

**WHAT ARE THE ENABLERS OF AND BARRIERS TO THE CREATION OF  
ORGANISATIONS WITH AN ENHANCED LEARNING CAPACITY? A SYSTEMATIC  
REVIEW OF LEARNING ORGANISATION INTERVENTIONS**

**DR INNEKE LAENEN**

**LNNINN001**

**SUBMITTED TO THE UNIVERSITY OF CAPE TOWN**



In partial fulfilment of the requirements for the degree

**MASTER OF PUBLIC HEALTH**

(Health System Specialisation)

**FACULTY OF HEALTH SCIENCES**

FEBRUARY 2020

**PRINCIPAL INVESTIGATOR AND SUPERVISOR:**

PROFESSOR LUCY GILSON

DIVISION OF HEALTH POLICY AND SYSTEMS

SCHOOL OF PUBLIC HEALTH AND FAMILY MEDICINE

FACULTY OF HEALTH SCIENCES

UNIVERSITY OF CAPE TOWN

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## PLAGIARISM DECLARATION

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## DISSERTATION ABSTRACT

Health systems, like commercial enterprises, face wide-ranging challenges and need to develop an adaptive capacity in order to remain effective. There is increasing recognition in the health sector that the concept of the learning organisation, which has long been popular in the business management field, could be a key strategy to develop this adaptive capacity in health systems. Although examples exist of the application of learning organisation principles to health care facilities, there is little guidance for how units or groups responsible for health policy and strategies can apply them more widely. In order to provide some initial guidance to the Western Cape Department of Health, which has expressed an interest in developing into a learning organisation, this project sought to identify the enablers of, and barriers to learning organisation creation by conducting a systematic review of learning organisation interventions across multiple sectors. As multiple definitions and models of a learning organisation exist in the literature, this systematic review was complemented by an initial review of conceptual literature which synthesised the existing definitions and models of a learning organisation and identified a core set of learning organisation dimensions. Findings indicate that a foundation of good organisational software such as a shared understanding of, and commitment to a learning organisation vision, a culture which is conducive to learning organisation creation, and a secure, supportive and interpersonally non-threatening environment, is essential for learning organisation creation. Building on this foundation it is then important to invest in staff time (i.e. that staff are officially allowed, and incentivised, to spend time on learning during work hours), and the infrastructure and processes necessary to support knowledge transfer, such as physical meeting spaces, online learning databases, mentorship programmes, and feedback mechanisms.

## STRUCTURE OF THE DISSERTATION

**Part A:** The study protocol which sets out the research question and objectives for the systematic review (Part C) and outlines the methodology for this review and the initial conceptual review (Part B).

**Part B:** An initial literature review of conceptual studies of the learning organisation in order to clearly define the learning organisation concept and identify a set of core dimensions of which a learning organisation can be said to consist. This learning organisation definition and set of core dimensions is carried through to the systematic review (Part C).

**Part C:** A systematic review of existing empirical literature about learning organisation interventions, in order to determine the enablers of, and barriers to, the creation of a learning organisation. This systematic review is presented in the form of a manuscript ready to be submitted to the Health Policy and Planning journal to be considered for publication.

## ACKNOWLEDGEMENTS

I am very grateful to my supervisor, Professor Lucy Gilson, for her dedication, patience and kind encouragement at every stage of this dissertation project. I also wish to thank Gill Morgan from the UCT Health Sciences library for her technical support in developing a literature search strategy.

I would also like to express my appreciation to my family, friends and fellow students who provided much-needed moral support whenever it was needed.

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# PART A: PROTOCOL

## Background

According to the Lancet Global Health Commission on High Quality Health Systems in the Sustainable Development Goal Era,

“Changing health needs, growing public expectations, and ambitious new health goals are raising the bar for health systems to produce better health outcomes and greater social value.” (Kruk et al. 2018, p. e1196)

Responding to these increasing demands on health systems has long been recognised as a challenge across all levels of health systems, from health ministries to private practices (Birleson 1998). Responding to this challenge is made more difficult by the fact that health systems do not operate within a static environment, but face constant changes in demands, available resources and the environment (Sujan et al. 2017). Health systems operate in “intricate, fragmented, sometimes chaotic settings, in complex political, socio-cultural environments with a virtually infinite range of moving parts and interconnections” (Mannion & Braithwaite 2017, p. 686). This complex, dynamic nature of health systems and the context within which these systems operate mean that simple interventions intended to respond to health system challenges often fail (Atun 2012; Mannion & Braithwaite 2017). The recognition of health systems as complex, adaptive systems has gained prominence in the past two decades (Adam 2014; Swanson et al. 2012). This recognition has led to increased interest in systems thinking as applied to health systems (Adam 2014).

The systems thinking approach has a long history in other disciplines, such as engineering, economics and ecology (Adam & de Savigny 2012; de Savigny & Adam 2009). Systems thinking is not a specific set of practices, but rather refers to the mindset used when attempting to understand and solve problems within a complex system (Adam & de Savigny 2012). Systems thinking operates on the understanding that complex systems are constantly changing, highly connected, governed by feedback loops, and often create counter-intuitive, unexpected results (Adam & de Savigny 2012; de Savigny & Adam 2009). Systems thinking is concerned with analysing the connections, relationships, and interactions between the components making up a system, rather than viewing each component in isolation (de Savigny & Adam 2009).

In the context of health systems, this means that a health system is not simply a collection of inert building blocks, such as service delivery, the health workforce, information, medical products, financing, and leadership (World Health Organization 2007) but is also made up of the complex interactions between these components, which are influenced by a dynamic context (Adam & de Savigny 2012; de Savigny & Adam 2009). Essentially, this means that taking a systems thinking approach to health system challenges involves a shift from a reductionist to holistic mindset, and

always thinking about the system as a whole when designing health systems interventions (Adam & de Savigny 2012).

Systems thinking has been described as an approach with “tremendous potential to address challenges related to public health” (Swanson et al. 2012, p. iv56). Despite this potential, practical guidance on the application of this approach to health systems research and practice is lacking, particularly in low- and middle-income countries (LMICs) (Adam 2014). However, in recent years the Alliance for Health Policy and Systems Research has encouraged the development and publication of systems thinking approaches, while prioritising inputs from LMICs (Adam 2014). Multiple systems thinking tools and strategies have been explored, including system dynamics modelling, social network analysis, realist evaluation, and the use of causal loop diagrams among many others (Adam 2014; Swanson et al. 2012).

Despite this multiplicity of tools and strategies, Swanson et al. (2012) identified three overarching themes which cover these systems thinking approaches, namely cross-disciplinary and cross-sectoral collaboration, ongoing iterative learning, and transformative leadership. The theme of ongoing, iterative learning recognises the fact that in a dynamic context, health system actors need to “continuously adapt, learn and apply new knowledge to current challenges” in order to effect change at a systems level (Swanson et al. 2012, p. iv56). The Lancet Global Health Commission on High Quality Health Systems in the Sustainable Development Goal Era also identified continuous learning as a vital strategy to raise the quality of health systems (Kruk et al. 2018).

Indeed, the call for enhanced learning capacity in health systems is often repeated in recent research. For example, continuous learning has been identified as key to improving patient safety (Goh et al. 2013; Mannion & Braithwaite 2017; Soklaridis 2014; Sujan et al. 2017), fostering health system resilience (Naimoli & Saxena 2018), as well as progressing towards the goal of universal health coverage (UHC) (Akhnif et al. 2017). Indeed, Akhnif et al. (2017) state strongly that “[developing] one’s learning capacity may actually be one of the few recommendations valid for all countries as far as UHC is concerned” (p. 11). How then does a health system become engaged in continuous, iterative, learning? For many researchers, the answer lies in health systems, and health sector organisations, becoming “learning organizations” (Akhnif et al. 2017; Khatri et al. 2009; Naimoli & Saxena 2018; O’Sullivan 1999; Rushmer et al. 2004; Vassalou 2001; Wilkinson et al. 2004).

What is a learning organisation?

The concept of the learning organisation was popularised by Peter Senge with his seminal 1990 work *The Fifth Discipline: The Art and Practice of the Learning Organization* (Senge 1990). A learning organisation, as described by Senge, is characterised by continuous transformation through the

deliberate facilitation of learning in its members (Senge 1990). According to Senge, a company which becomes a learning organisation has a greater ability to adapt to the unpredictable, which gives that company a competitive advantage (Senge 1990). This learning organisation concept was taken up enthusiastically by a business management audience, which was seeking a solution to maintain success in a rapidly changing world (Örtenblad 2004). The popularity of the learning organisation concept has seen it embraced by diverse disciplines outside of the business world, such as the automotive industry (West & Burnes 2000), construction (Wilson & Beard 2014), education (Honig 2008), human resource development (Watkins & Kim 2018), and library science (Giesecke & McNeil 2004). However, the broad appeal of the concept of the learning organisation has led to conceptual confusion over the term (Garvin 1993), as well as a proliferation of different learning organisation models, each claiming to have found the key to learning organisation development (Örtenblad 2002). This conceptual confusion has meant that there is no agreement on how to create a learning organisation (Thomas & Allen, 2006). However, this has not dampened the enthusiasm of those eager to apply the concept in many sectors, including the health sector.

How has the learning organisation concept been applied to the health sector?

The need for organisational learning in the health sector has been recognised both at the level of primary care, such as mental health services (Birleson 1998; O'Sullivan 1999) and general practice (Rushmer et al. 2004), as well as in larger health care organisations such as hospitals (Holden 2006; Soklaridis 2014; Vassalou 2001). On a broader level, even the United Kingdom's National Health Service (NHS) has recognised the potential utility of becoming a learning organisation in order to retain and institutionalise the individual learning of its members (Wilkinson et al. 2004). While there are multiple examples of the application of the learning organisation concept to the health sector (Akhnif et al. 2017), this application has occurred mainly in health services rather than at the level of the whole health system (Akhnif et al. 2017; Naimoli & Saxena 2018), with the notable exception of the NHS (Akhnif et al. 2017). The application of the concept of the learning organisation to the health sector has had global appeal, with studies conducted in the United States, United Kingdom, The Netherlands, Portugal, Turkey, Iran, Oman, Nepal, South Korea, Taiwan and Australia (Akhnif et al. 2017) among others. Following this global trend, interest in the learning organisation concept has also grown in South Africa, specifically within the structures of the Western Cape Department of Health (WCDoh).

The Western Cape Department of Health and the learning organisation

Historically, the Western Cape has had consistently better health outcomes than the rest of South Africa, although significant inequities in health outcomes remain between different population

groups living within the province (Coovadia et al. 2009). During the Apartheid era, most health care resources in the province were devoted to the provision of hospital-based care (Gilson et al. 2017). In the post-Apartheid era, in line with the new democratically-elected government's commitment to the development of a decentralised health system focused on community needs (Coovadia et al. 2009), the Western Cape Department of Health undertook a programme of provincial health reform, focused on the development of the District Health System (DHS) within the province (Gilson et al. 2017). This process involved both high-level policy changes to defragment the provincial health system, the creation of new management structures, health care professional human resource development, and the construction of primary health facilities and two district hospitals (Gilson et al. 2017; Western Cape Department of Health 2014). This process of wide-ranging provincial health reform has resulted in a rationally organised, less fragmented health system, more suited to meeting the health care needs of the whole provincial population, rather than a select minority (Gilson et al. 2017).

However, the WCDoH still faces the ongoing challenges of inequity of health outcomes and access to healthcare services, and a lack of robust intersectoral collaboration and community engagement in the health system (Gilson et al. 2017). A collaboration of Western Cape health managers and researchers recently analysed the WCDoH's progress since 1994 as well as its remaining challenges, and identified that the next step for the WCDoH in order to meet these continuing health system challenges is the development of "new forms of monitoring and evaluation that take a whole-system perspective – extending beyond services and programmes to system functions, drawing in a wider range of perspectives and knowledge, and considering not only what but also how health-system change is unfolding" (Gilson et al. 2017, p. 67).

The need to develop innovative monitoring and evaluation processes is emphasised in the WCDoH's current strategic document, Healthcare 2030, which defines the vision, goals, and principles underlying the work of the department until 2030 (Western Cape Department of Health 2014). As part of its Healthcare 2030 vision, the department redefined the purpose of monitoring and evaluation as "to improve decision-making and support the process of whole system change and must allow for *real-time learning and feedback* [emphasis added]" (Western Cape Department of Health 2014, p. xxii). One proposal which has been embraced by the WCDoH in aid of this new type of monitoring and evaluation is the development of the department into a learning organisation in order to encourage continuous, organisation wide learning. The University of Cape Town's Health Policy and Systems Division is supporting this process of organisational learning development, through the involvement of its Head of Division Professor Lucy Gilson, who is also the supervisor for

this MPH mini-dissertation. This systematic review is one input into this process of the creation of a learning organisation in the WCDoH.

## Purpose of systematic review

### Research question

Which are the key factors identified as influencing learning organisation development in empirical studies of learning organisation interventions in any sector since 1990?

### Objectives of systematic review

Since 1990, when Peter Senge popularised the learning organisation concept (Garvin 1993; Gephart et al. 1996; Tsang 1997; Yeo 2005), there has been a “proliferation of advice” (Gephart et al. 1996, p. 35) on the development of learning organisations. However, most publications offering guidance into learning organisation development do not meet the rigorous standards of academic research (Tsang 1997; Vassalou 2001; Wilson & Beard 2014). Historically, these publications have been written by management consultants based on their own personal experience of working with companies, and are often written in vague and broad terms (Tsang 1997; Watkins & Kim 2018). This lack of rigorous academic research into the learning organisation means that there is little consensus on how to transform organisations into learning organisations (Thomas & Allen, 2006).

However, a recent review of *The Learning Organization* journal identified a trend towards more empirical research in the subject (Tuggle 2016). Thus, the objective of this systematic review is to find out what can be learned from the existing (although perhaps small) empirical literature about learning organisation interventions, in order to determine the enablers of, and barriers to, the creation of a learning organisation. Identifying these enablers and barriers from intervention studies will hopefully generate useful recommendations for the Western Cape health managers aiming to create a learning organisation within the Western Cape Department of Health.

## Methodology

### Approach to the review

#### Initial conceptual review

Many definitions and models of the learning organisation concept exist in the literature as it has been applied widely across different disciplines, with varying interpretations (Örtenblad 2004). Thus, the systematic review proposed here will be preceded by an initial review of conceptual studies of the learning organisation in order to synthesise these multiple definitions into a common understanding of the learning organisation.

In addition, this review will identify learning organisation frameworks, dimensions and principles and synthesise these into a set of core dimensions of which a learning organisation can be said to consist. This definition and set of dimensions will be used to focus the literature search and data analysis stages for the systematic review that is the subject of this proposal.

#### Scope of review

This systematic review will not be limited to learning organisation interventions in the health sector, as these applications are not as numerous as in other sectors (Akhnif et al. 2017; Naimoli & Saxena 2018). In fact, the literature concerning learning organization interventions is scattered across various journals dedicated to multiple disciplines (Soklaridis 2014). In order to include potentially useful insights from outside of the health sector, this review intends to include relevant literature from other sectors.

#### Systematic review methodology

The intention of this review is to produce insights which will feed into the WCDoh's ongoing process of developing into a learning organisation. In other words, this review may have real-life implications in terms of informing policy decisions. Thus, it is vital that the findings of this review are reliable. In order to ensure this, this review will use systematic review methodology. A review is systematic when its methods are "explicit, rigorous and accountable" (Gough et al. 2017, p. 5). In addition, using a systematic review methodology is particularly useful when the topic of focus is the subject of studies from multiple disciplines, which are published in many different databases (Kugley et al. 2016). Thus, a systematic review methodology suits the purpose of this review as it seeks to synthesise evidence from multiple disciplines, given the multidisciplinary interest in the learning organisation concept.

However, systematic reviews, through their development under the Cochrane Collaboration, typically use a hypothesis-testing approach in order to assess the effectiveness of clinical healthcare interventions (Petticrew 2015). In recent years, the utility of these hypothesis-testing, "what works" systematic reviews to inform decision-making has been questioned (Petticrew 2015, p. 2). It has been suggested that systematic reviews which aim to answer "what happens" questions about the implementation of complex interventions are likely to be more useful to decision-makers (Petticrew 2015, p. 2). Systematic reviews taking this new approach tend to include a broader range of evidence, in terms of study quality and design, than traditional Cochrane-style reviews (Petticrew 2015). This allows for the inclusion of qualitative data and as well as studies with the flexible designs common in qualitative research.



This systematic review intends to take this new approach as the development of a learning organisation is a complex intervention, and the focus of the review is what happens during the implementation of a learning organisation, that is the enablers and barriers to the process, rather than which interventions “work” to create a learning organisation.

## Literature search strategy

### Clarifying the concept - conceptual review

As noted, to provide a foundation for the systematic review, an initial, briefer review will identify and consider conceptual articles about the learning organisation in order to clarify the concept and distil the set of core dimensions which characterise a learning organisation. The conceptual clarity provided by this literature review will inform the choice of keywords and databases for the systematic review. The conceptual review will be conducted by performing electronic database keyword searches in PubMed and Scopus. Only articles published since 1990 will be considered, as this is when the learning organisation concept first came to prominence with the publication of *The Fifth Discipline: The Art and Practice of the Learning Organization* (Senge 1990). Multiple sectors, including the health sector, will be included in this literature review.

### Systematic review

Traditionally, systematic reviews take a linear approach to searching for relevant literature by specifying exact search terms and sources of literature at the start of the review process (Brunton et al. 2012). However, this approach is not suitable for this review, given the varied nature of the learning organisation literature as described above. Thus, this review intends use an iterative search strategy. Iterative searching can be likened to following a trail, that is, the findings of relevant articles are used to inform the search strategy for finding more relevant articles (Brunton et al. 2012). Given that an iterative search strategy involves performing a search, learning about the search based on its findings, and then using this learning to inform future searches, this is also a systematic strategy (Brunton et al. 2012). This search strategy is also appropriate for this review as it intends to include qualitative research - and the explicit, *a priori* search strategies of traditional systematic reviews have been found to be difficult to apply to reviews of qualitative evidence (Dixon-Woods et al. 2006; Thomas & Harden 2008).

However, as a starting point, keywords relating to the key concepts of the research question will be used to search multiple databases as in a traditional linear search strategy (Brunton et al. 2012). Drawing from the conceptual review, these key words will include terms related to the learning organisation concept (such as “organisational learning”, “learning company”, “learning community”, and “learning workplace”), terms related to learning organisation interventions (such as “case

study”, “action research”, and “intervention”) and terms relating to the sector in which the learning organisation intervention took place. These initial searches will be conducted in multiple databases given the fact that the learning organisation concept has been applied across diverse disciplines, as discussed above. These databases were identified with the assistance of Gill Morgan (a senior reference librarian at the UCT Health Sciences library) and will include MEDLINE (PubMed), CINAHL, ERIC, PsycINFO, Emerald, Scopus and Web of Science. The reference manager software EndNote will be used to store and manage the references found. Given its iterative nature, it is unlikely that the search strategy will be entirely reproducible (Dixon-Woods et al. 2006). However, documentation of the process of searching, including how and where relevant articles were found, will be maintained.

### Inclusion and exclusion criteria

The search results obtained from the database searches described above will be screened in order to remove non-relevant articles. To ensure consistency, this screening process will be informed by explicit inclusion and exclusion criteria (Brunton et al. 2012). These criteria are listed in Table 1. The selection of articles for inclusion in the review will be finalised in consultation with Professor Lucy Gilson.

**Table 1** Inclusion criteria for systematic review

Parameter	Inclusion criteria
Sector	All sectors, including the health sector, will be included.
Nature of intervention	All interventions intended to develop a learning organisation at all levels of an organisation will be included. Interventions concerning purely individual learning will not be considered for inclusion. Papers will be included if they report on primary, empirical studies of interventions of this nature. Purely conceptual articles will not be considered.
Language of publication	Only papers available in English will be considered given the time and resource constraints of this mini-dissertation. Searches will not be filtered by language in order to prevent missing important documents. Instead, documents not available in English will be excluded when all documents found during the searching stage are screened.
Geographic area of focus	All relevant documents will be included regardless of country of origin.
Period of publication	January 1990 to present. This year was chosen as this was when the learning organisation concept was popularised by Peter Senge’s seminal book on learning organisations (Senge 1990).
Study designs	All study designs will be included.

Inclusion of grey literature	Grey literature will not be included, given the time and resource constraints of this mini-dissertation.
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## Quality appraisal

Given the fact that this systematic review will include multiple sectors, and include studies of varied design and approach, it is difficult to define clear criteria beforehand that would signal a poor quality study (Dixon-Woods et al. 2006). A previous review of this nature found that commonly used appraisal checklists, such as the Critical Appraisal Skills Programme (CASP) tool, resulted in a wide variation in quality scores based more on differences in style and writing practice than actual study quality (Barasa et al. 2018). In addition, as discussed above, this review will not take a hypothesis testing approach but is rather concerned with what happens when an attempt is made to develop a learning organisation in various contexts.

This broader approach allows for the inclusion of a wide range of evidence, which may include studies that do not score highly on an appraisal checklist (Petticrew 2015). Pawson (2006) also makes a strong case for the inclusion of these studies, as “[t]here are often nuggets of wisdom in methodologically weak studies and systematic review disregards them at its peril” (p. 127). Pawson (2006) suggests that appraising the quality of a study as a whole is inappropriate, as fragments of very useful evidence can be found even within studies with methodological flaws. Thus, following Gilson (2014), this review will take a more holistic approach to judging quality in order to select the articles which will be included in the review.

In the context of this review, a good quality article will be one which gives a detailed description of the experience of the learning organisation intervention. A description is detailed enough if it “allow[s] the reader to make sense of the experience presented” (Gilson 2014, p. iii2). In addition, for an article to be deemed of good enough quality to be included in this review, it must be relevant to the research question (Gilson 2014). In this case, this means that the article should include some mention of factors which are enablers of, or barriers to, the process of learning organisation development during the intervention. These quality judgements will be reviewed by Professor Lucy Gilson.

## Data extraction

Systematic data extraction is an essential part of all systematic reviews (Gilson 2014). The key findings to be identified and extracted from each article included in this review are the identification of factors which are enablers of, or barriers to, the process of learning organisation development.

This data will be extracted from all article sections, as the writing styles of each discipline differ, which means that valuable findings may not only be found in the “findings” section of the document (Sandelowski & Barroso 2003). In order to aid the data extraction process, a data extraction table will be used (Sutcliffe et al. 2012). This data extraction table will be developed and refined following the initial literature review, but will include the following:

- Intervention country
- Intervention sector
- Type of intervention
- Level of intervention (e.g. team, division, whole organisation)
- Dimension(s) of the learning organisation targeted by the intervention (based on the set of core dimensions identified by the initial review of conceptual articles)
- Intervention evaluation
- Findings (i.e. enablers and barriers)

Displaying the extracted data in this table will facilitate the synthesis and analysis of the data (Gilson 2014).

### Data synthesis and analysis

The analysis and synthesis of the extracted data will be informed by a thematic analysis approach, as this is a commonly used approach for reviews of diverse evidence (Dixon-Woods et al. 2006).

Following Thomas and Harden (2008), this thematic analysis will take place in three stages:

1. Immersion in the data by multiple readings of each included document: Text relevant to the research question will be identified in each document. These identified texts will be translated into codes which can be applied across all of the documents. The documents will be then be reread and coded line-by-line.
2. Organisation of codes into descriptive themes: similarities and differences between the codes will be examined in order to form groups of codes sharing an underlying meaning. These thematic groupings will be relabelled to produce descriptive themes.
3. Generating analytical themes: the relationships between descriptive themes will be analysed in order to produce insights beyond the original findings of the included documents.

For the purposes of this review, the third step will involve the generation of insights regarding how to support change towards becoming a learning organisation, given the enablers of and barriers to learning organisation development identified through the review. This focus is intended to inform the Western Cape Department of Health’s efforts to become a learning organisation.

## Ethical Considerations

As this is a review, no primary data will be collected. Thus, there are no ethical requirements as there are no risks involved in the review of previously published literature. All literature included in the review will be identified and credited appropriately.

## Study Limitations

The main limitation of this study is its limited scope in terms of time and resources. This may introduce some selection bias into the review, as these limited resources mean that only English language documents to which access has been granted to the University of Cape Town will be included. In addition, only one researcher will perform the literature search and data analysis, which means that the review may be vulnerable to bias in the selection and interpretation of literature. This risk will be minimised through consultation with Professor Lucy Gilson (the dissertation supervisor) during the literature search, document selection, quality appraisal, and data analysis stages of the review.

## Timeline

Table 2 details the timeline for this systematic review.

**Table 2** Timeline of systematic review

<b>Dissertation component</b>	<b>Activity</b>	<b>Dates</b>
Part A: Protocol	Topic chosen	November 2018
	Draft	May 2019
	Edits	September-November 2019
Part B: Literature review	Literature search	January 2019 to May 2019
	Draft	September 2019
	Edits	November-December 2019
Part C: Systematic review	Literature search	October 2019
	Article selection and data extraction	1-15 November 2019
	Data analysis	15-30 November 2019
	Drafting	1-7 December 2019
	Edits	7-31 December 2019
	Intention to submit	15 December 2019
	Submission	January 2019

## Dissemination

The results of this systematic review will be submitted as a mini-dissertation in partial fulfilment of the requirements to obtain a Master of Public Health qualification at the University of Cape Town. The results will also be written up in the form of an article intended for publication in an academic journal. More broadly, as the aim of this review is to inform the development of local learning organisations in the health sector, the main audience for this review is managers and policy-makers at the Western Cape Department of Health. To this end, the results of this review will be summarised in the form of a briefing note which will be shared in the relevant structures of the department.

## Funding

This mini-dissertation is self-funded and will involve minimal, incidental costs only.

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## **PART B: LITERATURE REVIEW**

What is a learning organisation? A review of key concepts and models

## Introduction

Academics have been interested in how organisations learn since at least the 1950s (West & Burnes 2000). However, it was not until the 1990s that the concept of the “learning organisation” gained widespread popularity (Easterby-Smith & Araujo 1999). The popularisation of the learning organisation concept was largely due to the successful publication in 1990 of Peter Senge’s *The Fifth Discipline: The Art and Practice of the Learning Organization* (Garvin 1993; Gephart et al. 1996; Senge 1990; Tsang 1997; Yeo 2005). The concept held great appeal for the business management world in an era marked by increasingly rapid change (Timpson 1998). Business managers embraced the concept as an innovative approach to manage this rapid change and enable businesses to maintain a competitive advantage (O’Sullivan 1999; Timpson 1998). The concept of the learning organisation has been applied across diverse sectors and disciplines, from the automotive industry (West & Burnes 2000) to libraries (Giesecke & McNeil 2004). The idea that developing learning organisations is a good strategy to manage challenges in a complex, rapidly changing environment has also gained currency in the health sector during the last 10 years (Akhnif et al. 2017: see also, Goh et al. 2013; Mannion & Braithwaite 2017; Naimoli & Saxena 2018; Soklaridis 2014; Sujan et al. 2017).

The concept of the learning organisation has now been applied (mostly on a conceptual level) to the health sector in many countries, mainly high income, such as the United States and the United Kingdom, but also in some low- and middle-income countries such as Turkey, Iran and Nepal (Akhnif et al. 2017). In South Africa, the Western Cape Department of Health is currently engaged in the process of developing into a learning organisation in order to encourage ongoing, organisation-wide learning, including revitalising current monitoring and evaluation practices. The review reported here precedes a systematic review of learning organisation interventions which aims to provide an academic input to this Western Cape departmental process by identifying the enablers of, and barriers to the creation of a learning organisation. The aim of this review is to synthesise the existing multiple definitions and models of a learning organisation (Örtenblad 2004) and to identify a core set of learning organisation dimensions. These understandings are a necessary foundation for the systematic review of learning organisation interventions that will be undertaken and will allow appropriate articles to be identified for inclusion in the review.

## Methodology

Conceptual articles of the learning organisation were found using keyword searches in the electronic databases PubMed and Scopus. Only articles published since 1990 were included in this review, as this is when the learning organisation concept was popularised following the publication of Peter

Senge's seminal work *The Fifth Discipline: The Art and Practice of the Learning Organization* (Senge 1990). 31 conceptual articles on the learning organisation were included in this review regardless of sector and discipline (see Appendix A for table of included articles). Key points concerning learning organisation concepts and models were extracted from these articles. These points are summarised in the discussion below under four main topics, namely defining the learning organisation term, differentiating between the concepts of 'learning organisation' and 'organisational learning', popular models of the learning organisation, and evaluation strategies for learning organisations.

## Discussion

What does the term "learning organisation" mean?

There is general agreement in the literature that the concept of a learning organisation is vague, opaque and ambiguous (Goh et al. 2013; Honig 2008; Kim et al. 2015; Örtenblad 2001; Örtenblad 2002; Örtenblad 2004; Thomas & Allen 2006; Wilson & Beard 2014; Yang et al. 2004). This has been attributed to the fact that it is difficult to describe clearly what a learning organisation looks like given that, firstly, learning organisations are dynamic and secondly, that each learning organisation will be different in order to suit the organisational context in which it is developed (Örtenblad 2002). In addition, the learning organisation concept has been taken up by diverse disciplines which has also contributed to the conceptual fragmentation of the field (Easterby-Smith & Araujo 1999). Thus, multiple definitions of the concept exist.

Several prominent leaders in the learning organisation field in the 1990s offered different definitions of the learning organisation. In the United States, Peter Senge, the populariser of the concept, defined learning organisations as places where "people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge 1990, p. 1). This definition was criticised by Garvin (1993), another influential learning organisation consultant in the United States, for being too abstract to be practically useful, and it was suggested that a learning organisation should instead be defined as "an organization skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights" (p. 80). On the other hand, in the European literature the most popular definition of the learning organisation was that of Pedler et al. (1991), who defined a learning organisation as "one which facilitates the learning of all its members and continually transforms itself" (Garavan 1997, p. 25). These and other descriptions of learning organisations are summarised in Table 1.

**Table 1** Examples of learning organisation definitions

Source	Learning organisation definition
Senge (1990)	Learning organisations are places where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together.
Pedler et al. (1991)	A learning organisation is one which facilitates the learning of all its members and continually transforms itself.
Garvin (1993)	A learning organisation is one which is skilled at creating, acquiring and transferring knowledge, and at modifying its behaviour to reflect new knowledge and insights.
Gephart et al. (1996)	A learning organisation is an organisation that has an enhanced capacity to learn, adapt, and change. It's an organisation in which learning processes are analysed, monitored, developed, managed, and aligned with improvement and innovation goals. Its vision, strategy, leaders, values, structures, systems, processes and practices all work to foster people's learning and development and to accelerate systems-level learning.
Birleson (1998)	A learning organisation works with its members to identify and remove blocks to learning, and build structural and cultural support for continuous learning, adaptation and improvement, to meet organizational objectives and the needs and aspirations of those involved.
Marsick and Watkins (2003)	A learning organisation is one that has embedded the capacity to adapt or to respond quickly and in novel ways while working to remove barriers to learning.
Yang et al. (2004)	The learning organisation is one that is characterised by continuous learning for continuous improvement, and by the capacity to transform itself.
Thomas and Allen (2006)	Learning organisations are distinguished from other organisations by the capability to create, integrate and apply knowledge.
Watkins and Kim (2018)	A learning organisation is an organisation with the necessary organisational structures and capacities to create an environment that will stimulate knowledge and ultimately financial performance.

These definitions are all different, but also appear to have some underlying commonalities. For example, the phrases “collective aspiration” (Senge 1990), “facilitates the learning” (Pedler et al. 1991), “[i]ts vision, strategy, leaders, values...all work to foster people’s learning” (Gephart et al.

1996), and “works with its members” (Birleson 1998) seem to imply a clear commitment to learning on an organisational level.

In addition, the definitions refer to organisational processes to encourage learning. For example, “where new and expansive patterns of thinking are *nurtured*” [emphasis added] (Senge 1990), “a learning organisation is one which *facilitates* the learning of all its members” [emphasis added] (Pedler et al. 1991), “processes and practices all work to foster people’s learning” (Gephart et al. 1996), “build structural and cultural support for continuous learning” (Birleson 1998), and “[a] learning organisation is an organisation with the necessary organisational structures and capacities to create an environment that will stimulate knowledge” (Watkins & Kim 2018) all imply the development of processes to encourage learning. Taken together, this organisational commitment to learning, and the development of organisational processes to support learning has been described as a “learning climate” (Örtenblad 2004, p. 133). An organisation with a learning climate offers opportunities for learning to members of the organisation, who are encouraged to experiment without fear of failure and specifically given time to reflect on their learning (Örtenblad 2018).

Secondly, these definitions also seem to reflect the underlying assumption that in a learning organisation, learning takes place at an organisational, rather than only at an individual level. For example, “[l]earning organisations are distinguished from other organisations by the capability to create, *integrate* and apply knowledge” [emphasis added] (Thomas & Allen 2006), “continually learning how to learn *together*” [emphasis added] (Senge 1990), “[a] learning organisation is one which is skilled at creating, acquiring and *transferring* knowledge” [emphasis added] (Garvin 1993), and “systems-level learning” (Gephart et al. 1996) all suggest that learning takes place beyond the individual. Thus, these definitions suggest that even if the learning of individual organisational members is encouraged (see for example the Pedler et al. (1991) definition), for an organisation to be a learning organisation, this individual knowledge must be transferred to and stored within the organisation. This level of learning is commonly referred to as organisational learning (Örtenblad 2004) and will be discussed in greater detail below.

Thirdly, for an organisation to be a learning organisation, this organisational learning should be used to influence the function of the organisation in some way, and not just passively stored. This focus is evident in the definitions which suggest that organisational learning should be transformative (Pedler et al. 1991; Yang et al. 2004), should result in organisational change (Gephart et al. 1996), should change organisational behaviour (Garvin 1993) or should enable the organisation to adapt (Birleson 1998; Marsick & Watkins 2003). Thus, these definitions suggest that a learning organisation can be understood to be an organisation with an explicit commitment to continuous learning, which

fosters a supportive learning climate with the aim of creating organisational level learning. In a learning organisation, this organisational level learning is actively applied to the work of the organisation in order to improve organisational functioning.

## The learning organisation vs. organisational learning

### Organisational learning concept

One of the key dimensions of a learning organisation identified above is organisational learning. Although the terms are often used interchangeably, organisational learning and the learning organisation are distinct concepts within different theoretical streams (Tsang 1997). The concept of organisational learning was first conceived by Argyris and Schön (1978), who became influential contributors to the organisational learning field (Easterby-Smith & Araujo 1999). Traditionally, the concept of organisational learning implies that individual organisational members learn as agents for the organisation, and that this learning is stored in the organisation's memory in various forms, such as organisational culture, documents, rules, or work routines (Örtenblad 2001).

This learning takes place at several different levels, namely single-loop, double-loop and triple-loop learning. The distinction between single-loop learning and double-loop learning is one of the most influential concepts developed by Argyris and Schön (1978) in the organisational learning field (Easterby-Smith & Araujo 1999). Single-loop learning can be thought of as business as usual, that is, a work routine is implemented, results are monitored, and adjustments are made to implementation based on these observations in order to carry out the work routine as well as possible (Easterby-Smith & Araujo 1999; Örtenblad 2004; Rushmer et al. 2004; Vassalou 2001). On the other hand, double-loop learning involves the evaluation and adaptation of the work routine itself, which enables learning to result in completely new courses of action (Easterby-Smith & Araujo 1999; Örtenblad 2004; Rushmer et al. 2004; Vassalou 2001). More recently, although not mentioned by Argyris and Schön (1978) explicitly, the understanding of single-loop and double-loop learning has evolved to include a final level, namely triple-loop learning (Rushmer et al. 2004). Triple-loop learning involves reflection on single-loop and double-loop learning in order to learn about the process of organisational learning itself, so that this can be applied in future learning situations (Rushmer et al. 2004).

### Distinctions between organisational learning and learning organisation concepts

What then is the difference between organisational learning and the learning organisation? A simple way of understanding how the concepts are related is that organisational learning is a set of processes, while a learning organisation is the outcome of the application of those processes (Thomas & Allen 2006). In other words, "a learning organisation is one which is good at



organisational learning” (Tsang 1997, p. 75). Organisational learning is the “means”, while learning organisations are the “ends” (Armstrong & Foley 2003, p. 74).

Despite this close connection, those involved in the fields of organisational learning and learning organisation work largely independently (Easterby-Smith et al. 2000). The field of organisational learning is dominated by academics, while the field of learning organisations is dominated by business management consultants (Örtenblad 2001; Tsang 1997). This difference in backgrounds means that these two groups approach research in their respective fields with vastly different methodologies and purposes. Organisational learning theorists tend to produce research which is academic and descriptive in nature and based on “detached observation and analysis” (Easterby-Smith & Araujo 1999, p. 2) of learning in organisations, with the purpose of understanding how learning processes in organisations work (Easterby-Smith & Araujo 1999; Örtenblad 2001; Tsang 1997). On the other hand, learning organisation scholars tend to produce prescriptive research based on first-hand experience of consulting with various firms, with the purpose of producing normative models and tools for learning organisation creation (Easterby-Smith & Araujo 1999; Örtenblad 2001; Tsang 1997).

The descriptive research of the organisational learning field has been criticised for having limited utility in a practical setting (Tsang 1997), while the prescriptive research of the learning organisation field has been criticised for being based on methods (such as informal case studies) which are not sufficiently rigorous to justify the broad claims that are made (Tsang 1997). In addition, despite the close conceptual connection between the two fields, there is little collaboration between them (Easterby-Smith et al. 2000). While learning organisation authors may occasionally draw on organisational learning theory (such as the single-, double-, and triple-loop learning described above), it is rare for organisational learning theorists to draw on learning organisation literature (Easterby-Smith et al. 2000). The differences between the fields of organisational learning and the learning organisation are summarised in Table 2.

**Table 2** Distinctions between organisational learning and learning organisation research (adapted from Tsang (1997))

	<b>Organisational learning literature</b>	<b>Learning organisation literature</b>
<b>Key question</b>	How does an organisation learn?	How should an organisation learn?
<b>Target audience</b>	Academics	Practitioners
<b>Objective</b>	Theory building	Improving organisational performance
<b>Source of information</b>	Systematic data collection	Consulting experience
<b>Methodology</b>	Rigorous research methods involving systematic data collection (e.g. through case studies and surveys)	Informal case studies and action research
<b>Generalisation</b>	Aware of factors limiting generalisability of findings	Tendency to overgeneralise findings to all organisations

The practical orientation of the learning organisation literature means that it is this literature which is often favoured by those seeking guidelines to develop their own organisations into learning organisations, for example in the health sector (e.g. Naimoli and Saxena (2018)). However, it has been suggested that the organisational learning and learning organisation fields ideally should be integrated (Tsang 1997) and thus that learning should take place between them, as a deep understanding of learning processes is necessary to create an effective learning organisation (Gorelick 2005).

### Learning organisation models

Since, as described above, the learning organisation literature is largely written by business management consultants based on their own experiences, there seem to be as many learning organisation models as there are learning organisation consultants (Yang et al. 2004). However, some models, such as that of Senge (1990) and Garvin (1993) have been extremely influential. For example, in a review of the learning organisation concept as applied to the health sector, it was found that most applications were based on these two models (Akhnif et al. 2017).

Senge (1990)

According to this model, the learning organisation is made up of five 'disciplines', namely personal mastery, mental models, shared vision, team learning and systems thinking (Senge 1990). The discipline of personal mastery refers to a commitment to individual learning and continuously

deepening one's personal understanding of learning processes, including how one's individual learning can be translated into organisational learning (Giesecke & McNeil 2004; Rushmer et al. 2004; Senge 1990; Yang et al. 2004). Developing the discipline of mental models refers to honing the skill of identifying the assumptions and generalisations that underly one's actions and understandings of how the organisation works with the aim of being more capable of challenging these assumptions (Giesecke & McNeil 2004; Rushmer et al. 2004; Senge 1990). Shared vision refers to the ability to develop a collective vision for the future of the organisation in a manner that inspires organisation-wide commitment to this vision, rather than mere organisational compliance (Senge 1990; Yang et al. 2004). The discipline of team learning recognises the fact that group learning, rather than individual learning is the priority in a learning organisation (Senge 1990). This implies an organisational environment which encourages open discussion and dialogue (Giesecke & McNeil 2004). Finally, the fifth discipline of systems thinking refers to improving one's ability to see the organisation as a whole and to understand the complex interrelationships that underly its functioning, rather than focusing on simple, linear cause-effect chains (Senge 1990; Yang et al. 2004). These five disciplines are summarised in Table 3.

**Table 3** The five disciplines of the learning organisation according to Senge (1990)

<b>Discipline</b>	<b>Description</b>
Personal mastery	Individual commitment to learning, skills development and learning how to learn
Mental models	Identifying and challenging assumptions held within an organisation
Shared vision	Developing a collective vision for the future of the organisation
Team learning	Organisational members learn together in groups
Systems thinking	Seeing the bigger picture, understanding complex interrelationships within an organisation

Garvin (1993)

Senge's model received criticism for being too abstract and aspirational for practical application (Garvin 1993). This led to Garvin (1993) suggesting an alternate a model of the five building blocks or main activities which form the foundation of a learning organisation, which would give managers clear guidelines for practice. These five main activities include systematic problem-solving (i.e. using a hypothesis-generating and testing approach to diagnose problems, and collect, organise and analyse data), experimentation with new approaches (constantly seeking innovation by systematically testing new knowledge), learning from past experience (systematically assessing past failures and successes), learning from others (assessing the failures and successes of other organisations, and encouraging conversations with clients), and transferring knowledge (establishing

processes to share learnings throughout the organisation, such as reports, tours, rotation of personnel, and formal training programmes) (Garvin 1993).

Pedler et al. (1991)

While the Senge (1990) and Garvin (1993) learning organisation models were most popular in the United States, the model of Pedler et al. (1991) was more popular in a European context (Garavan 1997). Pedler et al. (1991) defined the learning organisation as “one which facilitates the learning of all its members and continually transforms itself” (Garavan 1997, p. 25), and identified eleven characteristics of a ‘learning company’, namely a learning approach to strategy, a policy-making process which encourages participation, informing (i.e. organisational activities and experiences are converted into information), formative accounting and control (i.e. teams are responsible for the allocation of their own financial resources), internal exchange (i.e. good cooperation between departments), flexible reward systems (i.e. determined by different teams, rather than centrally), structures which enable learning, information-sharing networks with suppliers and clients, learning between companies, a learning climate, and support for the ongoing personal development of all employees (Yang et al. 2004).

Comprehensive learning organisation models

In more recent years, efforts have been made to develop a learning organisation model that integrates all existing knowledge about the learning organisation into one comprehensive learning organisation model. For example, Örtenblad (2004) reviewed previous learning organisation models and suggested an integrated model, with the hopes that the learning organisation could become a more coherent academic concept. This integrated model suggested that there are four main aspects which have to be present for any organisation to be called a learning organisation (Örtenblad 2004). These four aspects are summarised in Table 4.

**Table 4** Örtenblad (2004)'s integrated model of the learning organisation

Aspect	Description
Organisational learning	<ul style="list-style-type: none"> <li>• Individuals act as learning agents for the organisation</li> <li>• Knowledge is stored in the organisation rather than only in the minds of these individuals (e.g. in routines, standard operating procedures, shared mental models, documents, manuals etc.) to prevent knowledge being lost through staff turnover</li> <li>• This stored knowledge is used in practice</li> <li>• There is an awareness of the need for different levels of learning (i.e. single-, double-, and triple-loop learning)</li> </ul>
Learning at work	<ul style="list-style-type: none"> <li>• Learning occurs “on the job” rather than in formal courses, through employees receiving feedback on their work, learning from each other, and learning from clients</li> </ul>
Learning climate	<ul style="list-style-type: none"> <li>• Learning is a shared value in the organisation</li> <li>• The organisation actively facilitates the learning of its individual members</li> <li>• There is provision of time and space for employees to reflect on their actions and thus enable learning</li> <li>• The organisation encourages employees to experiment (mistakes are acceptable as long as employees reflect on and learn from the experience)</li> </ul>
Learning structure	<ul style="list-style-type: none"> <li>• The ideal structure for a learning organisation is flat, flexible, and team-based</li> <li>• There is movement away from hierarchy and unnecessary bureaucracy</li> <li>• There is a free flow of information across organisational boundaries (e.g. through information and data processing systems)</li> <li>• The organisation is decentralised (i.e. employees are empowered to make independent, work-related decisions that support the organisation's interests)</li> </ul>

Marsick and Watkins (2003) also developed a comprehensive model of the learning organisation from a thorough review of both organisation learning literature and case studies of learning organisations (Watkins & Kim 2018). Seven dimensions making up the learning organisation were identified, namely continuous learning, inquiry and dialogue, team learning, empowerment, systems to capture and share learning, system connection, and strategic leadership for learning (Marsick & Watkins 2003). Descriptions of these seven dimensions are summarised in Table 5. This model has

proved especially influential as it forms the basis of a popular learning organisation evaluation tool, namely the Dimensions of the Learning Organisation Questionnaire (DLOQ).

**Table 5** Seven dimensions of the learning organisation (adapted from Marsick and Watkins (2003))

<b>Dimension</b>	<b>Definition</b>
Continuous learning	Opportunities for “on the job” learning are available
Inquiry and dialogue	Skills for productive dialogue are cultivated and the organisational culture supports questioning, feedback and experimentation
Team learning	Collaboration is encouraged, and groups are expected to learn together
Empowerment	Organisational members are involved in developing a collective organisational vision; responsibility
Systems to capture and share learning	Systems (both computerised and not) to capture learning are integrated into routine work
System connection	Organisational members are encouraged to see the effects of their work on the whole organisation
Strategic leadership for learning	Organisational leaders model and support learning

#### Core learning organisation dimensions

As shown in Table 6, these two comprehensive learning organisation models seem to cover largely the same ground.

**Table 6** Comparison between two comprehensive learning organisation models

<b>Örtenblad (2004)</b>	<b>Marsick and Watkins (2003)</b>
Organisational learning	Systems to capture and share learning System connection
Learning at work	Continuous learning
Learning climate	Inquiry and dialogue Team learning Strategic leadership for learning
Learning structure	Empowerment

However, the dimensions as described by Örtenblad (2004) were found to be more useful for the purposes of this review, as the terms used are more general, which may prove easier to apply when conducting the systematic review of the learning organisation literature. The set of core learning organisation dimensions developed by Örtenblad (2004) may also be a useful starting point as it was

based on a comprehensive review of the learning organisation literature (Yang et al. 2004). In addition, it is often cited in learning organisation papers (e.g. Dymock and McCarthy (2006), Wilson and Beard (2014), Retna and Tee (2006), (Yeo 2005)).

However, it may be useful to highlight a fifth aspect of the learning organisation, namely that in a learning organisation organisational learning is actively applied in the work of the organisation and not just stored. This is implied by Örtenblad (2004) as an element under the “organisational learning” dimension, that is, “this stored knowledge is used in practice” (Table 4). As this need to apply learning to organisational functioning was a feature of learning organisation definitions as discussed above, this suggests that drawing this element out as a fifth core learning organisation dimension may be justified. Thus, combining the Örtenblad (2004) model and insights from this review, the core set of dimensions for the learning organisation may be said to include the following dimensions:

- A learning climate (i.e. a shared commitment to learning, and processes to facilitate this learning)
- Organisational learning (i.e. learning occurs at an organisational rather than merely an individual level)
- Learning at work (i.e. learning is part of routine work)
- A learning structure (i.e. information can flow freely across all levels of the organisation)
- Learning which results in organisational change (i.e. learning is applied, and not merely stored)

## Evaluating the learning organisation

The challenge of assessing whether an organisation is indeed a learning organisation has long been recognised (Garavan 1997; Yang et al. 2004). The difficulty of measuring an organisation’s progress towards the goal of becoming a learning organisation is an obstacle to learning organisation development (Smith & Tosey 1999). In order to aid this development, several learning organisation advocates in the United States have developed learning organisation assessment tools (Marsick & Watkins 2003). According to Gephart et al. (1996), examples of these evaluation tools have included the American Society for Training and Development’s Learning Organisation Assessment Framework (which assesses organisational systems which facilitate learning), the Readiness for a Learning Organisation Questionnaire (an organisational learning climate assessment), and the 5 Stage Diagnostic Survey (which is based on a model proposing five sequential steps to becoming a learning organisation).

However, these tools were primarily based on the personal experience of consultants rather than on rigorous scientific research (Gephart et al. 1996). In response to this lack of an empirically developed assessment tool for learning organisations, Marsick and Watkins (2003) developed the Dimensions of the Learning Organisation Questionnaire (DLOQ). The DLOQ was developed through a process of testing and modification which was informed by formal research (Marsick & Watkins 2003). It has also been shown to be reliable across diverse organisational contexts (Marsick & Watkins 2003). In addition, a study of the DLOQ involving 836 participants from multiple organisations (from largely the service and manufacturing sectors, although a minority represented public institutions) using a factor analysis method found strong evidence of the questionnaire's construct validity (Yang et al. 2004). Likely as a result of this robustness in terms of reliability and validity, the DLOQ has been used widely as a tool to assess organisational progress towards becoming a learning organisation (Kim et al. 2015). Indeed, the tool has become the preferred choice for researchers conducting empirical learning organisation studies (Watkins & Kim 2018).

## Conclusion

There has been a lack of clarity surrounding the learning organisation concept since its inception. Currently, a multiplicity of definitions and models for the learning organisation exist in the literature. The aim of this review was to find the commonalities underlying these multiple definitions and models in order to produce a common understanding of the learning organisation, and to identify a core set of learning organisation dimensions. In terms of a common understanding, this review suggests that a learning organisation is an organisation which:

- has an explicit commitment to continuous learning,
- fosters a supportive learning climate and
- aims to create organisational level rather than merely individual learning, which is
- is actively applied to the work of the organisation in order to improve organisational functioning

This simple definition echoes the core set of learning organisation dimensions identified by this review, namely:

1. A learning climate (i.e. a shared commitment to learning, and processes to facilitate this learning)
2. Organisational learning (i.e. learning occurs at an organisational rather than merely an individual level)
3. Learning at work (i.e. learning is part of routine work)



4. A learning structure (i.e. information can flow freely across all levels of the organisation)
5. Learning which results in organisational change (i.e. learning is applied, and not merely stored)

This definition and set of core dimensions of the learning organisation will be used to inform the article selection for a systematic review of learning organisation interventions which aims to identify the enablers of, and barriers to the creation of a learning organisation.

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Appendix A: Conceptual articles included in the review

	<b>Author(s)</b>	<b>Date of publication</b>	<b>Article title</b>	<b>Sector/discipline</b>	<b>Relevant concepts addressed</b>
1.	Garvin, D.	1993	Building a learning organization.	Business management	Learning organisation model
2.	Gephart, M. A., Marsick, V. J., Van Buren, M. E., & Spiro, M. S.	1996	Learning Organizations Come Alive.	Business management	Learning organisation definitions, models, and evaluation
3.	Garavan, T.	1997	The learning organization: a review and evaluation.	Business management	Learning organisation definitions, models, and evaluation
4.	Tsang, E. W.	1997	Organizational learning and the learning organization: a dichotomy between descriptive and prescriptive research.	Business management	Organisational learning and learning organisation concepts
5.	Birleson, P.	1998	Learning Organisations: A Suitable Model for Improving Mental Health Services?	Health	Learning organisation concept applied to health system
6.	Timpson, J.	1998	The NHS as a learning organization: aspirations beyond the rainbow?	Health	Learning organisation concept applied to health system

7.	O'Sullivan, M.	1999	Adapting to Managed Care by Becoming a Learning Organization.	Health	Learning organisation concept applied to health system
8.	Smith, P. A., & Tosey, P.	1999	Assessing the learning organization: part 1-theoretical foundations.	Business management	Learning organisation evaluation
9.	Easterby-Smith, M., Crossan, M., & Nicolini, D.	2000	Organizational learning: debates past, present and future.	Business management	Organisational learning concept
10.	Örtenblad, A.	2001	On differences between organizational learning and learning organization.	Business management	Organisational learning and learning organisation concepts
11.	Vassalou, L.	2001	The learning organization in health-care services: theory and practice.	Health	Learning organisation concept applied to health system
12.	Örtenblad, A.	2002	A Typology of the Idea of Learning Organization.	Business management	Organisational learning and learning organisation concepts; learning organisation models
13.	Armstrong, A., & Foley, P.	2003	Foundations for a Learning Organization: Organization Learning Mechanisms.	Business management	Learning organisation evaluation

14.	Marsick, V. J., & Watkins, K. E.	2003	Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire.	Human resource development	Learning organisation evaluation
15.	Giesecke, J., & McNeil, B.	2004	Transitioning to the learning organization.	Library science	Learning organisation models
16.	Örtenblad, A.	2004	The Learning Organization: Towards an Integrated Model.	Business management	Learning organisation models and definitions
17.	Rushmer, R., Kelly, D., Lough, M., Wilkinson, J. E., & Davies, H. T. O.	2004	Introducing the Learning Practice – II. Becoming a Learning Practice.	Health	Learning organisation concept applied to health system
18.	Yang, B., Watkins, K. E., & Marsick, V. J.	2004	The construct of the learning organization: Dimensions, measurement, and validation.	Human resource development	Learning organisation evaluation
19.	Gorelick, C.	2005	Organizational learning vs the learning organization: a conversation with a practitioner.	Business management	Organisational learning and learning organisation concepts
20.	Yeo, R. K.	2005	Revisiting the roots of learning organization: A synthesis of the learning organization literature.	Engineering	Organisational learning and learning organisation concepts
21.	Thomas, K., & Allen, S.	2006	The learning organisation: a meta-analysis of themes in literature.	Business management	Organisational learning and learning organisation concepts

22.	Honig, Meredith I.	2008	District Central Offices as Learning Organizations: How Sociocultural and Organizational Learning Theories Elaborate District Central Office Administrators' Participation in Teaching and Learning Improvement Efforts.	Education	Learning organisation concept
23.	Goh, S. C., Chan, C., & Kuziemy, C.	2013	Teamwork, organizational learning, patient safety and job outcomes.	Health	Learning organisation concept applied to health system
24.	Soklaridis, S.	2014	Improving hospital care: are learning organizations the answer?	Health	Learning organisation concept applied to health system
25.	Kim, J., Egan, T., & Tolson, H.	2015	Examining the Dimensions of the Learning Organization Questionnaire: A Review and Critique of Research Utilizing the DLOQ.	Human resource development	Learning organisation development
26.	Akhnif, E., Macq, J., Fakhreddine, M. I., & Meessen, B.	2017	Scoping literature review on the Learning Organisation concept as applied to the health system.	Health	Learning organisation concept applied to health system
27.	Mannion, R., & Braithwaite, J.	2017	False dawns and new horizons in patient safety research and practice.	Health	Learning organisation concept applied to health system



28.	Sujan, M. A., Pozzi, S., & Valbonesi, C.	2017	Reporting and learning: from extraordinary to ordinary.	Health	Learning organisation concept applied to health system
29.	Naimoli, J. F., & Saxena, S.	2018	Realizing their potential to become learning organizations to foster health system resilience: opportunities and challenges for health ministries in low- and middle-income countries.	Health	Learning organisation concept applied to health system
30.	Örtenblad, A.	2018	What does “learning organization” mean?	Business management	Learning organisation models and definitions
31.	Watkins, K. E., & Kim, K.	2018	Current status and promising directions for research on the learning organization.	Human resource development	Learning organisation evaluation

# PART C: JOURNAL ARTICLE MANUSCRIPT

# What are the enablers of and barriers to the creation of organisations with an enhanced learning capacity? A systematic review of learning organisation interventions

Inneke Laenen<sup>1</sup>

Targeted Journal: *Health Policy and Planning*<sup>2</sup>

## Abstract

Health systems, like commercial enterprises, face wide-ranging challenges and need to develop an adaptive capacity in order to remain effective. There is increasing recognition in the health sector that the concept of the learning organisation, which has long been popular in the business management field since it was brought to prominence by Peter Senge, could be a key strategy to develop this adaptive capacity in health systems. Although examples exist of the application of learning organisation principles to health care facilities, there is little guidance for how units or groups responsible for health policy and strategies can apply them more widely. In order to contribute to this guidance, this review identified enablers of, and barriers to learning organisation creation by performing a thematic analysis of empirical studies of learning organisation interventions across a broad range of settings. Findings indicate that a foundation of good organisational software such as a shared understanding of, and commitment to a learning organisation vision, a culture which is conducive to learning organisation creation, and a secure, supportive and interpersonally non-threatening environment, is essential for learning organisation creation. Building on this foundation it is then important to invest in staff time (i.e. that staff are officially allowed, and incentivised, to spend time on learning during work hours), and the infrastructure and processes necessary to support knowledge transfer, such as physical meeting spaces, online learning databases, mentorship programmes, and feedback mechanisms.

**Keywords:** learning organisation, organisational learning, organisational software, qualitative systematic review, thematic analysis

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<sup>1</sup> For the purpose of this dissertation, the student is the sole and first author of this article. This dissertation was supervised by Professor Lucy Gilson.

<sup>2</sup> Instructions for authors in appendix A

## KEY MESSAGES

- There is little empirical research into the practical application of learning organisation principles.
- Both public and commercial organisations, in both high-income and low- and middle-income settings, and in both the health and other sectors, experience similar enablers of barriers to learning organisation creation.
- Key barriers to learning organisation development include a lack of commitment to the learning organisation concept; an incompatible existing organisational (or broader societal) culture; poor understanding of the learning organisation concept; a lack of time for learning activities; a lack of infrastructure to promote knowledge transfer; a lack of effective leadership; and the lack of a secure, supportive, and interpersonally non-threatening environment.
- Key enablers of learning organisation development include effective leadership; a secure, supportive, and interpersonally non-threatening environment; infrastructure to promote knowledge transfer; clear linkages between learning and routine work; clear processes to support knowledge transfer; organisational commitment to the learning organisation concept; and adequate time for learning activities.
- Organisational hardware, and tangible and intangible software interact to either facilitate or obstruct learning organisation development.
- Learning organisation creation is a long-term process requiring the investment of significant resources.

## Introduction

The concept of the learning organisation was conceived as an answer to the problem of maintaining a competitive business advantage in an increasingly volatile world (Örtenblad 2004). Business strategists realised that the ability of an organisation to learn better than its competitors and thus adapt faster to a rapidly changing environment could be the key to sustained business success (Easterby-Smith & Araujo 1999; Yang et al. 2004). It is a concept most commonly associated with Peter Senge, the systems scientist, and his 1990 book *The Fifth Discipline: The Art and Practice of the Learning Organization* (Kim et al. 2015; Örtenblad 2018).

Although the concept originated in business management, its relevance to health systems is increasingly recognised as, like commercial enterprises, they face wide-ranging challenges and need to develop an adaptive capacity in order to remain effective (Akhnif et al. 2017). Health systems need to utilise scarce resources to improve health at both individual and population level while being responsive to increasing patient demands (Kruk et al. 2018), all within a dynamic environment (Akhnif et al. 2017).

Globally, many different types of health facilities have already attempted to apply learning organisation principles to their practice; for example mental health care clinics in Australia and the United States (Birleson 1998; O'Sullivan 1999), general practices in the United Kingdom (Rushmer et al. 2004), and hospitals in Greece and the United Kingdom (Vassalou 2001). However, these health sector applications are often conceptual rather than practical in nature, and even where there has been a practical attempt to apply learning organisation principles in health facilities, these experiences have not been studied empirically in most cases. In addition, there is little guidance for the application of the learning organisation concept at the level of the whole health system or for how units or groups responsible for health policy and strategies can apply them more widely (Akhnif et al. 2017). What advice can then be offered to those groups seeking to develop health systems as learning organisations? Unfortunately, despite the considerable interest in learning organisations since the 1990s, there is little empirical research into the application of learning organisation principles, even beyond the health sector (Easterby-Smith & Araujo 1999; Tuggle 2016; Wilson & Beard 2014), and very little agreement on how to create a learning organisation (Thomas & Allen 2006).

In order to offer relevant guidance to those responsible for health system development, this review seeks to discover what can be gleaned from existing empirical studies of learning organisation interventions to answer the question: What are the enablers of and barriers to the creation of organisations with an enhanced learning capacity?

Since its inception, the learning organisation concept has proved difficult to define clearly (Örtenblad 2002). Multiple definitions and models of the learning organisation coexist in the conceptual literature (Örtenblad 2002). Thus, for the sake of clarity, drawing on an earlier review of conceptual learning organisation literature (Laenen 2020: Part B of this dissertation), this review defines a learning organisation as an organisation which has an explicit commitment to learning, fosters a supportive learning climate, aims to create organisational level rather than merely individual learning, and draws on this organisational learning routinely to improve the organisation's functioning. The earlier review (Laenen 2020: Part B of this dissertation) also identified a core set of learning organisation dimensions from the conceptual literature, namely:

1. A learning climate (i.e. a shared commitment to learning, and processes to facilitate this learning)
2. Organisational learning (i.e. learning occurs at an organisational rather than merely an individual level)
3. Learning at work (i.e. learning is part of routine work)
4. A learning structure (i.e. information can flow freely across all levels of the organisation)
5. Learning which results in organisational change (i.e. learning is applied, and not merely stored)

## Methods

The review employed a systematic review methodology. However, rather than the traditional, hypothesis-testing “what works” systematic reviews developed under the Cochrane Collaboration, this review is more concerned with “what happens” when a learning organisation intervention is implemented, and as such is inclusive of a broader range of evidence than traditional systematic reviews (Petticrew 2015). First, this review includes largely qualitative data. Second, while traditional systematic reviews take a linear approach to literature searches (Brunton et al. 2012), this review used an iterative search strategy, as this has been found to be more appropriate for reviews intending to include qualitative evidence (Dixon-Woods et al. 2006; Thomas & Harden 2008).

## Literature search

Literature searches were conducted in November and December 2019 in the electronic databases Academic search premier; Africa-wide information; business source premier; CINAHL; EconLit; Emerald; ERIC; Humanities International Complete; Library, Information Science & Technology abstracts; MEDLINE; PsycINFO; and SocINDEX. The following keywords were used to search the databases: “learning organisation” or “learning organization” and “intervention” or “case study” or

“implementation” or “initiative” or “account of practice”. These keywords were identified based on an earlier review of conceptual learning organisation literature (Laenen 2020: Part B of this dissertation).

### Inclusion and exclusion of articles

The database searches were limited to articles published from 1990 to the present day, as Peter Senge published his seminal work *The Fifth Discipline: The Art and Practice of The Learning Organization* (Senge 1990) in 1990. In addition, only articles available in English and with full-text availability through the University of Cape Town libraries were included given the limited resources available. As illustrated in Figure 1, the initial database search resulted in a total of 991 articles.

Following exclusions based on duplication as well as relevance to the research question, the language of paper and whether or not the paper was peer reviewed, 929 articles were removed. During full-text reading, articles were then excluded if they did not report on the implementation of an intervention to build a learning organisation. Learning organisation interventions were identified by an organisation’s stated intention to become a learning organisation or to develop organisational learning capacity, in conjunction with practical attempts to promote learning, for example through employee training or changes in organisational procedures or structures. For example, some articles compared learning organisation concepts to the activities of existing organisations to determine whether these were learning organisations. However, these existing organisations had no stated intention to become learning organisations. Thus, these papers could not be considered to be reporting on learning organisation interventions.

In addition, articles were excluded on full-text reading if there was no evidence of empirical methodology involving data collection such as interviews, focus groups, participant observation, or surveys. For example, some excluded articles were first-person accounts of successful learning interventions by learning organisation consultants. These non-empirical articles were excluded as the aim of this review is to produce reliable findings to inform policy decisions. After this process of exclusion and inclusion of articles, 21 articles remained for final inclusion in the review (see Figure 1).

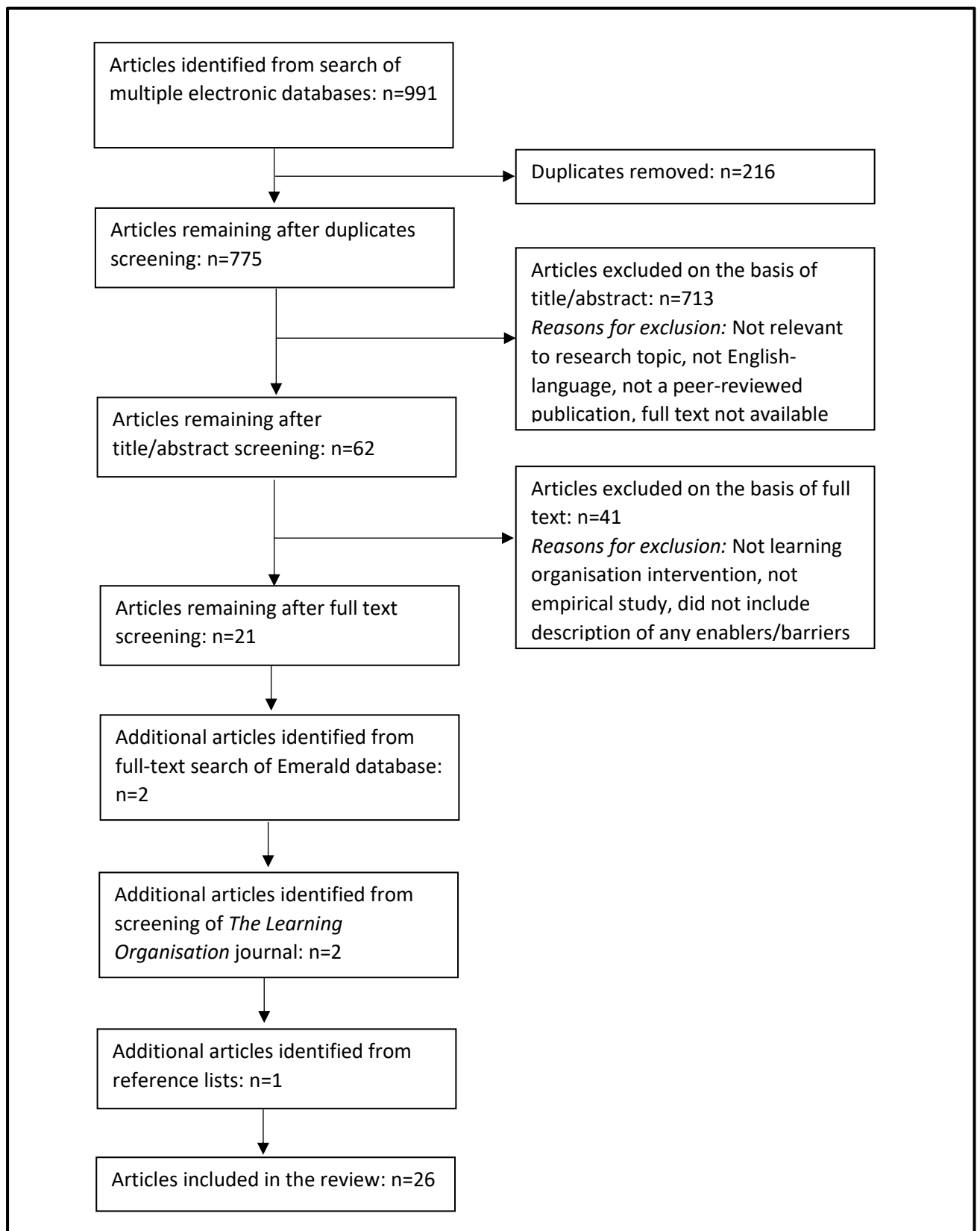
### Additional literature searches

In line with the iterative search methodology of this review, two additional searches were conducted after the first database search and coding of the initial set of included articles. These searches resulted in the inclusion of five additional articles in this review, as shown in Figure 1. Firstly, a more focused search was conducted of the electronic database Emerald. This database was chosen as the

majority of the initial articles found were published in management journals, which are covered extensively in this database. This database was searched for the main keywords “learning organisation” or “learning organization” and keywords identified by the initial analysis, such as “culture”, “hierarchy”, “commitment”, “resistance”, “leadership”, “communication”, “dialogue”, “trust”, “vision”, “champion”, and “knowledge transfer”. This focused search yielded two additional articles which were included in the review. Secondly, as the journal *The Learning Organization* (1994 to present) yielded several relevant articles during the initial database search, all 141 issues of this journal were screened for additional articles. This yielded a further two articles for review inclusion. Finally, the reference lists of the included articles were screened for relevant articles, and one additional article was retrieved for inclusion in this review.



Figure 1 Diagram of literature search process



## Characteristics of selected articles

Table 1 outlines the characteristics of the articles included in this review, listed from the most recent to the oldest article identified in the literature search. Although the time restriction was set to articles published after 1990, most of the included articles were published after 2000. This may reflect a general trend towards empirical research into interventions to create learning organisations in more recent years, whereas the 1990s were dominated by conceptual and prescriptive articles (Tuggle 2016).

**Table 1** Characteristics of included papers

Author(s)	Year	Country	Sector (Setting)	Study Objective	Methodology
Sinclair	2017	Canada	Library administration (Public library)	To determine employee perceptions of the workplace when learning organisation principles are introduced	Mixed methods Case study (Surveys; focus groups)
Gagnon et al.	2015	Canada	Health (Health and social services centre)	To better understand the impacts of introducing a learning organisation in a health care setting	Qualitative Exploratory case study (Interviews)
Pillay & Pillay	2012	South Africa	Energy production (Power station)	To determine whether mentorship programmes facilitate learning organisation creation	Mixed methods Case study (Interviews; surveys)
Akella	2010	Botswana	Financial services (Accounting firm)	To investigate the appropriateness and effectiveness of the learning organisation model in an African context	Qualitative Case study (Interviews)
Bunniss, Gray & Kelly	2010	United Kingdom	Health (General practice teams)	To design and trial a facilitated learning programme with the aim of supporting general practice teams in fostering the characteristics of learning organisations	Action research

<b>Author(s)</b>	<b>Year</b>	<b>Country</b>	<b>Sector (Setting)</b>	<b>Study Objective</b>	<b>Methodology</b>
Smith & Young	2009	United States	Non-government organisations (Relief agency)	To identify the critical issues for a learning organization in the relief and development sector	Qualitative Case study (Document analysis, interviews)
Austin & Harkins	2008	United States	Education (Early education centre)	To assess change in organisational learning practices after learning organisation intervention with school administrators	Mixed methods Case study (Interviews; surveys)
Ford	2007	United States	Policing (City police department)	To describe the steps taken to transform a police department into a learning organisation, and the steps taken to deal with challenges to this process	Action research
Yeo	2007	Singapore	Manufacturing (Large manufacturing firm)	To explore the development of a learning organisation intervention and identify factors that affect organisational learning	Qualitative (Interviews, focus groups)
Frahm & Brown	2006	Australia	Technology (Public sector agency involved in technology diffusion)	To investigate the communicative challenges in creating a learning organisation	Qualitative Case study (Participant observation, document study, focus groups)
Kiedrowski	2006	United States	Financial services (Banking organisation)	To quantitatively assess whether a Senge learning organisation intervention improved employee job acceptance of LO concepts and job satisfaction	Quantitative Case study (Surveys)
Retna & Tee	2006	Singapore	Education (School)	To report on a case study that examines how the Learning Organisation (LO) concept can	Qualitative Case study

Author(s)	Year	Country	Sector (Setting)	Study Objective	Methodology
				be applied in a Singapore school and the challenges that the school faces in the process	(Interviews, participant observation, ethnographic field work)
Dymock & McCarthy	2006	Australia	Manufacturing (Automotive parts manufacturing company)	To explore employee perceptions of learning culture development in a company aiming to become a learning organisation	Mixed methods (Interviews, survey)
Yang & Chen	2005	Taiwan	Manufacturing (Electronic grade laminate factory)	To report on the experience of creating a learning climate in a manufacturing company.	Mixed methods Case study (Surveys, interviews, participant observation)
Gomez	2004	Mexico	Manufacturing (Plastics plant)	To explore the factors that seemed to facilitate the implementation of the management practices associated with the learning orientation in a manufacturing plant	Qualitative Case study (Interviews, participant observation)
Voulalas & Sharpe	2004	Australia	Education (Public schools)	To clarify the concept of the learning organisation and to identify the barriers that may obstruct the development of traditional schools into learning organisations	Qualitative (Interviews)
Goh	2003	Canada	Technology (High-technology research and development group)	To describe a tool to measure organisation's learning capability; To describe two cases studies of organisations	Mixed methods Case study

Author(s)	Year	Country	Sector (Setting)	Study Objective	Methodology
			Telecommunications (Private telecommunications company)	that have used tool to improve learning capability	(Surveys, interviews, focus groups)
Betts & Holden	2003	United Kingdom	Government (City Council)	To present data on, and advance the understanding of, organisational learning practice in the public sector	Mixed Methods Case study (Interviews, focus groups,
Snell	2002	Hong Kong	Utilities (Utility company)	To understand how the development of learning organisations may be guided and facilitated and to identify potential hazards during this process	Qualitative Case study (Interviews)
Elkjaer	2001	Denmark	Government (Office for processing economic compensation claims)	To understand why the development of a sustainable learning organisation failed in this case	Qualitative Case study (Interviews, participant observation)
Tan & Heracleous	2001	Singapore	Policing (National police force)	To develop an understanding of the processes of transformational change, as well as the barriers to change, in a traditional bureaucratic organisation not ordinarily conducive to learning and adaptation	Action research
Vassalou	2001	United Kingdom	Health (UK Community Health Care Trust)	To examine the learning mechanisms of the UK Community Health Care Trust and reflect on the differences between learning organisation theory and its application in practice	Qualitative (Interviews)

<b>Author(s)</b>	<b>Year</b>	<b>Country</b>	<b>Sector (Setting)</b>	<b>Study Objective</b>	<b>Methodology</b>
Ford et al.	2000	United States	Manufacturing (Semiconductor manufacturing plant)	To investigate the degree, nature, and causes of success in building a learning organisation in a manufacturing organisation	Qualitative Case study (Participant observation, interviews)
Snell & Hui	2000	Hong Kong	Utilities (Utility company)	To determine enabling conditions and facilitating forces for the creation of learning organisations  To determine the effects of Chinese culture on the process of becoming a learning organisation	Qualitative Case study (Interviews)
Steiner	1998	Sweden	Manufacturing (Tool manufacturing company)	To analyse an attempt to create a learning organisation and identify barriers to organisational learning	Qualitative Case Study (Interviews, participant observation, document review)
Gardiner & Whiting	1997	United Kingdom	Engineering (Defence-oriented engineering company)	To assess learning organisation characteristics in an engineering company undergoing reorganisation into a learning organisation	Mixed methods (Interviews, survey)

Of the 26 included articles, 23 were based in high-income country settings, while only 3 were focused on low- and middle-income country settings (see Table 2).

**Table 2** Included papers by country

<b>Country</b>	<b>Number of papers</b>
<i>High-income countries</i>	23
United States	5
United Kingdom	4
Australia	3
Canada	3
Singapore	3
Hong Kong	2
Taiwan	1
Denmark	1
Sweden	1
<i>Low- and middle-income countries</i>	3
Botswana	1
Mexico	1
South Africa	1

Manufacturing was the most common sector featured in the included articles, followed by the health and education sectors (see Table 3). The public sector was well represented in the selected articles, as papers focused on learning organisation interventions in diverse settings such as clinics, schools, government entities, police services, and a public library were included. In total, thirteen articles reported on public organisations, one article focused on a non-governmental organisation, while the setting for twelve articles was a commercial organisation. Only three articles were focused on health sector settings.

**Table 3** Included papers by sector

Sector	Number of papers
Manufacturing	6
Health	3
Education	3
Technology	2
Government	2
Financial services	2
Utilities	2
Policing	2
Energy production	1
Library administration	1
Engineering	1
Non-government organisations	1

The included articles were published mainly in management journals, with only one journal having published more than one selected article, namely *The Learning Organization* journal (see Table 4).

**Table 4** Included papers by journal

Journal	Number of papers
The Learning Organisation	6
African Journal of Business Management	1
American Journal of Community Psychology	1
IEEE Transactions on Professional Communication	1
Industrial and Commercial Training	1
International Journal of Educational Management	1
International Journal of Information Management	1
International Journal of Learning and Change	1
Journal of Applied Behavioural Science	1
Journal of Applied Management Studies	1
Journal of Educational Administration	1
Journal of European Industrial Training	1
Journal of Evaluation in Clinical Practice	1



Journal of Library Administration	1
Journal of Management Development	1
Journal of Management in Engineering	1
Journal of Workplace Learning	1
Journal of World Business	1
Management Learning	1
Organization Studies	1
Total Quality Management	1

## Quality appraisal

All the articles that remained after screening according to the inclusion criteria were included in the review. As this review includes articles with varied methodology and reporting styles, a checklist approach to quality appraisal was not considered useful (Dixon-Woods et al. 2006). In addition, this review's focus on "what happens" when learning organisation interventions are implemented allows for the inclusion of a wider range of evidence than more traditional "what works" hypothesis-testing reviews (Petticrew 2015). Thus, exclusion based on quality may have unnecessarily limited the review and excluded potentially useful insights (Pawson 2006).

## Synthesis of selected articles

As the reporting styles of the included articles were varied, data was extracted from all sections of the included articles (Sandelowski & Barroso 2003). The analysis of the extracted data was informed by a thematic analysis approach. The articles were read and coded line by line, after which these codes were organised into descriptive themes (Thomas & Harden 2008). The codes and themes were developed inductively from immersion in the data and were not informed by previous learning organisation models.

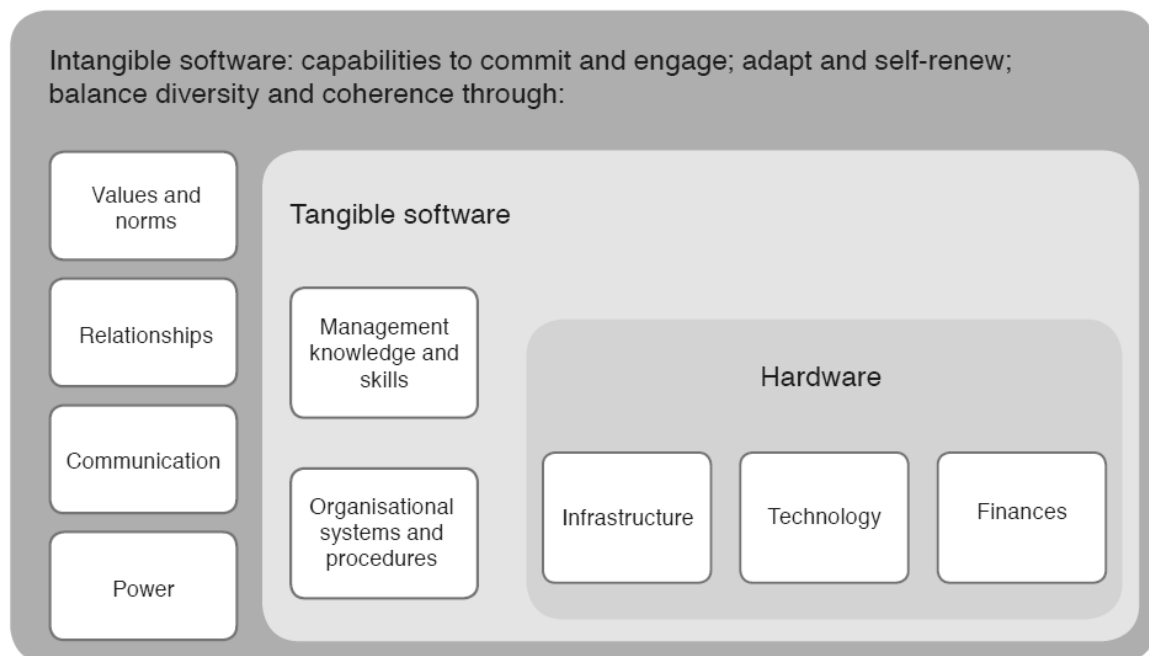
Ortiz Aragón's framework for the development of organisational capacity (Ortiz Aragón 2010) was then used as an analytic lens to organise these descriptive themes and unpack the interrelations between them in order to produce insights to inform tentative recommendations for organisations contemplating learning organisation interventions. This framework was chosen both because it has been used in health systems research (e.g. Elloker et al. (2012); Scott et al. (2014)), and because the themes identified inductively seemed clearly related to the organisational dimensions it describes.

Finally, as it is a framework for the development of organisational capacity, it is a useful tool to identify the assets (i.e. enablers) and needs (i.e. barriers) required for learning organisation development. In this framework, as shown in Figure 2, organisational capacity is made up of three

dimensions which are interrelated, namely hardware (infrastructure, technology and finances), tangible software (knowledge, skills, systems and procedures) and intangible software (values and norms, relationships, communication, power) (Elloker et al. 2012).

As initial analysis of the articles indicated no clear differences in identified themes between different types of organisations (e.g. between public and commercial organisations, high-income and low- and middle-income countries, the health sector and other sectors), the findings from all the articles were pooled together in order to produce insights into learning organisation creation. Possible differences between groups of organisations are, nonetheless, explored in the discussion section.

**Figure 2** Organisational capacity development framework (Elloker et al. 2012) adapted from Ortiz Aragón (2010)



## Results

### Understanding of learning organisation concept

The majority of the articles indicated that Peter Senge's five discipline model of the learning organisation was either the main conceptual underpinning of the intervention reported in the article, or the basis of the researchers' own understanding of a learning organisation (Akella 2010; Austin & Harkins 2008; Bunniss et al. 2012; Dymock & McCarthy 2006; Elkjaer 2001; Ford et al. 2000; Ford 2007; Frahm & Brown 2006; Gagnon et al. 2015; Gómez 2004; Kiedrowski 2006; Pillay & Pillay

2012; Retna & Tee 2006; Sinclair 2017; Smith & Young 2009; Snell & Hui 2000; Steiner 1998; Tan & Heracleous 2001; Yang & Chen 2005; Yeo 2007).

According to this model, it is necessary to cultivate the five disciplines of personal mastery, mental models, team learning, building a shared vision, and systems thinking within an organisation in order to enable learning organisation development (Senge 1990). Senge defines a learning organisation as an organisation in which employees continually learn how to work together to promote constant improvement (Senge 1990). Another prominent learning organisation theory drawn on in the articles was that of Watkins and Marsick (Dymock & McCarthy 2006; Sinclair 2017; Snell 2002). These authors, Marsick and Watkins (1999), defined learning organisations as organisations distinguished by continuous learning and constant transformation. They identified seven dimensions of a learning organisation, namely continuous opportunities for learning; collaboration and team learning; inquiry and dialogue; a collective vision; systems to capture and share learning; strategic leadership for learning; and a connection to the organisation's environment.

Despite differences in theories used, however, there was general consensus in the reviewed articles that a learning organisation is one which is distinguished by continuous learning, change and improvement, and that essential components of these organisations include elements such as teamwork, a shared vision, and constant questioning of the status quo (e.g. through mental models, systems thinking, or inquiry and dialogue). This understanding of the learning organisation essentially corresponds to the learning organisation definition adopted by this review as stated in the introduction.

### Learning organisation interventions and component strategies

Most of the included articles described learning organisation interventions as a set of learning activities or strategies intended to promote organisational learning. This was shown in two of the three health sector articles included in the review. For example, a Canadian health and social services centre initiated a mentorship programme, a learning database, lunchtime conferences, and the development of checklists and guidelines as key strategies to support learning within the organisation over a period of several years (Gagnon et al. 2015). In the United Kingdom, a Community Health Care Trust introduced a shared leadership model in order to function as a learning organisation (Vassalou 2001). This involved flattening the leadership structure of the Trust in order to promote the participation of all staff, including clinical practitioners, in decision-making (Vassalou 2001). In addition, a Clinical Practice Forum was initiated as a mechanism for sharing learning between the Trust's Board of Directors, health care managers, and local practitioners (Vassalou 2001).

On the other hand, rather than adopting multiple strategies, two general practice teams in Scotland participated in a Learning Practice Programme (which consisted of four facilitated multidisciplinary discussion groups) over a six-month period in order to encourage the application of learning organisation principles to their practices (Bunniss et al. 2012). This last health sector paper seems to be different from the first two in that the learning organisation intervention seemed to consist only of one programme, rather than of multiple different strategies. Differences in approach to learning organisation interventions are also evident in papers from other sectors. For example, a banking organisation in the United States carried out a learning organisation intervention over two years, that consisted of multiple strategies including a collaborative process to produce a shared vision, staff orientation to the learning organisation concept, skills training, monthly management learning reports, changes in annual performance appraisals to include learning, and the development of an interactive website to facilitate communication within the organisation (Kiedrowski 2006).

By contrast, a Danish government compensation claim office attempted to develop a learning organisation using only an employee training programme as a strategy. Some papers in non-health sectors did not describe the strategies involved in the learning organisation interventions at all, and even those that did report on these strategies utilised did not describe them in detail. However, in general, formal training in the form of workshops and courses during the course of the learning organisation intervention did seem to dominate in the selected articles across all sectors (see Table 5).

**Table 5** Learning organisation development strategies used in included papers

<b>Learning organisation development strategy</b>	<b>Number of papers</b>
Formal learning and communication skills training (e.g. workshops, courses)	13
Information technology assisted knowledge transfer tool (e.g. learning databases, interactive websites)	6
Team building	5
Establishing dedicated learning committee/team/department	5
Mentorship programme	4
Flattening of leadership structure	4
Collective development of learning organisation vision	3
External consultant intervention	2

Increasing financial resources for learning	2
Establishing routine meetings for knowledge transfer	2
Improving external communication channels (i.e. communication with community served by organisation)	2
Establishing protected, dedicated learning/reflection time for employees	2
Addition of learning outcomes to performance appraisals	2
Creation of physical spaces to encourage knowledge transfer (e.g. learning centre, "coffee corners")	1

## Enablers and barriers: Hardware

Organisational hardware such as infrastructure for knowledge transfer, technological solutions for knowledge transfer, adequate human resources in terms of available time for learning, and adequate finances were identified as key enablers of learning organisation development. On the other hand, where these hardware elements were deficient, this was perceived as a barrier to learning organisation development.

### Infrastructure to support knowledge transfer

In a qualitative case study of a tool manufacturing company in Sweden, Steiner (1998) identified purpose-made physical meeting structures as a key site for knowledge transfer, and thus as an enabler of learning organisation development within the company. These physical meeting structures were erected as one strategy to facilitate learning in the company as part of a broader initiative to create a learning organisation. The small wooden log houses were built on site, and were places where workers could meet, access current company statistics about capacity and productivity on whiteboards, and have lunch or coffee. Employees found that these meeting places "improved their ability to discuss problems in the work process" (Steiner 1998, p. 198). However, this knowledge transfer was limited to tool manufacturing equipment operators only, as white-collar workers did not frequent these sharing spaces (Steiner 1998). By contrast, through interviews with Australian school principals, Voulalas and Sharpe (2005) identified a lack of adequate appropriate spaces for meetings, libraries, and for housing new technology as a main physical barrier to the transformation of their schools into learning organisations. Likewise, in their study of a project

aiming to transform a semiconductor manufacturing plant into a learning organisation in the United States, Ford et al. (2000) found that a lack of learning infrastructure impeded the development of knowledge sharing within the organisation, as the implementation team for the learning organisation intervention did not have access to shared spaces which could have facilitated the dissemination of organisational lessons beyond this team.

In terms of technological infrastructure for knowledge transfer, employees at the Australian automotive parts manufacturing company studied by Dymock and McCarthy (2006) identified a lack of central access to information as a barrier to learning from past mistakes. In response, the company planned to develop a database system (Dymock & McCarthy 2006). Similarly, in an engineering company studied by Gardiner and Whiting (1997), employees identified the lack of an effective information technology-enabled communication system as an obstacle to adequate sharing of information. By contrast, in a utility company in Hong Kong, the new availability of email and Intranet in the late 1990s enabled the company to move towards the learning organisation ideal of a free flow of information throughout the organisation (Snell 2002). Similarly, a United States-based relief and development agency operating in multiple countries across Eastern Europe and Central, South and Southeast Asia leveraged technological infrastructure to enable learning organisation development by utilising a learning management system operated by an international non-governmental organisation (NGO) membership organisation (Smith & Young 2009). This system provided employees with access to multiple courses (e.g. leadership, management, information technology, project management) which supported their personal development within the organisation (Smith & Young 2009).

A Canadian health and social services centre also developed a learning database using best practice videos recorded by nurses based at the centre to enable knowledge transfer (Gagnon et al. 2015). This database made information more accessible, allowed for quick information acquisition, and enabled the transfer of experiential knowledge from experienced nurses to nurses with less than five years of experience, which was not captured by more traditional paper protocols (Gagnon et al. 2015). However, the impact of this knowledge transfer infrastructure was limited by the fact that not all facilities in the drainage area of the health and social services centre were adequately equipped with computers and network access (Gagnon et al. 2015).

Dedicated time and human resources for learning activities

A lack of time for reflection and learning was often highlighted as a barrier to learning organisation development in the reviewed articles. For example, during an initiative to transform the Jackson Police Department in the United States through the practice of community policing, a police officer

commented “Quite frankly, I do not have a concept of how the individual patrol officer is going to find the time to put the effort into problem solving and building community partnerships and still handle the calls for service” (Ford 2007, p. 327). Similarly, teachers in a Singaporean school resisted the new practice of dialogue to promote collective learning as it was perceived to be very time consuming (Retna & Tee 2006). The teachers commented that “we have no time to think” (Retna & Tee 2006, p. 148).

In a manufacturing company in Taiwan, an initial obstacle to the learning organisation intervention was that the employees were so busy that they were psychologically opposed to the new initiative (Yang & Chen 2005). Perceived lack of time was also identified as a barrier to learning organisation interventions in a Canadian public library (Sinclair 2017), a manufacturing firm in Singapore (Yeo 2007), a Canadian health and social services centre (Gagnon et al. 2015), a power station refurbishment project in South Africa (Pillay & Pillay 2012), Australian schools (Voulalas & Sharpe 2005), a government office responsible for processing economic compensation claims in Denmark (Elkjaer 2001), an Australian automotive parts manufacturing company (Dymock & McCarthy 2006), a UK Community Health Care Trust (Vassalou 2001), and a banking organisation in the United States (Kiedrowski 2006).

Conversely, when employee time was officially dedicated to learning activities, this was perceived to be an enabler of learning organisation development. For example, participants in a learning organisation initiative directed at general practice teams in Scotland found that protected time away from the demands of routine practice work created an environment which was more conducive to learning (Bunniss et al. 2012). Similarly, in order to incentivise learning, a relief and development agency allocated five per cent of work time as protected learning time, which facilitated a common understanding of the importance of continuous learning within the organisation (Smith & Young 2009).

#### Adequate funding

Funding of learning organisation interventions was not mentioned often in the articles included in this review. Only two articles mentioned that financial investment was an enabler of learning organisation development. For example, Goh (2003) found that a telecommunications company which had spent considerable resources on training and support for its learning organisation initiative improved its organisational learning capability. Similarly, an international relief and development agency included budgets for both formal and informal training in project implementation plans in order to allow for investment in strategic learning initiatives, as in the view

of the agency's director of strategy and learning, learning initiatives may have been neglected previously in order to keep operating costs low (Smith & Young 2009).

On the other hand, Gagnon et al. (2015) found that inadequate funding was a barrier to learning organisation development in their assessment of a Canadian health and social services centre experience. In Quebec, a health and services centre consists of a variety of health care facilities and services including local community clinics, residential care centres, and a central hospital (where available), and functions as an integrated health care organisation (Gagnon et al. 2015). A limited budget prevented the rollout of information technology infrastructure (and thus the new learning database) to peripheral clinics, and thus limited the learning organisation initiative largely to the central hospital of the health and social services centre (Gagnon et al. 2015).

### Enablers and barriers: Tangible software

Tangible organisational software such as the availability of knowledge transfer mechanisms and processes, clear communication channels, effective management, and clear connections between routine work and learning organisation goals were identified as enablers of learning organisation creation in the reviewed articles. On the other hand, where these organisational processes and procedures were lacking this proved to be a barrier to learning organisation creation. An additional key barrier to learning organisation creation which was highlighted in the reviewed articles was the prioritisation of short-term goals to the detriment of the long-term learning organisation vision.

### Clear processes to support knowledge transfer

The reviewed articles offered multiple examples of organisational processes used to support knowledge transfer as a means to the creation of a learning organisation. In the learning organisation literature, knowledge transfer refers to the dissemination of information relevant to organisational challenges and opportunities across functional and structural boundaries within the organisation (Goh 2003). Knowledge transfer also refers to the process of accessing the knowledge of individual employees and converting this into organisational knowledge (Marsick & Watkins 2003; Örtenblad 2004), for example through mechanisms which facilitate the sharing of information with other employees (e.g. mentorship programmes, meetings), or by documenting this individual knowledge (e.g. standard operating procedures), which is often facilitated by information technology (e.g. learning databases).

For example, Vassalou (2001) indicated that for the UK Community Health Systems Trust, Clinical Practice Forum meetings were intended to be the central mechanism for knowledge transfer. This Trust Clinical Practice Forum was intended to highlight clinical issues and increase the involvement all staff in decision making and service improvement (Vassalou 2001). The Forum was attended by



senior managers, local clinical practice groups, clinical facilitators, as well as the Trust's board of directors (Vassalou 2001). However, this knowledge transfer process was undermined by a lack of participation on the part of local multidisciplinary practitioner groups. This lack of participation was understood to result from the lack of available staff who were committed to the learning group (Vassalou 2001). In the automotive parts manufacturing company studied by Dymock and McCarthy (2006), meetings were also used as the main forum for knowledge transfer and team learning, where employees had the opportunity to reflect on successes and disappointments in the workplace. In addition, this company also instituted cross-functional project teams as a mechanism for the informal exchange of information and ideas. However, this informal knowledge transfer process was hampered by a lack of shared technical language across different job roles (Dymock & McCarthy 2006). Bunniss et al. (2012) found that one of the key enablers of a learning organisation initiative directed at general practice teams in Scotland was establishing small discussion groups including health care professionals with different clinical roles. Participants in these discussion groups valued the opportunity to benefit from multiple perspectives and share ideas about practice development (Bunniss et al. 2012).

As part of an initiative to transform into a learning organisation, the international relief and development agency working in Eastern Europe and Asia created a new position of a learning and capacity manager in Indonesia to provide regular feedback to employees on their performance and to facilitate "learning conversations" (Smith & Young 2009). These learning conversations were perceived by the senior staff members interviewed to be key tools for both individual and organisational learning within the agency (Smith & Young 2009). In addition, the agency supported multiple opportunities for learning from colleagues, such as informal discussions over lunch or coffee, and visits to other teams or programmes within the agency's network to observe best practices and allow for the exchange of information between countries (Smith & Young 2009).

The Canadian health and social services centre began a mentorship programme which paired less experienced with more experienced nurses in order to facilitate knowledge transfer (Gagnon et al. 2015). Besides transferring technical knowledge to their less experienced colleagues, Gagnon et al. (2015) found that the ideas and values of the learning organisation were also transmitted by more experienced nurses through the mentorship programme, that is, the less experienced nurses also "learn[ed] to learn" (p. 641). A power station refurbishment project in South Africa also used a mentorship programme to facilitate the development of a learning organisation (Pillay & Pillay 2012). The mentorship programme was initiated as a response to the identification of a skills shortage at the electricity parastatal, and aimed to transfer knowledge between external partners of the parastatal and power station refurbishment project employees (Pillay & Pillay 2012). This

initiative was supported by the development of technological knowledge transfer infrastructure, as a talent management tool was employed to identify skill gaps and match mentors with mentees (Pillay & Pillay 2012).

#### Effective leaders and learning organisation champions

Organisational leadership was discussed by most of the included articles in this review as either an enabler of, or barrier to, learning organisation development. For example, Tan and Heracleous (2001) highlighted the importance of the police commissioner's long-term commitment to the development of the Singaporean police force into a learning organisation, as the commissioner served as a champion to sustain the momentum of the learning organisation intervention over time. Similarly, the Chief of the Jackson Police Department created the space necessary for successful learning organisation development over time by convincing key stakeholders (e.g. the city manager and city council) that "good things would come" even though the results of the intervention were not immediately apparent (Ford 2007, p. 333). The commitment of school principals to a learning vision was seen as the main means to overcome teacher opposition to learning organisation interventions in Australian schools (Voulalas & Sharpe 2005). Indeed, Voulalas and Sharpe (2005) found that leadership was the "key factor in the whole transformation process" (p. 194). The managing director of a utility company in Hong Kong similarly served as a champion for the company's learning organisation intervention, which resulted in considerable top management support for the intervention (Snell & Hui 2000).

Even in the absence of high-level champions for learning organisation development, leaders at a lower level were also found to contribute to the success of learning organisation interventions. For example, management support of requests for training was identified as a contributor to the creation of continuous learning opportunities at an Australian automotive parts manufacturing company (Dymock & McCarthy 2006). Managers also often served as role models for learning organisation development by demonstrating key learning organisation principles through their leadership style. For example, the principal of a school in Singapore adopted a distributive leadership style in direct contrast to the traditionally hierarchical approach common in Singaporean culture and was perceived by teachers to be "walking the talk" - which convinced teachers that the intention to develop the school into a learning organisation was genuine (Retna & Tee 2006, p. 146). Similarly, the Jackson Police Department police chief highlighted the learning organisation skill of systems thinking by constantly reinforcing the concept of interconnectedness in conversation with his command staff (Ford 2007).

By contrast, the participation of managers in the UK Community Health Care Trust Clinical Practice Forum was perceived to stifle debate and systematic thinking, and crowd out the contributions of the practitioners present, who were intended to be the main participants in the forum (Vassalou 2001). As one interviewee commented, “[t]here are too many managers and directors involved and the Forum is supposed to be for the practitioners...that is one of the reasons why people don’t come. Because they don’t see it as being their Forum” (Vassalou 2001, p. 358). In addition, another interviewee commented “[t]here were occasions where debate has been stopped and stifled [by management] before it came to a logical conclusion” (Vassalou 2001, p. 358). This dominance of managers in the forum and their perceived poor facilitation of Forum discussions may have contributed to poor practitioner participation in the forum (Vassalou 2001).

The lack of involvement by senior management and line managers in a South African power station refurbishment project was, meanwhile, found to be destructive to the learning organisation initiative as this exacerbated a general sense of negativity about the initiative (Pillay & Pillay 2012). City council line managers in England similarly undermined the perceived organisational commitment to becoming a learning organisation by refusing to allow staff to attend training courses, due to high workloads (Betts & Holden 2003). The lack of involvement of the senior managers of both a high-technology research and development group and a telecommunications company in key processes of the learning organisation interventions at each company (e.g. absences from meetings) was also judged to have diminished the impact of the interventions, by demonstrating that learning activities were not a top priority (Goh 2003).

Lack of prioritisation of organisational learning due to pressures of routine work

A few studies identified the tendency to prioritise the demands of routine work over learning organisation development activities as a barrier to learning organisation development. For example, in both the high-technology research and development group and the telecommunications company mentioned above, Goh (2003) found that the lack of immediate results from learning organisation activities resulted in employees losing sight of them and instead becoming distracted by the more immediate goals of “project deadlines and deliverables to customers” (p. 224). Similarly, in the United States semiconductor manufacturing plant studied by Ford et al. (2000), commitment to the learning organisation vision was weakened by significant pressure for the company to perform well financially in the short term. Tellingly, a manager at the plant commented that “we will not let cycles of learning slow down our cycle time” (Ford et al. 2000, p. 78), indicating that their primary focus was performance rather than continuous learning.

A similar pattern of behaviour was found in the Swedish tool manufacturing company studied by Steiner (1998). In this company, employees were confused by mixed messages about the company's stated new intention to develop into a learning organisation over the long-term, given the existing and persistent focus on short-term productivity (Steiner 1998). As employees found short-term efficiency goals to be more concrete, these goals were prioritised over the more abstract learning organisation development goals (Steiner 1998). This tendency was also found outside of the production-driven manufacturing sector. For example, a "results-oriented" mentality was found to be "deeply entrenched" among teachers in a Singaporean school, and was identified as a challenge to be overcome if the school was to continue its development into a learning organisation (Retna & Tee 2006, p. 150).

#### Effective communication channels

Effective communication channels were identified as an enabler of learning organisation development in several of the articles included in this review. For example, the multidisciplinary discussion groups instituted as a means to develop Scottish general practice health teams into learning organisations were perceived by the participants to have resulted in improved quality of communication between the participants, which allowed knowledge to be shared more freely as it enabled existing divisions within the group of health professionals to be overcome (Bunniss et al. 2012). This improvement in communication was well illustrated by a comment from one of the discussion group participants who reflected that "working together in groups and coming together to discuss changes is better than all sitting round a table shouting suggestions and nothing being achieved" (Bunniss et al. 2012, p. 633).

In addition, the use of multiple communication channels (such as weekly briefings) to communicate a learning organisation vision to police officers was identified as one contributor to the successful implementation of a learning organisation intervention in a Singaporean police force (Tan & Heracleous 2001). By contrast, a lack of formal channels for feedback and communication was identified as a barrier to learning organisation development in an Australian public-sector technology agency (Frahm & Brown 2006). Employees perceived that communication only travelled in one direction, from the top downwards, and there were no mechanisms such as meetings, newsletters or intranet discussion boards, to offer feedback (Frahm & Brown 2006). Indeed, one employee commented that "it's a one way valve; you can't get back up it" (Frahm & Brown 2006, p. 206). The lack of formal communication channels was a barrier to learning organisation development in the agency, as this one-sided communication resulted in initial misunderstanding of, and resistance to the learning organisation initiative (Frahm & Brown 2006). Similarly, Voulalas and

Sharpe (2005) identified a lack of channels for clear communication as an administrative barrier to learning organisation development in Australian schools.

Clear linkages between learning and routine work

Clear linkages between learning organisation goals and routine work were identified as enablers of learning organisation creation in a few of the reviewed articles. For example, in the international relief and development agency working in Eastern Europe and Asia, a five percent time allocation for learning was written into employee job descriptions in order to formally acknowledge that “learning is part of the job” (Smith & Young 2009, p. 336). Similarly, the human resources division of a plastics manufacturing plant in Mexico created a reward structure (details not provided) which encouraged continuous learning and experimentation as part of a company initiative to create a learning culture (Gómez 2004). Dymock and McCarthy (2006) found that all employees of an Australian automotive parts manufacturer were aware of the company’s aspiration to become a learning organisation and had a good understanding of what this meant. The inclusion of learning organisations goals in the staff appraisal system was identified as a critical contributing factor to this generalised understanding of the learning organisation concept in the company (Dymock & McCarthy 2006).

The telecommunications company studied by Goh (2003) showed a significant improvement in learning capability, which was partially attributed to the fact that learning organisation initiatives were directly linked to employee job goals and results. By contrast, a programme to develop the organisational capacity of a local authority in England was undermined by the fact that the programme was not integrated into the organisation’s development structure, for example taking part in the programme was not recognised as a promotion criterion (Betts & Holden 2003). This was thought to be the part of the cause of rapidly diminishing participation in the programme (Betts & Holden 2003). In addition, the learning organisation vision of the UK Community Health Care Trust was undermined by a perceived inability to integrate this vision with its existing clinical agenda (Vassalou 2001). A director in the Trust commented that “much more focus is given on clinical development type work and ensuring that individual clinicians deliver services to standards” (Vassalou 2001, p. 358). Police officers in the Singaporean national police force were initially resistant to the new learning organisation vision of the police force, as they did not understand how it could help them perform their daily work (Tan & Heracleous 2001).

Enablers and barriers: Intangible software

Intangible organisational software such as a secure, supportive and interpersonally non-threatening environment was identified as an enabler of learning organisation development in the reviewed articles. On the other hand, intangible organisational software such as a lack of shared

understanding of and commitment to the learning organisation concept, an existing culture that is not conducive to learning organisation development, and an insecure, unsupportive and interpersonally threatening work environment were identified as barriers to learning organisation creation.

Lack of shared understanding of learning organisation concept

A Taiwanese laminate manufacturing company's learning organisation development project was initially hindered by the psychological opposition of employees to the learning organisation project due to poor understanding of the concept (Yang & Chen 2005). In a Danish government office for processing economic compensation claims, a misunderstanding of what was intended by the office's intention to become a learning organisation led to a breakdown in trust between employees and senior managers (Elkjaer 2001). The employees believed that the office would become a more democratic environment characterised by shared decision-making through the learning organisation intervention, and were then shocked when senior management unilaterally decided not to renew the contracts of 25 employees (Elkjaer 2001). This perceived betrayal of the learning organisation was judged to be a contributing factor to the eventual failure of the company's efforts to become a learning organisation (Elkjaer 2001).

A local authority in England intending to create a learning organisation suffered setbacks due to a lack of clarity about how to apply the vision of the learning organisation practically (Betts & Holden 2003). This "muddled thinking" resulted in programmes which "brought success at many individual levels, but also considerable uncertainty, ambiguity and indeed disillusion" (Betts & Holden 2003, p. 286).

Lack of commitment to learning organisation concept

A lack of commitment to learning organisation interventions on the part of either managers or employees was often identified as a barrier to learning organisation development in the articles reviewed. For example, Tan and Heracleous (2001) found passive resistance to the transformation of a Singaporean national police force into a learning organisation on the part of middle- and lower-ranking police officers.

Even in what were judged to be successful learning organisation interventions, commitment to the vision of a learning organisation was not always universal. For example, in the Canadian health and social services centre, there was significant involvement of nurses in the project, while other professionals were less involved (Gagnon et al. 2015). This was attributed to the fact that the intervention was originally an initiative by nurses, which meant that other health professionals felt less ownership over the project as they were only included at a later stage (Gagnon et al. 2015).

Similarly, although some police officers enthusiastically embraced organisational learning activities during a learning organisation intervention in the Jackson Police Department, others did not participate at all (Ford 2007).

#### Existing organisational culture not conducive to learning organisation development

In many cases, the existing organisational culture in an organisation proved to be a barrier to learning organisation development. For example, in a Danish government office processing economic compensation claims, employees were encouraged to take on managerial responsibilities in their learning organisation training workshops (Elkjaer 2001). However, it proved difficult to apply this training to the office environment as in the office “it [was] only the heads of department who [were] accepted as management” (Elkjaer 2001, p. 446). In addition, the small multidisciplinary discussion groups which were part of learning organisation initiative directed at general practice teams in Scotland required the services of a facilitator to overcome the established hierarchies between different health professional roles and enable open, honest discussions (Bunniss et al. 2012). Difficulties in moving beyond established hierarchies was also perceived as a barrier to learning organisation development in a United States banking organisation (Kiedrowski 2006), and a Singaporean national police force (Tan & Heracleous 2001). In the case of this police force, a pre-existing organisational culture of secrecy was also perceived to be an impediment to the free flow of information required to become a learning organisation (Tan & Heracleous 2001). Broader societal culture may also make it difficult for employees to participate in a learning organisation intervention. For example, in a Singaporean school one teacher reflected “I feel personally, in the past, most Singaporeans are the type that they prefer to learn and not share. It is to do with our education. We need to study, study, and pass better than others, so we learn for ourselves. So when they go to work, sometimes they are not used to learning and sharing as a team” (Retna & Tee 2006, p. 147). On the other hand, broader societal culture may also be an enabler of learning organisation development as was perceived to be the case in a Hong Kong utility company, as Hong Kong culture was considered to have a long-term orientation appropriate for long-term learning organisation development (Snell & Hui 2000).

#### Secure, supportive and interpersonally non-threatening environment

Many of the articles reviewed highlighted the importance of an “interpersonally non-threatening environment, characterised by trust and support” for learning organisation development (Austin & Harkins 2008, p. 117). For example, Austin and Harkins (2008) found that this kind of “safe” environment was a critical factor which encouraged participation in a learning organisation intervention in a United States school. An employee of large Singaporean manufacturing firm shared this view as they felt that “there must be an environment of trust to encourage us [employees] to

learn freely...so that our views and perceptions will be treated with respect...this will motivate us to learn more" (Yeo 2007, p. 546). Steiner (1998) also found that in an organisation without such a safe environment, employees found that "it [was] easier to stay silent than to risk being wrong" (p. 198).

In addition, an atmosphere of "insecurity, suspicion and competition" in an accounting firm in Botswana was found to be an obstacle to the creation of a learning organisation (Akella 2010, p. 27). An insecure company environment also resulted in the termination of a learning organisation project at a semiconductor manufacturing plant in the United States when company restructuring meant that employees were focused on issues of job security rather than ongoing learning (Ford et al. 2000). On the other hand, some organisations achieved success in creating supportive and interpersonally non-threatening environments in order to promote the development of a learning organisation. For example, teachers in a Singaporean school felt comfortable with experimentation and the possibility of making mistakes as this was emphasised as important by the school (Retna & Tee 2006). This sense of comfort was likely facilitated by the high level of trust in the school, as illustrated by one teacher's comment that "Colleagues here are close. We can discuss and disagree with each other safely. We communicate at all levels. We have learned to trust each other with open communication. I have stopped thinking and keeping things inside my heart" (Retna & Tee 2006, p. 149). Approachable managers were found to be key agents to create this kind of safe environment in an Australian automotive parts manufacturing company (Dymock & McCarthy 2006).



## Discussion

### Learning organisation intervention strategies and learning organisation dimensions

As discussed above, the learning organisation interventions described in the reviewed articles took different forms, either consisting only of one strategy or of multiple strategies. As shown in Table 6, most of the strategies described related to the first two dimensions of the learning organisation which were identified by an earlier conceptual review (Laenen 2020: Part B of this dissertation), namely developing a learning climate and promoting organisational learning. There seemed to be less of a focus on the dimensions of learning at work or adopting a learning structure, while the application of learning in order to produce organisational change was not addressed in the reviewed literature. However, it is difficult to comment on whether this focus on only two learning organisation dimensions meant that the reported interventions would be less effective or sustainable, as outcomes were not evaluated in the reviewed papers. In addition, the learning organisation interventions were often not described in great detail, which means that it is possible that these interventions also had additional components which were not clear from the papers.

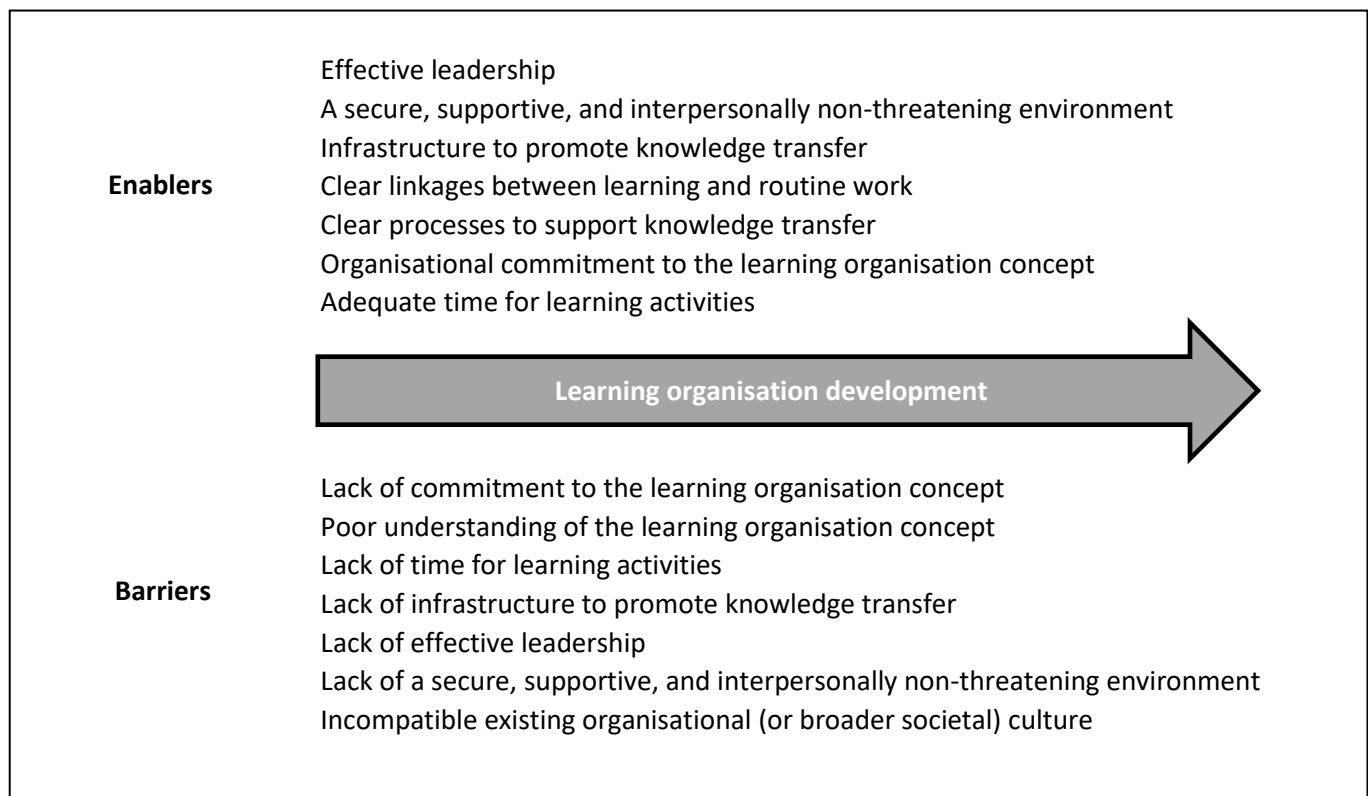
**Table 6** Comparison of learning organisation dimensions and strategies reported by reviewed papers

<b>Learning organisation dimension</b>	<b>Reported strategy</b>
Learning climate	Formal learning and communication skills training (13 papers) Team building (5 papers) Collective development of learning organisation vision (3 papers)
Organisational learning	Information technology assisted knowledge transfer tool (6 papers) Mentorship programme (4 papers) Establishing routine meetings for knowledge transfer (2 papers)
Learning at work	Establishing protected, dedicated learning/reflection time for employees (2 papers) Addition of learning outcomes to performance appraisals (2 papers)
Learning structure	Flattening of leadership structure (4 papers)
Learning which results in organisational change	Most papers did not report outcomes

## Commonly identified enablers of and barriers to learning organisational creation

The findings of this review indicate that despite the varied nature of the organisational types, settings, and countries represented by the reviewed articles, there were many commonalities in terms of the enablers of, and barriers to, learning organisation development. Figure 3 summarises the most frequently identified enablers of and barriers to learning organisation creation.

**Figure 3** Most frequently identified enablers and barriers



The only difference between public and commercial organisations in these barriers seemed to be that a lack of knowledge transfer infrastructure (such as physical meeting spaces and online learning databases) was less often perceived to be a barrier for commercial organisations, perhaps indicating a greater access to resources to invest in learning. There were also no clear differences in the most commonly identified barriers between high income and low- and middle-income countries. For organisations in the health sector, the only difference from organisations in other sectors was that the lack of a secure and supportive environment appeared to be a less prominent barrier, while a lack of clear linkages between learning and routine work was identified as a barrier more often than in other sectors. However, it is difficult to interpret the significance of these differences, as only three health sector articles were included in the review. In terms of the enablers of learning

organisation creation, there were no differences between public or commercial organisations in both high income and low- and middle-income countries. For health sector organisations, effective communication channels were identified as an enabler more often than in other sectors. As noted above, it is difficult to interpret the significance of this difference.

### Interconnections between enablers and barriers in different organisational dimensions

In the results section, these enablers and barriers were divided into organisational hardware, and tangible and intangible software in line with Ortiz Aragón's framework for the development of organisational capacity (Ortiz Aragón 2010). However, as illustrated by this framework, these organisational dimensions do not exist independently but are nested inside each other as they are interconnected (see Figure 2). These interconnections can be drawn out from the findings of this review. For example, an interaction was found between the hardware of knowledge transfer infrastructure and the intangible software of organisational culture in the case of a Swedish tool manufacturing company (Steiner 1998). While purpose-made cabins enabled knowledge transfer amongst operators, the contribution of these structures to learning organisation creation was limited by the fact that professional employees did not share these spaces, due to an existing hierarchical division between operators and professionals.

In addition, the organisational hardware of human resources and the intangible software of commitment to a learning organisation vision were both required to implement the initiative in a relief and development agency to allocate five per cent of employees' work time to learning, which became a key enabler of learning organisation creation (Smith & Young 2009). Similarly, the tangible organisational software of management practices together with the intangible software of commitment to a learning organisation vision were both needed to create linkages between routine work and learning organisation goals, which was also found to be a key enabler of learning organisation creation. A further example of the interconnections between organisational dimensions is the fact that without the intangible software of trust which underlies a safe and supportive workplace, the tangible software of formal communication channels cannot be used to their full potential to create a learning organisation.

Indeed, the findings of this review suggest that organisational intangible software such as a shared understanding of, and commitment to a learning organisation vision, a culture which is conducive to learning organisation creation, and a secure, supportive and interpersonally non-threatening environment serve as a foundation for both the organisational hardware and tangible software enablers of learning organisation creation. In addition, the presence of effective leadership also

appeared to be a necessary condition for many of the identified enablers of learning organisation development. Leadership seems particularly important in the case of learning organisation creation given the fact that it is such a long-term process, as without a leadership fully committed to a learning organisation vision, employees are likely to be distracted by short-term pressures, as demonstrated by the findings of this review.

### A health sector example

The health sector learning organisation intervention described by Gagnon et al. (2015) may serve to illustrate some of the points raised by this discussion. The setting for this intervention was a Health and Social Services Centre located in Quebec, Canada. This centre consisted of a central hospital, local community clinics and residential care centres which functioned as an integrated health care organisation (Gagnon et al. 2015). The need for an intervention was sparked by an incident in which there was an avoidable patient mortality judged to be the result of poor-quality nursing care (Gagnon et al. 2015).

The chosen solution to promote the continuous learning of clinical staff, encourage the transfer of knowledge and so improve the quality of care was the implementation of an organisational culture change intervention to become a learning organisation (Gagnon et al. 2015). The components of this intervention mainly addressed the learning organisation dimension of the promotion of organisational learning, for example through the introduction of a mentorship programme pairing more experienced with less experienced nurses, through the creation of a new database of nurse-generated videos demonstrating clinical procedures which was made widely available on computers in the centre, and through the introduction of routine lunch conferences.

These organisational learning strategies were perceived by the interviewed participants to enable learning organisation development (Gagnon et al. 2015), which corresponds to key identified enablers as shown in Figure 2, namely infrastructure and clear processes to support knowledge transfer. Interviewees perceived the intervention to be constrained by poor involvement on the part of health professionals apart from nurses (Gagnon et al. 2015), which corresponds to the identified key barrier of a lack of commitment to the learning organisation concept (Figure 2).

In addition, the intervention was perceived to be constrained by a lack of time on the part of some nurses (Gagnon et al. 2015), which was also a key identified barrier (Figure 2). These barriers may have been mitigated if the intervention had included strategies which addressed other learning organisation dimensions such as a learning climate, as a process to develop a shared commitment to learning may have encouraged other types of health professionals to take part in the intervention.

Finally, this health sector example also illustrates the interaction between organisational software and hardware and how these interactions may constrain learning organisation interventions. For example, although knowledge transfer infrastructure investments were made by creating a computer-based learning database (hardware), this database was only utilised by nurses and not by other health care professionals such as doctors. This may have been a result of the existing healthcare hierarchy between nurses and doctors (software), as this nurse-initiated intervention was not taken up by doctors, who generally have greater power in healthcare settings.

## Conclusion

The findings of this review suggest that the learning organisation interventions described in the papers do not address all five core dimensions of the learning organisation, as their primary focus was on creating a learning climate and promoting organisational learning. However, the significance of this perceived gap in the reviewed interventions is unclear, as intervention outcomes were not evaluated in the reviewed articles. The findings also suggest that a foundation of good organisational software (i.e. a shared understanding of, and commitment to a learning organisation vision, a culture which is conducive to learning organisation creation, and a secure, supportive and interpersonally non-threatening environment) is essential for learning organisation creation, along with appropriate investment in staff time, and the infrastructure and processes necessary to support knowledge transfer. In addition, effective leadership was identified as a necessary condition for many of the identified enablers of learning organisation development.

Based on these findings, some tentative recommendations can be made to those seeking to nurture learning organisations. Firstly, to address poor understanding of the learning organisation concept, organisation-wide discussions could be helpful to ensure that employees have a common understanding of the concept, rather than imposing the idea through leadership structures from above without preparation. Secondly, to tackle possible lack of commitment, the decision to create a learning organisation should be made at a high level and included in the strategic goals of the organisation, as well as in staff performance management systems to ensure that this commitment is organisation-wide. In addition, appropriate investment should be made in the infrastructure and processes to promote knowledge transfer (such as shared meeting spaces, information technology enabled learning databases and communication tools, mentorship programmes, documentation and dissemination of learnings, feedback mechanisms) to follow through on these commitments. Thirdly, as leadership is key, training managers at all levels in vital learning organisation-related skills such as reflection, communication and systems thinking may prove vital. Finally, as good organisational software appears to be essential for learning organisation creation, it may be helpful for a learning

organisation intervention to be preceded by an in-depth examination of the learning climate of the organisation, in order to identify any potential problems (e.g. a lack of trust between employees and management structures) and develop strategies to overcome them within the overall learning organisation intervention.

The underlying implication of these recommendations is that the creation of a learning organisation is a long-term process requiring preparation, significant investment of human and financial resources, and potentially extensive changes to the organisational environment. Thus, before the decision is taken to adopt a learning organisation vision, organisational leadership should fully understand the scale of this decision and be prepared to invest significant resources into the process.

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## Appendix A: Information for authors: Health Policy and Planning

### Instructions for Authors

*Health Policy and Planning* improves the design, implementation and evaluation of health policies in low- and middle-income countries through providing a forum for publishing high quality research and original ideas, for an audience of policy and public health researchers and practitioners. *HPP* is published 10 times a year.

*HPP* has a double-blinded peer-review policy. All types of papers are peer reviewed and all article abstracts from each issue are translated into French, Spanish and Chinese.

Before you submit please make sure you have followed all the relevant instructions. A checklist for authors is [available on the webpage](#).

Not sure which section to submit to? [Read our Section Summaries](#).

- [Guidance](#)
  - i. [Improving chances of publication](#)
  - ii. [Manuscript format and style for all articles](#)
  - iii. [Prior publication guidelines](#)
- [Types of papers](#)
- [Submission process](#)

### Guidance

#### Improving chances of publication

As well as the high overall quality required for publication in an international journal, authors should take into consideration:

- Addressing *HPP*'s readership: national and international policy makers, practitioners, academics and general readers with a particular interest in health policy issues and debates.
- Manuscripts that fail to set out the international debates to which the paper contributes, and to draw out policy lessons and conclusions, are more likely to be rejected, returned to the authors for redrafting prior to being reviewed, or undergo a slower acceptance process.
- Economists should note that papers accepted for publication in *HPP* will consider the broad policy implications of an economic analysis rather than focusing primarily on the methodological or theoretical aspects of the study.
- Public health specialists writing about a specific health problem or service should discuss the relevance of the analysis for the broader health system. Those submitting health policy analyses should draw on relevant bodies of theory in their analysis, or justify why they have not, rather than only presenting a narrative based on empirical data.
- Primarily focus on one or more low- or middle-income countries.

The editors cannot enter into correspondence about papers considered unsuitable for publication and their decision is final. Neither the editors nor the publishers accept responsibility for the views

of authors expressed in their contributions. The editors reserve the right to make amendments to the papers submitted although, whenever possible, they will seek the authors' consent to any significant changes made. The manuscript will not be returned to authors following submission unless specifically requested.

Should you require any assistance in submitting your article or have any queries, please do not hesitate to contact the editorial office at [hpp.editorialoffice@oup.com](mailto:hpp.editorialoffice@oup.com).

### **Manuscript format and style for all articles**

*Only articles in English are considered for publication.*

Prepare your manuscript, including tables, using a word processing program and save it as a .doc, .rtf or .ps file. Use a minimum font size of 11, double-spaced and paginated throughout including references and tables, with margins of at least 2.5 cm. The text should be left justified and not hyphenated.

The title page should contain:

- Title - please keep as concise as possible and ensure it reflects the subject matter
- Corresponding author's name, address, telephone/fax numbers and e-mail address
- Each author's affiliation and qualifications
- Keywords and an abbreviated running title
- 2-4 Key Messages, detailing concisely the main points made in the paper
- Acknowledgements
- A word count of the full article

In the acknowledgements, all sources of funding for research must be explicitly stated, including grant numbers if appropriate. Other financial and material support, specifying the nature of the support, should be acknowledged as well.

Figures should be designed using a well-known software package for standard personal computers. If a figure has been published earlier, acknowledge the original source and submit written permission from the copyright holder to reproduce the material. Colour figures are permitted but authors will be required to pay the cost of reproduction: this is currently £350 per figure.

Please be aware that the requirements for online submission and for reproduction in the journal are different: (i) for online submission and peer review, please upload your figures separately as low-resolution images (.jpg, .tif, .gif or .eps); (ii) for reproduction in the journal, you will be required after acceptance to supply high-resolution .tif files. Minimum resolutions are 300 d.p.i. for colour or tone images, and 600 d.p.i. for line drawings. We advise that you create your high-resolution images first as these can be easily converted into low-resolution images for online submission.

Figures will not be relettered by the publisher. The journal reserves the right to reduce the size of illustrative material. Any photomicrographs, electron micrographs or radiographs must be of high quality. Wherever possible, photographs should fit within the print area or within a column width. Photomicrographs should provide details of staining technique and a scale bar. Patients shown in photographs should have their identity concealed or should have given their written consent to publication. When creating figures, please make sure any embedded text is large enough to read.

Many figures contain miniscule characters such as numbers on a chart or graph. If these characters are not easily readable, they will most likely be illegible in the final version.

Certain image formats such as .jpg and .gif do not have high resolutions, so you may elect to save your figures and insert them as .tif instead.

For useful information on preparing your figures for publication, go to the [Digital Art Support page](#).

All measures should be reported in SI units, followed (where necessary) by the traditional units in parentheses. There are two exceptions: blood pressure should be expressed in mmHg and haemoglobin in g/dl. For general guidance on the International System of Units, and some useful conversion factors, see 'The SI for the Health Professions' (WHO 1977).

*Manuscript file must include text body. Title Page, Figures and Tables should be uploaded separately.*

### **Prior Publication Policy**

*[Based on a statement developed by a group of editors of journals that publish articles on health, health services, and health policy. Journals currently using this statement include: Health Affairs, Health Services Research, Inquiry, Journal of Health Politics, Policy and Law, Journal of Health Services Research & Policy, Medical Care, and the Milbank Quarterly.]*

#### *Background*

The policy of the journals subscribing to this statement is to consider for publication only original work that has not previously been published. Questions about what constitutes previous publication are arising with increasing frequency because of the growth of electronic publishing and the increasing number of reports and papers being produced by organizations and agencies. This statement provides guidance on this issue.

There are legitimate reasons why research may be disseminated before submission to a journal. Active communication among researchers about preliminary findings or the circulation of draft reports for discussion and critique contributes to the eventual quality of published work. In addition, organizations that support or carry our research have an understandable interest in disseminating their work. From the perspective of journals, these reasons for dissemination must be balanced against two considerations. The first is the value of the peer review process. The rules against prior publication are intended to add some assurance of the credibility of published research.

Papers are often improved during the peer review process, with findings, conclusions, and recommendations sometimes changed in response to reviewers' comments. The public and policymakers might be confused or misled if there were multiple versions of a paper in the public domain. Second, from a more parochial viewpoint, journal space is limited, and much time and expense are involved in the evaluation, publication, and distribution of journal articles. Journals must make difficult choices about what to include; there is less value in publishing papers that have already been disseminated to their target audiences.

We discuss here several types of dissemination and provide guidelines with respect to the prior publication question. This discussion is essentially an elaboration of two rules, the first emphasizing previous dissemination of the material, the second stressing disclosure.

- Rule One: If the material in a paper has already been disseminated to a journal's audience, particularly in a format that appears to be a final product, then it is unlikely that a second version will be worth publishing in the journal.
- Rule Two: It is the responsibility of authors to let editors know at the time of submission whether a paper's contents have been previously disseminated in any manner so that the editors can determine whether to proceed with the review process.

### *Previous Presentations at Meetings*

Presentation of a paper at conferences or seminars usually does not jeopardize the possibility of publication.

### *Working Papers*

Dissemination of "working papers" to a limited audience will not ordinarily jeopardize publication. Working paper series are used by many organizations as a means of enabling researchers to obtain critiques from fellow researchers. Working papers covered by this policy are those that are released by the author or an organization rather than by a publisher, are not advertised to the public, and are marked as drafts that are subject to future revision. HPP will not publish papers for which a similar working paper is already available in the public domain.

### *Internet Postings*

Release via the Internet may jeopardize journal publication under some circumstances. Presentation of the work as a final report is a marker of an attempt to reach a wide audience, particularly when combined with efforts to direct traffic to the work (e.g., via links on other sites) and efforts to attract attention (e.g., press releases). In contrast, if a document is posted on the Internet only to facilitate communication among colleagues with the aim of getting feedback, and if there has been no attempt to otherwise attract the attention of journalists, the public, or the broader research community to the document, then this is unlikely to preclude journal publication.

In general, when posting on the Internet serves similar functions as presentation at professional meetings - facilitating the development of papers and the improvement of the research, influencing future revisions, and not constituting a "finished" product - it would not be considered prior publication. On the other hand, when the Web site posting functions as a virtual version of a conventional publication, which may even be copyrighted by the posting organization, the benefit of an additional publication in the journal will be scrutinized carefully.

In cases where there has been little to no exposure at the time that a paper has been submitted to the journal, but the circumstances surrounding the posting make it likely that a high level of exposure (press coverage, etc.) might occur, then the author should remove a posting as a condition for further consideration of the manuscript.

Authors who post papers on a Web site and do not want it to constitute prior publication should also post a disclosure statement such as: "This draft paper is intended for review and comments only. It is not intended for citation, quotation, or other use in any form." This statement should be kept on the Web site throughout the review process and until the paper is actually accepted for publication in a journal. Once accepted, authors should post a message to the effect that: "A revised final version of this paper will appear in (Journal Name), volume, issue." Authors also should include this statement as a header or footer on every page of the paper.



### *Formal Reports from Foundations, Academic Institutions, Institutes, Trade Associations, and Government Agencies*

The dissemination efforts of foundations, government agencies, research institutes, and other organizations that support or carry out research can complement publication in peer-reviewed journals. If publication in one of our peer-reviewed journals is desired, organizational publications should be timed to coincide with or follow journal publication, with appropriate copyright permissions having been obtained. This sequence ensures that the peer-review process will have an opportunity to correct deficiencies of method or presentation.

Formal, published reports that have gone through an editorial process, that have been intended to reach a wide audience, and that are publicized and available to any interested party (whether free or not) usually will not be considered for journal publication. A paper that is based on such a report might be considered for publication if it were sufficiently different in emphasis or intent. In such instances, the author should explain at the time of submission (or before) how the paper differs from the previously released report and why its publication would represent a distinct and important contribution beyond that version.

#### *Policy briefs*

If the findings of a piece of research have been published locally (i.e. in a specific country) with the aim of influencing policy debates in that country then even if the brief is available on the web we may consider publishing an article so long as (i) the brief has not had wide circulation outside the country and (ii) the brief is clearly targeted at policy-making audiences, and hence does not include the detailed discussion of methods and perhaps findings that one might expect in a journal article.

#### *Media Publicity*

If results reported in a working paper have become widely known as a result of media exposure (or even if the potential for widespread exposure remains during review), and that working paper is readily available to interested readers (e.g., through a Web site), an editorial judgment will be made whether journal publication would be appropriate. Authors can help protect their work from unwanted media exposure by making clear on working drafts, copies presented at conferences, and other versions that it is a draft that has not yet undergone peer review for publication and that findings and conclusions are subject to change. Authors also should request that any "stories" derived from interviews with the media be embargoed until the work is published or released by the publisher (see, for example, Fontanarosa, P.B., and C.D. DeAngelis. 2002. The Importance of the Journal Embargo. *Journal of the American Medical Association* 288: 748-750). Any accepted manuscript released to the media should contain the statement: "A revised final version of this paper will appear in (Journal Name), volume, issue." Journal policies involving author contact with members of the media may vary, depending on the issue or journal. Thus, authors should check with the editor before speaking with or distributing papers to members of the media.

#### *Importance of Disclosure*

In contrast to the editors' decision whether a certain paper has been disseminated too widely to warrant journal publication, there is very little judgment involved in whether an author should disclose previous dissemination. Prior to, or at the time of, submission of a paper that has been disseminated in any of the ways discussed previously, authors should bring this to the attention of the editor so that a determination can be made before the paper goes into the peer-review process. In so doing, authors should describe in what form and how the work was previously disseminated

and how the submitted manuscript differs from previously disseminated versions. Editors might be receptive to a modified version of a paper that has been widely disseminated if the submitted version has a different focus (e.g., more emphasis on methods, more sophisticated analytic approach, or discussion of developments that have transpired since the initial dissemination). The key point is to let editors know about any dissemination that will have, or is likely to have, occurred before the journal article is published rather than have it discovered during or after the review or editorial process. As part of the submittal, authors should include copies of other related papers that might be seen as covering the same material.

Failure to disclose could preclude publication in the journal or, if already published, could result in a notice in the journal about the failure and may result in a retraction of the article.

### **Manuscript Preparation**

Page 1: *Title Page* – as above.

Page 2: *Abstract*. The abstract should be prepared in one paragraph, no headings are required. It should describe the purpose, materials and methods, results, and conclusion in a single paragraph no longer than 300 words without line feeds.

Page 3: *Introduction*. The Introduction should state the purpose of the investigation and give a short review of the pertinent literature, and be followed by:

*Materials and methods*. The Materials and methods section should follow the Introduction and should provide enough information to permit repetition of the experimental work. For particular chemicals or equipment, the name and location of the supplier should be given in parentheses.

*Results*. The Results section should describe the outcome of the study. Data should be presented as concisely as possible, if appropriate in the form of tables or figures, although very large tables should be avoided.

*Discussion*. The Discussion should be an interpretation of the results and their significance with reference to work by other authors.

*Abbreviations*. Non-standard abbreviations should be defined at the first occurrence and introduced only where multiple use is made. Authors should not use abbreviations in headings.

All *measures* should be reported in SI units, followed (where necessary) by the traditional units in parentheses. There are two exceptions: blood pressure should be expressed in mmHg and haemoglobin in g/dl. For general guidance on the International System of Units, and some useful conversion factors, see 'The SI for the Health Professions' (WHO 1977).

*References*. References must follow the Harvard system and must be cited as follows:

Baker and Watts (1993) found...

In an earlier study (Baker and Watts 1993), it...

Where works by more than two authors are cited, only the first author is named followed by 'et al.' and the year. The reference list must be typed double-spaced in alphabetical order and include the full title of both paper (or chapter) and journal (or book), thus:

Baker S, Watts P. 1993. Paper/chapter title in normal script. Journal/book title in italics *Volume number in bold* : page numbers.

Baker S, Watts P. 1993. Chapter title in normal script. In: Smith B (ed). *Book title in italics*. 2nd edn. Place of publication: Publisher's name, page numbers.

*Tables* All tables should be on separate pages and accompanied by a title - and footnotes where necessary. The tables should be numbered consecutively using Arabic numerals. Units in which results are expressed should be given in parentheses at the top of each column and not repeated in each line of the table. Ditto signs are not used. Avoid overcrowding the tables and the excessive use of words. The format of tables should be in keeping with that normally used by the journal; in particular, vertical lines, coloured text and shading should not be used. Please be certain that the data given in tables are correct. Tables should be provided as Word or Excel files.

### **Types of papers**

Health Policy and Planning welcomes submissions of the following article types:

- [Original research](#)
- [Review articles](#)
- [Methodological musings](#)
- [Innovation and practice reports](#)
- [Commentaries](#)
- ['How to do \(or not to do\)...'](#) [for example, see [Hutton & Baltussen, HPP, 20\(4\): 252-9](#)] and
- ['10 best resources'](#) [for example, see [David & Haberlen, HPP, 20\(4\): 260-3](#)].

### **Original Research**

Manuscripts should preferably be a *maximum* of 6,000 words, excluding tables and figures/diagrams.

The manuscript will generally follow through sections: [Title page](#), Abstract (no more than 300 words), Introduction, Methods, Results, Discussion, Conclusion, Acknowledgements, References. However, it may be appropriate to combine the results and discussion sections in some papers. Tables and Figures should not be placed within the text, rather provided in separate file/s.

For the reporting of statistical analyses please consider the following additional points:

- Focus the statistical analysis at the research question.
- Provide information about participation and missing data.
- As much as possible, describe results using meaningful phrases (e.g., do not say "beta" or "regression coefficient", but "mean change in Y per unit of X"). Provide 95% confidence intervals for estimates.
- Report the proportions as *N* (%), not just %.

- Report *P* values with 2 digits after the decimal, 3 if <0.01 or near 0.05 (e.g., 0.54, 0.03, 0.007, <0.001, 0.048). Do not report *P* values greater than 0.05 as "NS".
- Always include a leading zero before the decimal point (e.g., 0.32 not .32).
- Do not report tests statistics (such as chi-2, T, F, etc.)."

For [acknowledgements](#), [figures](#) and [measures](#) see above.

## Review Articles

Manuscripts should preferably be a *maximum of 10,000 words*, excluding tables, figures/diagrams and references.

Reviews may be invited. They generally address recent advances in health policy, health systems and implementation. *Systematic reviews are particularly welcomed*, but may not be appropriate for every topic. If authors are submitting a review article that is not a systematic review then the paper should explain why a systematic review was not feasible/desirable, and the review methods should be described in a way that is as clear and as replicable as possible.

The manuscript will generally follow through sections: Abstract (no more than 300 words), Introduction, Methods, Results, Discussion, Conclusion, References. However, it may be appropriate to combine the results and discussion sections in some papers. Tables and Figures should not be placed within the text, rather provided in separate file/s.

Checklists have been developed for a number of study designs, including randomized controlled trials (CONSORT), systematic reviews (PRISMA), observational studies (STROBE), diagnostic accuracy studies (STARD) and qualitative studies (COREQ, RATS). We recommend authors refer to the [EQUATOR Network website](#) for further information on the available reporting guidelines for health research, and the MIBBI Portal for prescriptive checklists for reporting biological and biomedical research where applicable. Authors are requested to make use of these when drafting their manuscript and peer reviewers will also be asked to refer to these checklists when evaluating these studies.

## Commentaries

Short commentaries on topical issues in health systems are welcomed - *please email the editorial office prior to submission*. Most such commentaries are commissioned by the editors, but the journal will also consider unsolicited submissions. Commentaries should of broad interest to readers of *Health Policy and Planning*, and while they are not research papers, they should be well substantiated. Manuscripts should preferably be a *maximum of 1,200 words*, excluding tables, figures/diagrams and references.

The manuscript will generally contain a short set of key take-home messages. Tables and Figures should not be placed within the text, rather provided in separate file/s.

## How To Do...Or Not To Do

This series is meant to explain how to use a particular research or analytical method (e.g. social network analysis, discrete choice experiment etc.). The research or analytical methods discussed should be well accepted and clearly defined: this category of paper is not meant to address methodological debates but rather to help disseminate and promote the use of well-accepted methodologies.

Manuscripts should preferably be a *maximum of 3,000 words* excluding tables, figures/diagrams and references.

- The sections must be arranged as follows: i) Title page, ii) Abstract, iii) Introduction, iv) Body of the paper, and v) References. Main sections should be coordinated by the author, and inserted between Introduction and Reference sessions. Please contact our office before submitting a manuscript in this category.

Tables and Figures should not be placed within the text, rather provided in separate file/s.

### **10 Best Resources**

This 10 best is a series of articles that identify and outline the 10 most useful resources from a range of sources to help facilitate a better understanding of a particular issue in global health.

We often commission these articles but we also hear unsolicited suggestions.

For [acknowledgements](#), [figures](#) and [measures](#) see [Title page](#).

### **Methodological Musings**

This series is meant to address methodological issues in health policy and systems research, where there is currently a lack of clarity about accepted research methods. This series is intended to support the development of the health policy and systems research field, through supporting methodological discussion.

Manuscripts should preferably be a *maximum of 3,000 words*, excluding tables, figures/diagrams and references.

- The sections must be arranged as follows: i) [Title page](#), ii) Abstract, iii) Introduction, iv) Body of the paper, and v) References. Main sections should be coordinated by the author, and inserted between Introduction and Reference sessions. Please contact our office before submitting a manuscript in this category.
- For [acknowledgements](#), [figures](#) and [measures](#) see [Title page](#).

### **Innovation and Practice Reports**

These short reports are narratives from the perspective of health managers operating at the national or sub-national level which focus on innovative approaches to strengthen health systems. Papers should highlight the practical experience of health managers or practitioners involved in taking action to strengthen health systems through innovative activities and new practices. The new activities and practices should preferably have been implemented for a sufficiently long time to allow authors to demonstrate the potential for sustained improvement or change in the health system. Examples might include practices to build capacity, develop new partnerships or restructure relationships within health systems. Papers should identify 2-4 key messages or lessons for consideration in other settings. We will not consider clinical and pharmaceutical innovations and practices. Manuscripts should be a maximum of 2,000 words.

The manuscript will generally follow through sections: Key Messages, Abstract (no more than 300 words), Introduction, Methods, Results, Discussion, Conclusion, References. However, it may be appropriate to combine the results and discussion sections in some papers. Tables and Figures should not be placed within the text, rather provided in separate file/s. In the main body of the

paper, sub-headings may be useful to signal key elements of the experience reported. Reports must be led by local practitioners, managers or policy-makers.

### **Submission process**

[Pre-submission language editing](#)

[Authorship](#)

[Originality](#)

[Online submission](#)

### **Pre-Submission Language Editing**

HPP asks all authors to ensure that their papers are written in as high a standard of English as possible before submission to the journal. If your first language is not English, to ensure that the academic content of your paper is fully understood by journal editors and reviewers, you may want to consider using a language editing service. Language editing does not guarantee that your manuscript will be accepted for publication. For further information on this service, please click [here](#). Several specialist language editing companies offer similar services and you can also use any of these. Authors are liable for all costs associated with such services. If your first language is not English, to ensure that the academic content of your paper is fully understood by journal editors and reviewers is optional. Language editing does not guarantee that your manuscript will be accepted for publication. For further information on this service, please click [here](#). Several specialist language editing companies offer similar services and you can also use any of these. Authors are liable for all costs associated with such services.

### **Authorship**

All persons designated as authors should qualify for authorship. The order of authorship should be a joint decision of the co-authors. Each author should have participated sufficiently in the work to take public responsibility for the content. Authorship credit should be based on substantial contribution to conception and design, execution, or analysis and interpretation of data. All authors should be involved in drafting the article or revising it critically for important intellectual content, must have read and approved the final version of the manuscript and approve of its submission to this journal. An email confirming submission of a manuscript is sent to all authors. Any change in authorship following initial submission would have to be agreed by all authors as would any change in the order of authors.

### **Originality**

Manuscripts containing original material are accepted for consideration with the understanding that neither the article nor any part of its essential substance, tables, or figures has been or will be published or submitted for publication elsewhere. This restriction does not apply to abstracts or short press reports published in connection with scientific meetings. Copies of any closely related manuscripts should be submitted along with the manuscript that is to be considered by HPP. HPP discourages the submission of more than one article dealing with related aspects of the same study. For further information on the prior publication policy see [https://academic.oup.com/heapol/pages/Prior\\_Publication](https://academic.oup.com/heapol/pages/Prior_Publication).

During the online submission procedure, authors are asked to provide:

- information on prior or duplicate publication or submission elsewhere of any part of the work;
- a statement of financial or other relationships that might lead to a conflict of interest or a statement that the authors do not have any conflict of interest;
- a statement that the manuscript has been read and approved by all authors (see also section on authorship);
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All papers submitted to HPP are checked by the editorial office for conformance to author and other instructions all specified below. Non-conforming manuscripts will be returned to authors.

If authors are unsure about the originality of their manuscript or any part of it, they should contact the editorial office at [hpp.editorialoffice@oup.com](mailto:hpp.editorialoffice@oup.com).

### **Online Submission**

Prior to submission please carefully read instructions on each type of paper and closely follow instructions on word count, abstract, tables and figures and references. This will ensure that the review and publication of your paper is as efficient and quick as possible. The Editorial Office reserve the right to return manuscripts that are not in accordance with these instructions.

All material to be considered for publication in Health Policy and Planning should be submitted in electronic form via the journal's online submission system. Once you have prepared your manuscript according to the instructions below, instructions on how to submit your manuscript online can be found by clicking [here](#).

### **Conflict of Interest**

Authors must declare any conflicts of interest during the online submissions process. The lead author is responsible for confirming with the co-authors whether they also have any conflicts to declare.

### **Ethical Approval**

A requirement of publication is that research involving human subjects was conducted with the ethical approval of the appropriate bodies in the country where the research was conducted and of the ethical approval committees of affiliated research institutions elsewhere. Furthermore, subjects' consent must have been obtained according to the Declaration of Helsinki. A clear statement addressing all these points must be made in any submitted manuscript presenting such research. In original articles, this information must also be included in the methods section of the submitted manuscript. Please note that it is the responsibility of the corresponding author to ensure that the relevant ethical approval described above is provided. The Editors-in-Chief reserve the right to refuse publication where the required ethical approval/patient consent is lacking, or where the approval/consent provided is deemed incomplete or ambiguous.

### **Funding**

The following rules should be followed:

- The sentence should begin: 'This work was supported by ...'
- The full official funding agency name should be given, i.e. 'the National Cancer Institute at the National Institutes of Health' or simply 'National Institutes of Health' not 'NCI' (one of the 27 substitutions) or 'NCI at NIH' - [see the full RIN-approved list of UK funding agencies for details](#)
- Grant numbers should be complete and accurate and provided in brackets as follows: '[grant number ABX CDXXXXXX]'
- Multiple grant numbers should be separated by a comma as follows: '[grant numbers ABX CDXXXXXX, EFX GHXXXXXX]'
- Agencies should be separated by a semi-colon (plus 'and' before the last funding agency)
- Where individuals need to be specified for certain sources of funding the following text should be added after the relevant agency or grant number 'to [author initials]'

An example is given here: 'This work was supported by the National Institutes of Health [P50 CA098252 and CA118790 to R.B.S.R.] and the Alcohol & Education Research Council [HFY GR667789].

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### **Change of Address**

Please notify the editors of any change of address. After manuscript acceptance, please also notify the publishers: Journals Production Department, Oxford University Press, Great Clarendon Street, Oxford, OX2 6DP, UK. Telephone +44 (0) 1865 556767 , Fax +44 (0) 1865 267773.

### **Important Notes to Authors**

The manuscripts will not be returned to authors following submission unless specifically requested.

### **Proofs**

Authors are sent page proofs by email. These should be checked immediately and corrections, as well as answers to any queries, returned to the publishers as an annotated PDF via email or fax within 3 working days (further details are supplied with the proof). It is the author's responsibility to check proofs thoroughly.

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