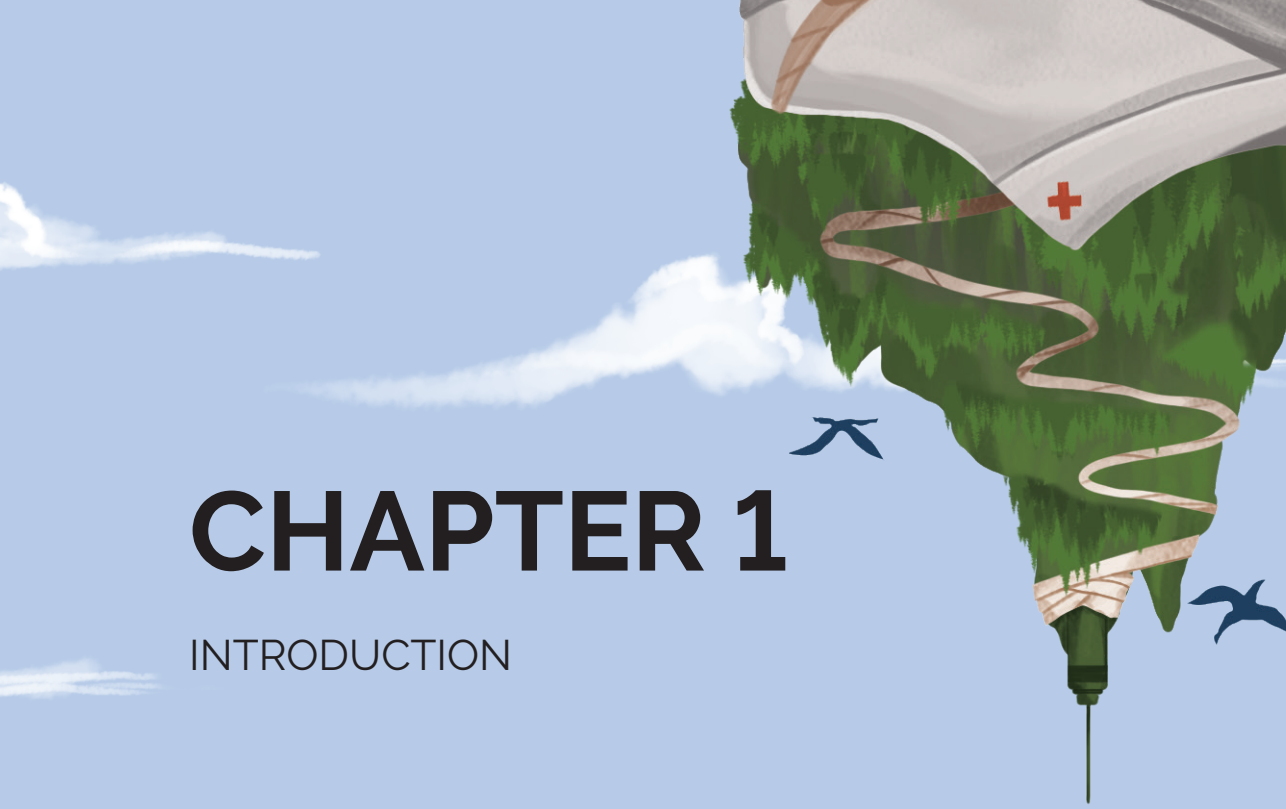
Moving with care: challenges and opportunities for supporting patient safety in ward nurses

Tresfon, J.A.S.



CHAPTER 1

INTRODUCTION

Introduction

Healthcare has been increasingly effortful in guaranteeing the safety of patients during hospital stay over the last three decades.[1] While successes vary from country to country, a general trend can be noted: after initial hard-won improvements, both patient safety metrics and the enthusiasm of health professionals flatten.[2-5] The biomedical scientific community, from which the patient safety movement originates, struggles to achieve new success in ensuring the safety of hospitalized patients. Whereas Randomized Control Trials (RCT's) and quality improvement studies remain the preferred methods of choice, new venues to further improve patient safety are being explored. The patient safety movement has from its inception taken an interest in borrowing safety approaches from other high-risk industries such as aviation, and in recent years has taken an interest in developments within the safety science community studying such industries.[6]

Although patient safety is in itself a societal important issue, healthcare systems face significant challenges in the near future that require a detailed understanding and reconsideration of the functioning of hospital care. Developing trends including aging populations and shortages of skilled medical and nursing staff in western countries indicate future challenges that pressurize the sustainability of present healthcare systems.[7,8] The COVID-19 pandemic showed that healthcare systems are able to adapt to sudden crises, but societies have paid a high economic, political and ethical price in the process.[9,10] As the COVID19 responses indicated, healthcare systems are able to adapt under pressure in the short term but relying entirely on this ability of healthcare systems does not present a sustainable strategy for the middle to long term.[11–13] The challenges and trends ahead require anticipated thinking and forward looking strategies to protect healthcare workers from filling the gaps in ill-designed systems and patient safety becoming a mere byproduct of patient care.

In the Dutch healthcare system, comparable trends are emerging and similar challenges for patient safety lie ahead. The last decade saw improvements in patient safety coming to a halt, with the most recent figures even indicating an increase in preventable patient harm.[14,15] At the same time, the Dutch healthcare system internally struggles with the current practice of accountability.[16] On a national level, policies and programs have been launched to improve patient safety and reevaluate accountability structures within hospitals. Although pilot projects have been modesty successful, on a nationwide level still little progress is made in overcoming the difficulties of an asynchronous accountability system that pressures healthcare workers to work on reporting and justifying their practice, rather than

supporting good outcomes in quality and safety of care.[17] Against this background, an interest is taken in approaches that have gained international popularity over the last two decades in the safety science community: Safety-II, Just Culture and Resilience Engineering.

Safety II and Resilience Engineering

Safety-II, with its theoretical basis in Resilience Engineering, advocates that safety must be approached by ensuring that processes are performed successfully as much as possible.[18-20] Safety, then, should be managed by exploring the everyday activities in health care processes and identifying how people and systems perform resiliently in achieving their work as intended. As such, goal conflicts between professionals and organizational units, mutual dependencies in care processes and performance adjustments of health professionals in ordinary working-conditions can be made visible and unwanted practice variation can be repeatedly addressed. Repeatedly, here, refers to the safety approach of Resilience Engineering that argues that safety should be managed by frequent reflection on the challenges and opportunities encountered at the sharp end of organizations. Instead of the reactive nature of most traditional safety approaches, resilience offers a theoretical argument for managing safety proactively in absence of incidents and harm. The level of safety in most industries is believed to be too high in most western countries, and as such, too few opportunities remain to retrospectively learn from incidents and disasters. While the current and future challenges for healthcare systems call on the need to utilize proactive safety approaches, there is relatively little research on the evidence base and implications of Safety-II and Resilience Engineering for hospital care or other health institutions.[21] Safety-II, as an analytical perspective, however encourages the proactive exploration of systems and processes as a means to maintain and further improve safety, inviting scholars to understand how safety in health systems is already created on a day-to-day basis

Work-As-Imagined and Work-As-Done in healthcare

A fundamental notion of Safety-II and resilience is that work in practice can significantly differ from how it is initially imagined.[22] Safety II and Resilience Engineering support this claim by stating that rules, regulations and work agreements are often executed differently in practice than written down on paper or agreed on in formal work agreements. To emphasize this difference, the concepts of work-as-imagined (WAI) and work-as-done (WAD) are used. In these approaches to safety, WAD is believed to differ occasionally from WAI since adaptability (resilience) to WAI is often necessary to create safe outcomes in practice (WAD). While such a claim can be seen as a mere aversion toward a sole reliance on compliance in safety, the

theoretical base of Safety II and resilience is rooted in complexity science. As such, resilience has its foundation in a systems view that premises the complexity and emergent properties of health systems, as opposed to the traditional mechanical view of decomposable, fixable and controllable systems which has been coined Safety-I. Based on the assumptions of complexity theory, continuous adaptability would be required to create safe outcomes in everyday care – safety is considered a state that has to be continuously created. This also means that safety, according to resilience theory, is not achieved by relying solely on compliance to rules, regulations and guidelines. Consequently, resilience and Safety-II reject the idea that WAI should be the leading standard and norm for ensuring and improving safety.

Even though the two approaches to safety are introduced as complementary, their distinct assumption toward the management and control of safety have considerable implications for the current approaches in healthcare. Predominately RCT's and quality improvement studies have informed patient safety improvements, while compliance through protocols, quality systems and audit criteria are the main vehicles to preserve patient safety. Such evidence and criteria focused efforts are inherently top-down, since authority and decision making power about the issues at hand and potential methods for improvement provide a standard for health professionals to conform to. At the same time, local challenges, past experiences and developed intricacies that contribute to safety are surpassed or labeled as 'hindering factors' to successful implementation, an imbalance that has been recognized and formulated as epistemic injustices. This means that generally biomedical knowledge is favored over individual experiential knowledge in the professional discourse.

An inevitable difference between WAI and WAD would subvert the suggested stability of health systems by top-down approaches however, as once implemented consequent attention is needed in assuring that WAD conforms to WAI. Furthermore, if WAI is highly esteemed by organizations and believed superior to WAD (a viewpoint that characterizes compliance), an organization would be unresponsive to new challenges and opportunities encountered in practice. The consequence of the WAI-WAD difference is that patient safety would be created on an everyday basis, while healthcare organizations remain unfamiliar how to appropriately support this.

Rationale and research question

However to date, the relationship between WAI and WAD remains an underappreciated aspect in Safety II and Resilience Engineering in healthcare. Given the issues with accountability structures and patient safety on a national level in

the Dutch healthcare setting, WAI for instance could be approached through the concept of accountability by examining how quality and safety instruments are used in Dutch hospitals' quality and safety management systems (e.g. guidelines, protocols, risk assessment scores, quality indicators). In turn, WAD could be viewed by studying the perspectives of health professionals whom have to do clinical work with or without a valuable contribution of WAI.

Patient safety is furthermore generally approached from a protective attitude (i.e. protect the patient against preventable harm), instead of a supportive attitude helping professionals create clinical outcomes without harm (i.e. create working conditions that lead to patient outcomes as intended). While in theory these might be two different sides of the same coin, studying WAD could help indicate if indeed both approaches to safe care can be viewed as complementary, or that the individual contributions and determining factors in both approaches in practice have different foundations. As such, in-depth empirical research on the relationship between WAI and WAD and resilience could help better understand the dynamics between WAI and WAD in the present national issues with accountability, while exploring the potential of improving patient safety using Safety II and resilience theory.

While patient safety initiatives are common in the Intensive Care Units (ICU), Emergency Departments (ED) and operating theaters, relatively little attention is paid by scholars to the setting of general ward care. When interest is taken in hospital wards, being the domain of nurses, these settings are typically subjected to RCT's, quality improvement studies or standardization of practice to work on patient safety. Nurses are historically seen as a marginalized group in the context of hospital care.[23,24] Formal and societal responsibility of treatment and patient outcomes lie with physicians, whereas nurses are often treated as executives of a physician's treatment plan. Meanwhile, nurses spend most time at the patients' bedside and thus take a prime interest in patient concerns and clinical status. As such, nurses make an important and persistent contribution to the realization of patient safety on hospital wards, which given their professional and social-cultural status within the ward environment, may or may not be fully appreciated by quality and safety initiatives.[25]

To conceptualize the distinction between WAI and WAD, WAI in this dissertation is approached by studying quality and safety instruments in hospitals and wards, whereas WAD is approached by studying the perspectives and activities of nurses working on hospital wards and their managers working in the hierarchical structures of the hospital. Therefore, this dissertation aims to understand the

everyday work context, perspectives and activities of ward nurses and the extent to which quality and safety instruments contribute to achieving patient outcomes as intended without harm. This leads to the following main research question of this dissertation:

How is the relationship between work-as-imagined and work-as-done for nurses on a hospital ward?

To formulate an answer to this question, each chapter in this dissertation answers a separate sub question by investigating the relationship between WAI and WAD for ward nurses through different angles.

First, how do healthcare providers, team leaders, managers and quality advisors view WAI in relation to WAD? This question is explored in **chapter 2** for six healthcare teams in three different hospitals. Using the concept of accountability, WAI and WAD are studied in vertical and horizontal accountability structures utilized in six quality topics in as much clinical processes, one topic for each team. Healthcare professionals, managers, and quality advisors were interviewed about these quality topics, by exploring how the clinical processes are discussed in practice and how teams need to account for them. Additionally, the processes and how teams discuss them in practice were observed. The findings from this chapter illustrate the dynamics and structures of horizontal and vertical accountability, and in doing so, provide a general sense of the relationship between WAI and WAD for ward nurses in Dutch hospitals.

The second question tries to answer in detail what the WAD of ward nurses looks like. **Chapter 3** therefor offers a theory of how safe care is created in the daily activities of ward nurses, when viewed through a lens of Resilience Engineering. Resulting from two years of ethnographic research on a specific hospital ward, a constructionist grounded theory is used to describe the activities and perspectives of ward nurses under ordinary conditions. Through this methodology, empirically gathered data and theorical concepts are concurrently analysed, resulting in theoretical development of resilience in healthcare, while offering a description of the challenges ward nurses face in practice. By describing the work of ward nurses in this way, the stage of their work as done is set for answering the subsequent sub-questions.

A third question is how the WAI and WAD of ward nurses relate to each other for a specific hospital protocol. Taking on a national guideline and hospital specific protocol for physical restraints use in nursing, in comparison to the everyday

activities of ward nurses, **chapter 4** seeks to understand how WAI relates to the practices (WAD) of ward nurses in using these potentially dangerous objects for patient safety. Here, WAI and WAD are mapped using the Functional Resonance Analysis Method (FRAM) to illustrate how the two relate when explicitly compared between each other.

Chapter 5 further explores the use of WAI in practice, this time by equating WAI to an incident reporting system. Here a fourth question is asked, namely how the perspectives of ward nurses and physicians toward incidents relate to their reporting practices, and the subsequent contributions to patient safety on a hospital ward. Based on a thick description of 2,5 years of ethnographic research on a neurological/ neurosurgical ward, the chapter offers a critical examination of the concept of incident for the normal work of ward nurses, as well as a socio-cultural analysis of the functioning of a reporting system when used by ward nurses and physicians belonging to different professional groups.

Finally, **chapter 6** explores the sixth and final sub question, how the WAI and WAD of ward nurses can be aligned. The chapter builds on insights gained from **chapter 4,** and describes an action research project aimed at identifying if a gap between work prescriptions and practice exists, while subsequently showing how such findings can be transferred back to, and embedded in, the daily ward care process of nurses. The chapter offers a roadmap how FRAM can be used to compare work-as-done with work-as-imagined, contributing to a better understanding, evaluation and support of everyday performance in a ward care setting for the use of physical restraints in nursing.

Outline of this dissertation

The remainder of the dissertation continues as follows. First, the sub questions of this dissertation are answered in chapters 2-6, building on empirical data gathered in qualitative research studies. Each chapter is written as a standalone article and, if desired, can be read independently as such. After a brief summary of the previous chapters, the final chapter proceeds with a general discussion of the findings and conclusions from this dissertation. The final chapter closes with directions for future research.

References

1. Emanuel L, Berwick D, Conway J, et al. What Exactly Is Patient Safety? *Journal of medical regulation*. 2009;95(1):13-24.
2. Panagioti M, Khan K, Keers RN, et al. Prevalence, severity, and nature of preventable patient harm across medical care settings: systematic review and meta-analysis. *British medical journal*. Jul 17 2019;366:l4185.
3. Hodkinson A, Tyler N, Ashcroft DM, et al. Preventable medication harm across health care settings: a systematic review and meta-analysis. *BMC Med*. Nov 6 2020;18(1):313.
4. World Health Organization. *Global patient safety action plan 2021-2030: towards eliminating avoidable harm in health care*. 2021.
5. World Health Organization. *Global patient safety report 2024*. 2024:388.
6. Smith AF, Plunkett E. People, systems and safety: resilience and excellence in healthcare practice. *Anaesthesia*. 2019;4(74):508–517.
7. WHO Regional Office for Europe. *Promoting physical activity and healthy diets forhealthy ageing in the WHO European Region*. 2023.
8. McCarthy C, Boniol M, Daniels K, et al. State of the World's Nursing 2020: Investing in education, jobs, and leadership. *Geneva: World Health Organization*. 2020;
9. World Health Organization. *Implications of the COVID-19 pandemic for patient safety: a rapid review*. 2022.
10. Braithwaite J. Quality of care in the COVID-19 era: a global perspective. *IJQHC Communications*. 2021;1(1)
11. Göras C, Lohela-Karlsson M, Castegren M, Condén Mellgren E, Ekstedt M, Bjurling-Sjöberg P. From Threatening Chaos to Temporary Order through a Complex Process of Adaptation: A Grounded Theory Study of the Escalation of Intensive Care during the COVID-19 Pandemic. *Int J Environ Res Public Health*. Nov 3 2023;20(21)
12. Wiig S, Lyng HB, Greenfield D, Braithwaite J. Care in the future-reconciling health system and individual resilience. *Int J Qual Health Care*. Oct 25 2023;35(4)
13. Ellis LA, Saba M, Long JC, et al. The rise of resilient healthcare research during COVID- 19: scoping review of empirical research. *BMC health services research*. Aug 7 2023;23(1):833.
14. Wagner C. Monitor Zorggerelateerde schade in ziekenhuizen, vijfde meting, 2019-2022. Nivel. Accessed 2024-05-09, 2024. https://www.nivel.nl/nl/resultaten-van-onderzoek/dossiers/dossier-patientveiligheid/monitor-patientveiligheid-2019- 2 0 2 2 / monitor-zorggerelateerde-schade-ziekenhuizen-vijfde-meting
15. Schoten Sv, Eikenhorst Lv, Schouten B, et al. *Monitor Zorggerelateerde Schade 2019: dossieronderzoek bij overleden patiënten in Nederlandse ziekenhuizen*. 2022.
16. Raad van Gezondheid en Samenleving. *Blijk van Vertrouwen - Anders Verantwoorden voor goede zorg*. 2019. https://www.raadrvs.nl/documenten/publicaties/2019/05/14/ advies-blijk-van- vertrouwen---anders-verantwoorden-voor-goede-zorg
17. Raad van Gezondheid en Samenleving. *Is dit wel verantwoord?* Den Haag, mei 2023 .
18. Hollnagel E, Woods DD, Leveson N. *Resilience engineering: Concepts and precepts*. Ashgate Publishing, Ltd.; 2006.
19. Hollnagel E. *Safety-i and safety-ii : the past and future of safety management*. 1st ed. ed. CRC Press; 2018.

20. Le Coze JC. The 'new view' of human error. Origins, ambiguities, successes and critiques. *Safety Science*. 2022/10/01/ 2022;154:105853.
21. Verhagen MJ, de Vos MS, Sujan M, Hamming JF. The problem with making Safety-II work in healthcare. *BMJ Quality & Safety* 2022;31(5):402-408.
22. Braithwaite J, Wears RL, Hollnagel E. *Resilient health care: Reconciling work-as-imagined and work-as-done*. vol 3. Resillient Healthcare Volume 3. CRC Press; 2016:210.
23. Boychuk Duchscher JE, Cowin LS. The experience of marginalization in new nursing graduates. *Nursing Outlook*. 2004;52(6):289-296.
24. Kelly B. Hospital nursing: 'it's a battle!' A follow-up study of English graduate nurses. *J Adv Nurs*. Nov 1996;24(5):1063-9.
25. Vaismoradi M, Tella S, P AL, Khakurel J, Vizcaya-Moreno F. Nurses' Adherence to Patient Safety Principles: A Systematic Review. *International Journal of Environmental Research and Public Health*. Mar 19 2020;17(6).