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Applications of Organisational Learning in the Healthcare Sector

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Abstract:

Organizational learning is the process by which organizations acquire, share, and apply knowledge to continuously improve their performance and adapt to changing environments Applying organizational learning principles to health care can have a significant impact on patients quality control, professional development, and overall organizational effectiveness Healthcare organizations operate in a complex, rapidly evolving environment characterized by advances in medical technology, changing patient demographics, and the need for evidence-based decision-making Recognition of organizational learning can help healthcare organizations increase their capacity for innovation, for a culture of continuous improvement . To address these challenges, healthcare organizations must be knowledge producers, consumers, and co-producers of co-created knowledge. This knowledge needs to be developed continuously, involving everyday healthcare practice and organized collaboration around organizational learning processes. In this paper, we hope to provide a scholarly contribution on this issue, along with an outline of different theoretical and practical approaches, before detailing research projects about Greece and then summarizing the lessons learned. This comprehensive review of the applications of organizational learning in healthcare will contribute to the understanding of how healthcare organizations can leverage this concept to enhance their performance, improve patient outcomes, and navigate the evolving landscape of the healthcare industry.

Keywords:

Organizational Learning, Healthcare Sector, Patient Safety, Continuous Improvement, Knowledge Management

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1. Introduction

(Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021) Worldwide, healthcare systems face significant demographic, financial, and technological challenges. The radical aging of the world population is accompanied by an increased prevalence of chronic and communicable diseases and a growing demand for health services. In addition, financial resources are regularly shrinking in many parts of the world, causing additional challenges that should be addressed with imaginative solutions. Finally, technological advances, like the revolution in digital media and the change process, need to be integrated into clinical practice, putting additional pressure on healthcare professionals. As a result of these changes, the expectations of patients and families from healthcare organizations are also moving from focusing on the number of services (e.g., timely access to primary care and emergency services) to also focusing on the quality and outcomes of their care, patient safety and a professional attitude to their health issues. To respond to these challenges and to be fully prepared for the future, healthcare organizations must learn to adapt (Nuño-Solinís, 2017).

1.1. Definition and Key Concepts

In the healthcare sector, the important consequences of these issues are ethically problematic value contradictions between the research community, patients, and care professionals. One of the most well-known examples is the lack of evidence for the effectiveness of many interventions in the healthcare sector and the fierce debate about the extent to which what is known is used in practice. This often contrasts with research-based medicine's ideal of evidence-based health care and the patient's right to being examined and treated based on "research and research-based knowledge." To seek to build up similar situations in which research-based production and health care, on the other hand, is a goal. The idea about learning health systems is that research and practice should be part of each other in a permanent learning process (McLachlan, 2020).

It is suggested that organizational learning be clarified; a delimitation of a field that is first and foremost about its challenge of opening the mind to social intelligence will be helpful. One of the most frequently quoted definitions refers to "the generating, accepting, testing, and modifying of expectations and beliefs about the behavior of organizational members, which forms the basis for them to choose actions in the organization in response to problems and opportunities" (Petropoulos, et al., 2023).

1.2. Importance of Organisational Learning in Healthcare

A learning organization positively impacts patient care, clinical outcomes, extent of coordination, patient satisfaction, innovation, and cost efficiency of healthcare organizations. A series of reported benefits have been experienced by doctors and nurses from organizational learning, such as improved communication among healthcare professionals, decreased error occurrence, better implementation of clinical processes and guidelines, increased professional satisfaction and empowerment, and even personal learning. Although the underlying mechanisms of how organizational

learning leads to these performance outcomes in healthcare are less evident, healthcare-related variables like co-works support and feedback from top management are significant mediators between organizational learning (Ni et al., 2019).

Organizational learning refers to the process by which a group of people collectively and continuously learns to develop new ways of thinking and behaving in response to a changing environment (B. Alonazi, 2021). The essence of organizational learning is how healthcare organizations translate their knowledge, capability, and behaviors to clinical practices, healthcare service quality, and patient safety. Although the concept of 'organizational learning' is not new and has significantly been studied in the business sector, few studies highlight the importance of learning organizations in healthcare. It has gained focus in the last few decades and a systematic literature review found an increase in the number of articles related to organizational learning in the healthcare sector from 1991 to 2013 in nine electronic databases

2. Theoretical Foundations of Organisational Learning

From the book chapter (Nuño-Solinís, 2017). This chapter will introduce its theoretical foundations and, more specifically, how each single-loop and double-loop learning is enacted within healthcare organizations. We'll translate these theories into practical examples to help you understand how they are relevant to continuous improvement within healthcare organizations. (Sarakbi, Mensah-Abrampah, Kleine-Bingham, & B. Syed, 2021). You will then judge how this approach to organizational learning could bring about the changes intended in the new socio-techno-organizational healthcare system needed in the twenty-first century.

The following four sections describe how the components of a learning health system concretize within teams, organizations, and systems: psychological safety, inter-professional collaboration, leadership and management practices, and performance measurement. At the individual level, the section on psychological safety discusses the importance of sharing information and views within one's work environment. This reciprocal process is at the core of single-loop learning. (Ni et al., 2019). In a learning health system context, inter-professional collaboration is the second building block that allows knowledge transfer across professional boundaries.

This ensures rethinking past practices when evidence surfaces that these are outdated or ineffective. In this context, expanding the 'toolbox' in which effective practices are stored within one's memory is generally a learning proposition, but more specifically linked to single-loop learning. Although the single-loop learning literature often emphasizes uncertainty within a predictable context, in any healthcare system, double-loop learning is at the heart of organizational innovation. To help connect this theoretical foundation to real-world examples, we draw from the case of inpatient handovers in a Norwegian hospital system. (Buckell & Macintyre, 2021)

2.1. Single-Loop and Double-Loop Learning

Triple-loop organizational learning is the highest level of the loop. For example, Kofman and Senge (1993) argue that universities must develop reflective learning to

improve the learning process (triple-loop, educative learning) and initiate sustainable change. Higher learning abilities, like reflective learning that require not only changing the routine but also changing the premise or the value of the system, will foster a more sustainable organizational change, whereas lower learning abilities, like restorative learning that only foster changing the routine, without changing the value of the system, result in unsustainable organizational change (Senge, 1999).

Senge (1999) suggested that if learning is optimized in the organization, then triple-loop learning (reflective learning) will allow employees to experiment with the process, structure, and culture and focus on the organization's overall purpose. Overall, higher levels of learning demand employees to increase scrutiny and authenticity, which makes it possible to take a deep look at the underlying mental model and involved values to choose sensitive and responsive behavior in the new environment.

(Berta, Cranley, W. Dearing, J. Dogherty, E. Squires, & A. Estabrooks, 2015) The distinction between single-loop and double-loop learning in healthcare is not new. Structural reform and public administration have long been identified as likely to be sites for double-loop learning and change (Benson, 2005; Chandler and Plano, 2009). Single-loop learning occurs when the focus is on action (the 'how') when the assumption (or mental model) determines goals and strategies remains unquestioned. Learning and change activities are considered successful only when separate, 'closed-loop' improvement decrees are implemented (Thorpe and Howell, 2002), and where organizational members collide with and adjust to minor constraints without fundamentally changing the accepted goal, strategies or underlying values, this merely leads to routine restorative change. In contrast, double-loop learning is distinctive: existing goals and strategies, i.e., the 'why' questions, are open to challenge and, along with them, the mental models from which they spring.

2.2. Organisational Learning Theories: Argyris and Schön, Senge

Challenging senior management is essential if the organization is to evolve and improve, and questioning is a constant of the organizational learning abilities in the context of culture theory or, more formally, in Sveinung Jorgensen and Barbara Czarniawska's concept of institutional entrepreneurship (Harrison, M.; M. Shortell, S., 2020). In a climate where there are no major disruptions at the strategic level and where it is not necessary to annihilate any consensus, allowing each member of the organization to take on the role of the entrepreneur in a dominant position would be an expression of organizational balance. In contrast, entrepreneurial projects are legion, and sometimes, even more in the case of an organization whose main focus is the exploitation of results. However, a managerial entrepreneur encourages the members of his/her team to take creative initiatives and consider, without too much pressure, the key decisions.

Many times, the theories of organizational learning are referenced related to the definition of a concept of an ideal organization where shared vision and the principles

of Systems Thinking prevail. Nevertheless, concepts such as the learning process, organizational vulnerability, and, finally, McLuhan's concept of Learning Organization are pointed out (Dingsøyr, 2019). Senge, in collaboration with other authors, extends the original concept and is centered on the relationship between learning and the changes in strategy. According to the authors of "The Agile Organization," these must promote strategic polemic as "a fundamental organizational activity [...] in which many layers join to consider, and often re-consider, important decisions concerning the identification of emerging opportunities and threats to established business".

3. Drivers of Organisational Learning in Healthcare

Finally, establishing a learning health system aims to facilitate population- and patient-centered learning to drive high-value care and promote learning so that evidence is created as a byproduct of each healthcare encounter. Due to the considerable impact of hospital standardization and the growing importance of knowledge management and evidence-based practice in hospitals, it is important to consider the nature of hospital mergers and their impacts on educational development processes. Specifically, hospital standardization can be considered a learning process (Nuño-Solinís, 2017). However, the innovation and the development of new products, technologies, and treatment models can also be interpreted as creativity and learning processes that take shape during a hospital merger. The dynamics of education, knowledge sharing, and knowledge management differ in merger phases.

Several drivers influence the expression of the learning processes in healthcare organizations, as established in the literature. Some drivers are centered around hospital standardization, which can be discussed in terms of both organizational- and dynamic capabilities. An appropriate level of standardization of hospitals modulates the study-to-study variation, through which meta-learning can build individualized clinical predictive models based on fewer or shared-to-moderately correlated training data. The adoption of electronic medical records is also among the main drivers that have a positive impact on learning capability. (McLachlan, 2020) (Rafiei, Moore, Jahromi, Hajati, & Kamaleswaran)

3.1. Regulatory Requirements

The medicine increases longevity and quality of life but is equally associated with direct and indirect harm (Sujan, 2018). Direct harms are chalked up to side effects, complications, and ineffectiveness of treatments, whereas indirect harms have to do with morbidity and mortality associated with mistreatment or excess of treatment. There is a need to selectively prescribe treatments only to those patients best expected to benefit from them. Presently, this is far from the state of practice. Despite much medical progress in identifying effective treatments for various conditions, the predictability of which intervention works for whom is still modest. Present clinical medicine fails to care for the occasional exception and most patients (Ni et al., 2019). At the same time, the realities of clinical practice create a focus on individualized state-of-the-art treatment, associated with barely any comfort in case of diagnostic doubt, rather than on a patient-centered diagnostic approach, from holistic physical-examinational evaluation

through referral to appropriate interventional diagnostics aiming at determining a selectively decisive diagnosis, i.e., the cause (or main cause) of clinical complexity. This is the prerequisite of causative therapy, i.e., pathogenesis-based therapy allocated to an individual's disease taxonomy, and can help reduce known relevant (direct and indirect) medicine harms (Petropoulos, et al., 2023).

3.2. Quality Improvement Initiatives

Advancements in ICT, cloud computing, and distributed work allow healthcare professionals to become globally connected, always learning, innovating, and actively mastering new digital tools. QI and professional development are thereby no longer seen as sacrifice and burden but as delight and growth. Healthcare organizations also become health and social enterprises. Here, ICT, big data, and AI offer transformed business opportunities with significantly more value creation than is currently perceived, such as telemedical networks or apps connecting patients with boundary spanners and professionals. Academic networks and organizations must influence the systematic development of cloud computing in medicine and health.429 Also, the sustainability argument must be grasped on the societal, environmental, and economic levels. (Ngwa, Olver, & Schmeler, 2020)

Quality improvement (QI) is a key focus in healthcare organizations worldwide. If QI initiatives are to be effective, healthcare professionals arguably need to bring clinical knowledge to bear by using an audit to collect evidence of patient experiences and outcomes while using qualitative data to communicate with care recipients and providers (Sarakbi, Mensah-Abrampah, Kleine-Bingham, & B. Syed, 2021). A learning culture in healthcare organizations is linked to improved clinical practice, productivity, and lifelong learning (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021). A key finding is that, in the healthcare sector, a learning approach appears to reduce quality costs substantially while having a more limited impact on non-quality costs, which may be related to different organizational learning practices, such as a lack of systematic feedback and feed-forward loops with the customer in management activities and R&D. This feedback loop can foster greater patient orientation, a significant component of healthcare, which cannot be measured easily. (Pereira, Silva, Carvalho, Zanghelini, & Barreto, 2022)

4. Technological Tools for Facilitating Organisational Learning

Artificial intelligence methods in healthcare provide analysis of complex data, technological, medical, or socioeconomic information that arises from routine clinical practice. In this sense, the AI system acts as an interconnection, a translator, and translational administration of information received from the organism-organizer to the patient, who can interpret the translated information and convert it into personalized action. In contrast, all the time, training and strengthening the system with new, precise, individual information that remains in the EMR becomes capable of solving new tasks and treating a high-risk patient differently. Using the technologies of organizational learning applied within the framework of the conceived model in everyday life, the AI software can initiate actions instead of people while at the same time translating this

information to the informed patient and training the system in the process, thus efficiently realizing health-oriented organizational learning in medicine in the future (B. Alonazi, 2021).

The healthcare sector continuously generates data, a considerable portion of which is stored as unstructured information (Alkhatib, Talaei-Khoei, & Ghapanchi). Due to the exponential increase in the volume of available data in different electronic formats, finding and accessing relevant, fragmented, or time-sensitive information has exacerbated existing organizational challenges. Knowledge graphs (KGs) are being increasingly considered by biomedical and healthcare researchers as a method for creating structured and interlinked knowledge representations of domain entities and their relationships (Ammar, E Bailey, L Davis, & Shaban-Nejad, 2021). KGs re-arrange the chaos of unstructured datasets through representation learning algorithms, enabling an active strategy for disseminating information to patients, providers, researchers, and healthcare managers.

4.1. Learning Management Systems

Physical analysis and examination are usually carried out in laboratories. Still, it is equally important to analyze students' emotional states regarding their attitudes, satisfaction, and engagement toward their online training. As expected, HCI and ergonomics are generally treated in the literature regarding technology integration in the educational sectors. However, it is still important to deepen the analysis, considering that nursing students should be able to perceive a high quality of individualization, flexibility, time efficiency, interactivity, and quick feedback during their formative experience. A more global and qualitative analysis should be conducted to deepen these phenomena, directly involving students in the university context to facilitate health and psychological well-being (Steindal, et al., 2021).

Learning Management Systems (LMS) have become necessary, especially during the COVID-19 crisis. For the Healthcare & Medical Sciences sector, LMS plays an essential role by assisting in transitioning from face-to-face to online learning. LMS helps to manage curriculum delivery and administration, track student progress and improve, and create new learning environments that affect consolidated workplace learning positively and promote team learning. Such online learning could benefit all kinds of students, especially those who are more introverted; for example, asynchronous online formation could facilitate their interaction and collaboration, leading to social interaction and gains acting as a strong motivation for them. Additionally, online learning increases student engagement and motivation. (Dubrowski, Kapralos, Peisachovich, Da Silva, & Torres, 2021)

These new behaviors could drive students' professional growth; due to this reason, it is important to deepen the students' attitude towards the LMS, supporting their engagement and self-regulated study strategies by adhering to the development of individual and collaborative cognitive processes. In healthcare students, we need to consider the "professional practice" aspect of individual learning, involving more

cognitive and emotional variables, such as “willingness” or “motivation to learn.” (Meaklim, et al., 2020)

4.2. Data Analytics and Business Intelligence

Big data analytics and business intelligence in the healthcare segment essentially consist of primary and secondary care data from commissioning institutions. This, in due course, results in the availability of rich datasets regarding the characteristics of the patient population. The prime criterion for big data is its value, and in healthcare, the value criteria falls upon the quality of services. The big data generation is exponentially high, and keeping it in an appropriate format is essential. The inception of tools and techniques for appropriate visualization is essential to big data. (Guo & Chen, 2023)

Data analytics and business intelligence in the healthcare sector are growing at a rocket pace with the industries accelerating their concentration and efforts maximizing its applications and services (Rehman, Naz, & Razzak, 2020) Data analytics and business intelligence in the healthcare sector are growing at a rocket pace, with industries accelerating their concentration and efforts on maximizing their applications and services (Rehman, Naz, & Razzak, 2020). There is a data influx in the healthcare industry, propelling business intelligence in the healthcare segment. All of these vital data contribute to the requirement for advanced applications and services in the healthcare segment, thus accelerating the implementation of predictive models into advanced analytics and business intelligence applications and paradigms (Alkhatib, Talaei-Khoei, & Ghapanchi)

The healthcare industry is thoroughly experiencing data transformation resulting from the significant volume of data collected from individuals and healthcare services. Organizations in the healthcare segment are gradually transforming from being cautious of the data to utilizing it to save and enhance lives. (George & George, 2023)

5. Case Studies in Organisational Learning in Healthcare

Machine learning (ML) algorithms have been gaining momentum as healthcare management tools. Most decisions made in healthcare insurance and practice are based on human intuition. ML algorithms detect hidden patterns and add value across the healthcare value chain. Although the establishment of ML, health informatics in the hospitals insurance claim rejections, etc, have been the most important focus of the discussion. To assess the State of Knowledge (SoK) in the domain of ML and propose a future roadmap, using the Keystone CSWs (Criteria for Scientific Writing or Keystone guidelines) for the review on ML and healthcare. Several articles on ML in production and process, which include studies on the healthcare-applicability of the developed algorithms/modules and do not differentiate between healthcare applications, hospital management, healthcare insurance, etc., even if the focus of their healthcare management is on hospitals and healthcare insurance, can potentially be included in the performance and process management areas. The fifth analysis of the period 2013-2017 includes a focus on the healthcare area with sub-areas on healthcare production and

practice and healthcare-related specialties but ignores the processing and operational management part of it (Roy, J. Minar, Dhar, & T M Omor Faruq, 2023).

Organizational learning in healthcare has several applications that, when effectively tailored, can be used to structure learning and QI activities. Two case examples are provided to illustrate these points. The learning, communication, and teamwork interventions developed in this study were based on current organizational learning and QI theory (Harrison & Grantham, 2018).

Data from the interactive parts of the process were content analyzed according to the taxonomy for learning and QI in healthcare organizations. How these insights were used to enhance the learning from the "actions"/walk-about observations in the organization is described. This article shows that when applying the categorizations as part of the data analysis and translating the data from the case into how it could be used to enhance the collaboration within the healthcare teams involved, it enacted organizational learning as an "intervening" feedback cycle and theories, theory-testing thus occurred inherently in the "action" part of the action research. (Buljac-Samardzic, Doekhie, & van Wijngaarden, 2020)

5.1. Hospital A: Implementing a Continuous Learning Culture

The individual suggestion senders' expectations of the suggestion management organization or the managers' communicated tolerance for real responsibility are improving the weak suggestion culture. This was not to have been followed by the department leaders and the management administrations officially because this culture-oriented HR tool was initiated by a low-level trade union, and supporting management and HR part systems were not to be in charge-making roles. The conductors of the employee suggestions and the leader of management administration. This corroboration of the result of Bergström also shows a control-oriented pattern for organizational learning at the hospital (Sarakbi, Mensah-Abrampah, Kleine-Bingham, & B. Syed, 2021).

Employee Suggestion Management was introduced on a local hospital level in 2006 with the main purpose of changing the work culture at the hospital and making it into "a learning organization," according to Peter Senge's theories of Organizational Learning culture (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021). Suggestion management was supposed to develop a culture based more on dialogue, openness, and organizational development and deal with learning-oriented problems and opportunities. The employee suggestion management system managed, to a high degree, to turn the buying of suggestions into between-culture, "courtroom contests." In prevails a command and control culture in the rotativity way, and hopefully learning oriented dialogues and flow culture in all suggestions with in insight wandering around contemporary exponents, leadership and culture in a clear direction. It is a complex question why this top-down strategy, contrary to Simons' rule-based control systems, changed a lot of employees' mental models. Especially the management system influenced the direction and mental and culture models in a bureaucratic, control-

oriented way (Petropoulos, et al., 2023) even though the ten years of trying with obvious success have been a very long helmet.

Hospitals are complex organizations consisting of various departments. As a result, it can be assumed that "patterns of learning, i.e., mental models, norms, and values, can differ between organizational units within a hospital." The development of learning-oriented mental models, formulated as "continuous learning culture," introduces systematic learning processes to an organization, involving the changed behavior of employees and procedures dealing with problems. Senge articulated that these interlinked, hierarchical levels of change may all be necessary to create a continuous learning culture. This article explores the concerns mentioned above by focusing on the following research questions:
How does introducing a continuous learning culture tool (Employee Suggestion Management) at the local hospital level affect a hospital's management structure and culture? (Argote, Lee, & Park, 2021)

6. Challenges and Barriers to Organisational Learning in Healthcare

In addition, initial empirical analysis of organizational learning initiatives, which have been implemented within RΣLM has identified numerous challenges related to unsustainable research and clinical ethics processes, the establishment and standardization of learning hospitals, the provenance of data and the growing disconnect between system and data process silos (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021) In addition, initial empirical analysis of organizational learning initiatives, which have been implemented within RΣLM, has identified numerous challenges related to unsustainable research and clinical ethics processes, the establishment and standardization of learning hospitals, the provenance of data, and the growing disconnect between system and data process silos (Goula et al., 2021). Our findings suggest that a substantial technological infrastructure is in place at The Children's Hospital at Westmead to potentially support a 'Learning Health System' approach to research; yet, such an approach requires considerable integration of EMR and other data stores to optimize the goals of precision and customizability best.

(Nuño-Solinís, 2017) Traditionally, human subject research has been framed in a clinical ethics framework. Still, the tension between the pace of innovation in healthcare and existing concepts of ethical protections and procedural regulation has rendered traditional clinical research ethics less than ideal (McLachlan, 2020). More recently, there has been a push towards enabling clinical learning through electronic medical record (EMR) implementation and the advocacy of developing a 'Learning Health Systems' approach to research, which would enable formal inclusion of clinical innovation and improvement in healthcare decision-making strategies.

6.1. Resistance to Change

- The organizational assimilation process takes place in a variety of ways and under the influence of several factors, including organizational culture and traditions, disturbances related to cognitive, normative, or instrumental kind, interests these cultures champions

or defends, circumstances of individuals and groups, the dialogue and evidence consulting pattern supporting power asymmetries, degrees of centralization of power and control of organizational structures and regimes and the level of transparency and accountability of organizations as well. Planned organizational learning includes markets and potential consequences of adopting or rejecting changes, the processes of project trodden organization, and the actual business of hospitals and pathways being negotiated. When changes are not fully controversial, professionals are usually asked to deliver a series of interventions tailored to the institutional culture of the unit involved and adjust their stance to match the rhetoric of their leaders. It will be necessary to develop models for collecting various forms of AVR resistance (E Crites, C McNamara, A Akl, Scott Richardson, A Umscheid, & Nishikawa, 2009).

- Resistance to change has been treated by several approaches over the years, from being placed at the center of analyses as a psychological phenomenon to being incorporated as a procedural element of the change (R. Nilsen, Dugstad, Eide, Knudsen Gullslett, & Eide, 2016). This resistance can stem from an unhealthy institutional culture due to a lack of a learning approach. There is ample evidence of the identification of institutional cultures that have undeniably been detrimental to healthcare professionals' demonstrations of superior results of their new skill sets, research into evidence, and motivations to change their habits (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021). (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021) Cultures that abhor professional qualifications elevate power and competition among professionals, prohibit excessive expressions of charismatic successful speech, and downplay sharing modes of empowerment sufficiently have been reported. Presently, resistance to change management in organizational cultures is currently a global guillotine that can impede care recipients' potential and inflict frustration among members of the professions in all countries.

6.2. Lack of Resources and Time Constraints

Creating an Organisational Learning (OL) culture in any organization is a complicated process, especially for healthcare organizations. The many uncertainties and risks that characterize them and the constant lack of resources add an extra layer of complexity that cannot be ignored. By examining this research on the Internal and External Pressures theme with this in mind, it has become evident that several factors like Lack of Resources (LR) and Time Constraints (TC) greatly affect the successful formation of an OL culture. This agreement leads to the following recommendations: since healthcare organizations are suffering from multiple threats deriving from the cutbacks given the ongoing global financial crisis it is both suggested and reasonable for hospital managers to single out potential financial support sources (external or internal) as well as promote human resource development geared towards knowledge management, OL culture further adoption, and OL maintenance (Goula, Stamouli, Latsou, Gkioka, & Kyriakidou, 2021). Moreover, special emphasis should also be given to the materialization of the everyday, additional pressures that healthcare professionals are subject to so that a bottom-up approach, in response to the Organisational Learning's

theory (OL) suggestion, is assured since the advantages linked to the patient care and the right application of the OL practices and values, are strictly connected to my fellow health care professionals maintaining and increasing their motivation and morale. Therefore, cost-effective protocol elaborations and continuous learning data administration coordination of the hospital nursing personnel could be considered, amongst others, as well as their participation in various meetings, healthcare programs, and Continuous Medical Education activities (Harrison, M.; M. Shortell, S., 2020).

7. Strategies for Overcoming Barriers to Organisational Learning

Despite the healthcare sector being among the most important sectors worldwide, learning is often set aside for daily emergencies and twin-billion projects. The literature points out the importance of creating a learning organization culture. Most strategic-level managers do not think about it simply because they cannot perceive and experience it concretely. There are many suggested ways to develop a learning organization culture. Based on social exchanges theory, it may be wise and profitable to align the strategies to follow the strengths of innate mechanisms for learning to underline hospital educators' qualities in creating a setting for automatically promoting a culture of learning. The shared-to-achieved model as an illustration of a multilevel modifiable determinants system (M-MDS) may also guide implementers in managing learning organizations.

Building an effective learning culture within the healthcare sector allows clinicians to adapt and innovate in managing patient care (B. Alonazi, 2021). Knowledge must flow between clinicians and healthcare agents, but this does not always happen. Healthcare settings are influenced by structural indicators such as system connections, embedded systems, and teamwork. Thus, despite the recognized necessity for open communication and information sharing, the nature of healthcare settings does not always translate into an ideal climate for learning. In this context, how can obstacles be overcome and learning facilitated? Reflective journals, direct teaching, online, and interdisciplinary in-services may support learning and change; however, whether these work– and if initiatives differ between sectors is unclear.

7.1. Leadership Support and Buy-In

Moreover, Acker and Stroup suggest that researchers in the Leader-Member Exchange (LMX) tradition and in the enrichment tradition conduct further studies using safety culture (McLachlan, 2020). For instance, it could be relevant to investigate the relation and interaction between safety culture, on the one hand, and possibly construct a level of LMX quality and, on the other hand, regarding work culture enrichment and job enrichment. Furthermore, such studies would not only provide valuable descriptions of the relationship between safety culture and leadership. Still, they can also give an understanding of how daily work and leadership practices could influence the implicit safety culture of the healthcare unit. If employee participation and co-determination are more frequent according to other HR policies and structures, this could impact the level

of safety culture. Such empirical research utilizing mixed designs (combining qualitative and quantitative data) is strongly recommended.

The board members at Profmed need to obtain buy-in by participating in discussions about where the board needs to focus their efforts. For instance, the board should discuss and understand JCI's requirements and 'common areas' concerns (Sarakbi, Mensah-Abrampah, Kleine-Bingham, & B. Syed, 2021). Furthermore, the board must talk with professionals and acquire knowledge of the effects of problems on patient safety. It could be envisioned that the goal is to motivate medical staff members to report relevant patient safety incidents and problems voluntarily. The medical professional group C builds an ideal model to illustrate how Profmed as an organization could develop and learn from any adverse event and problems in patient safety. No information on the patient, except the advantages and incidents where it was closed, should be collected. A reward for patient safety incident reports could achieve the medical staff's buy-in and help open up the dialog. As a result, the medical staff could lower the reporting threshold and enhance Profmed's ability to learn and improve.

8. Ethical Considerations in Organisational Learning in Healthcare

The transformation of healthcare into a learning health system aspired to combine research and clinical practice to improve patient outcomes. Under the current healthcare delivery system, the knowledge garnered, from an increasing number of activities treated with the benefit of hindsight as 'experiments', remains largely locked in the proprietary systems of delivery organizations. The maturation of genomic, proteomic, metabolomic, and social network data expands the number, variety, and complexity of relevant variables that must be accounted for in any substantial individual nomothetic problem. This vast explosion in possibilities challenges the notion that an increasingly data-rich treatment process will also be a similarly self-improving one, and broad societal support for the perpetuity of the health industrial complex is likely to require substantive and increasingly unavailable work in showing that healthcare delivery is part of the ongoing epistemic project of learning (Sarakbi, Mensah-Abrampah, Kleine-Bingham, & B. Syed, 2021). An evidence-based approach to operational research, concerning its effectiveness, efficiency, and cost when applied at the country and organizational levels, promises to be one of the future research directions that could yield significant improvements in our healthcare delivery systems (Ni et al., 2019).

Healthcare leaders recognize the paucity of knowledge about creating and managing a learning health organization. This study addresses that gap by examining ElS characteristics of a learning health organization (LHS) and identifying the key factors affecting this goal (Harrison, M.; M. Shortell, S., 2020). A qualitative case study method with grounded theory was used to develop a deep understanding of how these characteristics grow, determine the key factors, and predict the outcomes. The learning health organization tries to use processes that are designed to support high-reliability outcomes and rapidly engage in learning, i.e., there are frequent and iterative learning cycles. It is anticipated that this study will provide essential information about the conceptual and organizational challenges to overcome in managing an LHS effectively.

8.1. Patient Privacy and Data Security

The rise of digitalization has positively impacted the availability of large electronic health record datasets from electronic health records and other clinical sources. However, this rise almost automatically leads to the inability of machines to guarantee high-quality patient care without human intervention. This is because the machine learning models learned from past healthcare data may derive patient characteristics incorrectly. The data from such sources are often from hospitals and sometimes already contain patients' identifiable information that is heavily regulated by patient consent (Ramakrishnan, Nori, Murfet, & Cameron, 2020). This requires researchers, hospitals, and insurers to guarantee encryption methods to encrypt the data stored and temporarily processed in their systems and build a contractual fabric, as done with an increasing number of hospitals and cloud storage providers, reflecting strict data protection regulations. Access to the data provided by hospitals' EHR databases must be regulated so EHR systems comply with the patient's consent.

Data management systems within the healthcare sector must be compliant with strict data protection regulations enforced by the institution that governs patient privacy and data security. The consideration of sensitive data isn't only important but necessary. Protecting sensitive personal information is inescapable for an integral individual healthcare system in which consent plays an important role. Google's (via its acquisition of DeepMind Health) deal with the Royal Free Hospital Trust highlights the healthcare sector's difficulty with data protection and contract compliance (Rehman, Naz, & Razzak, 2020). Despite the undoubtedly huge potential healthcare data holds, dealing with it isn't easy, particularly those that involve personally identifiable information. GDPR and HIPAA mandate that EHR systems be equipped with security mechanisms protecting the confidentiality, integrity and availability of personal health data.

9. Conclusion and Future Directions

By providing a direction for future research, our findings will prompt the exploration of connections between empirical health service research and organizational theories such as transaction avoids cost theory (McLachlan, 2020). Effectively functioning health services are integral to high-performing health systems and necessary for achieving higher patient outcomes that can drive service satisfaction (B. Alonazi, 2021). Sustained and adaptive management at every level is the secure foundation of strong performance. However, besides the managerial capabilities and functional strategies at the individual and team level, overall system enhancement, culture, and leadership within existing structures for healthcare configurations also critically count. There is a need to account for such variables to fill the gap between our healthcare system's current state and the required state.

The healthcare sector is currently grappling with several complex challenges, including the spread of chronic diseases and the increasing cost of care. The knowledge-driven era has made it clear that knowledge is a competitive advantage and an important resource that contributes to an organization’s performance. From a healthcare system perspective, organizational learning may be seen as the main engine that supports the

buildup of knowledge and the transformation of this knowledge into actions to improve the quality of care provided (Akhnif, Macq, Idrissi Fakhreddine, & Meessen, 2017). This has inspired recent interest in organizational learning within the healthcare sector. Regarding the focus of this paper on organizational learning in the healthcare sector, it is clear that pressing challenges demand a better alignment between available knowledge and action. Identifying the strategies that are necessary in leading healthcare organizations to develop and learn how to exploit better the knowledge they have is critical. We have distilled the current state and potential future directions for the literature examining the relationship between organizational learning and healthcare organizational and patient outcomes.

9.1. Summary of Key Findings

Secondly, while many papers have been studied with the explicit intention of explicitly focusing on health care, issues of safety or improvement, impact, contribution, and relevance for health care are seldom discussed, let alone critically cross-checked with prior research reports. Thirdly, the special issue has shown that learning spillover is experienced positively to increase knowledge-based innovation quality in health care. This spillover effect was explicitly linked to implementing (O)L models, albeit in a roundabout way. These studies are part and parcel of the continuous effort to gather multiple types of evidence needed to build a knowledge base for working with complex (O)L model heuristics. Combining these models with knowledge-based innovation supports the trend to revisit structured real-time routines in health care.

Several conclusions can be drawn from analyzing the papers on this special issue. Firstly, the concept of (O)L was utilised with a variety of interpretations and meanings, reflecting the state of the art in this wide and ambiguously defined area of knowledge.: context-free citations that typically attribute the original definition of (O)L to several references (Argyris & Schön, 1978; Senge, 1990), which incorrectly trace back the roots of the concept and also side-step a comprehensive discussion in management theory about (O)L. The topic is ripe for theoretical and methodological clarification, and it still needs to be discussed. In other words, the critical literature review showed many differences in the understanding of both the (O)L concept and the application of the (O)L framework.

9.2. Recommendations for Future Research

(B. Alonazi, 2021) Hospitals that are learning organizations have more agility in managing the rapidly occurring changes such as those brought on by the COVID-19 crisis,. To create a learning culture in hospitals, hospitals are suggested to be designed as learning organizations, which are organizations focused on the acquisition, transfer, and use of organizational knowledge. The COVID-19 pandemic has increased demands on products and services in the healthcare sectors, and significant governmental regulations have strived to manage the COVID-19 crisis. Healthcare organizations must adapt to the circumstances to manage the increasing number of incoming patients. However, most of the decisions for developing learning organizations have been taken by placing more emphasis on external environments, especially not paying much

attention to employee engagement and the social domains of learning. There are four main dimensions to conducting a more comprehensive learning culture as social and cultural dimensions as well as the technological and external environments: 1) first, organizations should focus on building connections among constitutive elements to advance or refute the context-related knowledge-based assertions automatically; 2) second, organizations should have integrative structures and work in a participatory culture to support collaborative learning not only among the members of healthcare organizations but also with the members of external organizations. Hence, it is necessary to employ social and organizational embeddedness through multi-actor knowledge in organizational mechanisms to generate valuable resources; 3) third, organizations are used to be engaged with different groups for making continuous learning with more combination of related multi-level systems to supply their context-related visions, and ideas, and skills. Employers should accordingly employ a causal recursive model to enable their employees to change and integrate their transferred knowledge. Also, it is to contribute to the formation of a good relationship or partnership with the external organizations to shed light on the important contents to promote knowledge associativity and credibility consequently; 4) finally, they needed to build learning operation competencies and to design learning roles to create between- and within individuals knowledge-based supply and demand for distributing philosophical pedagogy. From the initiative of individual members comes the critical mass for conductive and secure novelty and decision-making in organizational programs. The ultimate aim of hospitals is to integrate a better understanding of learning operation causations, whether they are system-related or structural or related to the poor development of learning atmospheres between patients and staff. Contribute to this by incorporating personalized competencies through clinical education, development, support, transfer, and learning-based clinics, as well as exploring the social haptic and tangible symbolic psychosocial 'environment-structure' practice initiatives of adaptive urban and rural management perspectives to provide strategic global health content in a boundaryless governance organization. Therefore, this paper on healthcare and community interventions and the pandemic edition can be especially informative for government authorities, nursing managers, educators, and occupational therapists.

(Rafiei, Moore, Jahromi, Hajati, & Kamaleswaran) Shortly, due to the COVID-19 pandemic, healthcare organizations faced increasing demand from current patients, considered themselves with a disability of the healthcare professional in place, and continually innovated approaches to learning. Therefore, significantly and surprisingly, organizational experts believe these intolerable and complex common dynamics of healthcare sectors are not only economically toxic but also cause deadly and depressing suffering to all people. This qualitative study presents the first investigation into the work motivators of learning in Chinese public healthcare organizations during COVID-19. To our knowledge, no earlier published investigations have given particular consideration to employees inside China's public hospitals and the COVID-19 event. The action research results, consistent with the existing literature, uncover that hospital staff are significantly driven by a competitive, supportive, and self-concordant job as

well as learning atmospheres in the changeable knowledge-sharing events. Nevertheless, patients, visitors, comparables, suppliers, information technology, multimedia strategies, public health practice professionals, and humans of different social cultures do not fully trust healthcare services and resources. Therefore, it endeavors to reveal regulations and social theories to explain online health practices, in line with investigations that specify the recommence of identifying the main intention of studying.

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