are complex and can involve factors such as professional rivalry, work environment, poorly designed equipment, poor staffing and high workload.[18,25] Local patient safety enhancements may show improvements through encouraging staff to perform the duties of their job in a more reliable and safe way; however, what is missing from this approach is that the consequences of these interventions might not be as anticipated and other patient safety outcomes might therefore be overlooked.[18,26]

Patient safety is a difficult problem to solve because safety is not just a technical issue, but it is a practice embedded in organisational and professional principles.[26] It would seem important, therefore, to consider the broader context as well as the local context. The slow progress in achieving enhanced patient safety may be that it is not the system at fault, but it may be flawed understandings about the system and how it works.[18,25] Indeed, patient safety is a relational and collaborative practice that involves people as well as contextual factors, and healthcare facilities are complex, dynamic and often embedded within larger systems.[1,4,25]

Research Design and Methods

As has been suggested, patient safety warrants further consideration and research. Following the mapping of the literature, which identified different ways patient safety has been conceptualised, the current study provides an analysis of a single coronial inquest report. This represents an investigation into unexpected death, the worst case outcome of healthcare not being up to standard. The study's intent was to examine the language of the report, and identify the discourses used and how these interacted with the immediate and broader sociocultural contexts.

Although these reports are publicly available in the state of Queensland, ethical clearance was required and received, and a specific set of criteria was used for choosing a report from the large number available. The selected report was recent, addressed the death of an adult who was not identified by name, and the authors had no professional or personal conflicts related to the reported events.

The 28-page report represented the coronial Investigation into a woman's death in 2018 in the Cairns area, Queensland.[27] The deceased person was de-identified in the report "for publication purposes" and referred to as FD and Mrs D.[27] Although the report is available to the public, other documents used as part of the investigation into Mrs D's death are not.

Fairclough's Critical Discourse Analysis (CDA) was selected as the theoretical framework and methodology for this study.[28,29] It provided a useful way of theorising how language is used, with the understanding that language and social phenomena are closely linked. Building on understandings that text is language in use, Fairclough identified discourse as a three-dimensional concept.[28] Any discursive event is simultaneously a piece of text, an instance of discursive practice and an instance of social practice.[29] Fairclough's text-interaction-context model represents these three dimensions visually as embedded boxes.[29] The linguistic aspect of discourse - written or spoken text - is located centrally. The interaction and context boxes, which surround the text box, draw in socio-theoretical understandings of discourse. The interaction box refers to social interactions and the processes of text production and interpretation, while the context box refers to the sociocultural conditions of the production and interpretation processes.

In terms of methodology, Fairclough's work provided an analytical tool that includes linguistic analysis as well as social analysis.[29] This allowed consideration of the social and material world within which language is produced and consumed, making explicit the interconnections between language, social practice and sociocultural context.

A linguistic analysis based on Fairclough's guidelines allowed a description of the report's formal linguistic properties, using the work of Derewianka as a guide to grammar.[29,30] Because Fairclough's model understands that these properties are also traces of the processes of text production and cues used in the processes of text interpretation, interpretation and explanation of the text in its interactional, social and cultural contexts were also possible, providing a social analysis.[29]

Data Analysis

The coronial report provides clear, unequivocal statements about Mrs D's medical history. She had been unwell for a long time, with "a ten-year history of oculopharyngeal muscular dystrophy" (point 2). The events leading to her death incorporated precise information, using action verbs and noun groups;[30] for example, she "required a percutaneous endoscopic gastroscopy tube"; "presented to her local rural hospital; "was admitted for treatment of aspiration pneumonia"; "was escalated for urgent transfer" (point 2). However, "her condition deteriorated rapidly," resulting in "roadside emergency resuscitation efforts" and death (point 2).

Evidence of Legal and Medical Discourses

The report is set out in a legal format, reflecting its legal mandate. The structure is that of a legal report, with the inclusion of the characteristics that are familiar to those dealing with such reports, e.g., title page with citation, file number, author, court, jurisdiction and a list of catchwords, a table of contents, then numbered sections, and the findings.[31]

Both legal and medical discourses are evident. The former includes the legal format and references to relevant law; the latter describes the deceased woman's medical history and the events leading to her death. The report's language states facts; there is no doubt about what occurred. The events are definite, presented without medals,

234 so that the events are presented with certainty. The report's numbered events
235 provide a chronological list of who did what, where and when, along with Mrs D's
236 symptoms, e.g., Mrs D's presentation "to the local rural Hospital on 18 February
237 2018" (point 10), readmission to hospital on 28 February (points 28-63),
238 considerations around appropriate responses and referral (pp. 64-91), interhospital
239 transfer and roadside resuscitation (points 92-102), diversion to another rural
240 hospital, further resuscitation, and finally "emergency resuscitation efforts" and death
241 (points 103-127).
242
243 The report collates a chronology of medical events with specific details (e.g., places,
244 dates, times, personnel) from a range of sources, e.g., hospital records, autopsy
245 findings, independent clinical review, telephone conversations, and formal responses
246 from relevant sources (point 7). The events are described in a neutral way, generally
247 using third person and passive voice, often rendering the medical/healthcare
248 personnel invisible. This is evident in the following: "A nursing entry made at
249 11.30am noted ..." (point 36). Mrs D was clearly the person around whom decisions
250 were made and enacted; e.g., "She was found to be ... She was examined ... Her
251 chest was clear ... Bloods were taken ... " (point 29).
252
253 The roles of medical personnel were sometimes included; e.g., "The ward nurse was
254 reportedly very concerned ..." (point 57), "The Senior Medical Officer contacted ..."
255 (point 59), "The surgical consultant advised ..." (point 87), "A registered nurse ...
256 volunteered ... "(point 97). Elsewhere, the focus is on the medical actions that were
257 instigated; e.g., "The pathology results ... were available for review"; "Chest x-ray
258 performed at 10.30am"; "A nursing entry made at 11:30am noted ..." (points 34-36).
259
260 In describing the events surrounding Mrs D's condition, the report contains medical
261 language. Some of this language is widely used by lay-people, e.g., the terms *blood*
262 *pressure, heart rate* and *temperature.* Others illustrate the need for specialised
263 understandings, e.g., "She was tachycardic, hypertensive and diaphoretic. Copious
264 purulent discharge was oozing from the PEG site" (point 108). Such examples
265 suggest the assumed knowledge of report readers; that is, that those reading it will
266 bring medical knowledge and understandings, in order to understand the events and
267 their consequences.

References to the Deceased and Her Family

As already stated, the report does not identify the name of the deceased, nor the names of medical and healthcare staff, nor locations. Presumably, the lack of specifics in this regard protects the identities of those involved and their workplaces from public scrutiny. However, the use of acronyms for the deceased also helps to de-personalise the events described. This probably contrasts with the feelings of members of the deceased woman's family. For them, the medical and clinical terminology of the report may represent an alternate reality to their experiences, particularly for Mrs D's daughter who was active in the emergency resuscitation. Indeed, if families want to make sense of the coronial report, they have to deal with both legal and medical discourses, neither of which might be familiar to them. No glossary of terms is provided with the report.

The report refers to the role that Mrs D's daughter played. Early in the report, she is identified as being involved in her mother's care (point **4)** and she travelled in the ambulance when her mother was "critically unwell" (point 119). It was clear that she was consulted during her mother's final hours and she helped with CPR (points 114-122). The report states that she "was understandably considerably distressed by having witnessed the events of the interhospital transfer and having to assist in the roadside emergency resuscitation efforts" (point 4). Her personal involvement was probably the impetus for the family expressing "significant concerns about the management of the transfer" (point 4).

In the coroner's findings, Mrs D's daughter was commended for her actions with the paramedic and the escort nurse during "their management of Mrs D's deterioration." Even so, it is possible that the family might have felt excluded from much the report, because of its medical nature, the clinical language used and its legal framing.[32] Indeed, the report presents a legal investigation of death, with the purpose of identifying "the identity of the deceased person, how they died, and the place, date and medical cause of the death.[5]" The assumed audience includes medical and healthcare professionals, who have to review the report's determination of what worked and did not work prior to Mrs D's death.

A Discourse of Patient Safety/Harm

The report also includes references to events and actions that did not ensure the safety of the patient and possibly caused harm. This is evident in the language used to describe the findings of the independent clinial review, which was conducted by a doctor and included in the coroner's report. In particular, the report uses the adjectives *late* and *inadequate (e.g.,* "late recognition," "inadequate preparation" (point 6). These 'facts' (statements of what is known) are balanced with statements expressing modality about what should have been and what possibly went wrong. "Should have been" is used three times, along with "would have been," "possible obstruction" and "potential lack" (point 6).

Later in the report, the coroner considered the context of rural health facilities, as well as three other concerns: "delayed recognition and response to sepsis," "recognition and response to clinical deterioration," and "delayed acceptance to higher level care" (points 70-91). The language indicates delay and the potential for patient harm. This section of the report highlights that multiple opportunities were missed by the rural hospital treating team in assessing and reassessing the possible causes of the patient's presenting signs and symptoms. The report notes that earlier recognition and response to the patient's deteriorating status should have led to earlier consideration and investigation of undiagnosed sepsis. This information is presented as a chain of critical events that were missed, opportunities for review and earlier intervention requirements.

Discussion

The coronial investigation into Mrs D's death achieved its goal. A clearly defined, chronological chain of events was presented. The patient was identified, the cause of death determined, and iessons, that could be learned to avoid an event such as this occurring in a similar set of circumstances, were discussed. The matter was not referred to the Director of Public Prosecutions and no staff were referred to governing bodies. The family was acknowledged, and the report was released into the public domain. The recommendations and findings were provided to appropriate facilities to put interventions in place to prevent a similar event occurring.

It was evident that the language used within the coronial investigation report was formal, clear, minimalist and contained no emotion. The language is presented and read as authorative, thereby fulfilling its legal purpose and addressing medical and patient safety issues. The coroner's power is wide reaching and can involve sending recommendations and referrals to any minister or public authority if perceived necessary. In other words, the legal nature of the process is prioritised, as is required.

Fairclough's theory, however, enabled more than just a description of the linguistic qualities of the report.[29] It allowed considerations of the interactional and sociocultural contexts within which the text was produced. This aspect of the analysis revealed that the interactional context was often masked by the de-personalisation of the report and the use of third person and passive voice. Any further consideration of the events leading to Mrs D's death and the personnel involved, beyond the chronological sequence, was effectively shut down. This is in line with the legal process and its function to determine the cause of death, not to attribute blame, and to make recommendations for preventing similar deaths.

However, in applying the standard of person-centred care to the coroner's report, very little evidence of this was presented. There was no reflection of the stress, heightened feelings, fear and panic the patient, the patient's family and staff may have felt as the events unfolded for Mrs D. There was no discussion about the patient's experiences or the perspective of the family. Such considerations are not the focus of the coroner, but, for the healthcare facilities involved, there is work to be done in examining their practices and procedures in order to prevent future adverse events.

In relation to the sociocultural context, the report explicitly considered the rural health context and its impact on the documented events surrounding Mrs D's death. It did not, however, consider the broader context of the hospital system and the impacts of that system on operational practice. The Queensland Government guarantees to consider and, where appropriate, implement the coronial recommendations.[33] In the case of Mrs D, the coronial process did not require a response from the Queensland Government. Nevertheless, it is worth reflecting on the post-inquest process that

would usually occur, as healthcare facilities are expected to look after their staff, partner with consumers, including patients and family, and operate within the constraints that were suggested earlier. These can include funding, staffing and resourcing, as well as the disadvantages of being in particular locations, such as the rural.

One of the premises for this article was that patient safety must remain a priority issue. In the report analysed, context was only partially discussed and the broader systems context was not included as having any role in the events preceding Mrs D's death. While the relevant funding model, availability of staff and access to resources, amongst other things, are not part of the coronial investigation report, these operational issues may very well be the focus of discussion when hospitals or other facilities begin to discuss how they might prevent death in similar circumstances. These are the everyday factors that can impact on the services, and the quality of those services, and they could very well be perceived as barriers to future change.

Implications for Practice

The CDA analysis of the report indicated how the coronial investigation process foregrounded some discourses, while others were invisible. Even though the legal, medical and safety/harm discourses are important - indeed absolutely necessary - to the coronial process, there is the possibility that other discourses become backgrounded in the post-coronial report processes that must occur after hospitals or other healthcare facilities have received the report.

Within healthcare facilities, including hospitals, patient safety is a complex and multidimensional concept, that should be viewed from different perspectives and in a proactive way. This study, although small, suggests that the use of a wider lens, that considers the immediate context as well as the broader sociocultural context, is necessary, in order to avoid a narrow view that masks particular discourses and perspectives. Even though the reactive focus of coronial reports is required, efforts to reduce patient harm must have a proactive focus, within which adverse events are considered. CDA is a tool that might be used for such considerations.

Implications for Research

Further investigation that considers how coronial reports are read and how they influence daily practices is needed. As already stated, the current study was conceived narrowly, as a way of trialing document analysis using a CDA approach to consider patient safety/harm issues. The next step would be to investigate other coronial reports to identify the discourses used, to see whether this is a trend across these reports. In addition, further research is recommended to investigate which particular discourses are taken up and how they are used in post-coronial report considerations. The current study has alluded to what is missing from the coronial report, including considerations of the broader sociocultural context and discourses relevant to partnerships and listening to the voices of patients and families. These aspects are important to the daily operations of healthcare facilities.

Declarations

Funding, ethics and authorship: No funding was received for this study. University ethical clearance was received. All authors have read and approved the final version of this paper.

The authors declare that there are no conflicts of interest.

References

1. Australian Commission on Safety and Quality in Health Care. The state of patient safety and quality in Australian hospitals 2019. 2019. Available from: https://www.safetyandquality.gov.au/sites/default/files/2019-07/the-state-of-patient-safety-and-quality-in-australian-hospitals-2019.pdf.
2. Australian Institute of Health and Welfare. Admitted patient safety and quality. 2021. Available from: https://www.aihw.gov.au/reports-data/myhospitals/intersection/quality/apc.
3. Coroners Act 2003. Available from: https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2003-013.
4. Barnes M, Kirkegaard A, Carpenter B. Intake rigour: ensuring only "reportable deaths" become coroners' cases. *J Law Med.* 2014; 21(3): 572-83.
5. The State of Queensland (Queensland Courts). (2021). Coroners court. 2021. [Cited 2021 May 29] Available from: https://www.courts.qld.gov.au/courts/coroners-court.
6. Freckelton IR, Ranson DL. Death investigation and the coroner's inquest. South Melbourne: Oxford University Press; 2006.
7. Institute of Medicine (US). To err is human: building a safer health system. The National Academies Press. 2000. Available from: https://doi.org/10.17226/9728.
8. UK Department of Health. An organisation with a memory: report of an expert group on learning from adverse events in the NHS. The Stationery Office. 2000.
9. Bates DW, Singh H. Two decades since To err Is Human: an assessment of progress and emerging priorities in patient safety. *Health Aff.* 2018; 37(11): 1736-43. Available from: https://doi.org/10.1377/hlthaff.2018.0738.
10. Berwick DM. ERA 3 for medicine and health care. *JAMA. 2016;* 315(13): 1329-30. Available from: https://doi.org/10.1001/jama.2016.1509.
11. Berwick DM, Leape LL. Reducing errors in medicine: it's time to take this more seriously. *BMJ. 1999;* 319(7203): 136-37. Available from: https://doi.org/10.1136/bmj.319.7203.136.
12. Emanuel L, Berwick D, Conway J, Combes J, Hatlie M, Leape LL, et al. (2008). What exactly is patient safety? In: Henriksen K, Battles JB, Keyes MA, Grady ML, editors. Advances in patient safety: new directions and alternative

454 approaches. Rockville: Agency for Health Research and Quality; 2008; Vol 1;
455 1-18. Available from: https://www.ncbi.nlm.nih.gov/books/NBK43629/.
456 13. Leape LL, Berwick OM. Five years after To Err Is Human: what have we
457 learned? *JAMA.* 2005; 293(19): 2384-90. Available from:
458 https://doi.org/10.1001/jama.293.19.2384.
459 14. Pedersen KZ, Mesman J. A transactional approach to patient safety:
460 understanding safe care as a collaborative accomplishment. [E-pub ahead of
461 print, 2021 Mar 2] *J Interprof Care.* 2021. Available from:
462 https://doi.org/10.1080/13561820.2021.1874317.
463 15. Walton M, Woodward H, Van Staalduinen S, Lerner C, Greaves F, Noble D, et
464 al. The WHO patient safety curriculum guide for medical schools. *Postgrad*
465 *MedJ.* 2011; 87(1026): 317-21. Available from:
466 https://dx.doi.org/10.1136/pgmi.2009.036970rep. (Reprinted from *Qua/ Sat*
467 *Health Care.* 2010; 19: 542-46.)
468 16. Australian Commission on Safety and Quality in Health Care. The national
469 safety and quality health service (NSQHS) standards. 2019. Available from:
470 https://www.safetyandquality.gov.au/standards/nsqhs-standards.
471 17. Goeschel D. Defining and assigning accountability for quality care and patient
472 safety. *J Nurs Regul.* 2011; 2(1): 28-35.
473 18. Lawnton R. It ain't what you do (but the way that you do it): will Safety II
474 transform the way we do patient safety?: comment on "false dawns and new
475 horizons in patient safety research and practice." *Int J Health Policy Manag.*
476 *2018;* 7(7): 659-61. Available from: https://doi.org/10.15171/ijhpm.2018.14.
477 19. Mainz J, Kristensen S, Bartels P. Quality improvement and accountability in
478 the Danish health care system. *Int J Qua/ Health Care.* 2015; 27(6): 523-27.
479 Available from: https://doi.org/10.1093/intqhc/mzv080.
480 20. Sherman RO, Cohn TM. (2019). Promoting professional accountability and
481 ownership: nursing leaders set the tone for a culture of professional
482 responsibility. *Am Nurse Today.* 2019; 14(2): 24-26.
483 21. Reis CT, Paiva SG, Sousa P. The patient safety culture: a systematic review
484 by characterstics of Hospital Survey on Patient Safety Culture dimensions. *Int*
485 *J Qua/ Health Care.* 2018; 30(9): 660-77. Available from:
486 https://doi.org/10.109e/intqhc/mzyo80.

22. Browne AJ, Varcoe C, Smye V, Reimer-Kirkham S, Lynam MJ, Wong S. Cultural safety and the challenges of translating critically oriented knowledge in practice. *Nurs Phi/as.* 2009; 10: 167-79. Available from: https://doi.org/10.1111/j.1466-769X.2009.00406.x.
23. Byrne A-L, Baldwin A, Harvey C. Whose centre is it anyway? Defining person-centred care in nursing: an integrative review. *PLOS ONE.* 2020; 15(3): 1-21. Available from: https://doi.org/10.1371/journal.pone.0229923.
24. Gerlack, A. (2012). A critical reflection on the concept of cultural safety. *Can. J. Occup. Ther. Canadian Journal of Occupational Therapy,* 79(3), 151-158. https://doi.org/10.2182/ciot.2012.79.3.4.
25. Dekker SWA, Leveson NG. The systems approach to medicine: controversy and misconceptions. *BMJ Quality and Safety.* 2015; 24(1); 7-9. Available from: http://dx.doi.org/10.1136/bmjqs-2014-003106.
26. Dixon-Woods M, Tarrant C, Willars J, Suokas A. How will it work? A qualitative study of strategic stakeholders' accounts of a patient safety initiative. *Qua/ Sat Health Care.* 2010; 19: 74-78. Available from: https://doi.org/10.1136/qshc.2008.029504.
27. Kirkegaard A. Non-inquest findings into the death of FD. Coroners Court of Queensland. 2020. Available from: https://www.courts.qld.gov.au/__data/assets/pdf_file/0005/651218/nif-fd-20200508.pdf.
28. Fairclough N. Discourse and social change. Cambridge: Polity Press; 1992.
29. Fairclough N. Language and power. 2nd ed. London: Longman; 2001.
30. Derewianka B. (2011). A new grammar companion for teachers. Marrickville Metro: Primary English Teaching Association; 2011.
31. Law Teacher. Structure of law essays and reports. 2021. [cited 2021 Sep 12] Available from: https://lawteacher.net/law-help/essay/structure_of essays.php.
32. Gee JP. Social linguistics and literacies: ideology in discourses. 2nd ed. London: Routledge/Falmer; 1996.
33. Queensland Government. Coronial recommendations. 2018. [cited 2021 Sep 19] Available from: https://www.qld.gov.au/law/legal-mediation-and-justice-of-the-peace/coronial-recommendations.

CHAPTER FOUR: LIMITATIONS, CONTRIBUTIONS TO KNOWLEDGE, AND CONCLUSION

This is the concluding chapter for this study. Chapter One set the scene for this thesis, explaining the research aims and the position of myself as the researcher. This was followed by an overview of the role of the coroner in Australia and the field of patient safety as it emerged into the field of study and the literature review. Chapter Two discussed research design and the use of critical discourse analysis as research theory and methodology. Chapter Three includes an article written for publication, discussing the results of the analysis. As explained, the article has been submitted for publication with the *Australian Journal of Advanced Nursing*.

This final chapter provides an overview of what was discussed throughout the thesis, beginning with an acknowledgement of the limitations of the study advancement of knowledge in the realm of patient safety in health care and closing with a conclusion.

4.1 Limitations

As a researcher I recognise that a critical discourse analysis of a single coronial investigation report means that that the study has a narrow view. The study did not include collecting data beyond that of the single report, but it meant that the methodology was trialled as a way of checking its usefulness for a larger study relating to the field of patient safety/harm. The critical discourse analysis perspective identified by Fairclough (1989, 1995, 2015) was used to frame the study and to analyse that report. In many ways,

it was good fortune that I had not planned to collect interview or focus group data, as that would have been disrupted by the COVID-19 restrictions.

From a personal perspective, the examination of a coronial investigation report trialled the use of critical discourse analysis to determine if this would be a useful tool to assist in designing a larger study for a PhD research project. By extending this research, the process of data collection would include examining a larger number of reports and extending the data collection process to those writing and dealing with such reports.

4.2 Contribution to knowledge in the area of patient safety in health care

Since the publication of the Institute of Medicine report: *To Err is Human: Building a Safer Health* System (Institute of Medicine, 2000) and *An Organization with a Memory* (UK Department of Health, 2000), patient safety in health care has quickly become a health care discipline. Closer attention to patient safety and preventable harm in health care has spurred significant research to understand how this might be achieved. Since the reports cited above, multiple patient harm mitigation strategies have been put in place. They have included strategies such as national governing bodies, purpose-built health care environments, improved policy and procedures which guide clinical practice, strategies to improve workplace culture, patient empowerment through acknowledgement of patient rights and responsibilities and many other practical activities. Nevertheless, patient safety is still not as good as we would like it to be.

The analysis of the coronial investigation report revealed that some discourses were prioritised over others, and this can in turn blur the full situation for healthcare facilities in addressing patient safety and preventable harm in healthcare. This is especially relevant for the healthcare facilities where the harm and mortality has occurred. A coronial investigation report presents a focused medical chain of events which is required when reviewing harm in healthcare. However, what is missing is

consideration of the wider perspectives and the broader context within which patient harm occurs.

It became clear in the analysis of the single report that legal and medical discourses were those that were prioritised. It was also evident that the everyday realities of hospitals and health care facilities, particularly those in rural areas, were alluded to, but not identified as necessarily impacting on the potential for future patient safety. For health care professionals ‘on the ground’ in hospitals, however, their practice is influenced by government funding, the availability of resources, the availability of highly qualified staff, and so on. These factors should be taken into consideration when coronial investigation reports are discussed by those who must respond and say how future harmful events will be avoided.

The linguistic and discourse approach to understanding the relationship between language, patient safety, socio-cultural context and the presentation of the events in a coronial investigation report can add a broader assessment for consideration. Although this study does not address how those in the health care professions might act differently now, it does indicate that further research is needed to investigate whether the discourses identified in the one report are paralleled in other reports. This small study lays the foundation for further critical discourse analysis into preventable harm and patient safety in health care.

4.3 Conclusion

The community and patients in care trust clinicians and other health care providers to deliver high quality, evidence based, safe healthcare. It is the duty of clinicians to do everything possible to mitigate preventable harm. It is now over 20 years since the publications which provoked health care providers globally to investigate and examine patient harm (Leape, 2021b). Patient safety and quality improvement is now a well-established field in health care and has become part of the toolkit for hospital and health services in mitigating preventable harm. A great deal is known about how to

make care safer by changing systems and process. To date, learnings and reflections from patients' outcomes of preventable harm sustained in Queensland has resulted in Queensland health initiatives such as quality assurance committees and root cause analysis investigations.

This study set out to investigate a coronial investigation report through a critical discourse analysis lens utilising's Fairclough's (1989, 1992) critical discourse analysis model. I examined a coronial investigation report published in Queensland in 2020. The research aim was to study data drawn from a critical discourse investigation report to identify the language used in the report as it relates to patient safety. I analysed the data using Fairclough's (1992) three-dimensional model of discourse as text, interaction, and context shown in Figure 2.

Utilising the critical discourse analysis model, I was able examine more than just the text. The data analysis allowed for considerations of the interactional and sociocultural contexts in which the text was produced. The linguistic qualities of the report, such as the formal, clear, and minimalist language, often masked the depersonalisation of those involved in the events that occurred. Further consideration of the events leading to Mrs D's death and the personal involvement beyond the chronological sequence was absent. Although the report is in line with legal process, there are missed opportunities for inclusion of the personal patient and family experience.

Patient safety process and patient safety itself have been examined extensively in the literature. The conclusion and applications related to patient safety and prevention of patient harm have primarily been focused on macro interventions, such as improved checklists for implementing a procedure, ID bracelet identification of allergies, surgical safety checklists, increased training of staff, the introduction of local champions and rounding communication styles.

From this pilot study of coronial investigation report number *2018/1021 non-inquest findings into the death of FD*, scope for further research has arisen, such as the inclusion of the powerful role of the patient and family experience in preventable death in health care. With further investigation, it is

possible that there may be recommendations for professional practice, especially in relation to considerations of the broader context within which patient harm becomes an issue.

A publication from this research has been submitted to contribute to the wider professional dialogue and potential for policy development within the health care domain. The article was submitted to the *Australian Journal of Advanced Nursing*. This research seeks to establish the patient safety discourse within the coronial inquest reports to be expanded upon into a PhD study. The PhD will move beyond document analysis to conduct interviews with staff within health care facilities and those who use coronial inquest reports to support change within health care. Interviews will be conducted with focus groups. The interviews will explore the views, experiences, beliefs, and motivations of individual participants related to the language that frames patient safety. The outcomes of this research will add to the existing base related to the research area of patient safety, to influence and inform wider policy enactments at state and federal levels. This is where the research should impact on those who work in hospitals and other health care facilities.

Discourse has a powerful role in shaping interpretations and outcomes and cognitive interpretations. The authoritative and central role of language is in composition, reproduction, and transformation of social practice. It is time to examine the language that develops and informs patient safety systems and why (Fairclough, 2015). The overall aim is to add meaningful discussion and reflection regarding patient and patient safety systems to improve patient safety in health care.

REFERENCES

Allen, D., Braithwaite, J., Sandall, J., & Waring, J. (2016). *The sociology of healthcare safety and quality*. John Wiley & Sons.

Allison, D., & Peters, H. (2021). *Root Cause Analysis (RCA) for the improvement of healthcare systems and patient safety*. CRC Press.

Australian Institute of Health and Welfare. (2018). *Australia's Health 2018*. Australian Institute of Health and Welfare. Retrieved September 24 2021 from https://www.aihw.gov.au/

Australian Institute of Health and Welfare. (2021). *Safety and quality of health care*. Australian Institute of Health and Welfare. Retrieved September 24 2021 from https://www.aihw.gov.au/reports/australias-health/safety-and-quality-of-health-care

Berwick, D. (2016). ERA 3 for medicine and health care. *Journal of the American Medical Association*, *315*(13), 1329-1330. https://doi.org/10.1001/jama.2016.1509

Berwick, D., & Leape, L. (1999). Reducing errors in medicine. *The British Medical Journal*, *319*(7203), 136-137. https://www.ncbi.nlm.nih.gov/pubmed/10406730

Carayon, P., & Wood, K. (2010). Patient safety: The role of human factors and systems engineering. *Studies in Health Technology and Informatics*, 153, 23-46. http://doi:10.3233/978-1-60750-533-4-23]10.3233/978-1-60750-533-4-23

Carayon, P., Wust, K., Hose, B. Z., & Salwei, M. E. (2021). *Human factors and ergonomics in health care* (2nd ed.). Taylor & Francis.

Carayon, P., Xie, A., & Kianfar, S. (2014). Human factors and ergonomics as a patient safety practice. *Journal of Quality and Safety*, *23*(3), 196-205.

Coroners Act, 2003, (Qld) Part 3. https://www.legislation.qld.gov.au/view/pdf/inforce/current/act-2003-013

Corrigan, J. M., Wakeam, E., Gandhi, T. K., & Leape, L. (2015). On the safe side. *Healthcare and Financial Management*, *69*(8), 94, 96-97. https://www.ncbi.nlm.nih.gov/pubmed/26548143

Dekker, S., Cilliers, P., & Hofmeyr, J. (2011). The complexity of failure: Implications of complexity theory for safety investigations. *Safety science*, *49*(6), 939-945. https://doi.org/10.1016/j.ssci.2011.01.008

Dixon-Woods, M., Tarrant, C., Willars, J., & Suokas, A. (2010). How will it work? A qualitative study of strategic stakeholders' accounts of a patient safety initiative. *Quality and Safety in Health Care*, *19*(1), 74-78. http://DOI:10.1136/qshc.2008.029504

Donaldson, L. (2021). Safer care: Shaping the future. In L. Donaldson, W. Ricciardi, S. Sheridan, & R. Tartaglia, (Eds.), *Textbook of patient safety and clinical risk management* (pp. 53-66). Springer.

Donaldson, L., Ricciardi, W., Sheridan, S., & Tartaglia, R. (Eds). (2021). *Textbook of patient safety and clinical risk management*. Springer Nature.

Donaldson, L. (2002). An organization with a memory. *Clinical Medicine Journal*, *2*(5) 452-457. https://doi.org/10.7861/clinmedicine.2-5-452

Donaldson, L., & Philip, P. (2004). Patient safety: A global priority. *Bulletin of the World Health Organisation*, *82*(12), 892-893. https://doi.org//S0042-96862004001200002

Duckett, S. (2020). Transforming clinical governance in Queensland Health. In J. Healy & P. Dugdale (Eds.), *Patient safety first* (pp. 124-143) Taylor & Francis. https://www.taylorfrancis.com/chapters/edit/10.4324/9781003116677-6/transforming-clinical-governance-queensland-health-stephen-duckett

Duckett, S., & Jorm, C. (2018). *All complications should count: Using our data to make hospitals safer* (0648230716). https://grattan.edu.au/report/all-complications-should-count-using-our-data-to-make-hospitals-safer/

Emanuel, L., Berwick, D., Conway, J., Combes, J., Hatlie, M., Leape, L., Reason, J., Schyve, P., Vincent, C. & Walton, M. (2008). What exactly is patient safety? In K. Henriksen, J. B. Battles, M. A. Keyes, & M. L. Grady (Eds.), *Advances in patient safety: New directions and alternative approaches (Vol. 1: Assessment)*. Centre for Medical Education and Research. https://www.ncbi.nlm.nih.gov/pubmed/21249863

Fairclough, N. (1989). *Language and power*. Longman.

Fairclough, N. (1992). *Discourse and social change*. Polity Press.

Fairclough, N. (1995). *Critical discourse analysis: The critical study of language* (3rd ed.). Routledge.

Fairclough, N. (2020). Language and discourse. P. Griffths, A. Merrison & A. Bloomer (Eds.). In *Language in use* (pp. 234-241). Routledge.

Freckelton, I. (2007). Death Investigation, the coroner and therapeutic jurisprudence. *Journal of Law and Medicine*, *15*(2), 242-253. PMID: 18035842.

Freckelton, I. (2018). Procedural fairness and the coroner. *Journal of Law and Medicine*, *26*(1), 7-22.

Freckelton, I., & Ranson, D. (2006). *Death investigation and the coroner's inquest*. Oxford University Press.

Gandhi, T., Kaplan, G., Leape, L., Berwick, D., Edgman-Levitan, S., Edmondson, A., Meyer, G., S, Michaels, D., Morath, J., & Vincent, C. (2018). Transforming concepts in patient safety: A progress report. *The British Medical Journal*, *27*(12), 1019-1026. http://DOI: 10.1136/bmjqs-2017-007756

Gee, J. (2015). *Social linguistics and literacies: Ideology in discourses* (5th ed.). Taylor & Francis Group.

Habiba, P. (2014). Exploring affliations in an escalation of conflict: Three critical points in time in the Jayent Patel, Bundaberg Hospital case. *Journal of Business and Behavioural Sciences*, *26*(2), 174-185. http://asbbs.org/files/ASBBS2014/PDF/H/HabibaP(P305-314).pdf

Healy, J. (2016). *Improving health care safety and quality: Reluctant regulators*. Ashgate.

Healy, J., & Braithwaite, J. (2006). Designing safer health care through responsive regulation. *Medical Journal of Australia*, *184*(S10), 56-59. https://www.mja.com.au/system/files/issues/184_10_150506/hea11015_fm.pdf

Hofheinz, E. (2019). Patient safety-it's not rocket science. *ENT Today* (July). https://www.enttoday.org/article/patient-safety-its-not-rocket-science/

Holden, R., Cornet, V., & Valdez, R. (2020). Patient ergonomics: 10-year mapping review of patient-centered human factors. *Applied Ergonomics*, *(Jan)82*, http://DOI: 10.1016/j.apergo.2019.102972

Institute of Medicine. (2000). *To err is human: Building a safer health system*. National Academy Press. https://doi.org/https://doi.org/10.17226/9728

Jørgensen, M., & Phillips, L. (2002). *Discourse analysis as theory and Method*. Sage.

Karkhanis, A., & Thompson, J. (2020). Improving the effectiveness of Root Cause Analysis in hospitals. *Hospital Topics*, *99*(1), 1-14. https://doi-org.ezproxy1.acu.edu.au/10.1080/00185868.2020.1824137

Kelly, D. (2016). When things go wrong. H. Allan, M. Traynor, D. Kelly and P. Smith. (Eds.) In *Understanding sociology in nursing*. (pp.137-154). Sage.

Kirkegaard, A. (2020). *Non-inquest findings into the death of FD*. The Coroner's Court of Queensland findings of investigation.

https://www.courts.qld.gov.au/__data/assets/pdf_file/0005/651218/nif-fd-20200508.pdf

Larouzee, J., & Le Coze, J.-C. (2020). Good and bad reasons: The Swiss Cheese Model and its critics. *Safety Science*, *126(6)*, 1-11.

Leape, L. (1999). Why should we report adverse incidents? *Journal of Evaluation of Clinical Practice*, *5*(1), 1-4. https://www.ncbi.nlm.nih.gov/pubmed/10468378

Leape, L. (2021a). *Making healthcare safe. The story of the patient safety movement*. Springer.

Leape, L. (2021b). *Now the hard part: Creating a culture of safety*. Springer.

Leape, L. (2021c). *Who will lead? The executive session*. Springer.

Leape, L., & Berwick, D. (2005). Five years after To Err Is Human: What have we learned? *The Journal of American Medical Association*, *293*(19), 2384-2390. https://doi.org/10.1001/jama.293.19.2384

Leape, L., Berwick, D., Clancy, J., Gluck, P., Guest, J., Lawrence, D., Morath, J., O'Leary, D., & O'Neill, D. (2009). Transforming healthcare: A safety imperative. *The British Medical Journal*, *18*(18), 424-428. http://qualitysafety.bmj.com.ezproxy.newcastle.edu.au/content/18/6/424.full.pdf

Leatherman, S., & Berwick, D. (2020). Accelerating global improvements in health care quality. *The American Medical Association Journal*, *324*(24), 2479-2480.

Lupton, D. (1992). Discourse analysis: A new methodology for understanding the ideologies of health and illness. *Australian Journal of Public Health*, *16*(2), 145-150.

McIlwraith, J., & Madden, B. (2006). *Health care and the law* (4th ed.). Thomas Reuters.

McIlwraith, J., & Madden, B. (2014). *Health care and the law* (6th ed.). Thomson Reuters.

Middleton, S., & Buist, M. (2014). Medical-setting deaths and the coroner: Laws, penalties and guidelines. *The Medical Journal of Australia*, *201*(11), 679-681.

Morton, A. (2005). Reflections on the Bundaberg Hospital failure. *The Medical Journal of Australia*, *183*(6), 328-329.

National Health and Medical Research Council. (2021). *Ethics and integrity*. Australian Government. Retrieved September 14 from https://www.nhmrc.gov.au/research-policy

Parker, J., & Davies, B. (2020). No blame no gain? From a no blame culture to a responsibility culture in medicine. *The Journal of Applied Philosophy*, *37*(4), 646-660.

Patton, M., (2015). *Qualitative research and evaluation methods: Integrating theory and practice* (4th ed.). Sage.

Pedersen, K., & Mesman, J. (2021). A transactional approach to patient safety: Understanding safe care as a collaborative accomplishment. *Journal of Interprofessional Care*, *35*(4), 503-513.

Peerally, M., Carr, S., Waring, J., & Dixon-Woods, M. (2017). The problem with Root Cause Analysis. *The British Medical Journal of Australia*, *26*(5), 417-422.

Perrow, C. (2011). Fukushima and the inevitability of accidents. *The Bulletin of the Atomic Scientists*, *67*(6), 44-52.

Pype, P., Mertens, P., Helewaut, F., & Krystallidou, D. (2018). Healthcare teams as complex adaptive systems: Understanding team behaviour through team members' perception of interpersonal interaction. *BMC Health Services Research*, *18*(1), 1-13.

Reason, J. (1990). *Human error*. Cambridge University Press.

Reason, J. (2000). Human error: Models and management. *The British Medical Journal*, *320*(7237), 768-770.

Reason, J. (2017). *The human contribution: Unsafe acts, accidents and heroic recoveries*. Ashgate.

Runciman, S., & Lumby, J. (2020). *Regulating clinical practice*. Routledge.

Runciman, S., & Merry, A. (2003). A tragic death: A time to blame or a time to learn? *The British Medical Journal*, *12*(5), 321-322.

Runciman, S., Merry, A., & Tito, F. (2003). Error, blame, and the law in health care—an Antipodean perspective. *Annals of Internal Medicine*, *138*(12), 974-979.

Runciman, S., Merry, A., & Walton, M. (2007). *Safety and ethics in healthcare: A guide to getting it right*. Ashgate.

Saar, E., Bugeja, L., & Ranson, D. (2017). National Coronial Information System: Epidemiology and the Coroner in Australia. *The Academy of Forensic Pathology*, *7*(4), 582-590. https://doi.org/10.23907/2017.049

Singh, K. (2018). Lifting the lid on Root Cause Analysis: A document analysis. *Safety Science*, *107*, 109-118.

Starr, L. (2019). The Coroner's Court: Extracting tips for improved documentation. *The Australian Nursing and Midwifery Journal*, *26*(7), 1-2.

The Australian Health Practitioner Regulation Agency. (2021, September 6). *Registration standards*. AHPRA & National Boards. Retrieved September 13 from https://www.ahpra.gov.au/

The Health Quality and Complaints Commission. (2005). *Queensland public hospitals commision of inquiry*. Retrieved from http://www.qphci.qld.gov.au/Default.htm

The National Health Information and Performance Principal Committee. (2017). *The Australian health performance framework*. Retrieved September 24 from http://www.coaghealthcouncil.gov.au/Portals/0/OOS318_Attachment%201.pdf

The State of Queensland (Queensland Courts). (2018). *Coroners Court*. Queensland Government. Retrieved 2021 from https://www.courts.qld.gov.au/courts/coroners-court/findings

UK Department of Health. (2000). *An organisation with a memory: report of an expert group on learning from adverse events in the NHS*. The Stationery Office.

van Leeuwen, T. (2018). Moral evaluation in Critical Discourse Analysis. *Critical Discourse Studies*, *15*(2), 140-153.

Vincent, C., & Coulter, A. (2002). Patient safety: What about the patient? *The British Journal of Medicine*, *11*(1), 76-80.

Wakefield, J., McLaws, M., Whitby, M., & Patton, L. (2010). Patient safety culture: Factors that influence clinician involvement in patient safety behaviours. *Quality and Safety in Health Care*, *19*(6), 585-591.

Waring, J. (2009). Constructing and re-constructing narratives of patient safety. *Social Science & Medicine*, *69*(12), 1722-1731.

Waring, J., Allen, D., Braithwaite, J., & Sandall, J. (2016). Healthcare quality and safety: A review of policy, practice and research. *Sociology of Health & Illness*, *38*(2), 198-215.

Waring, J., & Rowley, E. (2011). *A socio-cultural perspective on patient safety*. Ashgate. https://doi.org/10.1201/9781315565200

Wodak, R. & Chilton, P. (2005). *A new agenda in (critical) discourse analysis: Theory, methodology and interdisciplinarity*. John Benjamin.

Wodak, R., & Meyer, M. (2016). *Methods of critical discourse studies* (3rd ed.). Sage.

World Health Organization. (2021). *Global patient safety action plan 2021–2030: Towards eliminating avoidable harm in health care*. Retrieved June 25 from https://www.who.int/teams/integrated-health-services/patient-safety/policy/global-patient-safety-action-plan

APPENDIX A: COPYWRIGHT OF TRANSFER AGREEMENT

Copyright Transfer Agreement

AUSTRALIAN JOURNAL OF ADVANCED NURSING

Published by the Australian Nursing and Midwifery Federation (ANMF) on behalf of the Australian Journal of Advanced Nursing (AJAN).

COPYRIGHT TRANSFER AGREEMENT

Corresponding author: Please ensure all contributing authors have independently agreed to the terms of the copyright agreement and have added their name and signature below.

Date: 18/10/2021

Contributor name: Samantha Serginson

Robyn Henderson

Coralie J. Graham

Contributor address:

Samantha Serginson 69 Morna St Newport Q 4020

Manuscript number:

To be advised by Australian Journal of Advanced Nursing upon receipt of submission

Re: Manuscript (the "Contribution") entitled:

Rethinking patient safety/harm: A critical discourse analysis of a coronial investigation report

for publication in the Australian Journal of Advanced Nursing ("the Owner") published by the ANMF.

Dear Contributor(s):
Thank you for submitting your Contribution for publication. In order to expedite the editing and publishing process and enable the Owner to disseminate your Contribution to the fullest extent, we need to have this Copyright Transfer Agreement executed. If the Contribution is not accepted for publication, or if the Contribution is subsequently rejected, this Agreement shall be null and void. Publication cannot proceed without a signed copy of this Agreement.

A. A. COPYRIGHT

1. 1. The Contributor assigns to the Owner, during the full term of copyright and any extensions or renewals, all copyright in and to the Contribution, and all

rights therein, including but not limited to the right to publish, republish, transmit, sell, distribute and otherwise use the Contribution in whole or in part in electronic and print editions of the Journal and in derivative works throughout the world, in all languages and in all media of expression now known or later developed, and to license or permit others to do so. For the avoidance of doubt, "Contribution" is defined to only include the article submitted by the Contributor for publication in the Journal and does not extend to any supporting information submitted with or referred to in the Contribution ("Supporting Information"). To the extent that any Supporting Information is submitted to the Journal, the Owner is granted a perpetual, non- exclusive license to publish, republish, transmit, sell, distribute, and otherwise use this

1. Supporting Information in whole or in part in electronic and print editions of the Journal and in derivative works throughout the world, in all languages and in all media of expression now known or later developed, and to license or permit others to do so.

1. 2. Reproduction, posting, transmission or other distribution or use of the final Contribution in whole or in part in any medium by the Contributor as permitted by this Agreement requires a citation to the Journal suitable in form and content as follows: (Title of Article, Contributor, Journal Title and Volume/Issue, Copyright © [year], copyright owner as specified in the Journal, Publisher). Links to the final article on the publisher website are encouraged where appropriate.

2. B. RETAINED RIGHTS Notwithstanding the above, the Contributor or, if applicable, the Contributor's employer, retains all proprietary rights other than copyright, such as patent rights, in any process, procedure or article of manufacture described in the Contribution.

3. C. PERMITTED USES BY CONTRIBUTOR

4. 1. Submitted Version. The Owner licenses back the following rights to the Contributor in the version of the Contribution as originally submitted for publication (the "Submitted Version"):

a. The right to self-archive the Submitted Version on: the Contributor's personal website; a not for profit subject-based preprint server or repository; a Scholarly Collaboration Network (SCN) which has signed up to the STM article sharing principles [http://www.stmassoc.org/stm-consultations/scn-consultation- 2015/]("Compliant SCNs"); or the Contributor's company/ institutional repository or archive. This right extends to both intranets and the Internet. The Contributor may replace the Submitted Version with the Accepted Version, after any relevant embargo period as set out in paragraph C.2(a) below has elapsed. The Contributor may wish to add a note about acceptance by the Journal and upon publication it is recommended that Contributors add a Digital Object Identifier (DOI) link back to the Final Published Version.

b. The right to transmit, print and share copies of the Submitted Version

with colleagues, including via Compliant SCNs, provided that there is no systematic distribution of the Submitted Version, e.g., posting on a list serve, network (including SCNs which have not signed up to the STM sharing principles) or automated delivery.

5. 2. Accepted Version. The Owner licenses back the following rights to the Contributor in the version of the Contribution that has been peer-reviewed and accepted for publication, but not final (the "Accepted Version"):

a. The right to self-archive the Accepted Version on: the Contributor's personal website; the Contributor's company/institutional repository or archive; Compliant SCNs; and not for profit subject-based repositories such as PubMed Central, all subject to an embargo period of 12 months for scientific, technical and medical (STM) journals and 24 months for social science and humanities (SSH) journals following publication of the Final Published Version. The Contributor may not update the Accepted Version or replace it with the Final Published Version. The Accepted Version posted must contain a legend as follows: This is the accepted version of the following article: FULL CITE, which has been published in final form at [Link to final article]. This article may be used for non-commercial purposes in accordance with the Australian Journal of Advanced Nursing Policy.

a. b. The right to transmit, print and share copies of the Accepted Version with colleagues, including via Compliant SCNs (in private research groups only before the embargo and publicly after), provided that there is no systematic distribution of the Accepted Version, e.g. posting on a listserve, network (including SCNs which have not signed up to the STM sharing principles) or automated delivery.

6. 3. Final Published Version. The Owner hereby licenses back to the Contributor the following rights with respect to the final published version of the Contribution (the "Final Published Version"):

a. Copies for colleagues. The personal right of the Contributor only to send or transmit individual copies of the Final Published Version in any format to colleagues upon their specific request, and to share copies in private sharing groups in Compliant SCNs, provided no fee is charged, and further provided that there is no systematic external or public distribution of the Final Published Version, e.g. posting on a listserve, network or automated delivery.

b. Re-use in other publications. The right to re-use the Final Published Version or parts thereof for any publication authored or edited by the Contributor (excluding journal articles) where such re-used material constitutes less than half of the total material in such publication. In such case, any modifications must be accurately noted.

c. Teaching duties. The right to include the Final Published Version in

teaching or training duties at the Contributor's institution/place of employment including in course packs, ereserves, presentation at professional conferences, in-house training, or distance learning. The Final Published Version may not be used in seminars outside of normal teaching obligations (e.g. commercial seminars). Electronic posting of the Final Published Version in connection with teaching/training at the Contributor's company/institution is permitted subject to the implementation of reasonable access control mechanisms, such as user name and password. Posting the Final Published Version on the open Internet is not permitted.

d. Oral presentations. The right to make oral presentations based on the Final Published Version.

7.4. Article Abstracts, Figures, Tables, Artwork and Selected Text (up to 250 words).

a. Contributors may re-use unmodified abstracts for any non-commercial purpose. For online uses of the abstracts, the Owner encourages but does not require linking back to the Final Published Version.

b. Contributors may re-use figures, tables, artwork, and selected text up to 250 words from their Contributions, provided the following conditions are met:

(i) Full and accurate credit must be given to the Final Published Version.

(ii) Modifications to the figures and tables must be noted. Otherwise, no changes may be made.

(iii) The re-use may not be made for direct commercial purposes, or for financial consideration to the Contributor.

(iv) Nothing herein will permit dual publication in violation of journal ethical practices.

(i) D. CONTRIBUTIONS OWNED BY EMPLOYER

8.1. If the Contribution was written by the Contributor in the course of the Contributor's employment as a "work-made-for-hire" in the course of employment, the Contribution is owned by the company/institution which must execute this Agreement (in addition to the Contributor's signature). In such case, the company/institution hereby assigns to the Owner, during the full term of copyright, all copyright in and to the Contribution for the full term of copyright throughout the world as specified in paragraph A above.

9.2. In addition to the rights specified as retained in paragraph B above and the rights granted back to the Contributor pursuant to paragraph C above, the Owner hereby grants back, without charge, to such company/institution, its subsidiaries and divisions, the right to make copies of and distribute the Final

Published Version internally in print format or electronically on the Company's internal network. Copies so used may not be resold or distributed externally. However, the company/institution may include information and text from the Final Published Version as part of an information package included with software or other products offered for sale or license or included in patent applications. Posting of the Final Published Version by the company/institution on a public access website may only be done with written permission, and payment of any applicable fee(s). Also, upon payment of the applicable reprint fee, the company/institution may distribute print copies of the Final Published Version externally.

10. E. GOVERNMENT CONTRACTS

In the case of a Contribution prepared under U.S. Government contract or grant, the U.S. Government may reproduce, without charge, all or portions of the Contribution and may authorize others to do so, for official U.S. Government purposes only, if the U.S. Government contract or grant so requires. (U.S. Government, U.K. Government, and other government employees: see notes at end.)

1. F. COPYRIGHT NOTICE

The Contributor and the company/institution agree that any and all copies of the Final Published Version or any part thereof distributed or posted by them in print or electronic format as permitted herein will include the notice of copyright as stipulated in the Journal and a full citation to the Journal.

1. G. CONTRIBUTOR'S REPRESENTATIONS

The Contributor represents that: (i) the Contribution is the Contributor's original work, all individuals identified as Contributors actually contributed to the Contribution, and all individuals who contributed are included; (ii) if the Contribution was prepared jointly, the Contributor has informed the co-Contributors of the terms of this Agreement and has obtained their signed written permission to execute this Agreement on their behalf; (iii) the Contribution is submitted only to this Journal and has not been published before, has not been included in another manuscript, and is not currently under consideration or accepted for publication elsewhere; (iv) if excerpts from copyrighted works owned by third parties are included, the Contributor shall obtain written permission from the copyright owners for all uses as set forth in the standard permissions form or the Journal's Author Guidelines, and show credit to the sources in the Contribution; (v) the Contribution and any submitted Supporting Information contain no libelous or unlawful statements, do not infringe upon the rights (including without limitation the copyright, patent or trademark rights) or the privacy of others, do not breach any confidentiality obligation, do not violate a contract or any law, do not contain material or instructions that might cause harm or injury, and only utilize data that

has been obtained in accordance with applicable legal requirements and

Journal policies;

(vi) there are no conflicts of interest relating to the Contribution, except as disclosed. Accordingly, the Contributor represents that the following information shall be clearly identified on the title page of the Contribution: (1) all financial and material support for the research and work; (2) any financial interests the Contributor or any coContributors may have in companies or other entities that have an interest in the information in the Contribution or any submitted Supporting Information (e.g., grants, advisory boards, employment, consultancies, contracts, honoraria, royalties, expert testimony, partnerships, or stock ownership); and (3) indication of no such financial interests if appropriate. The AJAN/ANMF reserves the right, notwithstanding acceptance, to require changes to the Contribution, including changes to the length of the Contribution, and the right not to publish the Contribution if for any reason such publication would in the reasonable judgment of AJAN/ANMF, result in legal liability or violation of journal ethical practices.

- H.USE OF INFORMATION

The Contributor acknowledges that, during the term of this Agreement and thereafter, the Owner (and the AJAN where AJAN is not the Owner) may process the Contributor's personal data, including storing or transferring data outside of the country of the Contributor's residence, in order to process transactions related to this Agreement and to communicate with the Contributor, and that the Publisher has a legitimate interest in processing the Contributor's personal data. By entering into this Agreement, the Contributor agrees to the processing of the Contributor's personal data (and, where applicable, confirms that the Contributor has obtained the permission from all other contributors to process their personal data). AJAN shall comply with all applicable laws, statutes and regulations relating to data protection and privacy and shall process such personal data in accordance with AJAN's Privacy Policy.

[ ] I agree to the COPYRIGHT TRANSFER AGREEMENT as shown above, consent to execution and delivery of the Copyright Transfer Agreement electronically and agree that an electronic signature shall be given the same legal force as a handwritten signature, and have obtained written permission from all other contributors to execute this Agreement on their behalf.

Date: 18/10/2021

Name: (each author)

- Samantha Serginson
Samantha Jane Serginson

- Robyn Henderson [redacted]

- Coralie Graham [redacted]

Signature: (digital signature acceptable)

SELECT FROM OPTIONS BELOW:

[X] Contributor-owned work [ ]

U.S. Government work

Note to U.S. Government Employees A contribution prepared by a U.S. federal government employee as part of the employee's official duties, or which is an official U.S. government publication, is called a "U.S. government work", and is in the public domain in the United States. If the Contribution was not prepared as part of the employee's duties, is not an official U.S. government publication, or if at least one author is not a U.S. government employee, it is not a U.S. government work. If at least one author is not a U.S. government employee, then the non-government author should also sign the form, selecting the appropriate ownership option. If more than one author is not a U.S. government employee, one may sign on behalf of the others.

[ ] U.K. Government work (Crown Copyright)

Note to U.K. Government Employees

For Crown Copyright this form should be signed in the Contributor's signatures section above by the appropriately authorised individual and emailed to AJAN. For production editor contact details please visit the Journal's online author guidelines. The rights in a contribution prepared by an employee of a UK government department, agency or other Crown body as part of his/her official duties, or which is an official government publication, belong to the Crown and must be made available under the terms of the Open Government Licence.

Contributors must ensure they comply with departmental regulations and submit the appropriate authorisation to publish. If your status as a government employee legally prevents you from signing this Agreement, please contact the Journal production editor. If this selection does not apply to at least one author in the group, this author should also sign the form, indicating transfer of those rights which that author has and selecting the appropriate additional ownership selection option. If this applies to more than one author, one may sign on behalf of the others.

[ ] Other

Including Other Government work or Non-Governmental Organisation work Note to Non- U.S., Non-U.K. Government Employees or Non-Governmental Organisation Employees For Other Government or Non-Governmental Organisation work this form should be signed in the Contributor's signatures

section above by the appropriately authorised individual and emailed to AJAN. For production editor contact details please visit the Journal's online author guidelines. If you are employed by the Australian Government, the World Bank, the World Health Organization, the International Monetary Fund, the European Atomic Energy Community, the Jet Propulsion Laboratory at California Institute of Technology, the Asian Development Bank, the Bank of International Settlements, or are a Canadian Government civil servant, please request a copy of the license agreement from the AJAN editorial office. If your status as a government or non-governmental organisation employee legally prevents you from signing this Agreement, please contact the Journal production editor.

Name of Government/Non-Governmental Organisation:

[ ] Company/institution owned work (made for hire in the course of employment) For "work made for hire" this form should be signed emailed to the AJAN Editorial Office.

For production editor contact details please visit the Journal's online author guidelines. If this selection does not apply to at least one author in the group, this author should also sign the form, indicating transfer of those rights which that author has and selecting the appropriate additional ownership selection option. If this applies to more than one author, one may sign on behalf of the others.

Name of Company/Institution:

Authorized Signature of Employer:

Date:

Signature of Employee:

Date:

APPENDIX B: ETHICS APPROVAL CONFIRMATION

OFFICE OF RESEARCH
Human Research Ethics Committee
PHONE +61 7 4687 5703| FAX +61 7 4631 5555
EMAIL human.ethics@usq.edu.au

27 October 2021

Ms Samantha Serginson
[redacted]

Dear Samantha

The USQ Human Research Ethics Committee has recently reviewed your responses to the conditions placed upon the ethical approval for the project outlined below. Your proposal is now deemed to meet the requirements of the *National Statement on Ethical Conduct in Human Research, 2007 (updated 2018),* and full ethical approval has been granted.

Approval No.	H21REA012
Project Title	A critical discourse analysis of the language used in the coronial inquest findings of unexpected deaths in health care
Approval date	24 February 2021
Expiry date	24 February 2024
Status	**Approved with standard conditions**

The standard conditions of this approval are:

A. responsibly conduct the project strictly in accordance with the proposal submitted and granted ethics approval, including any amendments made to the proposal;
B. advise the University (email: ResearchIntegrity@usq.edu.au) immediately of any complaint pertaining to the conduct of the research or any other issues in relation to the project which may warrant review of the ethical approval of the project;
C. promptly report any adverse events or unexpected

outcomes to the University (email: ResearchIntegrity@usq.edu.au) and take prompt action to deal with any unexpected risks;

D. make submission for any amendments to the project and obtain approval prior to implementing such changes;

E. provide a progress 'milestone report' when requested and at least for every year of approval;

F. provide a final 'milestone report' when the project is complete;

G. promptly advise the University if the project has been discontinued, using a final 'milestone report'

The additional conditions of approval for this project are:

(a) Nil.

Please note that failure to comply with the conditions of approval and the *National Statement, 2007 (updated 2018)* and the *Australian Code for the Responsible Conduct of Research, 2018* may result in withdrawal of approval for the project.

Congratulations on your ethical approval!

Wishing you all the best for success! Yours

sincerely,

[redacted]

Mrs Sam Davis
Ethics Coordinator

APPENDIX C: CORONIAL INVESTIGATION REPORT 2018/1021

QUEENSLAND COURTS

CORONERS COURT OF QUEENSLAND

FINDINGS OF INVESTIGATION

CITATION:	Non-inquest findings into the death of FD
TITLE OF COURT:	Coroners Court
JURISDICTION:	Cairns
DATE:	8 May 2020
FILE NO(s):	2018/1021
FINDINGS OF:	Ainslie Kirkegaard, Acting Coroner
CATCHWORDS:	Percutaneous Endoscopic Gastrostomy (PEG); post-PEG insertion care & complications; rural hospital presentation; delayed recognition & response to sepsis; Adult Sepsis Pathway; RESIST Sepsis Program; Queensland Sepsis Collaborative; delayed acceptance for interhospital transfer; management of urgent interhospital transfer from rural hospital to regional tertiary hospital.

Contents

1. FD was a 68 year old woman who died at a rural hospital in the early hours of 3 March 2018.

2. Mrs D had a ten-year history of oculopharyngeal muscular dystrophy (OPMD). This is a genetic condition characterised by slowly progressive muscle disease affecting the muscles of the upper eyelids and the throat. She had swallowing difficulties associated with this condition and required a percutaneous endoscopic gastroscopy tube which was inserted at a regional tertiary hospital on 27 February 2018. She presented to her local rural hospital the following evening, 28 February, some five hours after being discharged home from the regional tertiary hospital and was admitted for treatment of aspiration pneumonia. She became acutely unwell on the afternoon of 2 March with urgent clinical investigations revealing her PEG tube had become dislodged. She was escalated for urgent transfer to the regional tertiary hospital for surgical review. Her condition deteriorated rapidly during ambulance transfer requiring roadside emergency resuscitation efforts and diversion to another rural hospital where she died in the early hours of 3 March 2018.

3. Mrs D's death was reported to the coroner as she was thought to have died from a health care complication in circumstances where there was an apparent failure to consider abdominal sepsis during her admission at a rural hospital, failure to have escalated her for surgical review sooner and delays in her transfer to a regional tertiary hospital by road with only one paramedic, one nurse escort and her daughter in the ambulance when she was critically unwell.

Family concerns

4. Mrs D's daughter was understandably considerably distressed by having witnessed the events of the interhospital transfer and having to assist in the roadside emergency resuscitation efforts. The family expressed significant concerns about the management of the transfer.

Autopsy findings

5. An external examination and full autopsy were performed on 7 March 2018. Internal examination of the abdominal and pelvic cavity revealed purulent material particularly in the vicinity of the PEG tube which appeared to penetrate the gastric wall and be present within the gastric lumen. There was no evidence of additional gastric wall defect, mucosal ulceration or mucosal haemorrhage. The pathologist considered the intraperitoneal fluid to be consistent with leakage from the PEG site. There was also purulent exudate over the laryngeal and upper airway mucosal surfaces, pneumonic changes in the lungs, pleural effusions, valvular heart disease, coronary and general atherosclerosis, kidney scarring and muscle changes consistent with muscular dystrophy. No residual breast cancer was identified. Microbiological cultures from the abdominal and pelvic cavities grew Enterobacter cloacae. Having regard to these findings, the pathologist determined

the cause of death to be sepsis due to peritonitis as a consequence of leaking PEG tube in the context of oculopharyngeal muscular dystrophy.

Preliminary independent clinical review

6. An independent doctor from the Department of Health Clinical Forensic Medicine Unit reviewed the medical records and raised a number of concerns about Mrs D's clinical management at the local rural hospital and the management of the interhospital transfer, namely:

   - there should have been a higher clinical suspicion for abdominal sepsis – the reviewing doctor was uncomfortable with the diagnosis of aspiration pneumonia to explain Mrs D's presentation to the local rural hospital as it did not explain her abdominal symptoms and the chest x-ray had improved as compared with her previous imaging;

   - there was late recognition and inadequate treatment of a septic patient - when Mrs D became hypotensive on 1 March, it would have been prudent to explore other potential sources of sepsis, and abdominal causes should have been high of the list of differentials given her recent abdominal surgery. Fluid resuscitation was also indicated to manage her hypotension;

   - there was inadequate preparation of the patient for transfer (stabilisation, monitoring) – while the acute deterioration at around 4:30pm on 2 March was recognised quickly and prompted appropriate investigations, the reviewing doctor considered Mrs D was clearly septic but expressed concern that her sepsis was not adequately recognised or managed prior to transfer. With the benefit of hindsight Mrs D needed to be stabilised before transfer was even attempted;

   - there was possible obstruction from the surgical team to interhospital transfer resulting in delayed departure from the local rural hospital – the reviewing doctor was surprised that the surgical team insisted on waiting for a formal radiology report before accepting Mrs D given she was deteriorating so quickly. This delay reduced her changes of a safe interhospital transfer;

   - an inappropriate means of transportation was chosen with insufficient retrieval staff and lack of Queensland Ambulance Service back up – the reviewing doctor was uncomfortable that the ambulance transport proceeded with only one paramedic, one nurse escort and Mrs D's daughter when Mrs D was considered to be unstable;

   - apparent failure to recognise the critically unstable patient at the other rural hospital with an inappropriate decision to continue transfer without stabilisation of the patient – the reviewing doctor was concerned after an emergency stop at the other rural hospital, and some stop gap measures, they were sent on their way again. The reviewing doctor considered it should have been recognised that Mrs D was too unstable to make the hour long trip to the regional tertiary hospital, even with a bag of metaraminol running. She was peri-

arrest with severe hypoxia (60-80%), they were struggling to get an accurate blood pressure and her pulse was not palpable. If she was to have any chance of survival, she needed invasive monitoring, central access, inotrope support, intubation and ventilation. If aeromedical retrieval services were not available, a doctor escort could have been considered. However, given that there were signs that Mrs D was peri-arrest (unpalpable pulses with systolic blood pressure <57), aborting the transfer at the other rural hospital would not have been unreasonable; and

- potential lack of availability of aeromedical retrieval services.

7. These findings have been informed by review of Mrs D's medical records, preliminary independent clinical review, autopsy findings and clinical incident review outcomes and formal responses by the relevant Hospital & Health Service, Queensland Ambulance Service and Retrieval Services Queensland with reference to the family's specific concerns.

8. Following Mrs D's death, the relevant Hospital & Health Service (HHS) commissioned a root cause analysis (RCA) of the care provided to her by its health services over the period 18 February – 3 March 2018. This is a systemic analysis of what happened and why and is designed to make recommendations to prevent adverse health outcomes from happening again, rather than to apportion blame or determine liability or investigate an individual clinician's professional competence. It is conducted by a review team who had no involvement in the patient's care. I note that the RCA team included representatives from the Queensland Ambulance Service and Retrieval Services Queensland. The RCA report was received on 9 October 2018.

Events leading to Mrs D's PEG insertion on 27 February 2018

9. In addition to OPMD, Mrs D's medical history included breast cancer (grade 3) on surveillance, hypertension, dyslipidaemia, hypothyroidism, gastro-oesophageal reflux disease and diverticular disease.

10. Mrs D had presented to the local rural Hospital on 18 February 2018 with increasing dysphagia and suspected bilateral aspiration pneumonia. Chest x-ray confirmed aspiration pneumonia. She was admitted for further management and commenced on intravenous antibiotic therapy.

11. She had been seen by a speech pathologist in the community outpatient clinic two weeks earlier. The speech pathologist had sent a Videofluoroscopy (VFSS)/Barium Swallow request form to Mrs D's general practitioner for signature but the request had not been returned. Mrs D had also been seen by the community dietician on 15 February 2018 who recommended mildly thickened fluids and a pureed diet.

12. On 19 February, Mrs D regurgitated her oral intake. She was assessed by the speech pathologist and made nil by mouth and commenced on intravenous fluids.

She was referred to the regional tertiary hospital gastroenterology team and transferred to that hospital afternoon. A new referral for VFSS/Barium Swallow was made to the regional tertiary hospital for 20 February.

13. Mrs D was admitted directly to the Medical Assessment Unit at the regional tertiary hospital under a general medical consultant. She was assessed by a dietician and speech pathologist the following morning. A nasogastric tube was inserted and a gastroenterology referral was made in anticipation of Mrs D needing a percutaneous gastrostomy (PEG).

14. The VFSS/Barium swallow scheduled for 20 February was cancelled due to Mrs D's high risk of aspiration. She remained nil by mouth.

15. Following review by the gastroenterology team on 21 February, it was decided to postpone the barium swallow but proceed with the VFSS. Mrs D was allowed small oral intake only and her NGT feeds continued.

16. On 22 February, chest x-ray confirmed NGT placement and enteral feeding was recommenced. A referral for PEG tube insertion was made and the procedure was booked for 27 February. Mrs D underwent pre-anaesthetic assessment and was consented for the procedure.

17. She was then transferred to a rural hospital for management of her NGT enteral feeding pending the PEG tube insertion. The plan was for her to be discharged home after one day to await PEG insertion. She was commenced on a seven day course of antibiotic therapy (Augmentin Duo) via NGT because her sputum sample grew Klebsiella pneumoniae 3+.

18. However, after an episode of vomiting it was decided for Mrs D to remain as an inpatient there until the PEG insertion. She remained clinically stable and her antibiotic therapy continued. Blood results were noted to be normal on 23 February.

19. Mrs D was transferred back to the regional tertiary hospital on 26 February in preparation for the PEG insertion. She was admitted under the gastroenterology team. Pre-operative antibiotics were ordered for the following morning and intravenous access was obtained.

20. I note that while Mrs D was to be commenced on the PEG Carepath, there is no evidence it was used by those caring for Mrs D. The RCA report noted that while the PEG Carepath was available on the Queensland Health intranet, it was not used at the rural hospital or the regional tertiary hospital at that time. Further, the hyperlink to the Carepath within the PEG Management Procedure did not function. Although there was functionality within the integrated electronic medical record (iEMR), this was not used for PEG check post insertion; rather all post procedural documentation was entered into iEMR documentation at the regional tertiary hospital or hard copy progress notes at the local rural hospital.

21. Bloods taken on the morning of 27 February were within normal limits. Mrs D received preoperative intraveous antibiotics (Gentamycin and Ampicillin) before attending the Endoscopy Unit for the PEG insertion.

22. Mrs D had a 20Fr Medical Innovations Corporation (MIC) Pull gastrostomy (with Enfit connections) inserted with an upper endoscopy to confirm placement. The endoscopy report notes '..the entire examined stomach was normal. Placement of an externally removeable PEG with no T-Fasteners was successfully completed. The external bumper was at the 4.0cm marking on the tube.

23. The post procedural plan was for Mrs D to remain nil by mouth and nil by PEG for four hours after insertion and then for the PEG to be flushed with 50mls water to ensure Mrs D was pain free and tolerated the PEG. This is documented as being well tolerated and a feeding regime commenced. Mrs D received continuous PEG feeds overnight.

24. I note that post PEG insertion education at the regional tertiary hospital is provided by a *"PEG Credentialled Dietician"*. This covers information about gastrostomy care and feeding and patients are given a 'Caring for your Gastrostomy tube' brochure to take home. I am advised that during the first few weeks post insertion, an immature gastrocutaneous track predisposes the patient to developing peritonitis if there is complete or partial dislodgement of the tube and feeding continues.

25. Mrs D and her daughter received education from a PEG credentialled dietician the following morning, 28 February. This education covered PEG hygiene, tube position check, hand hygiene, monitoring for infection and mouth care. The dietician demonstrated feeding and observed E's technique. Her daughter was deemed to be competent with PEG care and feeding. They were given two mesh bands and tape for securing the PEG.

26. The dietician documented the PEG bumper to be sitting at 4cm with 2-5mm between the bumper and skin and the tube was rotating and moving in and out of the stoma appropriately. Mrs D is noted to have indicated only mild pain when coughing and had a moist cough. She was noted to have tolerated 70ml/hr feeds overnight and tolerated a 200ml bolus feed via gravity syringe with 60ml flush before and after during the PEG education that morning. She was commenced on an intermittent feeding regime which involved intermittent gravity or slow/gentle push with 60ml water pre/post feed flushes plus additional 250ml flushes three times daily. Mrs D was given a supply of feeds and a Home Enteral Nutrition Services script for more. The dietician handed over to the nursing staff that Mrs D required education on medication administration before discharge home.

27. When reviewed on the gastroenterology ward round Mrs D was noted to be stable. She was discharged home with her daughter at 1:10pm with a plan for ongoing

dietician review with the local Community Health Service. She was given a prescription for topical Mupirocin cream 2% twice daily for two weeks.

Mrs D's readmission to the local rural hospital on 28 February 2018

28. Mrs D presented to the local rural hospital emergency department at 6:47pm that evening with nausea, vomiting, pain, weakness, rigors and fevers. This was only about five-and-a-half hours after being discharged home from the regional tertiary hospital. Mrs D followed the advice she had been given before leaving the regional tertiary hospital about monitoring for potential post-insertion complications and presented to her local emergency department in a timely way.

29. She was found to be febrile to 39.1 degrees, with an increased respiratory rate and low oxygen saturations. Venous blood gases showed a high lactate (2.98 mmol/L). She was examined by a Senior Medical Officer who noted she appeared deconditioned, had fevers and was shivery. Her chest was clear, her abdomen was soft and the PEG was described as clear but with epigastric tenderness. The initial clinical impression was documented as "*? recurrence of aspiration pneumonia ? postoperative complication*". There is no documentation relating to the PEG bumper position at this review. Bloods were taken but no blood cultures were ordered. A chest x-ray was ordered for the morning along with a mid-stream urine specimen. She was admitted to the ward for oximetry, PR medication and standard observations.

30. Mrs D was given PR paracetamol and PR indomethacin during the evening. As at 9:15pm she was still febrile at 38.8 and had an elevated respiratory rate. Bloods had been collected at 9:00pm but the afterhours pathology service was not called in to analyse the sample overnight.

31. Mrs D's intravenous access was difficult so it was decided to administer antibiotic (Augmentin) via the PEG rather than intravenously. Once her daughter provided the PEG equipment, she received the first dose of Augmentin 500/125mg via the PEG at around 1:00am on 1 March, nearly six hours after her presentation to hospital.

32. The patient record indicates Mrs D received further doses of paracetamol via PEG four-hourly from 6:00am on 1 March. Her morning medications were also administered via PEG at 8:00am. The dietician did not get to review Mrs D in person as she was attending a workshop. However a feeding regime based on the regional tertiary hospital dietician plan was documented at 9:10am.

33. Mrs D was reviewed by a speech pathologist who knew her well. Mrs D told her she been cleaning her bird cage after being discharged home from the regional tertiary hospital. In addition to the PEG feeds, the plan was to permit small amount of runny pureed diet and regular fluids for quality of life (with a maximum 4 x 5ml teaspoons specified). The Fluid Balance Chart notes that feeding via the PEG continued/recommenced at midday.

34. The pathology results from the previous evening were available for review from 9:30am that morning. However there is no evidence to indicate they were reviewed. These results revealed an elevated white cell count (18.6) and neutrophils (16.03) and raised inflammatory markers (CRP 36). There is no information available to me to clarify how and why these results were not accessed or acted upon. This was a significant missed opportunity by the treating team to have considered Mrs D's risk factors for and other potential sources of sepsis.

35. Chest x-ray performed at 10:30am showed areas of linear atelectatic change with improvement compared to the previous imaging.

36. A nursing entry made at 11:30am noted Mrs D reported pain on mobilising from the bed to the toilet. She was yet to be seen by the doctor at that time.

37. The local rural hospital utilised the Queensland Adult Deterioration Detection System (Q-ADDS) to record patient vital signs. Q-ADDS is a standardised vital signs or observation chart used in many Queensland public hospitals with the specific aim of detecting patient deterioration.

38. In essence, the Q-ADDS chart presents the most important vital signs for detecting patient deterioration - respiratory rate, oxygen saturation, oxygen flow rate, blood pressure, heart rate, temperature and level of consciousness. Each vital sign is presented as a separate graph. The chart incorporates a system for tracking changes in the patient's vital signs over time. It integrates both a single parameter system (in which an emergency response is required when any single observation is plotted outside the given range) and a multiparameter system (in which each vital sign is scored and then summed to produce a total score representing an indication of the patient's condition). The total score triggers a list of actions required when thresholds for abnormality are reached. Depending on the severity of the patient's score, the chart triggers actions ranging from notifying the nursing team leader, increasing the frequency of observations, escalating the patient for medical review within a certain timeframe to initiating an emergency call – a higher QADDS score requires higher levels of intervention. In this way, the Q-ADDS tool positions clinicians involved in a patient's care to track vital sign changes over time with a view to identifying clinical deterioration and appropriate interventions in a timely and consistent way.

39. Mrs D's Q-ADDS chart noted she remained stable throughout the morning. However, her blood pressure had dropped significantly to 80/51 when checked at 1:15pm, a level that would normally trigger an emergency response. The nurse rechecked the blood pressure twice with the second manual redo recording 92/54. The nurse's entry in the progress notes made at 1:50pm notes "*QADDS Score of 2 BP taken 3 times once manual. Spoke to Dr, Concerned as no mods in place Doctor had. No further orders*." Mrs D's other observations showed she was afebrile, heart rate (60-80s), respiratory rate (17-20) and oxygen saturations (98-100% on room air).

40. Mrs D was normally hypertensive so her new hypotension at this time was very low given her baseline systolic blood pressure. The Q-ADDS chart had been completed by documenting Mrs D's 'usual systolic BP' as 110, rather than the default of 120. There is no record of this change documented in the progress notes. The RCA report notes there was no documentation in the patient record that Mrs D's blood pressure had decreased from her recent previous admission or since her discharge from the regional tertiary hospital the previous day. The clinical handover was not documented so it is not known whether the nursing team leader was notified of the low blood pressure reading. There was no record of the telephone discussion with the doctor noted on intervention section on the Q-ADDS chart. The RCA team noted interviews with the staff caring for Mrs D at this time inferred that her low blood pressure may have been attributed to her deconditioned state.

41. As identified by the reviewing doctor, this was another missed opportunity for the treating team to have reassessed Mrs D's risk factors for and other possible sources of sepsis. It was also a missed opportunity to have commenced fluid resuscitation.

42. Mrs D was reviewed by a Senior Medical Officer at around 4:40pm who documented no new changes and a plan to continue current treatment, antibiotics via PEG as charted and to continue PEG and oral feeding as per the dietician and speech pathologist.

43. At 9:42pm, nursing staff documented a pain score of 5/10. Her blood pressure was noted as 99/53, asymptomatic and scoring Q-ADDS 1. Mrs D was receiving regular paracetamol via the PEG. The PEG site was described as clean and intact and she was gravity feeding well.

44. She was given 10mg Ordine via the PEG at 11:45pm and again at 2:05am for lower abdominal pain. Her regular paracetamol continued.

45. The Q-ADDS chart shows a decrease in her oxygen saturations from 2:00am (94% down from 98% on room air) which continued through the day. Her Q-ADDS score ranged between 0-1.

46. At 5:10am on 2 March, Mrs D was noted to have lower abdominal pain. She received analgesia via the PEG.

47. At 6:15am, Mrs D still had reduced oxygen saturations (94% on room air) and low systolic blood pressure.

48. Mrs D was reviewed by a Senior Medical Officer at 9:53am on 2 March who noted a recent upper respiratory tract infection based on the chest x-ray findings. She was noted to have an intermittent cough and no urinary symptoms. Her abdomen was soft and generally tender. The plan was to continue current management,

repeat blood tests and, if her inflammatory markers were elevated, discuss with the gastroenterology team.

49. There is an entry by a Medical Registrar at 1:30pm noting that Mrs D had not had any abdominal pain the day after the PEG insertion but the pain started to get worse on 1 March mainly around the PEG site which worsened with coughing. She did not have any nausea, vomiting or diarrhoea. She was noted to have been afebrile since admission. She had an ongoing productive cough that had not improved.

50. On examination, Mrs D's observations were pulse rate 65, blood pressure 120/20, oxygen saturations 94% on room air and she was afebrile with warm peripheries and a weak radial pulse. The PEG site was clean with no surrounding erythema or discharge from the wound. The doctor noted umbilical abdominal pain but not peritonitic and bowel sounds were present. There were scattered bilateral crepitations on chest auscultation.

51. The Medical Registrar noted the chest x-ray findings of resolving aspiration pneumonia and the blood results from 28 February with the elevated white cell count, neutrophils and raised inflammatory markers. Biochemistry was normal.

52. Noting the generalised abdominal pain post PEG insertion, the Medical Registrar documented "*?post op complication vs post op pain*". She noted Mrs D had been in Augmentin Due Forte for aspiration pneumonia which was radiologically improving. The plan was for repeat blood tests and discussion with the gastroenterology team if the tests showed worsening inflammatory markers. PEG feeds were to continue as per the dietician. Sputum cultures were ordered.

53. Bloods were collected at 1:59pm and the results registered in the pathology system at 2:17pm. These results showed a reduced white cell count (down to 3.5) and dramatically elevated inflammatory markers (CRP 346). A lactate level was not ordered.

54. Mrs D was noted to have been well at the start of the afternoon shift. The last recorded PEG feed on the fluid balance chart was at 4:00pm on 2 March. The feed was given with no concerns but approximately 30 minutes later Mrs D was found to be coughing and feeling unwell with the PEG feed *"leaking extensively"*.

55. She was urgently reviewed by a Senior Medical Officer who noted she had ongoing abdominal pain and was vomiting, there was a leak around the PEG site and her abdomen was distended with generalised tenderness. Her vital signs were within normal limits. The repeat blood test results, in particular the markedly elevated CRP, were noted and the regional tertiary hospital gastroenterology team were contacted.

56. An urgent CT and PEGogram scan performed at 4:46pm was reported verbally as showing "*copious intraperitoneal fluid with gas. Contrast in gastric body. Contrast in bowel ?residual barium from fluoroscopy*". The clinical impression was of peritoneal leak from the PEG.

57. The ward nurse was reportedly very concerned about Mrs D's potential for deterioration during the CT scan but this was not documented in the patient record and there is no documented evidence that these concerns were escalated to a Medical Officer.

58. Mrs D was commenced on intravenous antibiotic therapy (Ceftriaxone 2mg) at 6:30pm. Her Q-ADDS score was 0 at this time.

59. The Senior Medical Officer contacted the on-call Surgical Registrar at the regional tertiary hospital at around 6:30pm. The surgical team reportedly refused to accept Mrs D for transfer without a formal CT report.

60. The CT findings were reported at 7:09pm. The findings were reported as *"A PEG tube is seen and it's identified to the right of midline. It appears to be outside the stomach. Contrast was administered and it does enter the stomach with no definite contrast into the abdomen. There is however a large amount of free fluid and free gas indicating a leak. Differential otherwise have included a perforated viscus. Surgical review however urgently recommended. Further bibasal atelectasis seen and some fluid distending the power oesophagus noted."*

61. The Senior Medical Officer reviewed the formal CT report at around 8:00pm noting "*Free fluid & air ++ PEG not in stomach*".

62. The Senior Medical Officer attempted to contact the surgical team again with the report findings but the surgeons were scrubbed in theatre and advised they would call back later. The oncoming Senior Medical Officer then called the regional tertiary hospital emergency department consultant who accepted Mrs D "*without question*" for urgent transfer.

63. By 8:30pm, Mrs D had developed an acute kidney injury, hepatic injury and raised lactate. She was given intravenous metronidazole 500mg at 8:40pm and in an indwelling catheter was inserted in preparation for interhospital transfer. Nursing notes described her as obviously deteriorating, becoming short of breath and coughing up stomach contents. Her Q-ADDS score was now 3 with an elevated respiratory rate (24), temperature 35.4C and oxygen saturations 94%.

Clinical guidance for identifying and responding to PEG complications in rural health facilities

64. Preliminary independent clinical review identified that there should have been a higher clinical suspicion for abdominal sepsis when Mrs D presented to the local rural hospital.

65. The RCA identified that PEGs are not commonly encountered within the HHS rural facilities and medical and nursing staff in these facilities in general are not familiar with PEG care requirements within the first few weeks post insertion.

66. The RCA team concluded that the local rural hospital medical officers did not consider Mrs D to be displaying overt peritoneal signs and given her recent pneumonia and aspiration risk, there was a bias towards a respiratory focus of infection.

67. The RCA team identified that the HHS PEG-related clinical resources did not provide clear instruction on initial patient management if suspected complications were encountered during the first few weeks post PEG insertion. In particular the resources did not provide information on clinical escalation or referral after hours; direct cessation of using the device until the PEG position had been confirmed; give clear guidance about how the PEG position should be confirmed or specify documentation requirements.

68. The RCA identified the absence of clinical guidance in identifying and responding to PEG complications to be a root cause as it was considered to have contributed to delay in recognition of PEG complications which led to a delayed referral to higher level care and delayed the recognition of sepsis.

69. To address this, the RCA team recommended that HHS update its Gastrostomy Tube Management Procedure and PEG Careplan to incorporate indications for discontinuing PEG feeds when suspected complicated are encountered; indications for contacting the on-call gastroenterologist after hours if complications are suspected; bumper position checking and position documentation/checking requirements; device securing and indications for considering entry into the Sepsis Pathway and incorporating a hyperlink to access that pathway.

Delayed recognition and response to sepsis

70. Preliminary independent clinical review identified there was late recognition and inadequate treatment of a septic patient at the local rural hospital.

71. At the time of Mrs D's death there was a clinical guideline and clinical pathway in place across the HHS for the recognition and management of adult sepsis.

72. The RCA team identified that Mrs D presented to the local rural hospital with a number of the risk factors identified on the HHS Adult Sepsis Pathway including:
    - indwelling medical device
    - recent invasive procedure/surgery
    - fevers or rigours
    - representation within 48 hours
    - abdominal pain
    - over 65 years of age.

73. The RCA revealed that the Adult Sepsis Pathway was not used when Mrs D presented to the local rural hospital emergency department, on admission or during inpatient shift to shift handover. This was considered to have led to the delayed recognition and response to sepsis.

74. Specifically, Mrs D's presenting signs and symptoms did not trigger completion of the 'Sepsis Six' treatment arm of the Adult Sepsis Pathway which involved oxygen, blood cultures, serum lactate, intravenous fluids, antibiotics, monitoring and reassessment. While the clinical procedure required all clinicians to recognise the risk factors, signs and symptoms of sepsis, it did not provide a compulsory screening tool to prompt entry onto the Sepsis pathway. Activation of the Sepsis Pathway was reliant on individual clinician awareness rather system triggers.

75. Mrs D presented to the local rural hospital with an elevated lactate of 2.98 mmol/L. I note that clinical studies have identified a strong association between an elevated serum lactate level and morbidity and mortality in critically ill patients. The RCA team noted that while the HHS Sepsis Pathway set out the management required where a lactate level is above 4.0 mmol/L, it did not provide guidance about the significance of an elevated lactate level between 2.5-4 mmol/L.

76. The RCA team also noted there was a delay of more than six hours between presentation to the emergency department and administration of the first antibiotic dose.

77. Further, Mrs D's septic risk factors were not reviewed during the inpatient shift to shift handovers. This led to the sepsis risk factors not being reassessed over the course of Mrs D's admission despite her new hypotension and developing abdominal pain over 1 March 2018. This was considered to have contributed to the delayed recognition of sepsis and may have increased the likelihood of death.

78. At the time of the RCA in 2018, the HHS was preparing to participate in a trial of changes to the sepsis pathway to incorporate a screening tool for patients who met certain clinical criteria; a clinical prompt to promote treatment for sepsis where a lactate level of 2 or higher; and intravenous antibiotic prescribing guidelines. The RCA team considered that these changes, had they been implemented at the time of Mrs D's death, would potentially have changed the course of her clinical management.

79. Significant changes to the management of sepsis have been rolled out statewide since Mrs D's death and are discussed in more detail below.

Recognition and response to clinical deterioration

80. Preliminary independent clinical review identified a missed opportunity escalate Mrs D's hypotension on 1 March 2018 for further clinical review and investigation.

81. The RCA identified underutilisation of the Q-AADS chart to trigger clinical escalation. Specifically, there was a missed emergency response on the afternoon of 1 March when an incorrect Q-ADDS score was documented. Further, nursing staff did not record pain scores on the Pain and Sedation section of the Q-ADDS chart.

82. There was no evidence to indicate that the casual Enrolled Nurse who was responsible for Mrs D's care on 1 March had yet attended nursing orientation which covers topics relating to recognition and management of the deteriorating patient, the Sepsis Pathway, clinical handover and clinical escalation and patient transfers. This formed part of the mandatory training nursing staff were required to complete within the first 4-8 weeks of their employment. I am advised that nurse subsequently attended the requisite mandatory training day.

83. The RCA team considered that the significant change in Mrs D's systolic blood pressure and developing pain throughout the afternoon on 1 March 2018 should have triggered escalation for medical review which may have led to a reassessment of her sepsis risk factors and triggered sepsis resuscitation measures and referral to a Consultant or Retrieval Services Queensland (RSQ) and escalation to higher level care.

84. The RCA also identified suboptimal medical and nursing utilisation of SBAR in clinical handover. This led to an uncertain level of communication during the medical, nursing and QAS handovers regarding Mrs D's Q-ADDS score, pathology and underlying risks for sepsis which in turn contributed to a lack of response to clinical deterioration and delayed recognition and response to sepsis. It was considered this may also have led to Mrs D's potential for deterioration during transfer not being recognised and the delayed escalation to RSQ.

85. To address these issues, the RCA team made recommendations aimed at improving compliance with QADDS documentation, clinical handover and clinical escalation requirements.

Delayed acceptance to higher level care

86. The RCA was informed by interviews with all staff involved in the interhospital transfer.

87. The surgical consultant advised that a verbal radiology report would have been a sufficient basis to accept Mrs D for transfer to the regional tertiary hospital. However, the Surgical Registrar who took the initial call from the local rural hospital had recently commenced the surgical rotation and did not recall a verbal report; rather, the Surgical Registrar recalled being asked to review a CT and at that time did not feel confident in CT interpretation. The Surgical Registrar intended to contact the surgical consultant to discuss the case. At the time of the phone call, the Surgical Registrar was in the emergency department overseeing three student doctors and was then called to theatre after the call. The theatre case was delayed meaning the Surgical Registrar's consultation with the surgical consultant about

Mrs D occurred later during that case. By this time the formal CT report had been completed.

88. The Surgical Registrar was not aware of any formal process for accepting referrals but did say the surgical Registrars would run all referrals via the surgical consultant who would make the decision about acceptance. In hindsight, the Surgical Registrar acknowledged the surgical consultant should have been contacted earlier. The Surgical Registrar subsequently completed training to improve their CT interpretation skills.

89. The RCA team concluded that absent use of the referral and acceptance procedure by junior surgical staff resulted in delayed acceptance by the surgical team which resulted in delayed transfer which in turn contributed to delayed escalation to higher level care.

90. Although the local rural hospital doctor's escalation to the regional tertiary hospital Emergency Consultant was seen as a last resort, other avenues for escalation were available as set out in existing guidelines within the HHS Hospital Transfer Procedure for escalating concerns when there is a delayed acceptance. These escalation pathways included contacting consultants directly, escalating to RSQ or escalation to the Executive Director Medical Services.

91. The RCA also observed that the clinical handover focussed on the surgical issue rather than sepsis.

The interhospital transfer

92. The online Interhospital Transfer Request Form was completed by the local Senior Medical Officer at 9:05pm. It requested transfer by ambulance and was categorised as semi-immediate. A 'nurse only' escort was requested. The reason for transfer was stated as *"needs urgent surgical review for dislodged PEG. Free air and fluid in abdo on CT"*.

93. Information provided by the Queensland Ambulance Service shows the QAS received a call for service at 9:13pm on 2 March to provide an interhospital transfer from the local rural hospital to the regional tertiary hospital with the local rural hospital providing a nurse escort who would undertake primary clinical care during the transfer. QAS was advised that Mrs D had peritonitis resulting from a dislodged PEG tube and a family member would accompany her on transfer to the regional tertiary hospital.

94. The QAS request form was faxed to the regional tertiary hospital at 9:21pm for an authorisation number. The QHAT code was Red 2B (urgent interfacility transfer requiring paramedical level care and response time 30 minutes). A referral letter to the regional tertiary hospital surgical team was also completed noting Mrs D had been treated for lower respiratory tract infection after presenting with fever, feeling generally unwell and with epigastric tenderness the day following PEG insertion.

PEG feeds were described as 'relatively uneventful'. The events of that afternoon were described as *"on examination today her abdomen felt moderately distended and was generally tender, though there were no overt Peritoneal signs. Repeat bloods today revealed a markedly elevated CRP in the 350's and a leucopenia. On advice from gastroenterology a CT abdomen and PEGogram was sought. There is a lot of intraperitoneal fluid with some gas. Contrast lies in the stomach, though there is some in the large bowel as well (?residual from previous imaging). A formal report is pending."* The reason for referral is documented *as "?Peritoneal leak following Peg insertion on 27.02.10"*.

95. Retrieval Services Queensland were not contacted during the referral or transfer arrangements.

96. The QAS regional Operations Centre dispatched a paramedic at 9:33pm who arrived at the local rural hospital at 9:44pm. At this time there was a two-officer QAS crew in local Unit 7138. In order to ensure ambulance coverage in the area, the crew were returned to the station and split, with one paramedic dispatched to facilitate Mrs D's transfer as a single officer in another ambulance, and the other officer remaining in the local area. The drew returning to the station and preparing another vehicle resulted in a short delay in response to the service call for Mrs D. I am satisfied this delay had no bearing on the outcome for Mrs D.

97. A registered nurse who had completed her evening's work on another ward volunteered to escort Mrs D in the ambulance. She had recently started working at the local rural hospital and had attended the hospital's interhospital transfer and ambulance orientation two weeks previously. This was her first QAS escort. She had Basic Life Support Skills.

98. The escort nurse reported having received a limited handover because the evening shift ward nurse was having a busy shift. There is no documentation to indicate that the HHS InterHospital Transfer Patient Checklist was completed prior to transfer.

99. An Acute Resuscitation Plan was discussed and a 'life threatening condition' explained to the family whose documented wishes were for full resuscitation.

100. At this time Mrs D had an elevated respiratory rate (30 breaths per minute), elevated heart rate (112 beats per minute), normal level of consciousness (GCS 15/15) but low oxygen saturations (88%).

101. The paramedic received a brief handover from the escort nurse who told him Mrs D was being transported to the regional tertiary hospital emergency department for emergency surgery due to a dislodged PEG resulting in peritonitis/sepsis. The paramedic said the evening ward nurse called him aside to advise that Mrs D was quite ill and "*may deteriorate during transport..or during surgery.*" This concern prompted the paramedic to generate a case note attached to the transfer but did not result in a review of the transfer requirements. Family was arriving and Mrs

D's daughter E asked if she could accompany her mother in the ambulance. Notwithstanding the evening ward nurse's express concerns, the paramedic agreed to the request.

102. Before leaving the local rural hospital, Mrs D received 2.5mg subcutaneous morphine for breakthrough pain/discomfort.

103. At 10:00pm Mrs D's Q-ADDS score was 3. She was alert and orientated. The escort nurse's retrospective note describes Mrs D as stable but unwell. Mrs D was loaded into the ambulance together with the escort nurse and E. The paramedic gave the escort nurse an introduction to the QAS equipment location and functionality. The ambulance departed the local rural hospital at 10:15pm.

104. The escort nurse's retrospective note indicates Mrs D's oxygen saturations were 85% with no improvement on 2-4L oxygen via nasal prongs so she was changed to 6L non-rebreather mask. Mrs D remained GCS 15.

105. At 10:34pm, the paramedic contacted the regional Operational Centre to advise that a Critical Care Paramedic (CCP) may be required in the event that Mrs D's condition deteriorated and it was agreed the paramedic would advise if that was needed. I note that the closest CCP was located in the regional city at this time.

106. Shortly after leaving the local rural hospital, the escort nurse reported a high blood pressure reading (220/120) but was unsure if the blood pressure machine was giving a reliable reading. They pulled over to the side of the road and a similar reading was obtained manually. Her oxygen saturations remained low (79-80%) on 15L non-rebreather mask and her carbon dioxide reading was 12. Reducing the oxygen made no difference. The paramedic continued on to the regional city. The escort nurse alerted him that Mrs D was deteriorating with dropping oxygen saturations, increased respiratory rate and effort, and decreasing blood pressure. A decision was made to divert to another nearby rural hospital for medical assistance.

107. At 10:46pm the paramedic advised the regional Operations Centre that Mrs D's condition had deteriorated. The ambulance arrived at the other rural hospital at 10:47pm.

108. Mrs D was assessed and treated by hospital staff including consultation with a Retrieval Services Queensland (RSQ) specialist medical officer. On initial assessment she was noted to have a reduced level of consciousness (GCS 14) and increased work of breathing. She was tachycardic, hypertensive and diaphoretic. Copious purulent discharge was oozing from the PEG site. The rural hospital doctor described this as *"feculent smelling discharge from around the PEG. She was soaked when they brought her in so it's still oozing from around that PEG site."*

109. RSQ was contacted via a Telehealth Emergency Management Support Unit call. A technical problem with the Telehealth equipment resulted in a delay between video and audio support meaning video linkage occurred but the audio was provided by telephone. Once the connections were established, the local Senior Medical Officer and the RSQ Clinical Coordinator worked through the presentation, starting with possible reversible causes for the reduced level of consciousness. I have had the benefit of listening to the communications between RSQ and the other rural hospital. Mrs D's daughter's significant distress can be heard in the background throughout.

110. Noting Mrs D's pupils were non-reactive and 3mm and she been given subcutaneous morphine prior to departing the local rural hospital, she was given 100mcg intravenous Naloxone at 11:35pm with an improvement in her GCS. She was maintaining her airway, her respiratory rate picked up and she was interacting and obeying commands.

111. There was also discussion about the possibly Mrs D may have aspirated during transfer. The RSQ Clinical Coordinator commented *"..but regardless I think she's been absorbing the subcut morphine and that's alerted her level of consciousness. In the background she does have septic shock that's going to keep evolving. I think they've just got to keep moving with this lady. So regardless her outcome is very very poor and they need to be ready for that. She could die but she's not going to do better by staying with you guys I don't think."* The local Senior Medical Officer agreed noting that from a time perspective and what they could offer there it was probably going to take longer for a retrieval helicopter to land than getting her back in the ambulance and on the road to the regional tertiary hospital. It was agreed that road transfer by ambulance as Code 1, lights and sirens, would be the fastest option, this being a one hour road trip.

112. The RCA team noted the other rural hospital could only provide Basic Life Support. There was no GP-anaesthetist available and the regional tertiary hospital was considered the closest facility. It was noted that an RSQ retrieval would take a minimum 1-1.5 hours.

113. The RSQ Clinical Coordinator initially recommended giving metaraminol but when the blood pressure was rechecked it was 138/112 and Mrs D was obeying commands so the metaraminol was not given.

114. An Acute Resuscitation Plan was discussed with her daughter who confirmed her wishes for full resuscitation.

115. The RSQ Clinical Coordinator explained the severity of the situation directly to Mrs D's daughter and told her *"the best thing we can do is to get your mum to [...] Hospital...she is gravely ill and despite this she may still succumb..I'm just very scared that your mum might pass during this transfer..and I want you to be ready just in case."* The RSQ Clinical Coordinator agreed for her to travel with her mother in the ambulance on the condition that she be strapped in. She then conveyed this

to the paramedic stating *"..Mum could die but nothing we're doing here is going to change any of that, you just have to get to […]."*

116. The local Senior Medical Officer was unable to leave the hospital as there was no second on-call Medical officer rostered at the hospital and her departure would have left the hospital medically unattended. The escort nurse agreed to continue and the paramedic requested QAS back up. Reassessment of the appropriateness of a nurse escort was not reconsidered and there was no escalation to the on-call Director of Medical Services.

117. Due to the unreliable blood pressure machine during the initial transit, the RSQ Clinical Coordinator provided the escort nurse with education on administering metaraminol during transport with instruction for bolus doses if the radial pulse was weak or not able to be palpated. Mrs D received a single dose of metaraminol prior to transfer because she dropped her GCS a bit further; her GCS picked back up after this. The escort nurse's retrospective note indicates that just as the ambulance was leaving, the local doctor ran out to convey the RSQ Clinical Coordinator's advice to change the plan to one ampoule of metaraminol in 1L normal saline to be given throughout the transfer journey.

118. At 11:34pm the paramedic contacted the regional Operations Centre to request an additional paramedic given the likelihood of Mrs D's deterioration. However, due to a miscommunication issue within the Operations Centre, this request was not actioned, resulting in QAS backup not being dispatched at the time of his request. The paramedic was given to understand that a paramedic had been dispatched but did not receive a response from the regional Operations Centre acknowledging his request.

119. The paramedic recommenced the interhospital transfer at approximately 11:42pm. He was instructed to undertake the journey as a code one, lights and sirens response. The ambulance departed the other rural hospital at 11:44pm with the escort nurse and Mrs D's daughter in the back.

120. Minutes later, while the escort nurse was drawing up the metaraminol infusion, Mrs D went into cardiopulmonary arrest. The escort nurse immediately commenced CPR. At 11:47pm, the paramedic advised the regional Operations Centre that CPR was in progress. He pulled the ambulance to the side of the road to assist with the resuscitation. He assisted with the insertion of a guedels airway. Mrs D's daughter took over compressions as the escort nurse drew up more adrenaline. Mrs D remained in a non-shockable rhythm.

121. No paramedic back-up arrived at the roadside after 10 or so minutes, so the paramedic decided to return to the other rural hospital with the escort nurse and Mrs D's daughter continuing CPR. QAS records show the ambulance left the roadside at 12:01am, arriving back at the other rural hospital at 12:04pm.

122. Emergency resuscitation efforts were continued for a further 20 minutes at the hospital. Following discussion with Mrs D's daughter, resuscitation efforts were ceased and Mrs D was managed with comfort cares. She was declared deceased at 1:00am.

123. The escort nurse's retrospective note ended with the comment *"E did a fantastic job at assisting RN and Paramedic during this event. She was more than willing to do so and her assistance was greatly appreciated."*

124. QAS has since advised that the regional Operations Centre dispatched another paramedic at 11:56pm to assist with the roadside resuscitation. However, there was an internal miscommunication whereby it was thought a retrieval helicopter had been ordered and this is why no paramedic backup arrived at the roadside.

125. I have had the benefit of listening to a phone conversation between the RSQ Clinical Coordinator and the Queensland Ambulance Service after the ambulance left the other rural hospital seeking clarification as to why the transfer continued by road. The RSQ Clinical Coordinator explained that the case came through as a TEMSU call for advice *"..and the response time for a helicopter would not be in the same timeframe at all. I think this lady is highly likely to die anyway."* It was confirmed that the local doctor had not requested aeromedical retrieval. The RSQ Clinical Coordinator explained it was a 50 minute road trip and to get to the other rural hospital and back to the regional tertiary hospital by helicopter *"would take way longer than that."* The QAS representative suggested the crew thought the doctor had requested the retrieval helicopter *"..as in the doctor had said can you get the helicopter airborne?"*

126. The RSC Clinical Coordinator explained that Mrs D had responded *"quite nicely"* to what had been done; essentially she needed fluid and was getting some intermittent metaraminol and she had septic shock which was going to continue to evolve.

127. The QAS representative expressed a view that it would probably have been better for the ambulance not to have pulled in at the other rural hospital and *"keep moving"*. The RSQ Clinical Coordinator explained *"I think there's a huge amount of distress in the ambulance anyway and I think that they're caught in a difficult situation when you have the daughter with the patient."* The QAS representative then recontacted the RSQ Clinical Coordinator to advise Mrs D had arrested three minutes out from the other rural hospital so there may be a further request for RSQ assistance. The RSQ Clinical Coordinator expressed the view that continued resuscitation efforts would likely be futile in the context of an arrest from septic shock.

Issues arising from management of the interhospital transfer

128. In February 2018 an educational 'roadshow' was rolled out across the HHS as part of a 'safe to send' campaign introducing a new HHS InterHospital Transfer Procedure. This procedure had recently been updated to incorporate time-critical

and non-time critical transfers, include a 'Safe to Send/Safe to Receive' checklist and revised Escort Selection Guide and associated nurse checklist and to incorporate information about the Interhospital Transfer Form which had been updated to incorporate an SBAR handover.

129. According to the Guidelines for Escort Selection and Nursing Escort Checklist:
    - one registered nurse with Basic Life Support Skills was a suitable escort for a 'moderately dependent patient' that requires monitoring, is agitated or confused and shows potential for deterioration;
    - one registered nurse with Advanced Life Supports Skills or a Medical Officer was a suitable escort for a 'high dependency patient' with significant potential for deterioration; and
    - one registered nurse with Advanced Life Support Skills plus one Medical Officer would be required for a critically ill patient transfer if RSQ was unavailable.

130. The criteria for assessing the reasonable prospect of deterioration included the patient's monitoring and oxygen requirements, haemodynamic stability and intravenous infusions/additives.

131. After considering information about Mrs D's clinical status when she was accepted for transfer to the regional tertiary hospital with reference the Interhospital Transfer Procedure and RSQ Activation flowchart, the RCA team agreed that RSQ should have been contacted at that time. That said, it did not come to a conclusion about whether RSQ input at that time would have changed the decision for road transfer by ambulance. This is because interviews with all staff involved in the transfer revealed that despite an awareness that Mrs D was unwell, her potential for deterioration to such an extent was not foreseen by any of the Medical Officers, the escort nurse or the paramedic prior to departure from the local rural hospital; none of those involved in the transfer from the local rural hospital considered her to be 'critically ill'.

132. RSQ's clinical review of the interhospital transfer identified that Mrs D appeared to be critically unwell prior to departure from the local rural hospital. As such, the clinical situation may well have justified having a medical escort during the road transfer.

133. The RCA team considered that the Interhospital Transfer Procedure guidelines did not provide sufficient objective criteria to assess reasonable prospect of deterioration and may have delayed referral and escalation to RSQ. To address this, the RCA team recommended review of the interhospital transfer procedure and associated flowcharts and checklist to incorporate consideration of Q-ADDS stability (or trending) in the hours prior to transfer, upgrading sepsis criteria from the 'moderate' to 'high dependency' risk score in the escort selection guide and, given the potential for rapid deterioration, to require consideration of consultation with RSQ for all sepsis cases prior to transfer.

134. I am satisfied that the paramedic recognised that Mrs D needed urgent medical assistance when he diverted the transfer to the other rural hospital. The decision that onwards transfer by road ambulance with a nurse escort was made by the RSC Clinical Coordinator and the local hospital doctor. While recognising the implications of this decision, the paramedic tried to comply with the instructions he was given by health service staff. He tried to get an additional paramedic but Mrs D arrested before this occurred. I accept the QAS advice that while an additional paramedic may have provided additional manual assistance it would not have increased the level of clinical care available to Mrs D during the onwards transfer.

135. The RCA team considered that the other rural hospital staff correctly followed procedure by contacting RSQ at the earliest opportunity. The RCA team noted the decision to continue the road transfer to the regional tertiary hospital was a time-critical decision where surgical intervention was perceived, by all involved, to be Mrs D's best chance of survival. However the other rural hospital, with Level One Emergency Clinical Service Capability, was unable to support a critically ill road transfer because it was not possible to provide the recommended Medical Escort without its Medical Officer 'leaving the post', an option that would only be considered as a last resort. The RCA identified there was no formal procedure for level 1 Clinical Service Capability Framework facilities like the other rural hospital to access medical back-up when road transfer of a critically ill patient is required. This contributed to a medical officer being unable to escort Mrs D from the other rural hospital leaving her in the care of escorts who were not optimally equipped to support a critically ill patient.

136. The RCA team concluded that the urgency of the situation and the other rural hospital's proximity to higher level care at the regional tertiary hospital contributed to the decision to continue the road transfer rather than activate an aeromedical retrieval and initiate further stabilisation measures at the other rural hospital. Further, it was considered that the urgency of the situation may also have contributed to lack of escalation to the Executive Director Medical Services and the selection of escorts (the registered nurse) and a single paramedic who were not optimally equipped to support a critically ill patient.

National and State initiatives to reduce sepsis-related deaths

137. Sepsis is a life-threatening illness.

138. The Australian Sepsis Network's report Stopping Sepsis: A National Action Plan (December 2017) cites over 18,000 Australians suffer from sepsis every year, 5000 of those affected will die, and of those who survive, half are left with a disability or impaired function.

139. In May 2017, the World Health Assembly at the World Health Organisation recognised sepsis as a global health priority by formally adopting a resolution to improve the prevention, diagnosis and management of sepsis around the world.

140. Early treatment is known and proven to save lives.

141. On 16 November 2017, The George Institute for Global Health and the Australian Sepsis Network convened a policy roundtable to address the pressing need to improve the awareness, prevention and treatment of sepsis in Australia. This process explored the challenges of early detection and best management of sepsis in pre-to-posthospital care. It culminated in the development of a co-ordinated national action plan including a recommendation to establish and develop a nationally recognised clinical standard for sepsis detection and treatment including clinical care pathways for rapid in-hospital detection, treatment and management.

142. In 2017, the Queensland Department of Health established a Statewide Sepsis Steering Committee to provide advice and guidance for a statewide sepsis program aimed at reducing mortality from sepsis. As part of this process, the Department of Health developed and piloted an emergency department adult sepsis screening tool and pathway at the Gold Coast University Hospital emergency department.

143. By July 2018, 16 public hospitals had joined the Adult and Paediatric Sepsis Breakthrough Collaborative. This initiative enabled teams from multiple hospitals to test and share ideas to achieve reliable recognition and treatment of sepsis patients presenting to Queensland's larger Emergency Departments.

144. In April 2019, a 12 month Rural and Remote Sepsis pathway trial commenced with seven Hospital and Health Services (Torres and Cape, North West, Central West, South West, Central Queensland, Townsville and Wide Bay) participating. In November 2019, all Rural and Remote Emergency Departments in Queensland were invited to use the sepsis pathways. As at February 2020, a total 100 sites had joined the trial project.

145. I am advised that on 17 Jan 2020 the relevant HHS nominated seven of its CSCF level 2-3 facilities (including the local rural hospital) to participate in the Rural and Remote ED Sepsis Pathway Trial and ordered Rural & Remote (R&R) ED Sepsis Pathways (both adult and paediatric). Since there are four versions of adult pathways to choose for each HHS, the pathway with prescribing antibiotic guidelines - High MRSA, Tropical (north of Mackay) – was chosen. As at 14 April 2020 it was confirmed the Rural & Remote ED sepsis pathways had been implemented in all the HHS participating sites.

146. The Rural & Remote ED Adult Sepsis Pathway directs clinicians to screen all adult emergency department patients who meet any of the following criteria:
    - looks sick
    - you suspect they have sepsis
    - has a suspected infection
    - fever symptoms (or recent fever symptoms)
    - hypothermia <35.5
    - signs of clinical deterioration (eg total Q-ADDS score of 4 or higher)

V

147. The Pathway directs clinicians to consider whether the patient has any of the following risk factors:
    - representation within 48 hours
    - malnourished or frail
    - immunocompromised/asplenia/neutropenia
    - indwelling medical advice
    - recent trauma or surgery/invasive procedure
    - postpartum/miscarriage
    - IV drug use or alcoholism
    - Aboriginal or Torres Strait Islander.

148. It then directs consideration towards whether there is any reason to suspect an infection.

149. If the answer to those considerations is yes, the Pathway directs the clinician to consider whether the patient has any high or moderate risk factors. In particular, the high risk factors include systolic BP <90 (or drop >40 from normal) and lactate 2mmol/L or higher (if known).

150. The Pathway then directs certain actions depending on the presence of any high or moderate risk factors. These include obtaining immediate senior medical officer review, ensuring lactate is taken and consideration of contacting RSQ.

151. If senior medical review assesses likely sepsis or septic shock, the Pathway then directs immediate commencement of resuscitation and treatment for sepsis, namely lactate measurement, taking blood cultures, commencing appropriate intravenous antibiotics and (if clinically indicated) intravenous or intraosseous fluids, consider vasopressor supports for hypotension during or after fluid resuscitation facilitating rapid source control (noting that if this requires operative intervention there is early notification to the appropriate surgical or interventional team), reassessing and monitoring the patient's response to resuscitation and early referral to the relevant team with clinical handover.

152. The Pathway also provides guidance about antibiotic selection.

153. I understand work is ongoing to incorporate a digital sepsis module to support early sepsis recognition in the iEMR system being rolled out across Queensland public hospitals.

154. Nationally, the Australian Sepsis Network is working with the Australian Commission on Safety and Quality in Healthcare to develop Sepsis Guidelines and a Clinical Care Standard by mid-2021.

Findings Pursuant to s45 of the *Coroners Act 2003*

Identity of the deceased: [de-identified for publication purposes]

How she died: FD died from complications following dislodgement of her recently inserted PEG tube.

There were multiple missed opportunities by the local rural hospital treating team to have assessed and reassessed possible causes for Mrs D's initial presenting signs and symptoms and the developing hypotension, reduced oxygen saturations and abdominal pain before she deteriorated acutely on the afternoon of 2 March 2018. These included a failure to review and act on an elevated lactate and blood tests results showing an elevated white cell count and raised inflammatory markers and failure to recognise indicators of clinical deterioration over the course of the afternoon and night of 1 March 2018. Earlier recognition and response to these aspects of the evolving clinical picture over the course of 1-2 March should have led to earlier active consideration and investigation of the possibility that Mrs D was experiencing a PEG-related complication rather than aspiration pneumonia. This in turn would have led to earlier engagement with the gastroenterology team and earlier transfer to higher level care for interventional management not available at the local rural hospital which could have significantly changed the outcome for Mrs D.

While there was an immediate and appropriate initial response to Mrs D's acute deterioration on the afternoon of 2 March 2018, the management of her referral and transfer to the regional tertiary before she left the local rural hospital was inadequate. Mrs D should have been accepted by the regional tertiary hospital surgical team following the initial phone contact at around 6:30pm. Consideration should have been given to contacting Retrieval Services Queensland to discuss the most appropriate transfer option before she left the local rural hospital. While consultation with RSQ at this time may not have changed the decision to transfer her by road, it was a missed opportunity to consider the appropriateness of transporting a critically unwell patient without a medical escort. That said, given just how unwell Mrs D became so soon after leaving the local rural hospital, the presence of the medical escort is unlikely to have changed the

outcome for her by that time. Further, it can not be said with any certainty that the outcome would have been any different for Mrs D had aeromedical retrieval been requested and actioned at that time. Rather, her chances for survival would have been maximised by earlier recognition and response to her clinical deterioration over the previous 24 hours.

I commend the attending paramedic, the escort nurse and Mrs D's daughter for their management of Mrs D's deterioration after the ambulance left the local rural hospital. They were faced with a very difficult and highly distressing situation that no one had anticipated prior to their departure from the local rural hospital. I am satisfied that Mrs D was managed promptly and appropriately at the other rural hospital with guidance from Retrieval Services Queensland. I accept that by that stage Mrs D was so unwell the decision to continue the road transfer to the regional tertiary hospital, knowing she could well die enroute, was the best and fastest option to give effect to the family's confirmed wishes for full resuscitation and active treatment. This was carefully explained to the paramedics, escort nurse and Mrs D's daughter, all of whom were aware of the chance Mrs D may not survive the transfer. The presence of a medical escort for the continued transfer would not have changed the outcome for Mrs D.

I am satisfied that implementation of the new sepsis pathways at the local rural hospital and other sites across Queensland will assist greatly in improving early recognition and response to sepsis. In particularly, the screening tool and treatment pathways will assist in addressing the opportunities missed by the local rural hospital treating team responsible for Mrs D's care over 28 February – 2 March 2018.

The current statewide focus on sepsis in children and adults and the initiatives flowing from the work of the Queensland Sepsis Collaborative are extremely encouraging.

Date of death: 3 March 2018

Place of death: [Rural Hospital]

Cause of death:	1(a) Sepsis (enterobacter cloacae) 1(b) Peritonitis 1(c) Leaking Percutaneous Feeding Tube 1(d) Oculo-Pharyngeal Muscular Dystrophy 2 Atherosclerotic Cardiovascular Disease, Valvular Heart Disease, Chronic Obstructive Airways Disease

I close the investigation.

Ainslie Kirkegaard
Acting Coroner
CORONERS COURT OF QUEENSLAND
8 May 2020