

# **What does ‘learning’ and ‘organisational learning’ mean in the context of patient safety? Protocol for a systematic hermeneutic conceptual review**

## **Abstract**

### **Introduction**

Learning is essential for improving patient safety and is often cited as necessary following a patient safety incident (PSI). Both individual and organisational learning are needed to enable improvements in health systems. However, there is no clear consensus on what ‘learning’ or ‘organisational learning’ actually means in the context of a PSI. Learning theories can be applied to healthcare in order to improve patient safety interventions. In this systematic hermeneutic conceptual review, we aim to define learning and organisational learning in the context of patient safety and to identify the theoretical approaches to learning and interventions utilised.

### **Methods and analysis**

This review will be undertaken in two phases, utilising a systematic hermeneutic approach. Phase one will focus on ascertaining taxonomy domains through identification of the concept and theoretical frameworks of ‘learning’ and ‘organisational learning’ from the literature. These taxonomy domains and the World Health Organisation’s World Alliance for Patient Safety International Classification for Patient Safety will inform a thematic framework for phase two. Phase two will be a more detailed search and focus on learning and related applied interventions in the context of patient safety incidents utilising the thematic framework from phase one. Data will be analysed using framework method analysis.

### **Ethics and dissemination**

This review does not require ethical approval. The results will be published in a peer-reviewed journal.

## **Introduction**

There is widespread acceptance that learning is an essential part of improving patient safety. [1] Public statements from organisations and senior figures in government and healthcare frequently claim that ‘lessons will be learned’ in response to a patient safety incident (PSI). [2-4] Patients and families involved in patient safety incidents want ‘learning’ first and foremost. [5] There is however no clear consensus on what ‘learning’ actually means in this context. When does information become knowledge that transfers into learning and when does this learning result in action with measurable improvements. In essence how can we tell if learning has occurred?

It is essential that healthcare staff and the organisations who undertake and regulate healthcare are able to truly learn and make changes resulting in improvements in response to PSIs. Organisational learning is considered more powerful than combined individual learning, but understanding individual learning is necessary to understand organisational learning. [6, 7] Organisational learning and individual learning should integrate both safety-I and safety-II approaches. [8, 9] Learning Health Systems can be considered as an extension of individual and organisational learning with structures, processes and values in place to support continuous improvement. [10, 11]

The application of learning theories to healthcare can and should be used to enable positive change. [12, 13] The importance of the use of theory more specifically in developing and studying patient safety interventions has been well documented over the past three decades. [14-16] Despite this however theory is still underutilised in designing and implementing patient safety interventions. [17]

## **Aim**

In this systematic hermeneutic conceptual review, we aim to define learning and organisational learning in the context of patient safety and to identify the theoretical approaches to learning and interventions utilised.

## **Review questions**

### Phase one

1. How is ‘learning’ defined in the context of patient safety?
2. How is ‘organisational learning’ defined in the context of patient safety?
3. What theoretical approaches have been used to explain knowledge transfer/learning in the context of patient safety?

### Phase two

1. What are the main interventions undertaken to evidence ‘learning’ in the context of a patient safety incident?
2. Which theories guide these interventions?
3. How are these interventions implemented?
4. Are these interventions evaluated? If so, how?

## **Study design**

This systematic review will be undertaken in two phases. For both phases' literature reviewed will be restricted to that published in the last 25 years and published in English. The condition/domain being studied is learning in the context of PSIs. The population being studied are healthcare professionals, healthcare organisation and healthcare regulators. The intervention being studied is Information/knowledge transfer and improvement intervention with the intention of improving patient safety in the context of patient safety and PSIs.

Phase one: This will be a targeted search of patient safety related healthcare literature. The terms ("Learning" OR "Knowledge") AND ("Patient Safety") in the title of papers will be inserted into search strategies for three databases (Scopus, CINAHL Plus and Web of Science). We will search for relevant grey literature using OpenGrey and TRIP. Rayyan will be used for abstract screening. [18] A hermeneutic approach (Boell and Cecez-Kecmanovic, 2014) with the technique of 'snowballing' (Greenhalgh and Peacock, 2005) will be used by the primary researcher to search and acquire relevant literature and for analysis and interpretation. [19, 20] A systematic hermeneutic approach was chosen for this review since its iterative and integrative nature will enable a better understanding of such a complex and heterogenous field. The search will focus on ascertaining taxonomy domains through identification of the concept and theoretical frameworks of 'learning' and 'organisational learning' from the literature. These taxonomy domains and the World Health Organisation's World Alliance for Patient Safety International Classification for Patient Safety (ICPS) will inform a thematic framework for phase two. [21] The types of study to be included are empirical studies, systematic reviews, editorials, think tank and government reports.

Phase two: This will be a more detailed search and focus on learning in the context of patient safety incidents. The terms ("Learning" OR "Knowledge") AND ("Incident" OR "Preventable" OR "Error" OR "Failure) in the abstract of papers will be inserted into search strategies for three databases (Scopus, CINAHL Plus and Web of Science). Rayyan will be used for abstract screening. [18] Results will be combined into Mendeley and duplicates removed. The reference lists of included articles will be screened to identify additional relevant publications. We will search for relevant grey literature using OpenGrey and TRIP. The types of study to be included are empirical studies.

## **Theoretical framework**

The theoretical framework for this protocol has been devised with both deductive and inductive approaches. With inductive understanding that despite good intentions from healthcare staff and organisations learning and improvement from PSIs does not always occur to the extent that it should and that this is likely due in part to a lack of clarity and understanding of what is meant by 'learning' in this context. The deductive approach includes an understanding of the relevant learning theories [12, 13] and organisational learning theories. [22, 23]

## **Data Selection**

Phase One: The primary researcher will review all articles identified through searches; exclusion will be based on titles and types of article (basic science or artificial Intelligence/machine learning/deep learning/informatics). Inclusion of empirical research, editorials, review articles, think tank and governmental reports where patient safety is the predominant focus. Papers published in English, between November 2001 and November 2021 will be included.

Phase two: Two researchers will cross-check these articles: exclusion will be based on abstracts (systematic reviews, editorials or study protocols, basic science or artificial intelligence/machine learning/deep learning/informatics). Inclusion based on full text articles where learning with a resulting defined intervention related to a patient safety incident or incidents is the focus of the paper. Papers published in English, between November 2001 and November 2021 will be included.

## **Data extraction**

Phase one: The primary researcher will map, classify and critically assess literature as described by Boell and Cecez-Kecmanovic 2014. [2] This data will be collected into excel. The main categories that will be extracted are: author name, year of publication, author country of residence, type of literature, definition of knowledge, definition of learning, concept of learning, evidence of learning, definition of organisational learning, evidence of organisational learning, learning theories utilised, learning modes and direct quotes from the text.

Phase two: The selected articles will be analysed using a data extraction form developed in REDCap (Research Electronic Data Capture). The form will be developed after the initial screening of full-text articles. It will be piloted by two researchers using a random sample of five articles. Disagreements will be discussed until consensus is reached. The data extraction form will be finalised based on the findings from the pilot. The main categories that will be extracted are: author name, year of publication, location of study, type of patient safety incident, detection (people involved/process), contributing factors/hazards, mitigating factors, outcomes (patient/organisational), learning theory utilised, learning mode, evidence of learning, single or double loop learning, type of intervention/action, alternative theory used to guide intervention, assessment of intervention/action, impact of intervention/action and direct quotes from the text. These categories include those in the World Health Organisation's World Alliance for Patient Safety ICPS. [5] Data will be exported from REDCap and the main article characteristics will be synthesised. The information entered in free text boxes will be exported from REDCap and analysed using framework method analysis. [24] We will use the thematic framework developed in phase one of the review to guide our exploration of themes.

### **Risk of bias (quality) assessment**

In phase two we will use the Mixed Methods Appraisal Tool (MMAT) to assess the quality of the articles. [25]

### **Ethic and dissemination**

This review does not require ethical approval as it will not involve access to individual level data. The results will be published as an article in a peer-reviewed journal and form part of a PhD thesis at University College London. We will provide recommendations and conclusions based on our findings from the synthesis.

## References

1. National Advisory Group on the Safety of Patients in England. A promise to learn – a commitment to act. Department of Health, 2013  
[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/226703/Berwick\\_Report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/226703/Berwick_Report.pdf)
2. <https://www.itv.com/news/update/2016-04-29/hunt-lessons-will-be-learned-at-southern-health/>
3. <https://www.cchr.org.uk/lessons-learned-learning-lessons/>
4. <https://www.independent.co.uk/news/health/nottingham-maternity-babies-safety-prosecution-b1876449.html>
5. <https://www.pslhub.org/learn/improving-patient-safety/human-factors-improving-human-performance-in-care-delivery/managing-adverse-events-with-susanna-stanford-and-sarah-seddon-r5083/>
6. Fiol M, Lyles MA. Organizational Learning. *The Academy of Management Review*. Oct 1985;10(4):803-813
7. Wang CL, Ahmed PK. Organisational learning: A critical review. *The Learning Organisation* 2003;10(1):8-17
8. Mannion R, Braithwaite J. Where is Patient Safety Research and Practice Heading? A Response to Recent Commentaries. *Int J Health Policy Manag* 2019;8(2):136-137. doi: 10.15171/ijhpm.2018.112
9. Hamblin R, Shuker C Well spotted: but now you need to do something *BMJ Quality & Safety* Published Online First: 18 September 2020. doi: 10.1136/bmjqs-2019-010659
10. Shah A. Quality improvement in practice – part 1: creating learning systems. *British Journal of Healthcare Management* 2021. Doi: 10.12968/bjhc.2021.0032
11. Foley T et al. Realising the potential of Learning Health Systems. *The Learning Healthcare Project*. May 2021
12. Mukhalalati BA, Taylor A. Adult learning theories in context: A quick guide for healthcare professional educators. *J Med Educ Curricular Development* 2019;6 Doi: 10.1177/2382120519840332
13. Braungart MM et al. Applying learning theories to healthcare practices. *Nurse as educator principles of teaching and learning for nursing practice* 2014. 63-110
14. Whitby M et al. Why healthcare workers don't wash their hands: A behavioural explanation. *Infect Control Hosp Epidemiol* 2006; 27:484-492
15. Parker D, Lawton R. Psychological contribution to the understanding of adverse events in healthcare. *Qual Saf Health Care* 2003;12(6):453-457. Doi: 10.1136/qhc.12.6.453
16. Woodward S. *Implementing patient safety: Addressing culture, conditions and values to help people work safely*. Routledge/productivity Press, 1<sup>st</sup> edition, 2020
17. Foy R et al. The role of theory in research to develop and evaluate the implementation of patient safety practices. *BMJ Qual Saf* 2011;20:453-459. Doi:10.1136/bmjqs.2010.047993
18. Ouzzani M et al. Rayyan — a web and mobile app for systematic reviews. *Systematic Reviews* (2016) 5:210, DOI: 10.1186/s13643-016-0384-4
19. Boell S, Cecez-Kecmanovic D. A Hermeneutic approach for conducting literature reviews and literature searches. *Communications for Information Systems* 2014, 34 (12). DOI: 10.17705/1CAIS.03412

20. Greenhalgh T, Peacock R. Effectiveness and efficiency of search methods in systematic reviews of complex evidence: audit of primary sources. *BMJ* 2005, 331(7524):1064-1065. DOI: 10.1136/bmj.38636.593461.68
21. Sherman H et al. Towards an International Classification for Patient Safety: the conceptual framework. *Int J Qual Health Care* 2009;21(1):2-8
22. Basten D, Haamann T. Approaches for Organizational Learning: A Literature Review. *SAGE Open* 2018. Doi:10.1177/2158244018794224
23. Argyris C. Double loop learning in organizations. *Harvard Business Review* 1977.
24. Gale NK et al. Using the framework method for the analysis of qualitative data in multidisciplinary health research. *BMC Med Res Methodol* 2013;13:117. Doi: 10.1186/1471-2288-13-117
25. Pace R, Pluye P, Bartlett G, et al. Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed studies review. *Int J Nurs Stud*. 2012;49(1):47-53. doi:10.1016/j.ijnurstu.2011.07.002