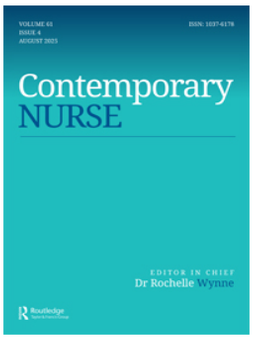

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DISCUSSION

The development of patient safety and the influence of the nurse: A discursive narrative

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Background: Death, harm, or adverse outcomes as a result of accessing healthcare were recognised as a global endemic in the late 1990s and the trigger for the contemporary patient safety discipline.
Aim: To critically review the development of the patient safety movement; and, to determine the influence of the practitioner, in particular, nurses on patient safety.
Design: A discursive narrative using a conceptual framework.
Methods: We developed a conceptual framework consisting of the patient, practitioner, clinical setting, profession, clinical setting, culture of risk, wider society, and the healthcare system, to analyse the development of the patient safety movement. The data sources were considered across three eras commencing with Ancient Greece to the twenty-first century.
Findings: There has been no reduction in patient harm rates across two decades either in Australia or globally, despite resourcing and financial investment. The application of a conceptual model to analyse the influences on the development of the patient safety movement is the contemporary innovation of this discursive narrative. The importance of the practitioner and their influence across all eras was illustrated. The practitioner is the final critical line of defence to maintain the minimum requirement of patient safety.
Conclusion: Patients are no safer accessing healthcare then they were two decades ago. Nurses spend more time with patients than any other health discipline and therefore have a critical role in monitoring and maintaining safe care. Yet, the influence of the nursing profession on the development of the patient safety movement is largely absent in the literature. There is a need for a standardised approach to teaching and evaluating patient safety curricula.
Reporting Method: No EQUATOR guidelines were discovered for the discursive paper format.

Keywords: patient safety; patient harm; history; health care sector; health practitioner; nursing

Impact statement

Patient harm statistics are unchanged over two decades despite resources, financial commitment, programs, and policy reform both in Australia and globally. The practitioner, often the nurse, is the final critical line of defence to maintain the minimum requirement of patient safety. Nurses

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This article has been corrected with minor changes. These changes do not impact the academic content of the article.

are well positioned to influence patient safety development as well as safeguard the patients in their care.

Plain language summary

Patients accessing healthcare have succumb to death, harm or adverse outcomes across history reaching endemic proportions in the 1990s. These alarming statistics infiltrated global society, triggering policy reform, financial commitments, resources and patient safety programs. Despite these assurances, statistics relating to the harm of patients accessing healthcare are unchanged in Australia and internationally over the previous two decades.

We developed a conceptual framework to critically review the influences on the development of the patient safety movement. The perspectives of the framework consist of the patient, practitioner, clinical setting, profession, clinical setting, culture of risk, wider society, and the healthcare system. What we found was the practitioner is the last and critical line of defence to safeguard patients. Nurses are the largest group of health professionals and spend more time with patients than any other health discipline. Therefore, due to the volume and intimacy of care they provide, their knowledge and expertise, their ability to recognise and disrupt deterioration strongly position them to safeguard patients and arguably influence future patient safety development strategies.

Introduction

Healthcare error resulting in patient death, harm or adverse outcomes was recognised as a global endemic in the late 1990s. The data was confronting, with one in ten patients subjected to an error, being harmed, or dying (Wears et al., 2014). The United States Institute of Medicine 2000 report '*To Err is Human'* highlighted the need for action, estimating that there were between 44,000 and 98,000 deaths from error in United States hospitals annually (Donaldson et al., 2000; Schiff & Shojania, 2022). Over the last two decades, there has been no change in patient harm rates either in Australia or globally (Duckett et al., 2018; WHO, 2021), and narrative reports of cases persist. The development of a patient safety paradigm has thus emerged (Vincent, 2011; Wears et al., 2014) and resulted in the contemporary view of patient safety being a fundamental principle of healthcare quality (WHO, 2017). Underpinned by the notion that 'you have to know the past to understand the present' (Sagan, 1980), this paper examines the historical evolution of the patient safety movement, and how this has influenced the development of contemporary patient safety initiatives. How nurses feature throughout this evolution is highlighted.

Patient safety is the responsibility of all healthcare professionals. Across history, nurses have not always been depicted as autonomous professionals who influence patient safety, rather as subordinates often performing mundane, repetitive tasks as a handmaiden to doctors (Bridges, 1990; Hoeve et al., 2013). However, nurses have always been responsible for frontline care and the delivery of safe practice for patients who now are increasingly presenting with chronic and challenging disease processes in complex healthcare systems. Nurses are the largest professional segment of the global health work force and spend more time with patients than any other professional group (Levett-Jones et al., 2020). The contribution of nursing care to patient outcomes is often difficult to measure comparably to other health disciplines, for e.g. a surgical procedure can be quantified to patient outcomes (Jones, 2016). Nurse-sensitive indicators (NSI) are criteria identifying a change in a patient's health status and quantifying a measure of nursing care (McIntyre et al., 2020: Oner et al., 2021). NSIs are crucial for evidencing the safe practice of nurses while also benchmarking quality patient outcomes for healthcare organisations (Afaneh et al., 2021). Within the competing challenges of healthcare, there is an expectation the nursing profession will provide safer care of higher quality as evidenced by

NSIs (Jang & Lee, 2017). As a result of their constant presence and vigilance, nurses are able to recognise deterioration and mitigate risk early in a patient's care journey. Nurses are well positioned to have a positive impact on patient safety and patient outcomes (Bressan et al., 2016; Debourgh, 2012). Nurses' position and recognition of their expertise, skill, and knowledge, is reportedly sparsely within historical literature (Hoeve, et al., 2013). Therefore, this narrative aims to: (1) critically review the development of the patient safety movement, and (2) determine the influence of the practitioner, in particular, nurses on patient safety.

Method

A critical review was undertaken (Grant & Booth, 2009). A critical review evaluates the value of previous work, moving beyond description to include analysis and conceptual innovation. Our critical review involves the analysis of material from diverse sources to build a conceptual framework to synthesise the development of patient safety using the literature. The use of sentinel cases supports a discursive narrative and explores the construction of meaning through human interactions, stories, and social behaviour (Forchtner, 2021).

Conceptual framework

To understand and explain factors that have influenced the development of the patient safety movement, we devised a conceptual framework (See Figure 1). The conceptual framework was informed by scoping the literature and discussions between team members who 'tested' iterations of the framework against the source materials (literature and case studies) in order to provide a comprehensive understanding of the factors that influenced the development of patient safety and the relationships between them (Jabareen, 2009).

In the conceptual framework the concentric circles represent the interactions, complexities, and influences on patient safety in an order, which denotes the evolution from a single focus on an individual to a wider contemporary focus. The patient is at the epicentre of safety considerations which includes their individual perspectives, influences, and experiences of their own safety as a consumer of healthcare. The concentric circles include the influences on the health practitioner encompassing their knowledge, expertise, competence, and advocacy. The health practitioner is the critical safeguard between the patient and the other identified constructs influencing the safety of the patient. The circles widen to consider the influence of the environment or clinical setting, then the health practitioner's profession which includes professional bodies and organisations. Next, a culture of risk assumes there is potential for harm to all patients accessing healthcare, expanding to include the influence of wider society with demand from the public domain to ensure the safety of patient care. The final circle acknowledges the influence and responsibility of the healthcare system to promote and preserve the safety of patients accessing healthcare.

Analysis

Wears, and colleagues (2014) suggest that the history of the patient safety movement may be characterised by three eras: The Sporadic Era which extends from the Ancient Greeks to the 1950s; the Cult Era which follows from the late 1950s until 1999; and, the contemporary Breakout Era, the result of the watershed *'To Err is Human'* report in 2000. In each era, the conceptual framework is used to analyse the data sources and report on the development of the patient safety movement. Sentinel cases and narratives serve to illustrate the contemporaneous complexities, challenges, and failures of health systems in keeping patients safe (Vincent, 2011). Furthermore, the conceptual framework and its' respective influences are applied across the eras to determine distinctions, if any, particularly the influence of the practitioner on patient safety.

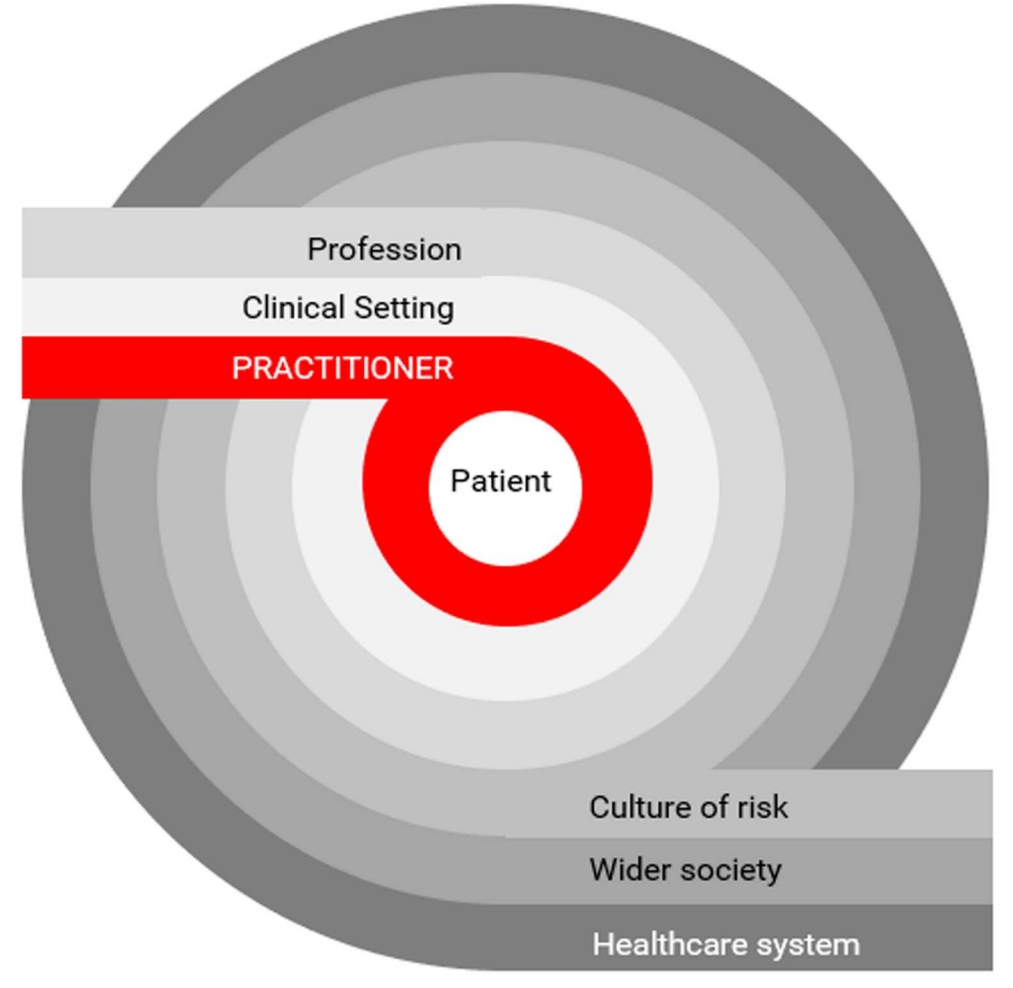

Figure 1. Conceptual framework influencing patient safety development

Findings

Sporadic era

The earliest recognition that healthcare could harm, and that the safety of the patient was at risk was in approximately 450 BC. This signals the commencement of the Sporadic Era, so called because it chronicles isolated accounts of healthcare hazards without integration and articulation of evidence (Wears et al., 2014). Hippocrates recorded that practitioners must 'abstain from harming or wronging any man' (Vincent, 2011, p. 3) and 'do good or at least do not harm' (Yapijakis, 2009, p. 510). Hippocrates recognised the influence of the health practitioner in protecting patients from infection and complications of sepsis, using 'antiseptics' in the form of alcohol, red wine, and vinegar to irrigate wounds (Funk et al., 2009). Albeit assumed, it is likely that the patient had limited knowledge of the chain of infection and the complication of sepsis, however the account demonstrates the importance of health practitioner' knowledge and clinical reasoning skills to the safety of the patient. Galen, in 130–200 AD, followed the work of Hippocrates, recognising the potential harm to patients undergoing surgery and advocated boiling surgical instruments (Sabir & Ramachandra, 2004). Galen's perspective widens the concentric

circles of the conceptual framework and patient safety development to include the influence of the clinical setting and acknowledges the risks of the surgical environment.

In line with the sporadic and intermittent nature of the era, the contribution of nurses is the next noteworthy account, demonstrating their influence and contribution to patient safety. In 1854 Florence Nightingale and a team of volunteer nursing staff were sent to care for British soldiers in a military hospital during the Crimean War. Nightingale noted that soldiers were more likely to perish from preventable diseases which included typhus, typhoid, cholera, and dysentery rather than from battle trauma. The military hospital had no basins, towels or soap and the sanitary conditions of the hospital reprehensible (Scovil, 1913). Nightingale and her nursing colleagues facilitated clean towels, sheets, clothing, and soap as well as sanitisation of the hospital including kitchens and food preparation (Fee & Garofalo, 2010; Scovil, 1913). Consequently, a significant reduction in the mortality of soldiers as a result of hygiene practices resulted evidenced by a range of statistical measures (Cohen, 1984; Fee & Garofalo, 2010). In 1863, Nightingale famously penned that 'the very first requirement of a hospital is that it should do the sick no harm' (Sharpe & Faden, 1998, p. 157). Referencing the conceptual framework, the influence of Galen has extended to recognise the impact of the clinical setting.

In 1847, Ignaz Semmelweis investigated and recorded empirical observations into the origins and prevention of puerperal sepsis thus providing the earliest direct evidence of healthcare risk (Vincent, 2011; Wears et al., 2014). Semmelweis reported that the mortality of post-partum women due to puerperal sepsis and delivery was 13-18% when attended by physicians and/or medical students compared to 2% when attended by midwives and/or student midwives (Best & Neuhauser, 2004). Shortly after the release of these findings, a colleague of Semmelweis died as a result of a cut finger during an autopsy of a patient with puerperal sepsis. Semmelweis thus concluded that puerperal sepsis was caused by the transmission of 'putrid' particles to pregnant women during internal examinations (Vincent, 2011). Semmelweis mandated a handwashing policy for his medical colleagues utilising a lime chloride solution bringing about a reduction in the mortality of puerperal sepsis to a rate of 2% and comparable with midwifery staff. Semmelweis instructed medical instruments used be sanitised as well, reducing mortality further to 1%. (Best & Neuhauser, 2004; Vincent, 2011). However, Semmelweis was unable to convince his fellow physicians of his successful intervention. His superior, Professor Klein disputed the results and asserted that a new ventilation system was responsible for the decreased mortality. Many physicians rejected the notion that they were transferring puerperal sepsis claiming that they were 'clean', and bacteria was confined to the 'unclean' lower class of society (Best & Neuhauser, 2004; Vincent, 2011). The account of Semmelweis illustrates patient safety influence across the conceptual framework from the perspective of the practitioner and the clinical setting with statistical evidence of the efficacy of handwashing as well as the sanitisation of instruments. Although physicians, did not acknowledge their impact on safety of post-partum women, this example highlights the powerful influence of the culture of risk within the conceptual framework.

In 1915, a Boston surgeon, Ernest Amory Codman, developed a seven-category schema identifying poor outcomes after surgical intervention (Vincent, 2011; Wears et al., 2014). Errors were assessed, specifically identifying hazards attributed to knowledge, judgement, equipment and/or diagnostic skill. Other categories included patients' poor prognosis and refusal of treatment as well as 'calamities of surgery', which was allocated to outcomes where there was 'no control' of the unfortunate consequence of the surgical intervention (Neuhauser, 2002). Codman was ridiculed by colleagues, however his proposals were eventually implemented by the American Surgical Society (Vincent, 2011). Applying the conceptual framework of patient safety influence, Codman's efforts considered the patient, the practitioner, the clinical setting, the profession as a whole, and, by inference, the culture of risk concerning the safety of patients.

Overall, the development of the patient safety movement was erratic and inconsistent during the Sporadic Era. There was an emergence of the origins of disease and a possibility of preventing transmission by the actions of the practitioner. There were pioneers whose efforts reflect the patient safety conceptual framework beyond the patient, to include the practitioner and the clinical setting. However, pre-determined beliefs of class structure and culture were a greater influence than any perceived risk by the practitioner or profession harming a patient. The Sporadic Era is delineated from the Cult Era in that the influence of wider society or the healthcare system on the development of the patient safety movement was absent.

Cult era

The Cult Era from the late 1950s until 1999, was characterised by a small group of self-identified advocates for safety in healthcare. A more informed approach to patient safety was emerging in the form of tangible evidence, extending beyond the practitioner and professional spheres to a limited audience in society. Research, information and knowledge from science, healthcare, and the social sciences, combined with powerful narratives of harm to patients, contributed to a growing body of evidence regarding the risk and hazards of healthcare (Wears et al., 2014). Regrettably, evidence of medical error, adverse outcomes, and harm as a result of accessing healthcare were not openly disclosed to patients, acknowledged in medical journals, or considered by governments.

In 1964, gastroenterologist Elihu Schimmel penned the '*Hazards of Hospitalisation'* reporting that 20% of patients suffered one or more adverse events and 1.6% died as a result of hospitalisation (Schimmel, 1964). In 1981, geriatrician Knight Steel extended Schimmel's work and reported higher proportions identifying 36% of patients experienced an adverse event as a result of accessing healthcare, 9% were identified as severe and 2% occasioning death (Steel et al., 1981). The work of Schimmel (1964) and Steel et al. (1981) did extend patient safety influence across the conceptual framework to a societal view, albeit confined to those with access to their work and publications, hence limiting their impact. During the 1980s, the limited available evidence regarding medical error and patient harm was not generally published or publicised. As late as 1990, MEDLINE (the U.S. National Library of Medicine® premier bibliographic database) did not have a subject heading for medical error. Likewise, the editor for the British Medical Journal was widely criticised by the President of a Royal Medical College for drawing unwarranted media attention to the possibility of medical error (Vincent, 2011). The development of the patient safety movement at this time extends across the conceptual framework, the practitioner, and the professions to have a greater understanding of the culture of risk and associated hazards of healthcare, and this information was beginning to penetrate wider society.

Anaesthesia safety foreshadowed the larger patient safety movement by more than a decade. Unfortunately, the information, evidence and knowledge developed by anaesthesiologists remained within their own profession for a significant period (Vincent, 2011; Wears et al., 2014). Biomedical engineer, Jeff Cooper had an avid interest in anaesthetic accidents. Between 1975 and 1977, while working at a large American metropolitan teaching hospital, Cooper led a retrospective examination and critical analysis of the characteristics of human error and equipment failure in anaesthetic practice (Cooper et al., 1978). Largely, the incidents recorded were considered preventable and 82% involved human error; these included breathing-circuit disconnections, inadvertent changes in gas flow, drug errors, unfamiliarity with equipment or the surgical procedure, inadequate communication amongst personnel, lack of safeguarding, and distractions (Cooper et al., 1978). In 1984, Cooper discovered that the greatest anaesthetic error occurred during the surgical procedure when the vigilance of the anaesthetist was at its

lowest (Vincent, 2011). This highlights the position of the practitioner as the last line of defence between the patient and their safety across the conceptual framework. Cooper's work in recognising error and anaesthetic safety encompassed the practitioner, clinical setting, and culture of risk. However, as a biomedical engineer, his influence on the profession of anaesthetists and translation to wider society was limited.

Cooper's foundation work was translated into reform within anaesthesiology, through the leadership and influence of Ellison Pierce, who in 1982 became the President of the American Society of Anaesthesiologists. He too, used the 'power of story' and patient narratives to persuade the anaesthetic profession to reduce error, death and increase anaesthetic safety. The daughter of a close friend of Pierce died under general anaesthesia having her wisdom teeth extracted (Cooper, 2006; Wears et al., 2014). In 1982 the American ABC program 20/20 broadcast a documentary whereby a patient suffered extensive brain damage when nitrous oxide gas was inadvertently turned up and oxygen was turned off while anesthetised (Cooper, 2006; Tomlin, 1982). Pierce was successful in influencing the profession regarding anaesthetic safety and reduced the rate of death due to anaesthesia from 1 in 10,000 to 1 in 200,000 in less than two years (Riley, 2011). In 1985 he established the Anaesthesia Patient Safety Foundation foreshadowing the wider global patient safety movement by almost 15 years (Riley, 2011; Wears et al., 2014). Referencing the conceptual framework, Pierce extended the view of patient safety from the practitioner to the clinical setting, acknowledging the culture of risk to include the influence of the profession. Although Peirce's influence was starting to infiltrate wider society, much of the work regarding patient safety remained within the anaesthesiologist profession.

A compelling narrative from this period is the story of Betsy Lehman who, at age 39, died of a chemotherapy overdose which was four times the recommended dose. Betsy was a respected health journalist reporting for the Boston Globe (Altman, 1995; Wears et al., 2014) and died at a prestigious cancer research centre where her husband worked as a cancer researcher. In addition to the drug overdose, medical staff ignored indications of cardiac damage and an autopsy revealed an absence of cancer (Altman, 1995). Betsy Lehman's knowledge, reputation, personal and professional connections might suggest that she would receive exemplary healthcare. This account demonstrates that the development of patient safety extended through to wider society. The case was published in the New York Times, exposing the possibility of risk in accessing healthcare. Betsy's case again confirms the practitioner as the last point of defence between the patient and the other influences on patient safety. Table 1 provides a summary of Betsy's case and several other sentinel cases from both the Cult and Breakout Era's. Each case has been analysed using the conceptual framework to identify the major influences on patient safety development.

Across the Cult Era the patient safety movement was characterised by a more consistent approach and recognition that patients could be harmed accessing healthcare. Across the conceptual framework, wider society was exerting a somewhat variable influence. Research provided general statistics of error, however accessibility to this information was limited. In contrast, the personal accounts of patients gave the patient safety movement traction over this era particularly from the perspective of society. Medical error and harm now had faces, evoked emotion and the stories were publicised via the media to a widening audience. The Cult Era highlights the influence of the practitioner on the development of patient safety. Medicine was well-represented, Anaesthetists championed the era, while the chronicles of physicians and surgeons provided strong accounts. Bridges (1990), reports nurses were depicted in the literature across this era as the ministering angel, the battleaxe, the naughty nurse or the doctor's handmaiden. The mid 1990s initiated an interest in quality indicators specific to nursing care and NSIs emerged in the literature in 1996 (Burston et al., 2014; Heslop & Lu, 2014; Jones, 2016) however the influence of nurses on the development of patient safety was largely absent.

Table 1. Sentinel cases of patient safety development

Cult Era (1950s-1999):

Year	Setting/Country	Key Case Notes	Conceptual framework influence
1984	New York Hospital, United States	Libby Zion dies • Drug to drug interactions • Excessive work hours of medical personnel • Inadequate supervision of junior medical personnel • In 2003 (Breakout Era) Libby Zion Law passed (work hours of medical officers regulated)	Practitioner, clinical setting, profession, culture of risk, wider society Healthcare system (Breakout Era)
1994	Dana-Farber Cancer Institute, Boston, United States	Betsy Lehman dies • Fatal dose of chemotherapy • Boston Globe health reporter • Medical staff ignored indications of cardiac damage • Patient chose the cancer institute, as a centre of excellence	Practitioner, clinical setting, profession, culture of risk, wider society
1997	Bristol Royal Infirmary, United Kingdom	Bristol Inquiry • Investigation of 29 deaths of infants/children receiving cardiac surgery late 1980-early 1990 • Findings; substandard approach to clinical safety, low priority given to children, secrecy of cardiac surgeon's performance, lack of external monitoring by National Health Service	Practitioner, clinical setting, profession, culture of risk, wider society

(*Continued*)

Table 1. Continued.

Breakout Era (2000-present):

Year	Setting/Country	Key Case Notes	Conceptual framework influence
2001	John Hopkins Hospital, United States	Josie King dies • 18 months old • Hospital-acquired infection from central line • Severely dehydrated – inpatient for 2 weeks • Inappropriate narcotics administered • Financial settlement and policy reform regarding patient safety	Patient (mother), practitioner, clinical setting, profession, culture of risk, wider society, healthcare system
2007	Rockhampton Base Hospital, Queensland, Australia	Ryan Saunders dies • Undiagnosed streptococcal infection leading to toxic shock syndrome • Parents concerns not acted upon by health personnel • Ryan's Rule implemented by Queensland Health – escalation of concerns of a patient by patient, family and/or carer.	Patient (mother), practitioner, clinical setting, profession, culture of risk, wider society, healthcare system
2018	Broken Hill Base Hospital, New South Wales, Australia	Alex Braes dies • Four presentations to hospital and 33 hours after initial presentation – vital signs recorded. • Multi-organ failure due to sepsis from undiagnosed streptococcus infection. • Deputy State Coroner recommendations for hospital transfer between states be a formalised process as a matter of urgency.	Patient (father), practitioner, clinical setting, profession, culture of risk, wider society, healthcare system.

Breakout era

The Breakout Era commenced in 2000 and was triggered by three seminal publications: The United States Institute of Medicine, *To Err is Human*, The British Medical Journal, *Reducing Error, Improving Safety* and the United Kingdom, National Health Service's *An Organisation with a Memory* (Wears et al., 2014). These documents were published within months of each other and although the information was not unfamiliar, it was the legitimacy and reputation of the publications that solidified awareness of patient safety in wider society. According to Vincent (2011), 'To Err is Human' was the single most important watershed development of the patient safety movement. Public attention was immediately drawn to the affirmation that between 44,000 and 98,000 people perished each year in United States hospitals as a result of healthcare errors (Donaldson et al., 2000). The report supported these confronting statistics and included the devastating personal account of Betsy Lehman amongst others. The principal aim of the report was to establish patient safety as a critical tenet of modern healthcare. Recommendations included establishing national centres and programmes of patient safety, improving reporting systems and propelling safety into clinical practice to engage clinicians, organisations, regulatory agencies, and the public (Donaldson et al., 2000). President Clinton ordered a feasibility study of the recommendations including the reporting of adverse events and errors (Vincent, 2011). Whether, directly through personal accounts of harm or death to patients or indirectly through confronting statistics of death and harm, wider society now demanded the safety of patients be acknowledged and explained by those in the healthcare system.

As mentioned, there were two further significant publications that contributed to the modern-day patient safety movement. On March 18, 2000, the British Medical Journal, sporting a front cover of a plane crash published a special edition on patient safety, 'Reducing error, improving safety'. The editorial provided by patient safety scholars Lucian Leape and Donald Berwick, titled '*Reducing errors in medicine'* advocated that improvement to patient safety would require a non-punitive environment and an acceptance of shared responsibility (Berwick & Leape, 1999). The United Kingdom report, '*An Organisation with a Memory*', had a primary and robust focus on learning, particularly from the perspectives of organisational systems, the requirement for cultural change within healthcare and from other high-risk agencies, such as aviation (Vincent, 2011). The publication resulted in the establishment of the United Kingdom's National Patient Safety Agency in 2000 (Donaldson, 2002). The patient, practitioner, clinical setting, profession, culture of risk and wider society had influenced the healthcare system to change the ethos of patient safety.

Personal narratives of grief throughout the Breakout Era still conjured reactions of unnecessary human loss. However, in contrast to the preceding era, there was an opportunity to enhance the safety of patients (Cook et al., 1998). In January 2001, Josie King was 18 months old and an inpatient for two weeks in the well-respected John Hopkins Hospital. Josie was admitted initially with burns, however developed sepsis from a central line and ultimately passed away as a result of dehydration and inappropriate management of narcotics. This turn of events occurred over a two-week period while Josie was an inpatient. Her mother, Sorrel, noted to staff over this period that Josie was sucking intensely on washcloths and would gulp a litre of juice instantly (King, 2006). The King family did receive a financial settlement from John Hopkins Hospital, however the outcome varied from previous sentinel cases, in that the family secured a commitment for policy reform at the institution in order to improve patient safety (Wears et al., 2014). The story of Josie King demonstrates how the elements of the conceptual framework influenced patient safety from patient (and mother) through to wider society and ultimately the complexities of a healthcare system. Moreover, it re-confirms that health practitioners are the final critical line

of defence to maintain patient safety. Numerous health practitioners, including multiple nurses would have been responsible for Josie's care over a two-week period. Benchmarked NSIs included nosocomial inflection and medication errors (Wong et al., 2020) and yet her passing was a result of a failure to recognise and address hospital acquired infection, dehydration, and inappropriate medication orders. This account demonstrates nurses were well positioned to interrupt the deterioration, demise, and ultimately safeguard Josie.

The Breakout Era extended understanding and responsibility for patient safety across the conceptual framework to include wider society influencing healthcare systems. Global and government reporting didn't provide new information rather there was increased and unrestricted access to patient safety reporting in reputable publications. As a result, governments could no longer ignore healthcare error and the patient safety movement became a social phenomenon. Equally, patient stories contributed to greater reform and commitment to patient safety that was not apparent in previous eras. Tragedies of personal loss forced policy change and reform globally and within the healthcare system and resulted in the patient safety movement of today.

Conceptual framework across eras

The conceptual framework was mapped across all three eras. As well as demonstrating the earliest impact, the practitioner was the only component of the conceptual framework to influence the patient safety movement across all three eras and all data sources. The breakout era was the only era demonstrating all components of the conceptual framework. Additionally, the breakout era reflected the introduction of both the patient and the healthcare system as an influence on the

Table 2. Conceptual framework influence on patient safety across the eras

Example	Patient	Practitioner	Clinical Setting	Profession	Culture of Risk	Wider Society	Healthcare System
Sporadic Era (450BC-1950s):							
Hippocrates		●					
Galen		●	●				
Florence Nightingale		●	●				
Ignaz Semmelweis		●	●	●			
Ernest Amory Codman		●	●	●	●		
Cult Era (1950s-1999):							
Elihu Schimmel		●	●	●	●		
Knight Steel		●	●	●	●		
Jeff Cooper		●	●		●		
Ellison Pierce		●	●	●	●	●	
Betsy Lehman		●	●	●	●	●	
Libby Zion		●	●	●	●	●	● (2003, Breakout Era)
Bristol Inquiry		●	●	●	●	●	
Breakout Era (2000-present):							
To Err is Human	●	●	●	●	●	●	●
BMJ 'Reducing error, improving safety'	●	●	●	●	●	●	●
UK 'Organisation with a memory'	●	●	●	●	●	●	●
Josie King	●	●	●	●	●	●	●
Ryan Saunders	●	●	●	●	●	●	●
Alex Braes	●	●	●	●	●	●	●

patient safety movement. These two components are positioned at opposing margins of the conceptual framework. A summary of the conceptual framework influences across all three eras is found in Table 2.

Discussion

The aims of this narrative were to review the development of the patient safety movement and to determine the influence of the practitioner, in particular, nurses on patient safety. While the accounts and data examined across history were not novel, our conceptual framework is an innovative approach to critically review the historical patient safety literature. Critical reviews create an opportunity to advance previous work, commissioning a new phase of theoretical development whilst examining the literature (Grant & Booth, 2009). Equally, the conceptual framework was able to provide an analytical lens to understand the influence and the position of the practitioner.

Healthcare error resulting in death, harm or adverse outcomes were increasingly recognised as a global endemic in the late 1990s, with one in ten patients suffering harm or death (Wears et al., 2014), yet over the previous two decades, despite the resources, financial commitment, programs and policy reform, patients are no safer in a contemporary healthcare landscape since the landmark report '*To err is human'* (WHO, 2021). According to the World Health Organization, (WHO, 2021), one in every ten patients is harmed as a result of their hospitalisation globally. In the Australian context, one in every nine patients accessing hospital care succumb to complications – with approximately 900,000 patients dying annually (Duckett et al., 2018).

The practitioner was evident across all eras, all data sources and all sentinel cases throughout the analyses and was the earliest recognised influence on patient safety as early as 450BC and the account of Hippocrates. Our findings reflect some systemic resistance to new safety practices that can impact the practitioner's ability to practice safely. While systemic resistance is beyond the scope of the critical analysis, this remains an area for further focused research and perhaps should be explored as a construct in the examination of adverse events and near misses. The practitioner: their knowledge, expertise, competence, and advocacy and communication skills are the final critical line of defence between the patient and their healthcare safety. Nurses as the health practitioner are responsible for frontline care and the delivery of safe practice for patients presenting with chronic and challenging disease processes in complex healthcare systems. Nurses are essential in recognising the early deterioration of patients, preventing errors, mitigating risk while continually evaluating patients' health status (Jang & Lee, 2017). This discursive narrative has provided multiple accounts of the influence of practitioner and focused predominantly on medicine and physicians, as the impact nurses had on the development of the patient safety movement was largely limited to Florence Nightingale and more recently the emergence of NSIs. According to Jones (2016), NSIs account for less than three percent of 500 endorsed quality measures in healthcare by the National Quality Forum, United States. Yet, patient outcomes are significantly affected by the quality of care they receive by nurses (Recio-Saucedo et al., 2018). Nurses, due to the volume and intimacy of care they provide with patients, their knowledge and expertise, as well as their ability to recognise and disrupt deterioration are strongly positioned to influence patient safety development, and arguably should feature strongly in future eras of the patient safety movement.

Conclusion

Patients are no safer accessing healthcare over the previous two decades despite the resources, financial commitment, programs, and policy reform. The influence and contribution of the nursing profession to the development of the patient safety movement is largely lacking in the literature. This

discursive narrative supports that nurses as a health practitioner are strategically positioned to influence patient safety development, and thus should be the focus of future efforts for reform. Furthermore, the discussion asserts the need for quality and innovative nurse education programs that incorporate a standardised approach to patient safety education, curricula, and evaluation.

Author contributions

CRediT: **Leisa Swift:** Methodology, Writing – original draft; **Lauren Kearney:** Writing – review & editing; **Tracy Levett-Jones:** Supervision, Writing – review & editing; **Fiona Bogossian:** Conceptualization, Methodology, Writing – review & editing.

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