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Pediatric Intensive Care Unit nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation

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Montréal, Québec, Canada

March 2020

A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Doctor of Philosophy (Nursing)

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Acknowledgements

As the curtains are closing on my PhD journey, I would like to take this last spark of spotlight to thank all the people and financing institutions who have invested and believed in me. Your support has not only brought me this far, it has propelled me into the next steps of my research career.

Firstly, I am very grateful that Drs. Mélanie Lavoie-Tremblay (supervisor), Vasiliki Bitzas (co-supervisor), Monique Aubry (thesis committee member) and Kelley Kilpatrick (thesis committee member) accompanied me each step of the way. I thank-you all for sharing your knowledge and expertise with me and above all, for being such great role models of integrity and mentorship. Mélanie, you have always gone above and beyond to make my success a priority, and I am grateful for your organizational skills, your sense of humour and your kindness. Bessy, you were always there to help me reflect through methodological considerations and to encourage me each step of the way – I have gotten to know an exceptional thinker and person. Monique, thank-you for taking me under your project management wing and energizing me to take on new challenges in the management world. Kelley, your rigor, attentive feedback and encouragements have always lifted me up. A special thank-you as well to two mentors who have been pivotal at different points in my PhD journey, Drs. Franco Carnevale and Alfons van Marrewijk. Thank-you Franco for showing me the way into phenomenology – as you know, I do not think I will ever search for the way out! Thank-you Alfons for supervising my international internship, and showing me a different way of being a researcher. It is with deep gratitude that I think of all of you and other scholars who have enriched my knowledge, thinking, and determination. A huge thank-you to the clinical team who participated in my study, you have not only greatly contributed to my learning, you have renewed my belief in the kindness of

humanity. I would like to acknowledge as well the support from the McGill Nursing Collaborative for Education and Innovation in Patient and Family Centered Care (Newton Foundation/McGill Faculty of Medicine) and Graphos/McGill Writing Centre (Marc Ducusin) through the Writing for Publication initiative.

Secondly, I would like to thank the following funding organizations who have allotted me the precious time I needed to delve into my research study and beyond: the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

Lastly, but not least, a big thank-you to my family and friends for your encouragements, support, and understanding. Marianne Sofronas, and Raissa Santos, my PhD partners in crime, thank-you for the comic relief and holding the PhD nurse lifeline alive! Mathieu Lefebvre, my husband, for your operational as well as emotional support – I consider this our PhD ;) Evelyne Lefebvre, my daughter, thank-you for decorating my office with your drawings and for sharing with me the joys of school. A special thank-you to those who have guided and inspired my journey from above, Grand-mom (Jacqueline Beauchamp), Grand-pop (Louis Carignan), and my best friend (Melissa Dupuis). I wish you were here to see me cross the finish line.

J'aimerais dédier cet ouvrage à mes parents (Diane Carignan et Daniel Fréchette) – j'ai toujours été gênée de vous inviter à mes événements académiques, pas parce que j'avais honte de vous, au contraire, plutôt parce que j'avais honte de moi – ne croyant jamais en avoir assez fait pour vous redonner tout ce que vous méritiez. Bref, c'est seulement dernièrement que j'ai compris que vous étiez fiers de moi depuis le jour un! Merci pour tout, vous êtes mes muses!

Abstract

Background: An important growth in healthcare construction is currently witnessed across many countries and the organisations that renew their infrastructure often use this opportunity to harmonize and optimize their clinical and administrative practices. The changes that result from these projects are often complex and transformational. Research into these major hospital transformations, mega-projects that involve construction as well as quality improvement initiatives, is relatively new and the nursing perspective has yet to be studied. Nurses' perspective is essential because they are key to successful healthcare change and they represent the largest professional workforce. Moreover, changes can have a high impact on nurses' health and professional practice.

Objective: Within this major transformational context, the objective of this study was to explore pediatric intensive care unit nurses' lived experience of environmental and quality improvement changes.

Methodology: This study used a hermeneutic-phenomenological design, inspired by the works of German philosopher Heidegger, and nursing researcher Benner. The study site is a 32 single-patient bed pediatric intensive care unit in a large Canadian pediatric hospital located in an urban setting. The study participants were 15 pediatric intensive care unit nurses who experienced both the old and the new infrastructure of the unit. Data was collected over a six-month period (September 2018 – March 2019) by the candidate, under the supervision of senior qualitative researchers. Data collection methods consisted in semi-structured audio-recorded individual interviews (n=15; 58 minutes/interview), follow-up interviews (n=9; 15 minutes/interview), photographs taken by the participants (28 photographs), participant observation (91.5 hours of 24/7 observation, and 46 informal interviews in the field), and document review (142 documents

and 47 files). The hermeneutic analysis method described by Benner was used, supported by the NVivo 12 Pro software. Narrative syntheses were completed from each data collection episode. In constructing these syntheses, the candidate moved in and out of the detail of the interview transcripts, field notes, or documents in an iterative manner, asking repeatedly: How is the phenomena being revealed/veiled in this encounter? What is the meaning for the interviewee of this element in relation to the studied phenomena, and why? In this back and forth movement from part to whole (hermeneutic circle), preunderstandings are repeatedly questioned until a bridge of understanding is created between the researcher's and the participant's horizons of significance. This hermeneutic circle allowed common and divergent meanings to be extracted from the data.

Results: The study illuminated pediatric intensive care unit nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation through the heuristics of negotiation of spaces with families and erosion of their critical care identity. Nurses in this study negotiated physical and practice spaces with families by interpreting that nurses do not belong in the home-like patient room, and exhibiting gatekeeping comportments. Furthermore, the interplay between numerous changes brought about by the hospital transformation, and the unit context eroded nurses' critical care identity.

Conclusion: Major hospital transformations can have profound impacts on nurses – transforming core nursing activities and identity. Nursing managers need to support nurses through transitions to favour staff well-being, as well as the successful implementation of envisioned change. The potential richness or downfall of hospital transformations comes from intersections of changes in the physical and clinical environments, as well as the context in which these changes are situated

– highlighting the importance of planning changes together, and further investigating the challenges presented by the collision of multiple change initiatives.

Keywords: Major hospital transformation, nursing management, project management, Pediatric Intensive Care Unit nurses, hermeneutics, and interpretive phenomenology

Abrégé

Contexte : Le secteur de la construction en santé est en plein essor actuellement dans de nombreux pays. Les organisations qui renouvellent leurs infrastructures saisissent souvent cette opportunité pour harmoniser et optimiser leurs pratiques cliniques et administratives. Les changements qui résultent de ces projets sont souvent complexes et transformationnels. La recherche sur ces transformations hospitalières majeures (mégaprojets impliquant un volet de construction ainsi que des initiatives d'amélioration continue), est relativement récente et la perspective infirmière reste à être étudiée. Le point de vue des infirmières(iers) est essentiel car elles(ils) sont critiques à la réussite des changements dans les soins de santé et elles(ils) représentent le plus grand nombre de professionnels en santé. De plus, ces changements peuvent avoir un impact important sur la santé et les pratiques professionnelles des infirmières(iers).

Objectif : Dans ce contexte de transformation majeure, l'objectif de cette étude était d'explorer l'expérience vécue des infirmières(iers) d'une unité de soins intensifs pédiatriques concernant des changements environnementaux et d'amélioration continue.

Méthodologie : Cette étude a utilisé une méthodologie herméneutique-phénoménologique, inspirée des travaux du philosophe allemand Heidegger et de la chercheuse en soins infirmiers Benner. Le site d'étude est une unité de soins intensifs pédiatriques de 32 lits dans un grand hôpital pédiatrique canadien situé dans un milieu urbain. Les participantes(s) de l'étude étaient 15 infirmières(iers) de l'unité de soins intensifs pédiatrique qui ont fait l'expérience de l'ancienne et de la nouvelle infrastructure de l'unité. Les données ont été collectées sur une période de six mois (septembre 2018 - mars 2019) par la candidate, sous la supervision de chercheuses qualitatives séniores. Les méthodes de collecte des données étaient les suivantes : entretiens individuels semi-structurés audio-enregistrés (n = 15; 58 minutes / entretien), des entretiens de

suivi (n = 9; 15 minutes / entretien), des photographies prises par les participantes(s) (28 photographies), de l'observation participante (91.5 heures d'observation 24/7 et 46 entretiens informels sur le terrain), et revue documentaire (142 documents et 47 fichiers). La méthode d'analyse herméneutique décrite par Benner a été utilisée, soutenu par le logiciel NVivo 12 Pro. Des synthèses narratives ont été réalisées à partir de chaque épisode de collecte de données. En construisant ces synthèses, la candidate a analysé les détails des transcriptions d'entrevue, des notes de terrain et des documents en tenant compte de la globalité et vice versa, se questionnant à plusieurs reprises: Comment le phénomène est-il révélé / voilé dans ce contexte? Quelle est la signification pour le participant de cet élément par rapport au phénomène étudié, et pourquoi? Ce mouvement de va-et-vient d'une partie à l'autre et au tout (cercle herméneutique) permet de remettre en question les précompréhensions jusqu'à ce qu'un pont de compréhension soit créé entre les horizons de signification du chercheur et du participant. Ce cercle herméneutique a permis d'extraire des significations communes et divergentes dans les données.

Résultats : L'étude a mis en lumière l'expérience vécue par les infirmières(iers) aux soins intensifs pédiatriques concernant des changements environnementaux et d'amélioration de la qualité dans un contexte de transformation hospitalière majeure à travers l'heuristique de la négociation des espaces avec les familles et de l'érosion de leur identité de soins intensifs. Les infirmières(iers) de cette étude ont négocié les espaces physiques et de pratique avec les familles; elles (ils) n'éprouvaient pas un sentiment d'appartenance associé à la chambre devenue milieu de vie des patients et présentaient des comportements de contrôle d'accès. De plus, l'interaction entre de nombreux changements apportés par la transformation de l'hôpital et le contexte de l'unité ont érodé l'identité des soins intensifs des infirmières(iers).

Conclusion : Les transformations hospitalières majeures peuvent avoir de profonds impacts sur les infirmières(iers) – transformant les activités infirmières essentielles et leur identité. Les gestionnaires en soins infirmiers doivent soutenir les infirmières(iers) pendant les transitions afin de favoriser le bien-être du personnel, ainsi que la mise en œuvre réussie d'un changement envisagé. La réussite potentielle ou l'échec des transformations hospitalières provient des intersections entre les changements dans les environnements physiques et cliniques, ainsi que du contexte dans lequel ces changements se situent – soulignant l'importance de planifier les changements ensemble, et d'une évaluation plus approfondie des défis présentés par la collision d'initiatives de changement multiples.

Mots-clés : Transformation hospitalière majeure, gestion infirmière, gestion de projet, infirmières (iers) de soins intensifs pédiatriques, herméneutique et phénoménologie interprétative

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Preface

Thesis Format

A manuscript-based style was selected for this thesis, as the presentation of the doctoral research project lent itself best to this format, and the candidate desired to improve their manuscript-writing skills for her future research career. The candidate's thesis supervisors and committee, Drs. Mélanie Lavoie-Tremblay (supervisor), Vasiliki Bitzas (co-supervisor), Monique Aubry (thesis committee member) and Kelley Kilpatrick (thesis committee member), are in agreement with the format. Furthermore, the format follows the requirements of Library and Archives Canada, as described by McGill University's Graduate and Postdoctoral studies.

The thesis is composed of five chapters and four manuscripts – brief bridging sections are used to unify the different elements of the thesis together. Following is an overview of the thesis structure:

- *Chapter I: Introduction* – This chapter presents the context in which the research project is situated. The constantly transforming healthcare system, and the key role point-of-care nurses play in healthcare change is highlighted. Moreover, the candidate presents their horizon of significance – what orients them phenomenologically to the research project.
- *Chapter II: Literature Review* – Through *Manuscript 1: Major Hospital Transformations: An Integrative Review and Implications for Nursing*, the second chapter brings to the fore the current state of knowledge about major hospital transformations (transformative healthcare projects involving construction and quality improvement dimensions). This manuscript shows how a flagrant knowledge gap exists concerning point-of-care nurses' perspective of major hospital transformations. Additionally, this chapter presents the scholarly literature concerning change management more generally,

nurses' lived experience, and the pediatric intensive care unit (PICU) more specifically. From the knowledge gaps identified, Chapter II ends with the research objective and questions – to explore PICU nurses' lived experience of a major hospital transformation.

- *Chapter III: Methodology* – This chapter presents the interpretive phenomenological design selected and associated methods. It begins with a detailed description of the setting, followed by *Manuscript 2 – Capturing lived experience: methodological considerations for interpretive phenomenological inquiry*. This manuscript uncovers methodological considerations for leading an interpretive phenomenological study; the doctoral study is used as an exemplar to illustrate these. This chapter closes with a more specific presentation of how research rigour and ethical considerations were upheld in the doctoral work.
- *Chapter IV: Results* – This chapter presents two manuscripts revealing the main findings concerning PICU nurses' lived experience of a major hospital transformation: *Manuscript 3 – When the pediatric intensive care unit becomes home: A hermeneutic-phenomenological study*, and *Manuscript 4 – A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: lessons learned for managers*. The major hospital transformation under study placed families at the center, and Manuscript 3 describes how PICU nurses experience both pride and prejudice concerning family nursing in their new setting – situating these two modes of being within a larger process of negotiating physical and clinical spaces with families. Manuscript 4 for its part, shows how the new configuration of the unit following the major hospital transformation, and changes to admission criteria, in conjunction with contextual variables, eroded nurses critical care identity.

- *Chapter V: Implications, limitations and future research* – This chapter summarizes key research findings and their significance for the phenomenon of major hospital transformations. Implications for nursing practice, education, research and management are discussed, as well as future avenues of research and limitations of the study.

Throughout these chapters, the original methodological, substantive, and practical contributions of the thesis are brought to light.

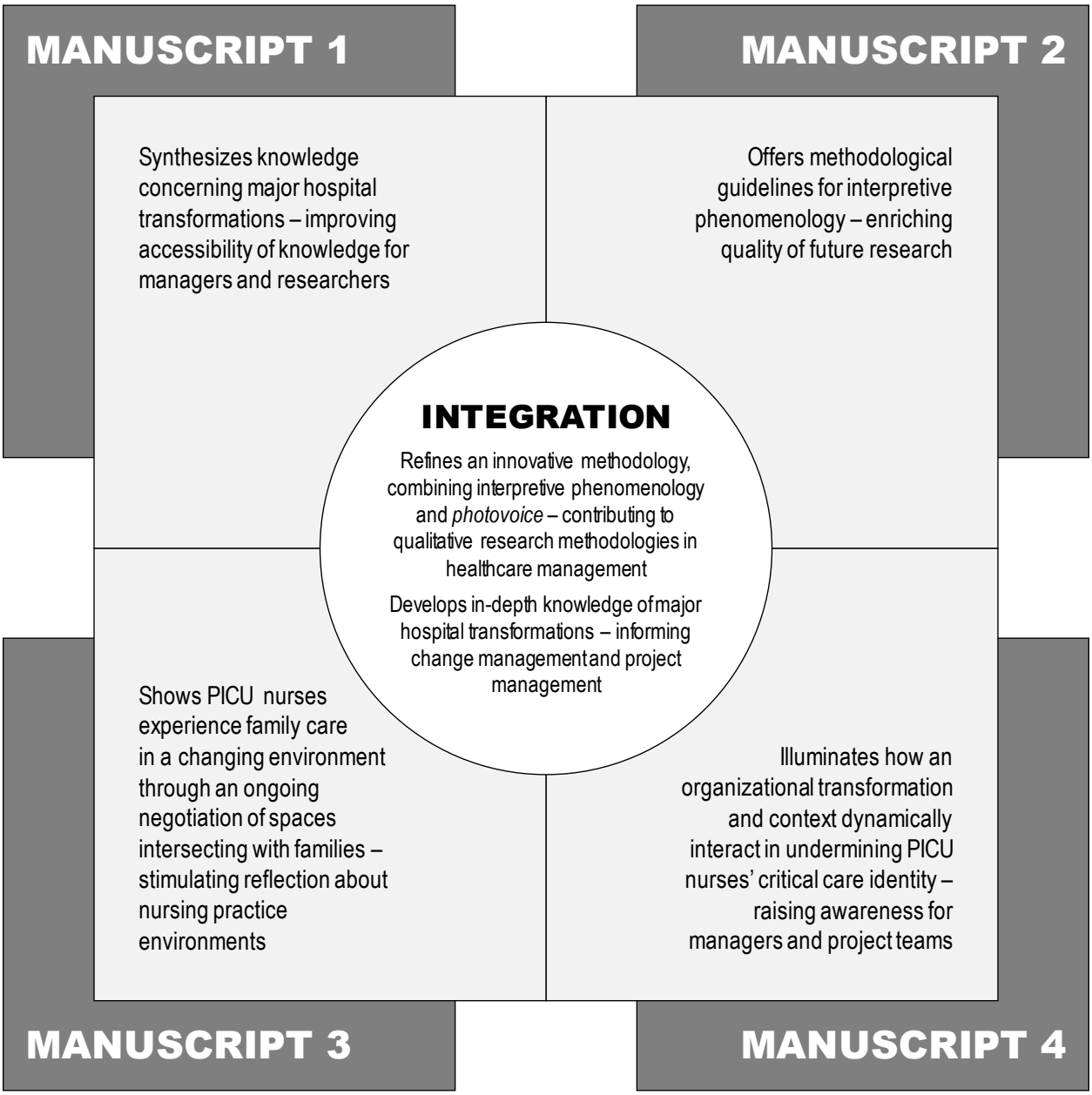
Contributions of Authors

The candidate assumed leadership for the conception and design of the study, acquisition of data, analysis and interpretation of data, as well as the drafting of the manuscripts and thesis. The candidate's thesis supervisors and committee members, Drs. Mélanie Lavoie-Tremblay (supervisor), Vasiliki Bitzas (co-supervisor), Monique Aubry (thesis committee member) and Kelley Kilpatrick (thesis committee member), ensured supervision and guidance of the conception and design of the study, acquisition of data, analysis and interpretation of data. The candidate, their supervisors and thesis committee members all revised the thesis critically for important intellectual content, and approved the version to be submitted.

Original Contributions of the Thesis

This thesis makes original methodological, substantive, and practical contributions to the field of nursing management and research. Figure 1 summarizes the original contributions of the thesis through its four constitutive manuscripts and their integration. The following section will highlight the main contributions of each manuscript.

Figure 1 – Main Contributions of the Thesis



Manuscript 1 – Major Hospital Transformations: An Integrative Review and Implications for Nursing

Major hospital transformations are hospital projects that combine construction and quality improvement dimensions. A huge number of major hospital transformation projects are being undertaken internationally. No known review previously explored major hospital transformations, which undermines the accessibility of knowledge to healthcare leaders. This integrative review synthesizes current knowledge concerning major hospital transformations, contributing to orienting future management practices and research avenues. For managers and researchers, this manuscript raises awareness concerning the challenging context surrounding major hospital transformations, as well as the key role project management offices play in supporting organizations undergoing major change. This review highlights how point-of-care nurses, who make-or-break healthcare change, are missing from current research into major hospital transformations – a flagrant knowledge gap. This integrative review provides substantive (i.e., nurses and patients' perspectives) and methodological (i.e., phenomenology) avenues for future research.

Manuscript 2 – Capturing lived experience: methodological considerations for interpretive phenomenological inquiry

Although phenomenology, as a research methodology, originates from a philosophical tradition, philosophical understandings are often loosely applied in interpretive phenomenological research. Moreover, few scholarly works provide methodological guidelines for phenomenological research. This manuscript offers a detailed articulation of how research methods can be developed in coherence with the interpretive phenomenological philosophical tradition. It brings to the fore elements of interpretive phenomenology that stimulate researchers'

reflection concerning their being-in-the-world, their horizon of significance and their embodiment – for enhanced reflexivity and presence.

Manuscript 3 – When the pediatric intensive care unit becomes home: A hermeneutic-phenomenological study

Family-centered nursing care is recognized as the gold standard in pediatrics. Family-centered care is difficult to implement in PICUs. Unit designs impact healthcare professionals' ability to offer family-centered care. This manuscript illuminates PICU nurses' experience of nursing in a new environment that has been designed with a vision for parent-partnership in care. In this setting, PICU nurses experience the provision of family care following a major hospital transformation through the lens of pride and prejudice and an ongoing negotiation of spaces (physical, practice, etc.) intersecting with families. This manuscript shows that changing physical environments alone is insufficient to transform nursing practice.

Manuscript 4 – A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: lessons learned for managers

Nursing professional identity combines elements of the self, the role and the context; it has been linked with improved retention of nurses, as well as the provision of quality care. Organizational change challenges professional identity. This manuscript illuminates how elements of an organizational transformation and context dynamically interact in undermining nurses' critical care identity. It fills an important gap in research concerning the challenges brought about by the intersection between multiple changes. Furthermore, this manuscript highlights how nursing professional identity, and potential interactions between multiple projects and the unit context, need to be considered early on during project planning. Lessons learned can be drawn from this manuscript's findings for healthcare researchers and managers: 1) projects

cannot be evaluated in isolation, 2) physical environment influences nursing staffing, and 3) identity transitions need to be managed.

Integration

The innovative methodology presented in this study, combining interpretive phenomenology and photovoice, contributes to building on the knowledge of qualitative research methodologies in healthcare management. Few studies use an interpretive phenomenological lens to explore the lived experience of project work and this provides an innovative way to uncover management phenomena. The methodology was honed in this study, and paves the way to future research uncovering the voice of other hospital users, including patients and families (who were excluded from this first study as the "testing" of the methodology represented greater inconvenience or risk for patients and families as the research process may be compounded with lower energy levels due to severe illness or trauma (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2014)).

This study also filled an important gap in knowledge about major hospital transformations – to our knowledge the perspective of point-of-care nurses had never been explored. That being said, "What does the nursing perspective add to knowledge of major hospital transformations*?"* Firstly, this study demonstrates how profoundly the impacts of a major hospital transformation are felt by nurses – transforming nursing core practices and identity. This finding reinforces the need to support nurses post-project implementation, justifying budgets for providing extra resources to help with the transition (i.e. can take the form of prolonging the mandate of the project management office with dedicated nursing resources, or decentralizing expert nursing resources to the clinical units to support nurses in transforming

their practice). Also, from an ethical perspective, this study highlights how project managers have a role to play in challenging projects that do not have as much added-value for the potential implications – human dimensions need to be given more weight if sustainable change is to occur. This study suggests that when certain human dimensions are not given as much credit, the potential downfalls can be dire (i.e., shortage of nurses, nursing practice that is misaligned with vision, etc.). Undeniably, human dimensions cannot always take precedence in decision-making, sometimes anticipated human consequences will be unavoidable to reach a certain vision – what this study calls for is a more balanced decision-making matrix where human, economic and other dimensions are given equal power/weight.

Secondly, this study showed that the potential richness or downfall of hospital transformations comes from the intersections of changes in the physical and clinical environments, as well as the context in which these changes are situated. For example, the new configuration of the PICU mixed with changes to admission criteria and a shortage of nurses all played into the erosion of nurses' critical care identity. Furthermore, the new design of the patient rooms that allotted more physical space for parents was insufficient alone to change the vision of care to parent-partnership. These findings suggest that healthcare project management and change management need to consider projects or changes as groupings (i.e., portfolios) within a particular context. On the one hand, project teams must consider interactions of multiple changes and the context to identify risks. On the other hand, multiple projects must be aligned with a same vision to create a synergy and an actual change in care. Major hospital transformations can be considered as filled with opportunity as each change can be used as a springboard to activate other changes, creating a ripple effect. Ultimately, these healthcare project and change management considerations will allow for a more efficient use of project

budgets – targeting projects that will lead to witnessable changes in the clinical setting, and ultimately to improved care.

Chapter I. Introduction

This chapter will present an overview of the context in which the doctoral work is situated. The dynamic state of the healthcare system and the key role point-of-care nurses play in healthcare change will be called to attention. Moreover, the candidate's horizon of significance will be introduced.

In recent years, an important growth in healthcare construction has been witnessed in many countries and especially in Canada (Adam, Lindahl, & Leiringer, 2019; Russell, 2018). The public healthcare system in Canada is under provincial jurisdiction and during 2008-2018, the Quebec Government invested massively, over CDN$10 billion, in infrastructure renewal (Lavoie-Tremblay, Aubry, Richer, & Cyr, 2018). The major hospital transformations that result from these investments, extend "… well beyond the dimensions of a typical brick-and-mortar project…[, as their] main concern is harmonization and optimization of clinical and administrative practices" (Aubry, Richer, Lavoie-Tremblay, & Cyr, 2011, p. 66). The changes that result from these projects are complex and multidisciplinary (Aubry, Richer, & Lavoie-Tremblay, 2014; Lavoie-Tremblay et al., 2017).

In response to the complexity and the size of these changes, the discipline of project management has recently flourished in healthcare (Chiocchio, Rabbat, & Lebel, 2015; Lavoie-Tremblay et al., 2012b; Obradovic, Jovanovic, Djordjevic, Beric, & Jovanovic, 2012; Stanley, Malone, & Shields, 2016). Project management refers to a set of tools and techniques that supports the accomplishment of projects (Blomquist, Hällgren, Nilsson, & Söderholm, 2010; Project Management Institute, 2017). While the definition of a project continues to be an object of debate within the scholarly community, agreement exists on three of its characteristics: "temporary, complex [and] interdisciplinary" (Söderlund, 2011, p. 165). The complexity inherent

to project work is amplified by the complexity of the healthcare system itself (Lavoie-Tremblay et al., 2018). Indeed, healthcare is marked by a variety of stakeholders (politicians, professionals, patients, etc.) in relationships characterized by power differentials and pluralistic perspectives and values (patient care, cost containment, etc.) (Denis, Dompierre, Langley, & Rouleau, 2011; Denis, Lamothe, & Langley, 2001). Tensions are inherent to a system like this, or a "professional bureaucracy" as coined by Mintzberg (1979), since administrations' need for control will inevitably clash with professionals' need for autonomy (Mintzberg, 1979). Rouse and Serban (2014) suggest the healthcare system is a *complex adaptive system*, meaning the intricate webs of intelligent actors within this system, have a high capacity to change and self-organize. Management and project management present numerous challenges in these systems, as a complex adaptive system continually redesigns itself (Rouse & Serban, 2014) – in other words, it represents a moving target. Whereas the complexity of the healthcare system makes it a rich setting to examine project management (Fiondella, Macchioni, Maffei, & Spanò, 2016; Sapountzis, Yates, Kagioglou, & Aouad, 2009), it is largely understudied in healthcare (Aubry et al., 2011; Lavoie-Tremblay et al., 2017; Pohjola, Suhonen, Mattila, & Meretoja, 2016). This is particularly true in the context of major hospital transformation projects, where only a few research studies have been conducted (n=13; see Manuscript 1 for more details).

A major hospital transformation is defined as a radical organizational change involving construction and quality improvement projects (Lavoie-Tremblay et al., 2012b; Richer, Marchionni, Lavoie-Tremblay, & Aubry, 2013b). Overall, it represents an integrative project, with multiple facets in dynamic interplay, including the physical environment, as well as human and technological dimensions. Hospitals undergoing major change and their staff have a great opportunity to reinvent themselves in order to provide better care, but this road is fraught with

many challenges (Lavoie-Tremblay et al., 2012b). Resistance to change, limited resources and increased information needs are some of the difficulties these organisations face (Aubry et al., 2011; Lavoie-Tremblay et al., 2012b; Richer, Dawes, & Marchionni, 2013a). One structure that has been helpful in supporting organizations in this context is the project management office (PMO) (Aubry & Lavoie-Tremblay, 2018; Lavoie-Tremblay et al., 2017; Lavoie-Tremblay et al., 2018; Lavoie-Tremblay et al., 2012a; Lavoie-Tremblay et al., 2012b); the PMO offers many services including change and project management expertise (Lavoie-Tremblay et al., 2012b). Whereas healthcare transformations involve a variety of stakeholders with pluralistic viewpoints (Aubry et al., 2011), the emergent literature has focused almost exclusively on management and project management perspectives. Only one retrieved study by Slosberg, Nejati, and Evans (2018) investigated employees, including nurses, going through a major hospital transformation; the authors reported a link between employee engagement and project success. Clinical nurses, who are leaders in healthcare change and who are highly impacted by projects, are mostly absent from the literature on major hospital transformations.

Nurses' experience with projects shows how these can be transformational for them (Fridman & Frederickson, 2014) and supports the need for more in-depth research into their lived experience of projects and environmental changes. Lived experience research provides a great opportunity to uncover not only the descriptive experience of a phenomenon, but the meanings that these hold for individuals. In their study of nurses' lived experience of an intensive care unit (ICU) environment, Olausson, Ekebergh, and Österberg (2014) illuminated how nurses navigate in emotionally charged clinical environments that hold special meaning for them, like a sense of a broken promise towards their patients. These authors recommend "further research to highlight the quality of physical environment and its impact on caring practice"

(Olausson et al., 2014, p. 126). Major hospital transformations, projects that involve both construction and quality improvement dimensions, present a unique opportunity to explore physical environment and quality improvement changes at the same time. These types of inquiries are particularly warranted as an important research gap concerns "the interconnectedness between the different types of change and the unique challenges these junctions represent" (Tucker, Hendy, & Barlow, 2014, p. 970). In this doctoral study, the pediatric intensive care unit (PICU) of a hospital, in an urban Canadian city, having undergone a major transformation in 2016 was selected, since nurses in this unit experienced a variety of changes and the PICU offers a rich setting to study lived experience.

Nursing in the PICU strongly elicits technological, as well as existential dimensions of practice. The suffering and death of children that nurses witness, along with the support they provide to distressed families, makes it an emotionally charged environment. Despite this existential reality, no known studies have examined PICU nurses' lived experience of practice and environmental changes. Environmental studies in the PICU have focused on functional aspects, such as noise (Disher et al., 2017; Kudchadkar, Beers, Ascenzi, Jastaniah, & Punjabi, 2016; Morrison, Haas, Shaffner, Garrett, & Fackler, 2003; Watson et al., 2015) and light (Kudchadkar et al., 2016), that fall short of the rich meanings PICU environments can have for nurses. Moreover, quality improvement projects in the PICU mostly focus on patient outcomes (Alfares et al., 2016; Caffin, Linton, & Pellegrini, 2007; Dreyfus, Javouhey, Denis, Touzet, & Bordet, 2017; Duyndam et al., 2019; Gaillard-Le Roux et al., 2017; Hui Ping Kirk, Sok Peng Ng, Noi Lee, Ang, & Lee, 2015; Lopez et al., 2019; Neunhoeffer et al., 2015; Roumeliotis et al., 2018; Rowe, McCarty, & Huett, 2018; Spazzapan, Vijayakumar, & Stewart, 2019; Stinson et al., 2019).

In sum, since research into major hospital transformations (mega-projects including construction and quality improvement components) is relatively new, the nursing perspective has not yet been studied. Nurses' perspective is essential because they are key to healthcare change and they represent the largest professional workforce. Moreover, hospital changes can have a high impact on nurses' practice and health, ultimately affecting patient and family care. In order to keep nurses motivated to change and emotionally healthy, it is important to look at their experience of change and the meanings nurses attribute to projects. A promising context to study these changes is a major hospital transformation since they provide project-rich environments where a variety of changes are experienced. Within this transformational context, this study will examine more specifically the lived experience of PICU nurses since they experienced the most changes to their environment in the studied organization and their practice holds a rich existential dimension. In order to explore this existential dimension of PICU nurses' lived experience of environmental and practice changes, an interpretive phenomenological mode of inquiry will be privileged (Benner, 1994; Heidegger, 1927). Since this type of inquiry requires interpretation and introspection on the part of the researcher (Benner, 1994), an introduction to my interpretive lens will be presented. This lens is presented early on, as it provides the intentionality, or directionality, for the entire research process (literature review, objectives, methods, etc.).

My horizon of significance

Heidegger (1927) wrote about forestructures of understanding which represent the ideas and embodied experiences that we bring with us to a situation. Gadamer (1975) and Taylor (1991) took this concept further by identifying these forestructures as formative of a backdrop or "horizon of significance" from which we can attribute meaning to a new situation. According to interpretive phenomenological tradition, a pre-suppositionless stance is not possible (McManus

Holroyd, 2007; Moran, 2000), nor desired since it is this "horizon" which allows the bridging of new understandings (Frechette & Carnevale, 2019; Gadamer, 1976). This will be further elaborated in Chapter III and was introduced here to present myself as a principal researcher and my horizon of significance.

My name is Julie Fréchette and I am a doctoral candidate in nursing at McGill University. I have an educational background in nursing and management, and professional experience as a nurse clinician as well as a healthcare manager. My horizon of significance is always evolving and comprised of a multitude of past moments, present living and anticipations of the future. A selection of two key personal stories that inspire my work on this project will be shared.

Following the most recent healthcare reform, I was appointed to a *Conseillère Cadre* position (also known as Clinical Nurse Specialist in other jurisdictions) in one Integrated University Centre for Health and Social Services. This role consisted in the supervision of nursing educators in medicine, oncology and wound care, as well as the management of nursing harmonization projects across the different organizational sites (post-merger). I had a meeting with educators every month and I kept hearing that the nursing teams were tired, overworked, often short-staffed and could not handle one more project at this time. I remember the collective frustration the nursing educators and myself expressed at having to implement top-down projects, which were often poorly adapted to the reality of nurses, in a context where nurses were not in the best condition for change. The continual confrontation of my personal and professional values left me feeling angry, sad and bitter, with a profound lack of meaningfulness in the work I accomplished. This experience made me wonder, on numerous occasions, how bedside nurses lived the changes that were imposed on them, not only in their practice, but on an existential level. What kept that little fire going inside them for nursing, or did it die out altogether?

Nursing has more than a pathophysiological or health focus; it is centered on a relational connection with human beings. Compromising nursing care not only means poor physical and psychological outcomes for patients and families, it also means loss of connections that can be transformational. When I gave birth to my daughter Evelyne, I contracted an infection that was transmitted via the placenta to my baby. This meant that for a week following delivery, Evelyne and I had to receive antibiotics, but more importantly this meant that the stress level for the new family was at its peak. I remember a particularly bad day when breastfeeding wasn't working, Evelyne had to be pricked numerous times for testing, and I felt like a total failure. I was crying incessantly and my husband, feeling at a loss, called the nurse for help and when she came in, she sat by my bed, rubbed my head gently and soothed me with comforting words. This moment was pivotal for me. As irrational as it may seem, after this nursing intervention, I felt I could handle being a mother after all. All this to say, I believe there is a strong existential aspect to the work of nurses that makes nursing what it is; Dreyfus (1994, p. x) purports that "only by combining both technological and existential skills can we approach healing the embodied person". Frechette and Carnevale (2019) suggest nurses must create a space within themselves that allows delving into the human experience and suffering. I would add that this emotional plunge into human suffering can be draining for nurses and that work environments must be resourcing places, so nurses do not become depleted. When healthcare organizations are transformed, how do we make sure we create resourcing places and that practice changes do not destroy the existential dimension of nursing?

In summary, the proposed study fits in an emergent trend in project studies that calls for a paradigmatic shift from positivism to interpretive and emancipatory perspectives in order to better respond to the complex and social nature of projects (Geraldi & Soderlund, 2018; Padalkar

& Gopinath, 2016). In these emancipatory project studies, projects are conceptualized "as contemporary phenomena, temporary with legacies that transform organisations and society, but are also the contexts for social interactions, prone towards controversies but also reconciliations" (Geraldi & Soderlund, 2018, p. 61). This definition reflects the complex and pluralistic nature of major transformation projects in healthcare.

Preface to Chapter II

Chapter II will present the relevant literature concerning the topic at hand: PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation. Firstly, an integrative review of the literature concerning major hospital transformations will be presented (***manuscript 1*** - *Major Hospital Transformations: An Integrative Review and Implications for Nursing*). This manuscript is published in the Journal of Nursing Education and Practice. This manuscript covers the approach to the literature review, as well as the resulting findings – it highlights the flagrant absence of point-of-care nurses' perspective concerning major hospital transformations. A perspective that is direly needed, as point-of-care nurses are powerful activators of change within healthcare. Secondly, literature on change management more generally, lived experience of nurses and more specifically PICU nurses will be presented. Environmental and quality improvement projects will be the primary focus when addressing the nursing literature. Thirdly, Chapter II will end with the study objective and research questions that flow from the research gaps illuminated in this chapter.

Chapter II. Literature Review

Manuscript 1 - Major Hospital Transformations: An Integrative Review and Implications for Nursing

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Acknowledgements: The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

Conflict of interest: The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Reference: Frechette, J., Lavoie-Tremblay, M., Aubry, M., Kilpatrick, K., & Bitzas, V. (2020). Major Hospital Transformations: An Integrative Review and Implications for Nursing. *Journal of Nursing Education and Practice. 10*(3). doi:10.5430/jnep.v10n7p46

Abstract

Major hospital transformations, hospital projects that combine construction and quality improvement dimensions, are booming around the globe. These costly endeavours have the potential to revolutionize healthcare, yet no known review explores this phenomenon, undermining accessibility of knowledge for healthcare leaders. In order to provide guidance on healthcare project management and on future research avenues, this article aims to synthesize empirical knowledge concerning major hospital transformations and their implications for nursing. An integrative review of the literature using the systematic approach described by Whittemore and Knafl was selected. As major hospital transformations represent a new area of research, the review includes 13 articles out of 116 retrieved for screening. The search strategy included the following electronic databases: CINAHL, MEDLINE, and Business Source Complete. Three main themes emerged from the data: the challenging context of major hospital transformations, the project management office as a key to successful healthcare change, and the absence of certain stakeholders' voices. Major hospital transformations are important to study holistically as multi-change initiatives cannot be understood through investigating individual changes alone. Healthcare leaders are called to reflect on their governance structures during organisational transformations, as well as on the inclusion and exclusion of certain stakeholders who are essential to making sustainable change.

Keywords: *Major hospital transformation, healthcare change, project management office, & integrative literature review*

1. Introduction

A construction boom in healthcare is currently felt around the world, with massive public and private financial investment in infrastructure renewal.[1-3] The major hospital transformations that result from these investments extend "well beyond the dimensions of a typical brick-and-mortar project…[, as their] main concern is harmonization and optimization of clinical and administrative practices".[4] A major hospital transformation project is defined as the construction of new physical environments in a hospital setting, combined with multiple improvement projects.[1, 5] Although the most visible changes in these transformations are the new buildings or units, multiple projects are occurring simultaneously in different spheres of hospital functioning, including and not limited to technology, clinical practice, administrative processes, team dynamics, organisational culture, etc.[4] Tucker, Hendy, et al.[6] highlight the importance of research into the interconnectedness between healthcare infrastructure and work redesign, as the junction between these different projects creates unique challenges. The changes that result from these major transformation projects are complex and multidisciplinary.[3, 7]

Moreover, the complexity inherent to these projects is amplified by the complexity of the healthcare system itself.[8] Indeed, healthcare is marked by a variety of stakeholders (administrators, nurses, patients, etc.) in relationships characterized by power differentials and pluralistic perspectives and values (patient care, cost containment, etc.).[9, 10] Tensions are inherent in a system like this, or a *professional bureaucracy* as coined by Mintzberg,[11] since administrators' need for control will inevitably clash with clinicians' need for autonomy.[11] Rouse and Serban[12] suggest that the healthcare system is a *complex adaptive system*, meaning that the intricate webs of intelligent actors within this system have a high capacity to change and self-organise. The healthcare system makes for a very rich setting to study project management

in all its complexity, especially in the context of major hospital transformations. To date, no known review has explored the phenomenon of major hospital transformations. In order to provide guidance for healthcare leaders on project management and future research avenues, this integrative review aims to synthesize empirical knowledge concerning major hospital transformations and the role occupied by nurses in these complex changes.

2. Methods

An integrative review of major hospital transformations was conducted using the method described by Whittemore and Knafl[13] and further explicated by Carvalho, Silva, et al.[14]. This type of knowledge synthesis is composed of five steps: problem identification, literature search, data evaluation, data analysis and presentation.[13] An integrative review is ideal to "capture the depth and breadth of the topic" and in this way, identify gaps in knowledge that require further research.[15]

Problem identification. The topic of a major hospital transformation is defined as a project with both construction and quality improvement dimensions in a hospital setting.[1, 4, 5] Therefore, the inclusion criteria are as follow: 1) Empirical studies using quantitative, qualitative or mixed methods designs, as all these types of studies can enrich understanding of the topic,[16] 2) Hospital setting including hospital, acute, secondary and tertiary care facilities, 3) Change at the organisational level that includes both construction and other projects, and 4) English and French.

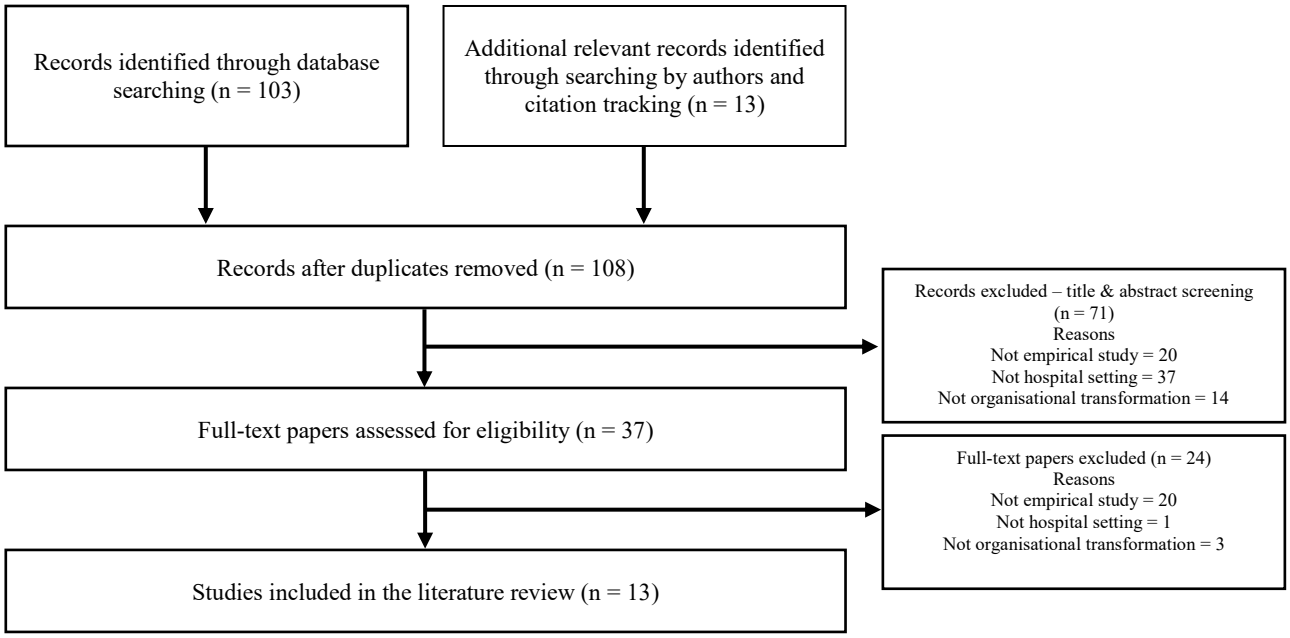
Literature search. Since major hospital transformations constitute an emerging area of research, the works of two experts in healthcare project management, Dr. Lavoie-Tremblay and Dr. Aubry, were first consulted to identify relevant medical subject heading (MeSH) terms and keywords. The search strategy included *Hospital Design and Construction*, *Facility Design and*

Construction, and *Interior Design and Furnishings* as main headings, as well as the following keywords: evidence-based design, transformation, hospital and construction. A healthcare librarian validated the search strategy and the following types of information sources:

- *Electronic Databases.* CINAHL Plus with Full Text, Ovid MEDLINE® and In-Process & Other Non-Indexed Citations 1996-, and Business Source Complete (1886 - present).
- *Citation Tracking*. Forward reference searching and backward reference searching were conducted through ISI Web of Science (when the article was indexed) or manual backward reference searching for other articles.

The initial search yielded 116 articles (see **Figure 1**); these were retrieved into EndNote and the duplicates removed using the method described by Bramer, Giustini, et al.[17]

Figure 1. PRISMA Flow diagram based on the review of major hospital transformations



Data evaluation, analysis and presentation. Data was extracted concerning the methodology, the participants, the setting, and the main results in relation to major hospital transformations (See **Table 1**). The quality of the selected studies was evaluated using the Mixed Methods Appraisal Tool (MMAT).[18-20] The MMAT was selected because it is a reliable tool which allows the evaluation of the methodological quality of qualitative, quantitative and mixed methods studies.[18-20] Quality scores are presented through four descriptors (low quality-high quality; *-****).[20] Thematic analysis, according to the method proposed by Miles and Huberman[21] and further described by Langley[22], was chosen to synthesize common and divergent themes. The key findings from the included studies were synthesized (data reduction step) and presented in a tabular form (See **Table 1**; data display step).[21, 22] Themes were generated inductively through a back-and-forth movement from the synthesized data to emerging themes, until the themes did not significantly change (conclusion drawing and verification step).[21, 22]

Table 1. Major hospital transformation studies

First Author/ Discipline	**Year/ Country**	**Methodology**	**Sample**	**Setting undergoing major transformation**	**Main results**	**Quality Score[1]**
Bareil / Change management	2007/ Canada	Cross-sectional	321 employees and physicians	One large Quebec (Canada) hospital	▪ Each change (structural reorganisation, new physical environment, and technological change) creates a distinct level of discomfort ▪ Situational pattern (change-dependent) of discomfort with change is higher than the dispositional pattern (individual-dependent) – regardless of occupational group	***
Aubry / Project Management	2011/ Canada	Single-case study	22 executive board partners and TSO[2] members	One Quebec (Canada) university-teaching hospital	▪ TSO (Transition support offices) members feel more strongly about human relations while executive board	****

					partners value more strongly rational goals ▪ Barriers to change include hierarchical and practice cultures	
Lavoie-Tremblay, Bonneville-Roussy / Nursing	2012 / Canada	Single-case study	24 project team members (ambulatory) and TSO members	One Canadian university-teaching hospital	▪ TSO contributes to project success ▪ TSO provides structure and expert guidance, leading to better control of the change process ▪ TSO supports goal-setting and prioritization	****
Lavoie-Tremblay, Richer / Nursing	2012 / Canada	Single-case study	38 project team and PMO members	One Canadian university-teaching hospital	▪ PMO's (Project management offices) role as providing expertise and support for evidence, change management, project management, and evaluation ▪ PMO team members are recognized for their expertise, their energy, their ability to keep projects on track, their credibility and their neutrality ▪ PMO support as essential for practice change based on evidence – meaning better and safer care for patients	***
Richer, Dawes / Nursing	2013 / Canada	Single-case study	11 senior managers	McGill University Health Center (MUHC), one Quebec (Canada) university-teaching hospital	▪ Usefulness of using evidence to guide change ▪ Barriers to using evidence include efforts to retrieve and analyse it, accessibility and validity of information ▪ Accountability and commitment as important characteristics of leaders in a transformation	***
Richer / Nursing	2013 / Canada	Single-case study	N/A Document review (37 project charters)	McGill University Health Center (MUHC), one Quebec (Canada) university-teaching hospital	Three-fold project typology: 1. *Practice* projects refer to harmonization of clinical practices 2. *People* projects involve the consolidation of teams 3. *Process* projects aim to improve efficiency and effectiveness of processes surrounding care	**

Aubry / Project Management	2014/ Canada	Single-case study (T1-T2) Participatory action research	*T1* 22 executive committee Partners and TSO members *T2* 23 executive committee Partners and TSO members	One university-teaching hospital	▪ TSO has the mandate to support the transformation (move from multiple healthcare centres to two sites) ▪ At T2, TSO's role in creating partnerships and in promoting innovation was more recognized	****
Tucker / Organisational Studies & Human Resources	2014 / USA, Canada & UK	Multiple-case studies (3)	155 senior managers, middle managers, and frontline staff	Three 300-500 bed hospitals (moved from multi-bed to all-single-bed configuration)	▪ Work practice redesign creates cognitive overload ▪ Infrastructure vs. work practice redesign are managed differently ▪ Main benefit of simultaneously redesigning infrastructure and work practices is that processes which would not have been plausible before can be designed into the new facility ▪ Employees need to understand the reasons for design decisions in order for work redesign to occur	***
Klag / Management	2016 / Canada	Single-case study (theoretical & experiential account)	2 authors (managers within the TSO)	McGill University Health Center (MUHC), one Quebec (Canada) university-teaching hospital	▪ Information brokerage at all TSO levels optimized information flow between different stakeholders ▪ Information brokerage as a way to reduce uncertainty and ambiguity ▪ Information brokerage contributed to effectiveness and efficiency of change	*
Lavoie-Tremblay / Nursing	2017 / Canada	Multiple-case studies (3)	34 senior managers	Three Quebec university-teaching hospitals	▪ Challenges faced were resistance to change, different organisational cultures and juggling project and operational work ▪ PMO support improved effectiveness, efficiency and simplified practices, resulting in patient benefits	****

Aubry / Project Management	2018/ Canada	Multiple-case studies (3)	64 senior managers and PMO employees	Three Quebec (Canada) university-teaching hospitals	▪ Cases differed in PMO roles and trajectory of PMO designs over time ▪ PMOs across the three cases were people-oriented and supportive of change	***
Lavoie-Tremblay / Nursing	2018 / Canada	Single-case study	7 PMO clients and PMO team members	One Canadian university-teaching hospital (major transformation had passed)	Four PMO strategies aimed at fostering project sustainability: 1. develop a support model and provide project guidance 2. develop and provide tools and methods geared towards continuity 3. Provide or offer training, teaching, particularly in project management 4. Introduce and use communication and collaboration methods	****
Slosberg / Management	2018 / USA	Quantitative survey (four pulse-points)	544 employees (emergency department and neonatal intensive care unit)	Akron Children's Hospital, one pediatric healthcare provider, Ohio (USA) (including two hospitals and 60 service locations)	▪ Preparedness to work in the new environment was significantly higher after the move than before the move ▪ Level of involvement in the new design was a significant predictor of level of knowledge of the new facility and new processes ▪ Level of involvement in the new design was a significant predictor of adaptation	*
Tucker / Organisational Studies & Human Resources	2014 / USA, Canada & UK	Multiple-case studies (3)	155 senior managers, middle managers, and frontline staff	Three 300-500 bed hospitals (moved from multi-bed to all-single-bed configuration)	▪ Work practice redesign creates cognitive overload ▪ Infrastructure vs. work practice redesign are managed differently ▪ Main benefit of simultaneously redesigning infrastructure and work practices is that processes which would not have been plausible before can be designed into the new facility ▪ Employees need to understand the reasons for design decisions in order for work redesign to occur	***
1 – Quality scores from the Mixed Methods Appraisal Tool (MMAT): *-**** = low-high quality [18-20] 2 – TSOs (Transition support offices) and PMOs (Project management offices) refer to the same governance structure.						

3. Results

Research about major hospital transformations is emergent (less than ten years) and conducted mostly in North America (Canada & USA = 12/13 and UK =1/13). Case study methodology (n=11/13) is predominant. Three main themes emerged from the data: the context of major hospital transformations, the project management office (PMO), and the stakeholders.

3.1 The Challenging Context of Major Hospital Transformations

The construction of new infrastructure presents, on the one hand, great opportunities to enhance patient care, and on the other hand, numerous challenges for the changing organisation.[1, 6] Difficulties related to lack of communication, resistance to change and limited resources are reported,[1] as well as challenges in enabling change within a complex organisation, where multiple hierarchies and care cultures coexist.[4] Richer, Dawes, et al.[23] report that information needs are great and diversified during this transformation period while Tucker, Hendy, et al.[6] highlight the cognitive overload linked with redesigning work practices. Healthcare leaders and teams must surmount these challenges in order to successfully transform their organisation, yet besides the project management office, little is known concerning facilitating factors.

3.2 The Project Management Office as a Key to Successful Change

A considerable portion of the scarce literature on hospital transformation projects (n=8/13) relates to PMOs, also referred to as Transition Support Offices (TSOs). PMOs are defined as "an organizational structure that standardizes the project-related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques".[24] More concretely, a healthcare PMO is a parallel administrative structure, temporarily established during the transformation to provide project management expertise, support evidence-based practice, process review, and

evaluation.[1, 25] Another common function associated with healthcare PMOs is prioritization of large volumes of projects.[25, 26] Through these roles, PMOs have been shown to be effective in supporting organisations undergoing major transformations.[1, 3, 25-27]

3.3 The Absence of Stakeholders' Voices

In major hospital transformations, a variety of stakeholders (PMO members, managers, clinicians, patients, etc.), with pluralistic viewpoints, are involved in and/or impacted by the organisational change.[4]

3.3.1 PMO teams

PMO team members facilitate major hospital transformations through providing project management support, energizing teams and giving them a sense of direction, facilitating discussions and providing information needed for decision-making.[1, 3] Recognized for their expertise, credibility and neutrality, PMO team members are pivotal to PMO performance.[1] In the case of one healthcare organisation in Quebec, Canada, nurses were integral to the PMO through their roles as director, knowledge brokers, evidence-based practice experts, quality and performance evaluation experts, and students.[1] More specifically, the role of knowledge broker was effective in supporting organisations through information overload.[28]

3.3.2 Point-of-care nurses

Whereas researchers in this field recognize point-of-care nurses as key players in healthcare change,[1, 26, 29] no known study has addressed their specific disciplinary perspective in hospital transformations. Current research has mostly solicited managers, PMO members and project team members as participants, and three research studies investigated employees in general. Bareil, Savoie, et al.[30] showed that the discomfort felt by employees is actually more contingent on characteristics of the change itself than individual disposition. In addition, Tucker,

Hendy, et al.[6] report that employees need to understand the reasons for design decisions to enable work redesign to occur in practice. Similarly, Slosberg, Nejati et al.[29] showed "a strong relationship between employee engagement and their level of preparedness to move, readiness to adapt, and satisfaction [with the new building]".[29] These results highlight the importance of healthcare leaders stimulating employee engagement, including that of nurses, in order to facilitate the transformation and staff adaptation to change. Unfortunately, these articles fall short in offering strategies to support employee engagement, which makes it less practicable in the hospital setting.

4. Discussion

In summary, a small volume of research (n=13) has explored the context of major hospital transformations, as well as the role and performance of PMOs in this context. Current research into major hospital transformations has mostly solicited managers, PMO members, and project team members as participants.

Research to date shows that PMOs are important organisational governance structures to consider for successful hospital transformation. Firstly, PMOs attenuate the impacts of challenges associated with the major hospital transformation context.[4, 27] This effect is particularly interesting since the transforming organisation faces numerous challenges (i.e., high information needs, competing priorities, etc.) and the PMO can potentially alleviate some of these burdens. Secondly, major hospital transformation studies report that PMOs support the integration of diverse projects.[7, 26, 27] This function is crucial in a transformational context, as multiple interdisciplinary projects are competing in a complex web of power dynamics.[9-11] As highlighted in the studies by Lavoie-Tremblay, et al.[1, 3] the non-partisan PMO team provides a neutral ground on which to prioritize projects with the big picture in mind versus the

disciplinary/departmental tug of war. Research therefore suggests that healthcare administrators should consider a PMO when reflecting about what governance structure to implement during a major organisational transformation. More research concerning healthcare PMOs is needed to identify what PMO roles are essential in supporting organisational change, and to measure their impact on project management effectiveness.

In order to contextualize the research findings about major hospital transformations, it must be noted that much research, both in healthcare and management, have investigated circumscribed change initiatives or projects. For example, a considerable volume of literature, falling under the umbrella of 1) *implementation science*, focuses on the integration of healthcare evidence-based interventions,[31] and 2) *evidence-based design*, targets infrastructure dimensions.[32] What differentiates these from major hospital transformation research is that a transformation involves multiple layers of projects, intricately linked together in a complex web involving all organisational levels. Each project studied individually does not add up to the big picture, as it misses the junctions between these changes, and the complexity that makes major transformations unique.[6] Despite this difference, the importance of people at the heart of change is a key lesson of implementation research in healthcare settings[31] that also applies to organisational transformations and to the domain of change management.[33]

4.1 The Absence of Nurses' Voice

Unfortunately, the voices of nurses and patients, who are at the heart of major hospital transformations, are mostly absent from the literature to date. A nursing perspective cannot be overlooked for two main reasons: nurses are key change agents in healthcare, and along with patients, are amongst those most impacted by change.[34-36]

Firstly, by being recognized experts in leading change, and by having close ties with patients and families, nurses power a high number of projects. Nurses are essential to successful implementation of healthcare changes that lead to improved patient care;[34, 35, 37] point-of-care nurses essentially make or break quality improvement initiatives. Anecdotally, it is well recognized that nurses who resist change will find creative workarounds and that the anticipated benefits of the initial project will never materialize without nurses' adherence. It is therefore recommended to include nurses as full partners in healthcare transformations, in order to lead change successfully.[34] Point-of-care nurses' perspective about major hospital transformations will provide insight into ways to engage nurses as full partners in projects, ultimately leading to lasting changes in everyday care.

Secondly, since nurses hold such a central role in care and represent the largest healthcare profession, they are often impacted by project work.[3] Clinicians often engage in multiple projects concurrently[38] and juggle their normal jobs with the added workload of projects, while facing unclear expectations as to how to manage their priorities.[39] Exacerbating these pressures is the excessive number of changes experienced in the healthcare system.[40] In addition, projects and organisational transformations can have a detrimental impact on nurses' health. A recent study showed that hospital nurses "who experienced more frequent structural changes" had a higher probability of absence for long-term sickness.[41] Nurses undergoing organisational change and restructuring experience greater stress,[42-44] and higher psychological distress.[45, 46] Statistically, organisational change stressors also decrease nurses' job satisfaction.[44] Leaders of major healthcare change must strike a delicate balance to keep nurses healthy. Research concerning point-of-care nurses' perspective of major hospital transformations will provide clues to achieving that balance, while leveraging nurses' insight to actualize project success.

4.2 Methodological Inquiry

Case studies predominate in this integrative literature review, which is consistent with the embryonic state of research concerning major hospital transformations. This methodology offers a rich descriptive understanding of transformations and favors the identification of processes over time (i.e., the trajectory of PMO designs over time in Aubry and Lavoie-Tremblay[26]). Since there is such a pressing need to explore point-of-care nurses' perspectives, a case study methodology is not most suited to allow for in-depth exploration of the phenomenon's meaning for those concerned. Interpretive phenomenological research provides a great opportunity to uncover not only the descriptive experiences of a phenomenon, but the meanings that these hold for individuals, their lived experiences of the phenomenon. Nurses' experiences with projects shows how these can be transformational for them,[47] and supports the need for more in-depth research into their lived experience of projects and environmental changes. Future research should focus on point-of-care nurses' lived experience of major hospital transformations in order to enrich understanding of the meanings transformations hold for nurses; the results from this research avenue would support healthcare leaders in engaging point-of-care nurses in transformations, and mobilize nurses to contribute their expertise towards improved patient care.

4.3 Limitations

This integrative review offers a targeted perspective on the phenomenon of major hospital transformations. Studies that investigate healthcare construction projects (i.e., evidence-based design, architecture, etc.) and quality improvement projects (i.e., clinical interventions, implementation of information technology systems, etc.) separately were excluded, as the focus of interest was the complexity inherent to integrating these interdisciplinary projects together. The literature on the topic is still young (articles have been published for the past 10 years), with

a large portion of the scholarly work using exploratory methodologies. This literature review is timely, as this emergent field of study needs a vision for future research. Despite the generally high quality of the articles retrieved, most studies took place in a North American context with a limited number of different cases investigated.

5. Conclusion

This integrative review contributes to the current state of knowledge in healthcare management by synthesizing the empirical knowledge concerning major hospital transformations and the role occupied by nurses in these complex changes. Little is known concerning point-of-care nurses' and patients' perspectives of major hospital transformations. This integrative review provides guidance for healthcare leaders, on healthcare project management and on future research avenues. More research, from diverse professions, traditions and methodologies, would be needed to further understand the perspectives of major hospital transformation users, especially point-of-care nurses and patients. Ultimately, more knowledge concerning nurses' and patients' perspectives would facilitate the creation of hospital environments more conducive to quality health care.

Acknowledgements

The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Quebec Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

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As shown above, Manuscript 1 reported the current state of knowledge concerning major hospital transformations through a nursing lens. In order to contextualize these research findings, an overview of change management will be presented to highlight the importance of people at the heart of change.

Change Management

Much research, both in healthcare and management, have investigated circumscribed change initiatives or projects. For example, a considerable volume of literature, falling under the umbrella of implementation science, focuses on the integration of healthcare evidence-based interventions (Brownson, Colditz, & Proctor, 2018). Following are a few research article titles to illustrate the range of interventions studied:

- *change in the organisation of services* – "Explaining outcomes in major system change: a qualitative study of implementing centralised acute stroke services in two large metropolitan regions in England" (Fulop et al., 2016);
- *change in clinical interventions* – "Successfully reducing newborn asphyxia in the labour unit in a large academic medical centre: a quality improvement project using statistical process control" (Hollesen et al., 2018), and;
- *barriers and facilitators to change* – "Barriers and facilitators related to the implementation of surgical safety checklists: a systematic review of the qualitative evidence" (Bergs et al., 2015).

What differentiates these interventions from major hospital transformations is that a transformation involves multiple layers of projects, intricately linked together in a complex web involving all organizational levels. Despite this difference, a key lesson learned from implementation research in healthcare settings, that can also apply to organizational

transformations, is the importance of people at the heart of change (Brownson et al., 2018); a lesson that is shared in the domains of change management and project management. Indeed, a healthcare case study about the integration of a management accounting system showed that involvement of professionals in the change process reduced resistance and increased commitment (Fiondella et al., 2016). Along the same lines, a participant in a healthcare study (multiple case study methodology) mentioned the involvement of users is beneficial to project success, as they often suggest simpler solutions and the participation of patients brings the focus back to them versus futile departmental wars (Aubry, Sergi, & El Boukri, 2017). These findings, supporting a participatory approach involving "users" of the implemented change, are consistent with recommended change management principles (Cameron & Green, 2015). Indeed, buy-in from "users" of the implemented change is a key enabler in organizational change (Cameron & Green, 2015; Demers, 2007).

Diverse theories exist concerning the trajectories of change that individuals and organizations undergo (Demers, 2007). The field of organisational change is characterized by two dominant trends: episodic change and continuous change (Ashurst & Hodges, 2010; Weick & Quinn, 1999). The *episodic change* model assumes an organisation goes from an undesired state to a desired state (Ashurst & Hodges, 2010). Two of the first organisational change theories followed this model: Lewin (1947)'s "unfreeze-move-refreeze" theory and the "punctuated equilibrium theory" inspired by the biological sciences (Anderson & Tushman, 1990; Romanelli & Tushman, 1994; Wollin, 1999). The process of change in the episodic model follows three main phases: inertia, triggering and replacement (Weick & Quinn, 1999). Inertia, a state of stagnancy by the organisation, is not enough to stimulate change, a trigger is needed for an organisation to pose the actions necessary to replace an old state by a new one (Weick & Quinn,

1999). Triggers can come from different sources such as the environment, top management and the organisational structure, strategy and performance (Weick & Quinn, 1999). Replacement refers to the process whereby actions following a trigger change the shape of the organisation (Weick & Quinn, 1999). Ashurst and Hodges (2010) criticize this change model as being unresponsive to the dynamic nature of organisations. "Organizational change is more an open-ended and continuous process than a set of pre-identified, discrete and self-contained events" (Ashurst & Hodges, 2010, p. 219). Weick and Quinn (1999) describe *continuous change* as an organisational process that is "… ongoing, evolving and, cumulative" (p. 375). Many different models for continuous change are presented in the literature (Cameron & Green, 2015). For the benefits of this discussion, Bridges (1991)'s transition process will be presented since it is particularly useful to describe inevitable change following a move, a merger, etc. (Cameron & Green, 2015). Bridges (1991) proposes a three phase model starting with an "ending", followed by a neutral zone and evolving into a new beginning (Cameron & Green, 2015). In the ending phase, people go through different emotions as they grieve their losses and let go of past ways (Bridges, 1991; Cameron & Green, 2015); resistance to change may be observed in response to intense feelings experienced. The next phase is a neutral zone where new behaviours are starting to take place, but are not fully functional as people experience a drop in energy and motivation (Bridges, 1991; Cameron & Green, 2015). A new beginning happens progressively as people commit emotionally to the new ways (Bridges, 1991; Cameron & Green, 2015). The processes of change from the organisational literature can provide important insights for the project-induced change process.

Importance of a nursing perspective in a transformational context

A nursing perspective is important for two main reasons: nurses are key change agents in healthcare and nurses, along with patients and families, are amongst those most impacted by change. Despite the primordial importance of both nurses' and patients'/families' perspectives of major hospital transformations, this study presents itself as a first step in uncovering the voice of hospital "users" and will target nurses. The novel research methodology proposed in this study, needed to be refined, and this represented greater inconvenience or risk for patients and families as the research process may be compounded with lower energy levels due to severe illness or trauma (Canadian Institutes of Health Research et al., 2014). Future research with patients and families will be able to benefit from an innovative methodology that has been previously "tested".

Firstly, by being recognized experts in leading change and the close ties they have with patients and families, nurses are often solicited to participate in projects. One clear example is the integral role nurses play amongst healthcare Project Management Offices (Lavoie-Tremblay et al., 2012b). In addition, nurses are identified as key to successful implementation of healthcare change (Institute of Medicine, 2011; Marasovic, Kenney, Elliott, & Sindhusake, 1997; Salmond & Echevarria, 2017). The Committee on the Robert Wood Johnson Foundation Initiative on the Future of Nursing, at the Institute of Medicine (2011), recommend the inclusion of nurses as full partners in healthcare transformations in order to lead change successfully. Moreover, best practice in change management highlights the importance of buy-in from "users" of the implemented change (Demers, 2007); nurses are often such "users" in healthcare. There is acknowledgement as well in the project management scholarly community that benefits of change are realized only when "people do things differently" (Ashurst & Hodges, 2010, p. 227;

Coombs, 2015; Marchand & Hykes, 2006). Nurses are therefore key players in enacting healthcare change.

Secondly, since nurses hold such a central role in care and represent the largest healthcare profession, they are often impacted by project work (Lavoie-Tremblay et al., 2017). Clinicians are often involved in multiple projects concurrently (Chiocchio et al., 2010) and juggle their normal jobs with the added workload of the projects while facing unclear expectations as to how to manage their priorities (Packendorff, 2002). This tension is compounded by an excessive number of changes witnessed in the healthcare system (Johnson & Bareil, 2016). Project-induced change can be seen as a disturbance or a loss for those impacted by projects and this can be amplified with multiple project implementations occurring in a short lapse of time (Aubry et al., 2017). Despite dedication to improving care for patients and families, the high number of projects and the competing priorities nurses face can leave them feeling weary of new projects and wondering "What's in it for them?" This reality is well described by Packendorff (2002, p. 48): "In complex organizations such as health care, many parallel renewal projects with different 'senders' often end up on the middle managers' desk at the same time, and for non-managerial participants it might look like the organization is just processing an incessant flow of new change projects that never become as revolutionary as they are supposed to". In addition, the difficulties linked with projects and organizational transformations can have a detrimental impact on nurses' health. A study showed hospital nurses "who experienced more frequent structural changes" had a higher probability of absence for long-term sickness (Bernstrøm & Kjekshus, 2015, p. 813). Nurses experiencing organization change and restructuring tend to have more stress (Brown, Zijlstra, & Lyons, 2006; Su, Boore, Jenkins, Liu, & Yang, 2009; Teo, Pick, Newton, Yeung, & Chang, 2013) and higher psychological distress (Bourbonnais, Brisson,

Malenfant, & Vézina, 2005; Lavoie-Tremblay et al., 2010). This is particularly true for critical care nurses, who show significantly higher traumatic stress scores when working on units where major changes have been implemented in the last year (Sacco, Ciurzynski, Harvey, & Ingersoll, 2015). Organisational change stressors have also been shown to decrease nurses' job satisfaction and that this effect could potentially be mitigated by effective coping strategies (Teo et al., 2013).

In summary, nurses are key players in organisational transformations and are highly impacted by these changes at a professional and personal level. The literature review around major hospital transformations revealed managers and project team members' perspective. Nurses' perspective presents itself as the logical next step for research in this area and more importantly, this perspective can greatly enrich knowledge of healthcare change and successful project implementation. This research study dove into nurses' perspective by uncovering how their lived experience of the transformation shows itself[1]. Since lived experience is a core concept in this research study, the next section will present the definition of lived experience according to the phenomenological tradition, followed by the lived experience literature in nursing.

Lived experience of nurses

Lived experience in interpretive phenomenology gives importance to both the act of experiencing, and the interpretation of the experience over time (Gadamer, 2004). Lived experience, as it is defined in hermeneutic philosophy, was popularized in nursing by Dr. Benner, a prominent nursing researcher (Rodgers, 2005). She believed this form of inquiry, through a hermeneutic methodology, was an ideal way to study the embodied experience of

[1] This wording refers to Heidegger's (1927a) understanding that phenomena are often veiled or concealed and require to be pulled out of forgetfulness.

health, illness, learning and the "taken-for-granted common and divergent meanings, habits, skills, and practices" in nursing (Benner, 1994, p. xix). The concept of lived experience within the interpretive phenomenological tradition is further explicated in Chapter III.

Much nursing interpretive phenomenology has focused on illuminating the patients' and families' experience of health and illness. For example, a recent study has examined the lived experience of children and mothers through bisphosphonate therapy and osteogenesis imperfecta (Wiggins & Kreikemeier, 2017). These studies are integral to nursing since they provide a window into patients' and families' understanding and interpretation of their health and illness that can inspire nursing practice. A smaller volume of nursing lived experience studies have looked at nurses' experience of their clinical practice and of their professional development (i.e., integration to the workplace, education, ongoing learning, etc.). One seminal work from Dr. Benner (1991) examines the ethical comportment of nurses: in relation to ethical practice, two types of nursing narratives are present, constitutive narratives, or what it means to be a nurse, and learning narratives (Benner, 1991). Learning narratives refer to developing the skills needed to be involved with patients and families, remaining open, seeing suffering and death and sometimes feeling disillusioned or liberated (Benner, 1991). This study represents well the nursing lived experience research, in that it provides very rich information about nurses' practice and their embeddedness within patient narratives and clinical milieus.

No known studies have looked at nurses' lived experience in the context of major hospital transformations (including construction and quality improvement projects). Moreover, only two studies were found concerning nurses' lived experience of projects (i.e., using a phenomenological mode of inquiry). This is consistent with project management research, where very little literature exists on the lived experience of projects (van der Hoorn, 2015). Many

project management researchers call for more research concerning people's lived experiences of projects and a hermeneutical approach to research (Cicmil, Williams, Thomas, & Hodgson, 2006; Rolfe, Segal, & Cicmil, 2016; van der Hoorn, 2015; van der Hoorn & Whitty, 2015). In nursing, the closest that the lived experience literature gets to organisational transformation is through exploring nurses' experiences with project work and physical environments separately.

Nurses' lived experience of projects

The lived experience literature about healthcare change projects is very sparse; searching databases for nurses' lived experience of change and projects yields little relevant results (n=2). Most studies retrieved focus on nurses and nursing students through an educational lens and nurses transitioning to new roles, which are not directly related to the subject at hand. The first relevant study found, explored oncology nurses' lived experience of evidence-based practice (EBP) projects (Fridman & Frederickson, 2014). These projects "varied from limiting blood draws in the intensive care unit to prevent anemia to the use of perioperative aromatherapy to reduce nausea" (Fridman & Frederickson, 2014, p. 384). Following Richer et al. (2013b)'s transformation project typology, these projects would fall under *practice projects*. Four main themes emerged from this study: support, challenges, evolution, and empowerment (Fridman & Frederickson, 2014). The nurses reported that organizational support, in the form of dedicated human and material resources, was extremely valuable to the realization of EBP projects (Fridman & Frederickson, 2014). This finding is consistent with the literature about major hospital transformations that highlighted the importance of the PMO as an organisational structure supporting change projects (Lavoie-Tremblay et al., 2017). Similarly to the participants in major hospital transformations, nurses involved in EBP projects discussed challenges relating to informational needs and resistance to change (Fridman & Frederickson, 2014). In addition to

what was witnessed in hospital transformation studies, the oncology nurses brought to light the concept of time as an important challenge for them (Fridman & Frederickson, 2014). Since the priority is day-to-day service at the clinic, it was difficult to get protected time for clinical nurses to be involved in projects and nurses found it was a long process towards realizing a practice change (Fridman & Frederickson, 2014). These results support the need to further study the perspective of nurses in the context of healthcare transformations, since their concerns and reality, in relation to project work, may differ from those expressed by managers and project entities. The nurses evoked the evolution of their experience as a process of learning, transformation and professional development (Fridman & Frederickson, 2014). Fridman and Frederickson (2014) suggest "the term transformation was used because of the intensity with which the meaning of these experiences were shared, bringing several of the participants to tears in the telling or using physical demonstrations of enthusiasm, such as a fist pump emphasizing, 'I did it!'" (p. 386). These emotionally intense responses attest to the importance of nurses' experiences with projects and the need to further investigate the meanings that these hold for nurses. These projects also empowered nurses to challenge the status quo and improve care for patients (Fridman & Frederickson, 2014).

The second retrieved study examined Swedish postnatal community nurses' lived experience of a clinical project aimed at improving their competence in maternal mental health care (Kornaros, Zwedberg, Nissen, & Salomonsson, 2018) – a *practice project* according to Richer et al. (2013b)'s project typology. In this clinical project, psychotherapists offered consultations for nurses and supervised them to support the development of their competence in mental health. The findings reveal tensions between nurses' training and the increasing need to address mental health concerns amongst their clientele – leaving nurses feeling like they are

trespassing on the role of the therapist (Kornaros et al., 2018). These tensions are also palpable in nurses' attitudes concerning their ability to deal with maternal mental health concerns, classified by Kornaros et al. (2018) in three types: "I don't want to", "I want to but I cannot", and "I want to and I can" (p. 6). As can be seen again in this study, lived experience research provides a unique lens to explore the meanings that changes hold for nurses and how these are translated into nurses' moods and comportments in care. As can be seen by the importance of these two studies' findings, the paucity of research concerning nurses' experience of projects (n=2) is indicative of a critical gap in nursing knowledge. Fridman and Frederickson (2014) recommend further research be conducted about nurses' lived experience of projects in different settings and clinical contexts in order to better understand this phenomenon. In addition to clinical projects, major hospital transformations also hold changes to the physical environment of nurses.

Nurses' lived experience of physical environments

The importance of the physical environment in nursing has been noted as far back as the origin of modern nursing, with Florence Nightingale (1860). The physical place where nurses work are not just spatial entities; they evoke an experience that goes far beyond the physical one (Gustafson, 2001). Whereas many studies have examined the physical work environment of nurses in functional terms (noise, light, communication, etc.), only three known studies have examined the nurses' lived experience of these spaces (i.e., using a phenomenological mode of inquiry) (Marynowski-Traczyk & Broadbent, 2011; Olausson et al., 2014; Sundberg, Fridh, Olausson, & Lindahl, 2019).

Sundberg et al. (2019) explored nurses' lived experience of caring in an evidence-based intensive care room design. Observations and interviews were conducted with adult ICU nurses working in two different room designs in Sweden (one had an evidence-based design). The

authors define caring as "a willingness to do what is best for the patients and having the patients' well-being at the heart of everything done" (Sundberg et al., 2019, p. 273). Sundberg et al.'s (2019) findings did not reveal a difference in caring in the two different room designs, but revealed nurses' interpretation of their nursing work was at the core of caring. Indeed, nurses in the study who interpreted their work through a task-based lens had a more "instrumental gaze" which undermined caring, while nurses who centered their work on the client's emerging needs had "an attentive and attuned gaze" which allowed for caring to be visible (Sundberg et al., 2019). A phenomenological study such as this one reveals human interpretations that are at the core of everyday comportments and, more specifically for nurses, interpretations that shift their way of caring. Uncovering these interpretations allows change management initiatives to delve deeper into the core of our comportments – targeting the roots of the status quo.

In their study of nurses' lived experience of ICU bed spaces in Sweden, Olausson et al. (2014) illuminated five meanings of clinical environments : "observing and being observed, a broken promise, cherishing life, ethical predicament and creating a caring atmosphere" (p.129). *Observing and being observed* relates to the nurses close monitoring of the patient and to the families' and patients' constant gaze. As an instrument of observation, technology is perceived as an extension of the nurse's body and a part of the place's identity (Olausson et al., 2014). Feelings of uncertainty and anxiety are tied to *observing and being observed*. The nurse is *ethically* responsible for ensuring the patient's safety and preserving their privacy and integrity, which is a difficult feat in a multi-bed space. Nurses feel that the design of the physical environment hinders their ability to care for the critically ill and thus signifies *a broken promise* from the expectation of the nurse as supportive of healing. Nurses recognize the emotional load of patients and families in the ICU and in *cherishing life*, nurses promote patients' and families'

sense of hope for the future. The proximity of nature, through windows or balconies for example, nourishes the life energy within the clinical bed spaces. Nurses desire to *create a caring atmosphere*, like a home environment, where trust resides. This phenomenological study sheds an important existential nursing perspective on physical environments that is mostly absent from the literature. Nurses are called to connect, on a human level, with patients and families in clinical environments that are charged with life, hope, suffering and death. Functional descriptions of the spaces where nurses practice, fail to acknowledge the meaningfulness that these "constructions" have on a human level.

Marynowski-Traczyk and Broadbent (2011) explored nurses' experience of the Emergency Department (ED) for providing care to people with mental health problems. In relation to the physical space, nurses describe it as unconducive to best care for a psychiatric clientele, which generates stress for staff (Marynowski-Traczyk & Broadbent, 2011). These authors offer more of an account of what nurses' feel patients need from a physical environment (i.e. calmness) versus how the physical space relates to nursing (i.e. nurses' desire to create a healing environment). One can even wonder upon reading the Marynowski-Traczyk and Broadbent (2011) article if nurses are speaking of their own experience or of their patients' experience; the nurses' own experience and voice is mostly obscured in this study. This attests to the close relationship, almost inseparable, between nurses and patients and families. In the literature review, this close relationship with patients made it extremely difficult to separate articles that focused specifically on nurses.

To build on the findings of these three studies, further research needs to illuminate the nurses' lived experience of diverse settings since many variabilities exist in clinical environments across specialties and countries. Furthermore, no known studies have examined

how PICU nurses' lived experience of place evolves in a context where physical care environments are transformed by major construction projects. Olausson et al. (2014) recommend "further research to highlight the quality of physical environment and its impact on caring practice" (p. 126). Major hospital transformations are ideal terrains to explore this since they combine physical environment and practice changes. In this study, the PICU of a hospital having undergone a major transformation was used as an exemplar; this specific unit was selected since nurses experienced a variety of changes to their physical environment and clinical practice. Moreover, as will be demonstrated in the next section, the PICU is a rich setting to study lived experience.

Pediatric intensive care unit

In Canada, ICUs were established in the 1960's in response to the need for constant care for the critically ill (Vanderspank-Wright, Bourbonnais, Toman, & McPherson, 2015). Since the beginning, nurses are pivotal players in critical care as they represent the largest number of clinicians on these units and are responsible for the majority of hands-on care (Vanderspank-Wright et al., 2015). Benner, Tanner, and Chesla (1992), in their phenomenological study of ICU nurses, showed that at the expert level, nurses intuitively knew their patient, so they could easily "read" a clinical situation. Historically, critical care nursing was recognized as a specialty by the Canadian Nurses' Association Specialty Certification Program in 1993 and a decade later, in 2003, a distinct exam was developed for pediatrics, acknowledging PICU nursing as a distinct specialty (Vanderspank-Wright et al., 2015).

The PICU is a complex hospital service for children with severe illness who require close monitoring and treatment (Dixon & Crawford, 2012). The PICU is essential, even in more developed parts of the world, as children continue to experience severe illness and traumatic

injury requiring complex care (Macdonald, Liben, Carnevale, & Cohen, 2012; Namachivayam et al., 2010). Most deaths of children in the hospital occur in the PICU (Ramnarayan, Craig, Petros, & Pierce, 2007). The acuity of this setting calls for nurses and other clinicians who are practicing at a specialized level and who respond to high standards of care (Dixon & Crawford, 2012). "The physical environment is dominated by advanced technology, which plays an ever-increasing role in monitoring, treating and supporting children and young people who are critically unwell" (Dixon & Crawford, 2012, p. 3). Hospitalization in the PICU is one of the most stressful experiences in the lives of children and their families (Dixon & Crawford, 2012). PICU staff generally deeply care about families and desire to support them in these moments of distress (Macdonald et al., 2012) These particularities make it critical to study PICUs and "better understanding the complexity of the PICU environment means that a variety of research approaches will be needed" (Macdonald et al., 2012).

Nursing in the PICU not only requires advanced skills and a close rapport with medical technology, caring for critically ill children is particularly emotional. Compared to other areas, critical care nurses report "the highest levels of moral distress intensity and frequency" (Dyo, Kalowes, & Devries, 2016, p. 42). Moreover, PICU nurses, along with their non-intensive care colleagues working with adult patient populations, have the highest intention to leave their job (Dyo et al., 2016). A very recent PICU study reported almost half of its nurses had mental health problems (45%) with a high prevalence of symptoms such as tension, nervousness, worry and headaches (Tito, Baptista, da Silva, & Felli, 2017). The authors suggest the findings of their study "should prompt reflection on the suffering arising from situations of everyday work in paediatric and neonatal cardiac ICU, considering that, in addition to dealing with issues related to the gruelling routine, nursing workers experience situations where children and their families are

suffering, for instance, in the face of painful procedures and, especially, in cases where death occurs." (Tito et al., 2017, p. 871). Sudden death of a child in the PICU is traumatic for nurses and considered "one of the most difficult situations in nursing practice" (Lima, Gonçalves, & Pinto, 2018). Accompanying the dying child and family holds many intricacies for nurses, as they feel the emotional grief mingled with the professional satisfaction of providing compassionate care (Stayer, 2016). According to Olausson et al. (2014), the "ICU world is considered as a lived place and space" (p. 127). Nursing in critical care, as well as pediatrics, contains a rich existential dimension that calls for more research into PICU nurses' lived experience.

As was witnessed in the lived experience literature review section, no known studies have examined PICU nurses' lived experience of practice and environmental changes. As was previously mentioned, no known studies have explored nurses' lived experience of major hospital transformations, mega-projects impacting physical spaces, practice, people and processes within hospital settings. Research on PICU nursing projects and environmental changes (two dimensions of major hospital transformations), through modes of inquiry other than "lived experience", will be presented and a gap in knowledge identified.

Nurses and PICU environmental changes

This section covers the first dimension of major hospital transformations, construction projects. Most PICU construction studies report impacts on patients and families. Since patient and family outcomes are so closely tied to nursing practice, it was difficult to dissociate impacts of the physical environment on patients/families versus those impacts for nurses. This section presents studies where direct measures relating to PICU nurses were used (nurses' perceptions

and objective measures (i.e. nurses' heart rate, etc.)) (n=5). Studies that reported patient and family experiences or nurses' account of patient well-being were excluded.

Environmental studies in relation to nursing have examined functional aspects of PICU workplaces: noise (Disher et al., 2017; Kudchadkar et al., 2016; Morrison et al., 2003; Watson et al., 2015) and light (Kudchadkar et al., 2016). In a mixed-methods study, Disher et al. (2017) conducted focus groups with staff, including nurses, that showed staff conversation was the most frequent source of noise; this is consistent with previous research (Bailey & Timmons, 2005; Macdonald et al., 2012; Watson et al., 2015). The staff in this study were more likely to blame alarms than take personal responsibility for the sound levels they generated by speaking (Disher et al., 2017). They felt it was not "noise" as it was necessary for care delivery and that it is not part of critical care culture to be quiet (Disher et al., 2017). Nonetheless, PICU staff reported that a visible sleeping child signaled them to whisper and be quiet (Disher et al., 2017). In terms of impact on PICU nurses, noise is associated with increased heart rate (Morrison et al., 2003; Watson et al., 2015). More importantly, Morrison et al. (2003) showed higher sound levels significantly predicted greater subjective stress and annoyance for PICU nurses. In these studies, environmental factors are presented through a classic workplace health and safety perspective that falls short of the richness of the human experience of place. One verbatim from a nurse working in the PICU reflects this difference beautifully: "Having windows in every room has helped dramatically for patients, families and nurses—nothing beats a beautiful sunrise in the window after a chaotic night shift" (Kudchadkar et al., 2016). This excerpt shows that windows represent much more than a physical structure that allows light in; it allows beauty to flow through and can provide comfort in times of sorrow. Unfortunately, Kudchadkar et al. (2016)'s study design, quantitative survey, does not allow delving into this meaningfulness and therefore

only provides superficial experience of physical light and sound. Furthermore, music was shown to be a valuable intervention to renew the meaning of healthcare professionals' work in the PICU, as well stimulate their well-being and relaxation (Cardoso Júnior et al., 2017).

As hospitals are renovated, PICUs are redesigned to better respond to patients' needs and the evolution of medicine. Only one study was found to examine nursing outcomes following the construction of a new PICU. Kudchadkar et al. (2016) examined nurses' perception of the transition from a multi-bed PICU to a single-bed unit in the United States. After the move, nurses reported being less annoyed by sound on the unit and that this sound contributed significantly less to the stress levels of nurses (Kudchadkar et al., 2016). Less nurses desired a quieter unit and more sunlight exposure (Kudchadkar et al., 2016). Many authors suggest new PICU designs (i.e. use of different construction materials, single-patient rooms, etc.) could be a promising avenue to improve environmental outcomes for all (Bailey & Timmons, 2005; Kol, Aydin, & Dursun, 2015; Watson et al., 2015). These findings show that clinical environments and projects aimed to redesign PICU units can have an impact on nurses.

Nurses and PICU projects

This section covers the second dimension of major hospital transformations, quality improvement projects. Most academic literature concerning PICU projects and nurses fall under the umbrella of implementation research. The studies that were retrieved (n=14) concerning PICU projects involving nurses will be presented following Richer et al.'s (2013b) transformation project typology: 1) *practice projects*, 2) *people projects*, 3) *process projects*. Studies concerning a nursing intervention as well as grey literature concerning quality improvement initiatives were excluded. This section will highlight the methodological gaps concerning the investigation of projects involving nurses.

Practice projects

Most clinical projects related to the implementation of nurse-driven protocols. For nurse-driven sedation protocols, similar findings were seen across studies: decrease daily doses of benzodiazepines and duration of mechanical ventilation in older patients (Gaillard-Le Roux et al., 2017); lower mean durations of mechanical ventilation, no significant changes in doses of sedatives and withdrawal symptoms (Dreyfus et al., 2017); reduction in the total dose of benzodiazepines and withdrawal symptoms (Neunhoeffer et al., 2015). Hui Ping Kirk et al. (2015) evaluated the introduction of a nurse-led feeding protocol in the PICU. Nurses surveyed felt there were numerous advantages to this new way of practicing such as "standardization of practice, optimization of patient's nutritional intake, earlier initiation of feeding, increased patient safety, and the extension of nursing roles" (Hui Ping Kirk et al., 2015, p. 308). Most nurses felt they needed more information about the protocol and their preferred form of learning was coaching at the bedside (Hui Ping Kirk et al., 2015). They reported certain disadvantages of the protocol such as "inapplicability of the feeding protocol to all patients, lack of flexibility in feeding management, increased confusion, and doctors placing little value on the feeding protocol" (Hui Ping Kirk et al., 2015, p. 308). Similar challenges were expressed by nursing staff concerning nurse-led ventilation weaning in the PICU (Tume, Scally, & Carter, 2014). In this survey study, nurses reported the protocol was too restrictive, with few patients considered "weanable" (Tume et al., 2014). Nurses also felt leadership roles on the unit, such as being in charge, and their high workload were barriers to the implementation of the protocol (Tume et al., 2014). Paradoxically, nurses perceived lack of support from their medical partners while physicians rated their support as high (Tume et al., 2014). Another study examining a nurse-led ventilation weaning project showed that patient outcomes were the same as physician-led

interventions, with nurses complying more with the ventilation weaning protocol than physicians (Duyndam et al., 2019). Rowe et al. (2018) evaluated the implementation of a nurse-led pathway (bundle of evidence-based interventions) to prevent hospital acquired pressure injuries in the PICU. Following implementation of the nurse-led pathway, nurses were more compliant with the prevention bundle and there was a significant decrease in hospital acquired pressure injuries (Rowe et al., 2018). Overall, these studies showed the feasibility of nurse-led protocols for clinical practice and the benefits for patients.

Another study examined the introduction of "A Bit About Me" boards in the PICU which allowed parents to note information about their children (i.e. "words to describe me", "what makes me feel better when I'm upset", etc.) to help nurses engage with children (Spazzapan et al., 2019, p. 5). Following the use of the boards, there was a significant increase in nurses' confidence in identifying what comforts the child, including the child's favorite toy (Spazzapan et al., 2019). Parents and physicians also "felt that nurses knew their patients well" (Spazzapan et al., 2019, p. 7). In sum, these practice project studies highlight the potential benefits that leading clinical projects can have on nursing and patient outcomes, as well as some of the difficulties that may be encountered in the process.

People projects

Three studies reported projects where people's roles were changed, the creation of a PICU liaison nurse position, the shift from an off-site on-demand medical presence to round the clock on-site presence, and the introduction of a Shock Nurse role. Firstly, Caffin et al. (2007) studied the introduction of a PICU liaison nurse; her role was to ensure successful discharge of PICU patients to other units. In the year following the implementation of this role, the PICU readmission rate decreased and the vast majority of staff and parents surveyed concluded the

liaison role was beneficial (Caffin et al., 2007). Secondly, Alfares et al. (2016) examined the introduction of an on-site 24/7 medical intensivist in the cardiac PICU; originally, the attending physician would be present only on demand. The on-site presence of the intensivist had a positive impact on team communication, including multidisciplinary team members and families (Alfares et al., 2016). Most nurses surveyed saw a benefit of this medical presence for patients and nurses (Alfares et al., 2016); Of interest to note, is that nurses who experienced both pre- and post-project phases saw higher benefit than nurses who experienced only the new staffing model (Alfares et al., 2016). This finding suggests that the perception of benefits of a project may be impacted by the nurses' lived history with the project development, hence the importance to examine their lived experience in more detail. Thirdly, one hospital introduced a PICU Shock Nurse role, in combination with other interventions (i.e. electronic scoring tool, multidisciplinary assessment, etc.), to improve early diagnosis of septic shock and reduce admissions to the PICU (Stinson et al., 2019). The authors showed the feasibility of the Shock Nurse, in combination with an electronic sepsis recognition tool, in providing timely sepsis-related assessment and care (Stinson et al., 2019). These people projects allowed evaluating the effects of introducing new roles and how these can be beneficial for team functioning and patient care.

Process projects

Three retrieved studies explored process projects. In the first study, Starmer et al. (2017) studied a PICU project where a different way of doing nursing handoffs was implemented, the I-PASS Nursing Handoff Bundle. Post-implementation, the authors reported a significant increase in the inclusion and quality of information presented during the verbal handoff (Starmer et al., 2017). Interruptions were reduced by 40% while the duration of handoff and nursing workflow remained unchanged (Starmer et al., 2017). The second study evaluated a quality improvement

project aimed at improving PICU interdisciplinary rounds in a tertiary care pediatric hospital (Lopez et al., 2019). The following changes were integrated to the interdisciplinary rounds: "pre-rounding huddles, changing the start of the rounding week, and instituting a SIBR [structured interdisciplinary bedside rounds] model" (Lopez et al., 2019, p. 1). Lopez et al.'s (2019) study showed these changes to the interdisciplinary rounds increased nurses' participation (from 88% to 100%), and improved staff and family satisfaction. In the third process project study, Roumeliotis et al. (2018) assessed PICU nurses and orderlies pre-post implementation of an ICU-specific electronic medical record. Findings revealed that nurses spent more time in direct patient care and less time in indirect patient care, as well as more time documenting after the implementation of the electronic record (Roumeliotis et al., 2018). PICU nurses were also more productive and satisfied with the documentation system post-implementation, although they expressed fear of losing oral communication with the team (Roumeliotis et al., 2018).

Overall, these studies use quantitative measures, pre-test post-test designs, to evaluate the impacts of projects involving nurses in the PICU. Whereas this data is crucial for evidence-based change, nurses' perspective of these changes is scarce and superficial. More specifically, patient outcomes are central to most studies and when nurses' perspective of benefits or challenges are reported, what is meaningful about these for nurses is missing. This is a limit of quantitative studies. Compared to the lived experience literature, these articles fail to address the rich in-depth experiences nurses are going through.

Summary

To date, no research on the nursing perspective of a major hospital transformation has been found. Nurses are central players and highly impacted by the environmental changes and quality improvement projects that constitute hospital transformations. Outdated infrastructures

are being updated and PICU re-designs have been shown to positively impact the satisfaction of nurses concerning noise and light. Unfortunately, these few studies fall short of the richness of experience nurses can have of environmental and change projects. Only five known studies have explored nurses' lived experience of clinical spaces and projects, none in the PICU setting. These research studies provided a rich understanding of nurses' emotional and relational interface with physical and social environments.

Research into major hospital transformations has mostly used descriptive qualitative methodologies and studies of PICU nurses have mostly depended on quantitative methods. Whereas, these methods contribute to our knowledge of nursing, a paucity of in-depth data remains on how environmental and practice changes are experienced by PICU nurses. Consequently, the aim of this doctoral study was to contribute to this research domain by examining PICU nurses who experienced environmental and quality improvement changes following a major hospital transformation project, using an in-depth interpretive qualitative methodology.

Study objective and research questions

The main objective of this doctoral research study was to explore PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation. This study aimed to elicit the meanings and interpretations that PICU nurses attribute to their experience of changes resulting from a major hospital transformation, a multidimensional hospital project involving construction and quality improvement. Using Heideggerian terminology, this study highlighted *existentialia* or conditions of possibility for the nurses' experience, which include comportments (*existentiell*) and structures of being – what

motivates comportments (*existential*, i.e. In-order-to, Being-towards-death, etc.) (Buckley, 2018; Heidegger, 1927).

The main research question was: **What are PICU nurses' lived experience of a major hospital transformation?** Which included:

1. What are the *existentialia* or conditions of possibility for PICU nurses' experience of a major hospital transformation?
2. What are PICU nurses' lived experience of environmental changes in their workplace (including the physical environment, as well as the place occupied by technology)?
3. What are PICU nurses' lived experience of changes resulting from quality improvement projects (practice projects, people projects and process projects)?

Preface to Chapter III

Chapter III will highlight methodological considerations of this doctoral research study. The study setting will first be presented in great detail, including the major hospital transformation they underwent. Next, a methodological manuscript (***Manuscript 2*** *– Capturing lived experience: methodological considerations for interpretive phenomenological inquiry*) will uncover methodological and philosophical considerations of leading an interpretive phenomenological study. In this manuscript, the current doctoral research project is used as an exemplar to illustrate the research paradigm, researcher's stance, objective and research questions, sampling and recruitment, data collection, and data analysis in interpretive phenomenological research. This manuscript is published in the International Journal of Qualitative Methods. This manuscript offers an important methodological contribution as few scholarly articles present methodological guidelines for researchers, especially how to develop research methods that are coherent with the philosophical foundations of interpretive phenomenology. Lastly, Chapter III will cover elements of methodological rigour and ethical considerations. Furthermore, the two research results manuscripts in Chapter IV also present elements of the study methods. More information can be found concerning the candidate's phenomenological orientation to nursing in Appendix H: Frechette, J., & Carnevale, F. A. (2019). Exploring a hermeneutic perspective of nursing through revisiting nursing health history. *Nursing Philosophy, 21*(2). doi:10.1111/nup.12289

Chapter III. Methodology

The study site

The hospital[2]

The study site is a 419-bed Canadian pediatric hospital located in an urban setting (J. Déry, personal communication, February 12th, 2018). It is one of the most important pediatric teaching hospital centres in Canada and North America, with 250,000 patients per year (CHU Ste-Justine, 2017h; Fortin, 2017). This university-affiliated hospital offers specialized and ultra-specialized care, as well as leads research in maternal-child health (CHU Ste-Justine, 2017f). Over 500 doctors, dentists and pharmacists and 5,000 employees, including 1,500 nurses and nursing assistants, work towards the hospital mission of improving children's, teenagers' and mothers' health (CHU Ste-Justine, 2017f, 2017h; Fortin, 2017). The organizational values are "commitment to mothers and children, the pursuit of excellence, respect for the individual, and the spirit of collaborative efforts" (CHU Ste-Justine, 2017g).

The major hospital transformation

The transformation that was examined here includes the construction of a new building for specialized care and the associated improvement projects. This major hospital transformation was part of a bigger organizational project, *Grandir en santé* (2010-2017; Growing up healthy), that included both construction of new infrastructure, which is the current object of study, and modernization of existing buildings (CHU Ste-Justine, 2017d). "*Grandir en santé* is more than a construction project, it's an organizational transformation project [translated from French]" (Fortin, 2017). *Grandir en santé* was funded through a government investment of $995M and

[2] Confirmation was obtained from the CHU Ste-Justine ERB that the CHU Sainte Justine name could be identified in the thesis (P. Gogognon, personal communication, January 23rd, 2020).

major fundraising campaigns that raised over $120M (CHU Ste-Justine, 2017a). A Transition Directorate, in the form of a PMO was set up to support the hospital transformation (Fortin, 2017). The vision that guided the major hospital transformation was parent-partnership in care.

The expansion component included the construction of a specialized care building, a research building and an underground parking. The area of interest for this study, the specialized care building, is a 7-floor pavilion of 43,269 m^2 that houses medical imaging, operating theaters and procedure rooms, PICU, birthing unit, neonatology, trauma surgery and pediatrics (A. Pires, personal communication, October 3rd, 2017; CHU Ste-Justine, 2017c). The architecture and design, centered on the children and families, followed innovative trends in the field such as evidence-based design, healing environments, health awareness and sustainable development (CHU Ste-Justine, 2017b). Some of the landmark features of the new design include individual patient rooms, natural lighting, noise management and dedicated spaces for patients, families and staff (CHU Ste-Justine, 2017b). The actual move and preparation for the move to these new facilities fell under a project called *La Grande Traversée*. The move to the new building occurred in December 2016 (A. Pires, personal communication, October 3rd, 2017).

Clinical nurses' involvement. Nurses and other stakeholders had numerous opportunities to be involved in the project. They were first solicited at the design phase (2010), where they had an opportunity to review initial floor plans and provide their input (Duguay, L'Écuyer, & Pires, 2017). In addition, various working groups were put in place to discuss project details as it evolved, such as choice of materials and unit ergonomics (Duguay et al., 2017). Mock patient rooms were also set-up for personnel to test them and to provide feedback on potential improvements (Duguay et al., 2017). Clinical nurses had protected time to be involved in project activities (Duguay et al., 2017).

Since the objective was to transform the organization (2011-2015) and not to do the same thing in a new place, each unit team identified improvement projects they wanted to undertake to transform care (i.e. process review, changes in working methods, technological introduction, etc.) (A. Pires, personal communication, October 3rd, 2017; Duguay et al., 2017). Nurses also had the opportunity to become change agents, which involved acting as a champion for the numerous change initiatives that were part of the larger project (Fortin, 2017). Closer to the moving date (2015-2016), unit teams reviewed each person's work process in relation to the final unit plans and took part in appropriation and simulation activities in the actual new units to be prepared for the *Grande Traversée* (A. Pires, personal communication, October 3rd, 2017; Duguay et al., 2017). Throughout the process and until one year after the move, teams benefitted from the support of the PMO (A. Pires, personal communication, October 3rd, 2017).

Pediatric Intensive Care Unit. The new PICU unit is composed of 32 pediatric intensive and intermediate care beds (CHU Ste-Justine, 2017c) and 125 nurses (about 100 equivalent full-time; M. Chartrand, personal communication, January 31st, 2018). In relation to the *Grande Traversée*, each unit had a different transition plan with smaller-scale projects for continuous improvement at the unit level. One such project in the PICU was a change in medical rounds that now included parents in the process (Duguay et al., 2017). Moreover, an increased proportion of patients with chronic versus acute conditions was observed due to changes in patient eligibility criteria. In comparison to other units of the new specialized care building, the PICU had the most changes to its physical environment (C. Fortin, personal communication, November 14, 2017). For example, nurses previously worked in teams to cover multi-patient rooms and now worked individually in single-family rooms (Duguay et al., 2017). Family rooms in the new

infrastructure included sofa beds for parents, and nursing stations, previously located in patient rooms, were moved to alcoves situated outside the family rooms.

This particular hospital was selected because it is an exemplary case in project and change management practices. This hospital's PMO team was awarded, by PMI-Montreal, the Elixir – Project of the Year Award for their innovative application of best practices in project management (CHU Ste-Justine, 2017e). The PMI-Montreal Elixir jury deemed this project an inspiration for managing change in complex environments (CHU Ste-Justine, 2017e).

Manuscript 2 – Capturing lived experience: methodological considerations for interpretive phenomenological inquiry

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Acknowledgements: The authors would like to thank Dr. Franco Carnevale, Dr. Alfons van Marrewijk and the European Academy of Management Conference community of scholars, for their feedback concerning a preliminary version of this manuscript. The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

Conflict of interest: The authors declare no conflict of interest.

Reference: Frechette, J., Bitzas, V., Aubry, M., Kilpatrick, K., & Lavoie-Tremblay, M. (2020). Capturing Lived Experience: Methodological Considerations for Interpretive Phenomenological Inquiry. *International Journal of Qualitative Methods*, 19. doi:10.1177/1609406920907254

Abstract

Interpretive phenomenology presents a unique methodology for inquiring into lived experience, yet few scholarly articles provide methodological guidelines for researchers, and many studies lack coherence with the methodology's philosophical foundations. This article contributes to filling these gaps in qualitative research by examining the following question: What are key methodological and philosophical considerations of leading an interpretive phenomenological study? An exploration of interpretive phenomenology's foundations, including Heideggerian philosophy and Benner's applications in healthcare, will show how the philosophical tradition can guide research methodology. The interpretive phenomenological concepts of *Dasein*, lived experience, *existentialia* and authenticity are at the core of the discussion while relevant methodological concerns include research paradigm, researcher's stance, objective and research question, sampling and recruitment, data collection, and data analysis. A study of pediatric intensive care unit nurses' lived experience of a major hospital transformation project will illustrate these research considerations. This methodological article is innovative in that it explicitly describes the ties between the operational elements of an interpretive phenomenological study and the philosophical tradition. This endeavour is particularly warranted, as the essence of phenomenology is to bring to light what is taken for granted, and yet phenomenological research paradoxically makes frequent assumptions concerning the philosophical underpinnings.

Keywords: interpretive phenomenology, lived experience, Dasein, existentialia, and authenticity

What is already known?

- Phenomenology, as a research methodology, originates from a philosophical tradition
- Philosophical understandings are often loosely applied in interpretive phenomenological research
- A lack of methodological guidelines constitutes a knowledge gap in phenomenological research

What this paper adds?

- Detailed articulation of how research methods can be developed in coherence with the interpretive phenomenological philosophical tradition
- Insights for interpretive phenomenological reflexivity throughout the research process, concerning researchers' *being-in-the-world*, horizon of significance and embodiment

BODY OF TEXT

1. Background

Originating from philosophy, phenomenology presents a unique opportunity for capturing the lived experience of participants. Indeed, this methodology allows for the unearthing of phenomena from the perspective of how people interpret and attribute meaning to their existence. Many scholarly writings have delved into phenomenology from a philosophical lens, but few have provided methodological guidelines (Groenewald, 2004), making it challenging to operationalize quality phenomenological research. Groenewald (2004)'s article explicating a Husserlian phenomenological design is one of the most widely read publications in the *International Journal of Qualitative Methods* (Sage Publications, 2019), attesting to the need for such explicative pieces. According to Van Manen (2014), the challenge lies in making

phenomenology "accessible and do-able by researchers who are not themselves professional philosophers and who do not possess an extensive and in-depth background in the relevant phenomenological literature" (p. 18) – with philosophical underpinnings often being loosely applied in interpretive phenomenological research (Horrigan-Kelly, Millar, & Dowling, 2016). Similarly, Sandelowski (2000, 2010) cautions that many qualitative studies claiming to be phenomenology are actually descriptive studies with phenomenological overtones. Although the research community experiences difficulties in the application of phenomenology, this philosophy has great potential to enrich research methodology (Horrigan-Kelly et al., 2016; Zahavi & Martiny, 2019).

Hence, the main objective of this paper is to highlight philosophical and methodological considerations of leading an interpretive phenomenological study with respect to qualitative research paradigm, researcher's stance, objectives and research questions, sampling and recruitment, data collection, and data analysis. Firstly, this paper will trace the philosophical underpinnings of interpretive phenomenology to illuminate human sciences, with particular attention to the concepts of *Dasein*, lived experience, *existentialia* and authenticity. Secondly, methodological considerations, drawn from this phenomenological basis, will be explicated and illustrated through a research study of pediatric intensive care unit (PICU) nurses' lived experience of a major hospital transformation project in Canada – thus offering guidance on how to align qualitative research methods and process with this philosophical tradition (see Frechette, Lavoie-Tremblay, Kilpatrick, and Bitzas (2019) for further details concerning this study).

1.1 Philosophical underpinnings

The beginning of contemporary phenomenology can be traced back to German philosopher Edmund Husserl, who proposed a descriptive approach to discovering the essence of a phenomenon (Mapp, 2008; Moran, 2000). Husserl suggested that, through bracketing presuppositions or epoche, this essence would emerge from the things themselves, "zu den Sachen selbst" (Mapp, 2008; Moran, 2000; Van Manen, 2014). Heidegger, a mentee of Husserl, is considered the founding father of interpretive phenomenology or hermeneutics (Mapp, 2008). Interpretive phenomenology and hermeneutics are often used interchangeably, even if hermeneutics has a narrower focus on the interpretive process. Indeed, hermeneutics draws on interpretive phenomenology to illuminate interpretations of meaning (e.g., from human experience, from a text, from artefacts or from other sources that hold significance) (Polit & Beck, 2012). Two schools of phenomenology are most salient, the descriptive school originating from Husserl's work and an interpretive school following hermeneutic philosophy (Laverty, 2003; Mapp, 2008). This paper will focus more specifically on the latter, Heideggerian interpretive phenomenology, and the hermeneutic philosophical tradition as the foundations of the qualitative research methodology.

The research phenomenologist's stance stems from Heidegger (1927a)'s proposal that everyday phenomena are mostly hidden, covered in multiple layers of forgetfulness (*Vergenssenheit*); herein this concealment lies the possibility of recollection or disclosedness for Heidegger. To illustrate this, if asked to describe the walls of the neighbourhood grocery store, most of us would find this task difficult even if we have been there on multiple occasions. For Heidegger (1927a), a phenomenon can only be unveiled ontologically through **being** *Dasein*, a phenomenological concept denoting an interpreting entity such as a human being. Hence,

phenomenology represents the activity of pulling *existentialia* out of forgetfulness, through discourse (Buckley, 2018; Heidegger, 1927a); *existentialia* are conditions of possibility for *Dasein*, which include comportments (*existentiell*) and structures of being (*existential*) (Buckley, 2018; Heidegger, 1927a). In sum, the main objective of interpretive phenomenology is to uncover or disclose a phenomenon by pulling away layers of forgetfulness or hiddenness that are present in our everyday existence.

As phenomenological researchers, our epistemology is anchored in an existential understanding of *Dasein* and their *existentialia*. One overarching *existentialia* for *Dasein* is *being-in-the-world* which speaks to *Dasein'*s everydayness, forgetfulness, projectivity and being-with-others (Heidegger, 1927a). For Heidegger (1927a), everyday life – the way *Dasein* are in their everydayness – is of primordial importance. As previously mentioned, this everydayness is characterized by forgetfulness. For Heidegger (1927a), forgetfulness is not a lesser state than disclosedness; it simply represents another mode, the other side of the same coin. *Dasein*'s projects (i.e., life goals), and the means to achieve these (i.e., equipment such as tools, processes and materials) are mostly forgotten in everyday life (Heidegger, 1927a; van der Hoorn & Whitty, 2015). Equipment discloses *Dasein's projectivity*, meaning that equipment shows itself to *Dasein* through circumspective concern (in-order-to) in projects (Heidegger, 1927a). "These projects are not necessarily on a large scale," according to Paley (2014) "Getting up from my chair, to go through the door, to walk across the hall, to enter the kitchen, to put the kettle on, to make a cup of tea… is a project" (p. 1522). For example, the old toys from one's youth stored in the garage will remain forgotten until the project of entertaining a child is activated. Then, suddenly the old bunny rabbit will be pulled out of forgetfulness "in-order-to" stop a child's crying. Equipment is referential, in that it is always perceived in relation to, or in reference to the needs of *Dasein*'s

projects: "people find meaning and terms of existence through their referential associations" (van der Hoorn & Whitty, 2015, p. 723). When equipment serves the purpose intended for the project, or is *ready-to-hand*, it goes unnoticed in our everyday lives. If one takes the car to go to work, the action of driving the car will go almost unnoticed, on autopilot one could say, until suddenly the car breaks down, is *unready-to-hand*, then the car suddenly becomes apparent. Moreover, the breakdown does not only reveal the equipment, the car itself, but *Dasein*'s *projectivity* – the desire for *Dasein* to get to work. A broken car in the scrap yard will not show itself to the owner, but the *unready-to-hand* equipment needed to accomplish one's project will. Breakdown or dysfunction is therefore a great source of illumination of Dasein's motives, the *so what?*

Importantly for researchers, Heidegger's philosophy focuses on the individual level (Renaut, DeBevoise, Philip, & Nehamas, 1997), and his work has been critiqued for lacking social dimensions. This critique is not surprising, as for Heidegger (1927a), the social reality or *being-with-others* is a mode of being for *Dasein* versus an external reality. It is not possible to dissociate others from being; the individual level of analysis can never be devoid of the social dimension that inhabits it. The *das Man* or the "They" functions as a representation of the perceived social norms prescribed by others; what they do, what they think, etc. For Heidegger (1927a), being authentic is to be uncovered, to be a disclosed self and to stand in resoluteness within the "They", in acceptance of what we are. On the contrary, inauthenticy results from disowning who we are, to be covered up by the *das Man* as taking the place of self. In the same way that forgetting opens up the possibility of recollecting, authenticity and inauthenticity present two equal modes of being – with not one having superior moral quality. Death represents *Dasein*'s ultimate impossibility, which creates the condition for all other possibilities

as *Dasein* is always *being-towards-death* (his/her own death) (Heidegger, 1927a). These possibilities offer the researcher an ontological window into mortality and humanity.

Through this ontology, *Dasein*'s *existentialia* includes comportments (*existentiell*) and structures of being (*existential*) (Buckley, 2018; Heidegger, 1927a) relevant to qualitative research methodologies. Comportments concern the behaviours that are exhibited and often taken-for-granted in every day life (Benner, 1994a). Heidegger writes of four equiprimordial existentials: *Befindlichkeit* or mood, understanding, discourse, and everydayness (Buckley, 2018; Heidegger, 1927a). Mood is described by Heidegger (1927b) as something that is always there (e.g., a gut feeling, an atmosphere or an emotion) and changes as *Dasein* is attuned to being-in-the-world; "Mood has always already disclosed being-in-the-world as a whole" (Heidegger, 1927b, p. 129). Phenomenology studies embodiment, which include "skillful comportment and perceptual and emotional responses" (Benner, 1994a, p. 104).The body's sentiments provide a window into human understandings (Benner, 1994a); the body and its emotions provide "… the entry point to deeper insights into the lived reality of others" (Sharma, Reimer-Kirkham, & Cochrane, 2009, p. 1645). As Heidegger (1927a) mentioned, since *Dasein* is *being-towards-death*, angst or anxiety is always a basic mood. Understanding represents the original possibility; it functions as a forestructure, allowing interpretations to be laid out in an "as" structure (Buckley, 2018; Heidegger, 1927a). For example, it is the understanding of a door as separating two spaces and as having the possibility of being opened, which allows one to use a door "as" an exit. For Heidegger (1927a), "interpretation is … the development of possibilities projected in understanding" (p. 149). Discourse for its part is embedded in everydayness with inauthentic forms of discourse (i.e., idle talk, or small talk) and authentic forms of discourse that are disruptive of everyday discourse, such as silence and poetry (Heidegger, 1927a); with authentic

forms allowing for disclosiveness of phenomenon. Of importance to note in phenomenology, truth does not represent objective reality like in positivist research (Guba & Lincoln, 1994), it represents the state of disclosiveness of a phenomenon. Everydayness for *Dasein* holds the possibility of *fallenness*, to get caught up in inauthentic forms of discourse, and to display curiosity (being nosy or voyeur), and ambiguity (accepting things at face value) (Heidegger, 1927a) – with researchers not being spared from these risks.

Fundamentally for interpretive phenomenological research, phenomenology and more specifically hermeneutics focuses on interpretation of meaning (Laverty, 2003; Polit & Beck, 2012), as is evident by the hermeneutic definition of lived experience. The German word for experiencing (verb), *Erleben*, simply means to be alive when something is grasped (Gadamer, 2004). The experienced (noun), *das Erlebte*, refers to what lasts once the experiencing is done: "This content is like a yield or result that achieves permanence, weight, and significance from out of the transience of experiencing" (Gadamer, 2004, p. 53). Lived experience, *Erlebnis*, fuses these two meanings; the immediacy of experiencing provides the raw material to be shaped through interpretation, reinterpretation and communication into its lasting form, the experienced (Gadamer, 2004); what Weick (1995) calls the *sensemaking* process in organizational studies. A lived experience is not only something that is experienced, "its being experienced makes a special impression that gives it lasting importance" (Gadamer, 2004, p. 53). This hermeneutic conceptualization of lived experience shows the centrality of the meaning attributed to the experience. An account of lived experience is incomplete if it remains purely descriptive; it must contain an interpretation of significance for the person. Ricoeur (1981) argues that a person's life story has two dimensions that contribute to its forward movement or directedness: 1) a

chronological sequence of episodes, and 2) a construction of "meaningful totalities out of scattered events" (p. 240).

As a way of exploring lived experience for researchers, the hermeneutic circle suggests a back and forth movement from the part to the whole and other parts of the story (Gadamer, 1976; Rodgers, 2005; Taylor, 1987; 1991, p. 38). The part is never detached from its relation to the whole and how it makes sense in light of other partial expressions (Taylor, 1987). The whole must be kept in constant view for elements to truly stand out (Heidegger, 1927a). The meaning that we give to a situation is always shaped by what matters to us, our "horizon of significance" (Carnevale & Weinstock, 2011; Taylor, 1987; 1991, p. 39). In contrast to Husserl, Heidegger (1927a) maintains that bracketing presuppositions, as a way back to the essence of the phenomenon, is impossible. Presuppositions or forestructures actually create the clearing necessary to uncover phenomena (Buckley, 2018; Heidegger, 1927a). Heidegger (1927a) wrote about forestructures of understanding, which represent the ideas and embodied experiences that we bring with us to a situation. Gadamer (1975) and Taylor (1991) took this concept further by identifying these forestructures as formative of a backdrop or "horizon of significance" from which we can attribute meaning to new situations. According to interpretive phenomenological tradition, a pre-suppositionless stance is neither possible (McManus Holroyd, 2007; Moran, 2000) nor desired since it is this "horizon" which allows the bridging of new understandings or "fusion of horizons" (Gadamer, 1976, p. 39; Rodgers, 2005). The philosophical underpinnings of interpretive phenomenology offer much to enrich research methodology.

2. Methodological considerations

This section will highlight methodological considerations of interpretive phenomenology concerning research paradigm, researcher's stance, objective and research questions, sampling

and recruitment, data collection, and data analysis. Table 1 provides an overview of the main distinctions between interpretive phenomenological research and generic qualitative research. The distinguishing methodological features of interpretive phenomenology will then be further explicated. Examples from a study concerning a major hospital transformation project will illustrate the operationalization of this philosophy within qualitative research. This research project was undertaken in a 32 single-patient bed PICU in a large Canadian pediatric hospital; the unit had undergone a major transformation, which included the construction of a new unit centered on children and families, and associated quality improvement projects.

Table 1. Comparison of interpretive phenomenological research and generic qualitative research

Research process	**Generic qualitative study**	**Interpretive phenomenological study** (main particularities)
Disciplinary roots	▪ None in particular ▪ Loosely inspired "from other qualitative traditions"	▪ Interpretive phenomenology - philosophy
Research paradigm	▪ Constructivist	▪ Constructivist ▪ Unique understanding of *being*
Researcher's stance	▪ Reflexive ▪ Naturalistic	▪ Reflexive – of one's *horizons of significance* and *being-in-the-world* ▪ Embodiment epistemology
Objective and research question	▪ Oriented towards action – practice and policy	▪ Oriented towards understanding / uncovering lived experience of individuals in constant *being-with-others*
Sampling and recruitment	▪ Purposeful sampling – especially maximum variation ▪ Average of 20 participants ▪ Target information-rich cases	▪ Purposeful sampling – especially maximum variation ▪ Average of 10 participants ▪ Target phenomenon-rich participants
Data collection	▪ Mainly interviews / focus groups ▪ Can have focused observations and document review ▪ Aims to describe who, what, and where	▪ Primary source = interviews ▪ Complemented by other *authentic* modes of data collection such as participant observation, and art-based methods ▪ Aims to uncover / disclose

Data analysis	▪ Often content and thematic analysis ▪ Low inference – descriptive (data-near)	▪ Hermeneutic analysis (hermeneutic circle with back-and-forth movement from part to whole) ▪ Interpretive
References	(Polit & Beck, 2009; 2012, p. 505; Sandelowski, 2000, 2010)	See references for each section

2.1. Research paradigm

2.1.1. What distinguishes interpretive phenomenological research paradigm

A constructivist paradigm orients phenomenological research by way of a relativist ontology whereby human "realities are apprehended in the form of multiple, intangible mental constructions, socially and experientially based, local and specific in nature" (Guba & Lincoln, 1994, p. 110). This paradigm emphasizes the contextual nature of qualitative research findings, which are elicited through a co-construction between the participant and researcher (Guba & Lincoln, 1994). Although much qualitative research rests on a constructivist paradigm, interpretive phenomenology is set apart by anchoring its research tradition in a unique understanding of *being* (i.e., *Dasein*, a human researcher or participant, etc.)

2.1.2. How to operationalize these distinctive features

As the following methodological sections will demonstrate, this understanding of *being* guides every step of the research process. The philosophy of interpretive phenomenology becomes an integral part of the researcher's horizon of significance.

2.2. Researcher stance

2.2.1. What distinguishes interpretive phenomenological researcher stance

The researcher's reflexive stance is probably the first and foremost consideration in qualitative research (O'Brien, Harris, Beckman, Reed, & Cook, 2014; Tong, Sainsbury, & Craig, 2007). More specifically for phenomenological inquiry, the researcher is called to contemplate

horizons of significance, embodiment, and *being-in-the-world*. Hermeneutics purports that new understandings are created through the bridging of the researcher's and the participant's horizons of significance (Gadamer, 1976, p. 39; Rodgers, 2005). This bridging requires self-knowledge on the part of the researcher, as well as an openness to others – elements that can be cultivated through reflexivity. The researcher's body senses differences, commonalities and absences in their own horizon of significance that are elicited by situations and participants (Sharma et al., 2009); being attuned to our body offers a window to our horizon of significance. The same is true of the participant's body – it is more than a physical object; it is a sentient being (Merleau-Ponty, 1986). Moreover, through unique insights into *being-in-the-world*, interpretive phenomenology opens the door for reflection on *being* a researcher, a participant, etc. (i.e., through our everydayness, forgetfulness, projectivity, and being-with-others).

2.2.2. How to operationalize these distinctive features

The reflective journal is an essential tool for documenting the researcher's reflections. This documentation starts with a reflective piece about what brings the researcher to the particular study at hand, and then continues with the researcher's reflections on how their own horizon of significance is brought to light via attunement to the research process. For example, the principal investigator for the study about a major hospital transformation (first author) comes from a background in nursing and management. As a manager, she felt frustrated at having to implement top-down projects, which were often poorly adapted to the reality of healthcare professionals. This experience frequently made her wonder how bedside nurses lived projects that were imposed on them, not only in their practice, but also on an existential level. This horizon of significance provided the springboard to initiate the research project, as well as the first stepping-stone of the bridge between horizons. The key to keeping this type of research

rigorous is to be transparent about how one's horizon of significance plays out in the research process. Therefore, the final manuscript should include a short mention of the researchers' horizon of significance to allow readers to make up their own minds about the "potential or actual interaction between researchers' characteristics and the research questions, approach, methods, results, and/or transferability" (O'Brien et al., 2014).

Hermeneutic research favours an embodiment epistemology in which the researcher pays close attention to their own and the participant's emotions and bodies (non-verbal cues from participants) and documents these states in their reflective journal (Giacomini & Cook, 2000; Sharma et al., 2009). Non-verbal cues offer the researcher a window into a person's moods (*Befindlichkeit*) – their own and the participant's. A researcher can train themselves to be more receptive to these bodily cues by using their six senses – eyesight, hearing, taste, touch, smell and gut feelings – and being reflective about these states (Sandelowski, 1986).

Reflective Journal (first author) – October 29th, 2018

Today, it was planned for me to observe a nurse who was taking care of a burn patient. When I saw his assignment, I was scared, thinking "oh no, it's Monday, couldn't I have a less challenging case?" After having the patient and father consent, I observed in the room. I was already stressed in the hallway, waiting for the nurse to come get me before the observation. I was scared of fainting again, of not being able to watch the dressing change. I watched the dressing change and the room was hot, because a burn patient has difficulty keeping his warmth, they put up the heat and because I wasn't feeling so good. The patient was repeatedly saying it hurt him and nurses were working on him at various places, he had to move his legs, his eye was burning - it was too much suffering for me. I rationalized that I had seen enough, did I? Should I have pushed more? I don't know.

> Does the quest for data have such high supremacy that it supersedes my own wellbeing as a researcher? I just felt so sad/distressed at seeing this young man try to go through this procedure, with dignity, with bravery - the music he listened to spoke about "being brave" on many occasions, in different songs. I couldn't bear to see him suffer, I kept on wondering why they are not giving him more drugs, why are they questioning when he asks for more drugs? How are the nurses dealing/coping with seeing that much pain on a daily basis? And the father, who seemed to try his best to comfort his son, putting the music up for him, wiping his eye that was burning, standing close to him as soon as there was room. And this balloon "Happy Birthday" inflated at the back of the room and a decorated pumpkin - reminders of a life he's not living, stuck in his bed. How much suffering can one see before one becomes functional in its presence/indifferent? How do you cohabit with this human distress as a nurse?"

As this poignant excerpt shows, the researcher taps into her own humanity to dialogue with the situation she is observing – paying close attention to how her body is revealing her horizon of significance (i.e., fear of fainting, sensing the heat, sadness, distress, etc.). The reflective journal is the perfect place to reflect on one's own humanity, or *being-in-the-world*, as it provides a safe and private place for researchers to dialogue with themselves. Reflexivity represents an authentic form of discourse – different from everyday modes of communication – shielded in a sense from the *fallenness* that one may display in everydayness. For example, the principal investigator reflected on how certain questions were warranted by the research, but that fears related to undermining one's credibility as a clinician were sometimes holding her back from asking the questions she felt one "should" know as a nurse, falling into ambiguity. In one participant observation, a nurse participant spoke about the seven moments of hand washing, so as a

clinician, the researcher took for granted that the seven moments of hand washing were the ones she had learnt in her training, and did not ask a complementary question to explore what the seven moments were. The nurse participant may have had a different understanding of these moments that was not uncovered. Constantly reflecting on one's own *being-in-the-world* keeps the researcher on their toes, bringing them to a higher level of self-awareness and attunement to their surroundings.

2.3. Research objective and questions

2.3.1. What distinguishes interpretive phenomenological research objective and questions

An interpretive phenomenological study aims to explore lived experience of a phenomenon, representing an individual level of analysis with an understanding that social contexts are embedded within an individual's being (i.e., *being-with-others*). The overarching goal is to uncover a new understanding of the phenomenon – to pull *existentialia* out of forgetfulness (Buckley, 2018; Heidegger, 1927a).

2.3.2. How to operationalize these distinctive features

Research objectives in phenomenological studies will often qualify "whose" and "what" lived experience are being investigated, and the context in which *Dasein* are situated. The objective and research questions will often integrate the terms "lived experience" verbatim. For example, the main objective of the exemplar research study is to explore PICU nurses' (whose) lived experience of environmental and quality improvement changes (what) in the context of a major hospital transformation project (context). As mentioned previously, exploring lived experience does not only allow the researcher to ascertain a series of events through time, but aims to elicit the meanings and interpretations that people attribute to these experiences. Generally, the research questions will flow from the objective and break down the phenomenon

to be examined into smaller parcels. This parcelling of the phenomenon will favour the back-and-forth movement from part-to-whole in the analysis (described further in the analysis section). Research questions will sometimes take-up Heidegger's or another hermeneutic philosopher's terminology to highlight elements of the philosophical tradition that will orient the inquiry more specifically. This terminology can capture very rich understandings (of *being* for example) in one or a few words that would otherwise be impossible to include succinctly in a research question. The exemplar study involves three research questions:

1. What are the *existentialia* (Heideggerian terminology) or conditions of possibility for PICU nurses' experience of a major hospital transformation?
2. What are PICU nurses' lived experience of environmental changes in their workplace (including the physical environment, as well as the place occupied by technology)?
3. What are PICU nurses' lived experience of changes resulting from quality improvement projects (practice projects, people projects and process projects)?

Following the phenomenological tradition, no hypotheses are presented in the methods, as these "anticipations" are part of the researcher's horizon of significance and ongoing reflexivity.

2.4. Sampling and recruitment

2.4.1. What distinguishes interpretive phenomenological sampling and recruitment

A purposive sampling strategy is most commonly used in phenomenological research as it allows selecting participants who have rich knowledge of the phenomenon (Mapp, 2008; Polit & Beck, 2012). Compared to quantitative research and descriptive qualitative designs using thematic or content analysis, the sample sizes in interpretive phenomenology are smaller (about n=10 is common) (Groenewald, 2004). The richness of the data collected takes precedence over the actual size of the sample (Mapp, 2008). A small sample size is not seen as a limitation in

phenomenological studies, since the primary objective is not generalizability, but to illuminate the lived experience and context in as much depth as possible. In describing the context in great detail, readers can then judge the possible transferability to their own settings (Lincoln & Guba, 1985). A small purposive sample with rich and diverse lived experiences of the phenomenon is most coherent with phenomenological studies' main objective of uncovering the multiple layers of hiddenness of a phenomenon within its context.

2.4.2. How to operationalize these distinctive features

The exemplar study used purposive maximum variation sampling to seek participants who experienced both the old and the new infrastructure of the unit and could thus be informative of the transformation. Recruitment was tailored to optimize chances of obtaining maximum variation according to gender, age, educational background, work experience, as well as experience with the transformation project; these demographic characteristics were identified through a literature review as potentially shedding a different light on the phenomenon. For example, in order to increase chances of having nurses from every work shift, the principal investigator presented the research project at team meetings on every shift. The demographic information of the emerging sample was continually analysed, and the recruitment strategy adjusted to obtain maximum variation of demographic characteristics (e.g., emphasizing importance of having night nurses represented in communications). Recruitment unfolded until a sample size of n=15 had been reached; recruitment would have resumed later if more data had been needed for saturation. Saturation in qualitative research is considered attained when new data does not contribute significantly to understanding of the phenomenon (Carnevale, 2002).

2.5. Data collection

2.5.1. What distinguishes interpretive phenomenological data collection

Authentic modes of communication, enabling greater disclosiveness according to interpretive phenomenology, are used as data collection methods. To enhance the data collection process, researchers must also guard against the presence of inauthentic modes of communication through constant reflexivity. In-depth interviews are usually the primary data collection method in phenomenological research (Kvale, 1996). Although interviews are ideal to elicit experienced meaning (Kvale, 1996), Paley (2014) suggests this data collection method may be insufficient to uncover phenomenon in a Heideggerian sense since interviews pose the risk of representing the voice of the *das Man*. The use of multiple data collection methods, known as method triangulation, is therefore particularly warranted, as each data collection method informs the other through a back-and-forth movement (hermeneutic circle).

2.5.2. How to operationalize these distinctive features

To illustrate this hermeneutic circle, the exemplar study used multiple data collection methods (see Table 2), with information retrieved in the document review allowing for more pointed questioning in the interviews, narratives during the interviews providing greater focus for the participant observation, etc. The following sections will further explore phenomenological considerations for interviews, participant observation, and art-based data collection methods.

Table 2. Actual recruitment, data collection and data analysis timeline (2018-2019)

	SEP	OCT	NOV	DEC	JAN	FEB	MAR to AUG
Recruitment							
Data collection							
Participant observation							
Document review							
Photographs							
Interviews							
Follow-up interviews							
Data analysis							

2.5.3. Interviews

2.5.3.1. What distinguishes interpretive phenomenological interviews

Individual interviews elicit a participant's narrative, which allows the storyteller to remember a past event and recount it in light of what is meaningful for them (Benner, 1994a) – with meaning being an essential component of lived experience. In order to uncover this lived experience, the interviewer is called to committed listening – a desire to unearth what people care about and to listen for more than words, for their "underlying beliefs, assumptions, and interpretations" (Hargrove, 2008, p. 99). Interpretive phenomenology cautions the interviewer not to fall into complacency (*fallenness*) and informs the formulation of probing questions. Complacency, in this sense, occurs when the interviewer falls back into everyday small talk. It is quite easy for an interviewer to subtly start filling in silences, accept a phrase said by the participant at face value (ambiguity), and go on a tangent out of curiosity – with these inauthentic forms of discourse further veiling the phenomenon (Heidegger, 1927a). In order to move beyond the voice of the *das Man* to the authentic voice of the participant, the interviewer must be ready to sacrifice the comforting ease of everyday conversation. Silence, probing questions, reflection on non-verbal cues, and integration of elements captured by other data collection sources enable the researcher to peel away at forgetfulness of the everyday experience

of a phenomenon; these modes of interviewing allow breaking down little by little the veils covering the phenomenon (like an archeologist brushing away the sand covering an ancient fossil).

2.5.3.2. How to operationalize these distinctive features

Since hermeneutics involves a dynamic co-construction of data between the researcher and the participant, interviews are usually unstructured or semi-structured with some guiding questions as a starting point (Benner, 1994a). Individual interviews usually last 60-90 minutes to allow for an in-depth discussion to occur, and if participants consent, allow for the possibility of follow-up interviews to validate preliminary understandings. In the exemplar study, the interviewer (first author) entertained a state of hyper-vigilance, with a constant awareness of her own *fallenness* and an internal dialogue between what occurred during the interview (verbal and non-verbal cues), and what this meant in light of other data (hermeneutic circle), and horizons of significance.

> *Reflective Journal (first author) – November 28th, 2018*
>
> "I was proud of myself today because in the interview I asked a nurse "and you feel this is a nursing role... [role in supporting & hearing the suffering of parents]" I felt that this was important because it was implicit in what she was saying and I didn't want to assume what she was saying/thinking. What made me realize it was important was her reaction; she seemed upset, as if this was obvious. I was happy that I didn't fall (fallenness) into a certain kind of complacency that we all do in small talk - acquiesce to things without full understanding, to keep the conversation going and pleasant. I was happy because her reaction did not upset me, it confirmed that I had picked up on something that was

> powerful and meaningful, that would not have been uncovered so forcefully/strongly without my inquisitive question."

This excerpt shows how the interviewer's probing question allowed uncovering the importance attributed by this participant to the role nurses play in parental coping with distress – shining a light on something that was implicit (hidden and ambiguous), and making it explicit (expressive of a strong emotional reaction). In interviews, the researcher can also sustain prolonged silences (authentic mode of communication), as well as challenge participants with their non-verbal cues or examples taken from other data collection methods. In one of the PICU study interviews, when Monique (pseudonym) was speaking of workstations, the interviewer reflected that she had noticed other healthcare professionals sitting at the alcove where nurses usually work. Monique replied, "Yes, they take the place they shouldn't take" (Translation of French); this verbal reaction enriches data that was observed by adding the dimension of implicit social norms within the workplace (professional territoriality) that would not necessarily come out without the combination of observation and interview data. See table 3 for sample probing questions that were effective in the exemplar study.

Table 3. Sample probing question from the exemplar study

Probing question	**Phenomenological reason for the question**
How do you feel in relation to this change?	Using mood, *Befindlichkeit,* as a window into the experience
What is significant about these changes for you, for nurses in general?	Trying to get at the meaningfulness of the *lived experience* and how it pertains to an area of *projectivity* in the participant's lives, their work as a nurse
What does this change mean for you on a day-to-day basis?	Attempting to uncover their authentic everyday life
What do you mean by the word "X"?	Uncovering what meaning and weight are attributed to certain words that either recur during an interview or are used poignantly by the participant, i.e., punctuated by a silence, highlighted by a change in non-verbal, used in combination with words that trigger an interviewer embodied response

2.5.4. Observations

2.5.4.1. What distinguishes interpretive phenomenological observations

Unstructured observation provides valuable information into the social interactions of teams, the context of the study, the processes at play and situate the collected information within the bigger picture (Mulhall, 2003), with this bigger picture supporting the back-and-forth movement from part to whole (hermeneutic circle). Phenomenologically, observation is important since phenomena can be veiled (Heidegger, 1927a) and mostly located at the level of taken-for-granted practices (Benner, 1994b). Methods for participant observation and field notes are borrowed from the anthropological tradition, which has a very long history of doing fieldwork, and are adapted to be coherent with the phenomenological design. Whereas an anthropological study will generally focus its observations on culture (Geertz, 1973), a phenomenological study will attempt to observe *existentialia* (comportments and modes of being) in their everyday form, hence as mostly forgotten or taken-for-granted. Moreover, observations that last for three months or longer allow enough time to develop the trust necessary to lower participant reactivity and increase what people say in confidence (Bernard, 2002), allowing for deeper disclosiveness during the interviews. This prolonged engagement with the field also allows a better understanding of the "context in which [the phenomenon] is embedded" (Lincoln & Guba, 1985, pp. 301-302), which is of primordial importance in interpretive phenomenology. In addition, Heidegger (1927a) suggested that certain forms of discourse such as silence and art are particularly unveiling. Silence was previously discussed in the section about interviews and is particularly central in observations. Observation allows for long periods of silence from the researcher and opens up to other ways of capturing information in an embodied sense. When one is silent and open, one can see, hear, taste and feel.

2.5.4.2. How to operationalize these distinctive features

Two adaptions of participant observation most significantly represent the phenomenological tradition: 1) the observation guide (See table 4 for excerpts of exemplar study observation guidelines), and the researcher's embodied stance (as previously described). Generally, participant observations "place few restrictions on the nature of the data collected", but a guide can be useful as a starting point to stimulate "observational possibilities while in the field" (Polit & Beck, 2012, pp. 546-547). Spradley (1980) suggests that observers start by trying to grasp as much as possible during the observations, and as the inquiry progresses, to focus on key elements related to the research objective (Polit & Beck, 2012). For the PICU study, Hammersley and Atkinson (2007)'s three dimensions were used to focus the participant observation: 1) *Time* – Certain activities / comportments may occur more frequently at certain times (i.e., rounds, hand-off, etc.), 2) *People* – Certain types of team members may need further observation (i.e., nurse clinicians in interaction with physicians, etc.), 3) *Context* – Certain places may require further inquiry (i.e., patient rooms, nursing station, etc.). More specifically for the exemplar study, participant observation was conducted two days a week, in two-hour blocks, for three months followed by more specific observations for another three months. Participant observation included embodied observation of the PICU, shadowing nurses and informal discussions.

Table 4. Excerpts from the PICU study observation guidelines

Observation probes (inspired from the works of (Benner, 1994c; Gadamer, 1981; Heidegger, 1927b; Mulhall, 2003; Polit & Beck, 2012)	**Phenomenological target**
What are people doing and saying?	Comportments
What behaviors are promoted or constrained by the physical environment?	Comportments in relation to the phenomenon under study – i.e., physical changes
How is the environment supporting/hindering nurses' practice (look for non-verbal cues – sighs, discomfort, smile, etc., as well as breakdown of equipment)?	Impact on *projectivity*
Who is given free access to the setting – who "belongs"?	Implicit social norms (the *das Man*)
What type of emotions do they show during their interactions	Moods (*Befindlichkeit)*
What did not happen, especially if it ought to have happened?	Hiddenness
Are participants communicating different things in the interview and through the observations?	Hiddenness
What elements seem to be taken for granted by the nurses, by the principal investigator?	Hiddenness

2.5.5. Art-based methods

2.5.5.1. What distinguishes interpretive phenomenological art-based methods

Art-based research methods represent "an effort to extend beyond the limiting constraints of discursive communication in order to express meanings that otherwise would be ineffable" (Barone & Eisner, 2012, p. 1). This is consistent with Heidegger (1927a) view that art, such as poetry, present more authentic (unveiling) types of discourses. Art-based research includes, but is not limited to poetry, music, dance and visual arts (Leavy, 2009).

2.5.5.2. How to operationalize these distinctive features

The exemplar study used photovoice whereby participants were asked to take pictures of environmental and practice changes in the PICU that they considered meaningful. Originally developed by Wang and Burris (1997) with an emancipatory perspective (Evans-Agnew,

Boutain, & Rosemberg, 2017), photovoice uses photographs "to elicit, draw out, evoke responses from participants" (Riley & Manias, 2004, p. 400). It allows participants to actively share their vision of the phenomenon through the "immediacy of the visual image" (Wang & Burris, 1997, p. 369). Following photovoice methodology, PICU participants were encouraged to capture images that illicit a particular feeling for them, no matter what this feeling was (mood, *Befindlichkeit*) (Evans-Agnew et al., 2017; Olausson, Ekebergh, & Österberg, 2014). Participants could also take pictures outside the PICU environment that reminded them of the environmental and practice changes they experienced in the PICU – representation pictures (Evans-Agnew et al., 2017). Participants were instructed to exclude people from the photographs (i.e., colleagues, patients, visitors, etc.), as well as identifiable objects (i.e., staff identification cards, patient charts, etc.). The participants took these photographs digitally for one month prior to the interviews, using their personal phone. The pictures were then used to elicit discussion during the interviews. As interviews represent a more artificial reality created by the researcher, the photos serve as a way of bringing everydayness into the interview, to elicit everyday life (S. Ybema, personal communication, July 9, 2019).

Figure 1. Photograph taken by Cindy (nurse participant; pseudonym)

This photograph showing a nursing workstation within a deeper alcove spurred discussion about the isolation felt by nurses and the longing for past team spirit. The following

are sample interview questions that were used specifically for photographs (inspired by the questioning strategy recommended by Evans-Agnew et al. (2017)):

> "Can you tell me about what you see in this picture? What emotion does this picture elicit for you (mood, *befindlichkeit*)? What is the most meaningful detail in this picture for you? What about this is important? If you had to choose a title for this picture, what would it be?"

The pictures are also used to enrich the observational data as the researcher positions the delimited picture within the larger unit context. The researcher is called to observe what is within the picture frame and what is left out (i.e., what is right next to the object of focus, but excluded from the photo). This art-based data collection method further stimulates a reflection about the lived experience, and how the phenomenon may be concealed or taken for granted. Interestingly, the participants who did not take part in *photovoice* (i.e., did not bring pictures to the interview due to discomfort or lack of time), had all previously thought of the research question in terms of visual representation, which allowed delving into rich imagery for discussion – tapping into a more authentic form of discourse. For example, one participant, speaking of the ergonomics of the workstation, compared nurses to meerkats, moving backward simultaneously to see where call bells are coming from.

2.6. Data analysis

2.6.1. What distinguishes interpretive phenomenological data analysis

A hermeneutical approach to data analysis distinguishes interpretive phenomenological research from other types of qualitative inquiry. Stemming from the concept of the hermeneutic circle, a back-and-forth movement from part to whole is privileged (Gadamer, 1976; Rodgers, 2005; Taylor, 1987, 1991), with co-constructions constantly "compared and contrasted through a

dialectical interchange" (Guba & Lincoln, 1994, p. 111). Data analysis is an interpretive process, and imprinting lived experience in writing opens up the possibility for interpretation (Ricoeur, 1981). Early writings also serve the purpose of illuminating the researchers' pre-understandings (Benner, 1994a), or horizon of significance. The researcher cycles from pre-understandings to new understandings, which are integrated with future pre-understandings as the analysis continues (Benner, 1994a; Gadamer, 1976; Rodgers, 2005). As a recent work by the first author and colleagues suggests,

> "Hermeneutics reminds us that listening to the meaning attributed by others does not require the dissolution of our own perspective, but rather, it is our own horizon, from which we distance ourselves that serves as a backdrop of understanding (Ricoeur, 2016). Our own perspective, in coexistence with the other person's horizon, opens the possibility for transposing ourselves into a foreign horizon (Gadamer, 2004). To listen hermeneutically is to "recognize one's own in the alien, to become at home in it" (Gadamer, 2004, p. 13; Ricoeur, 2016) – bringing what is near to what is far, back, and forth (Ricoeur, 2016)." (Frechette & Carnevale, 2019)

In this way, the interpreter confronts their pre-understandings with "otherness, silence, similarities, and commonalities" (Benner, 1994b, p. xviii) until a bridging or *fusion of horizons* occurs (Gadamer, 1976, p. 39; Rodgers, 2005).

2.6.2 How to operationalize these distinctive features?

Different methods can be used for data analysis, but the process generally begins at the same time as data collection, with preliminary analyses of trends, highlights and differences – documented in an ongoing fashion in analytic notes or memos. In the case of the exemplar study,

the principal researcher wrote a preliminary analysis and a synthesis for each data collection episode (see Figure 2).

Figure 2. Participant observation template

Participant observation

DATE – TIME (START-END)

Thick description	Preliminary analysis
Detailed descriptive notes of what is observed (data)	*Preliminary understandings – What does this data say about the phenomenon?*

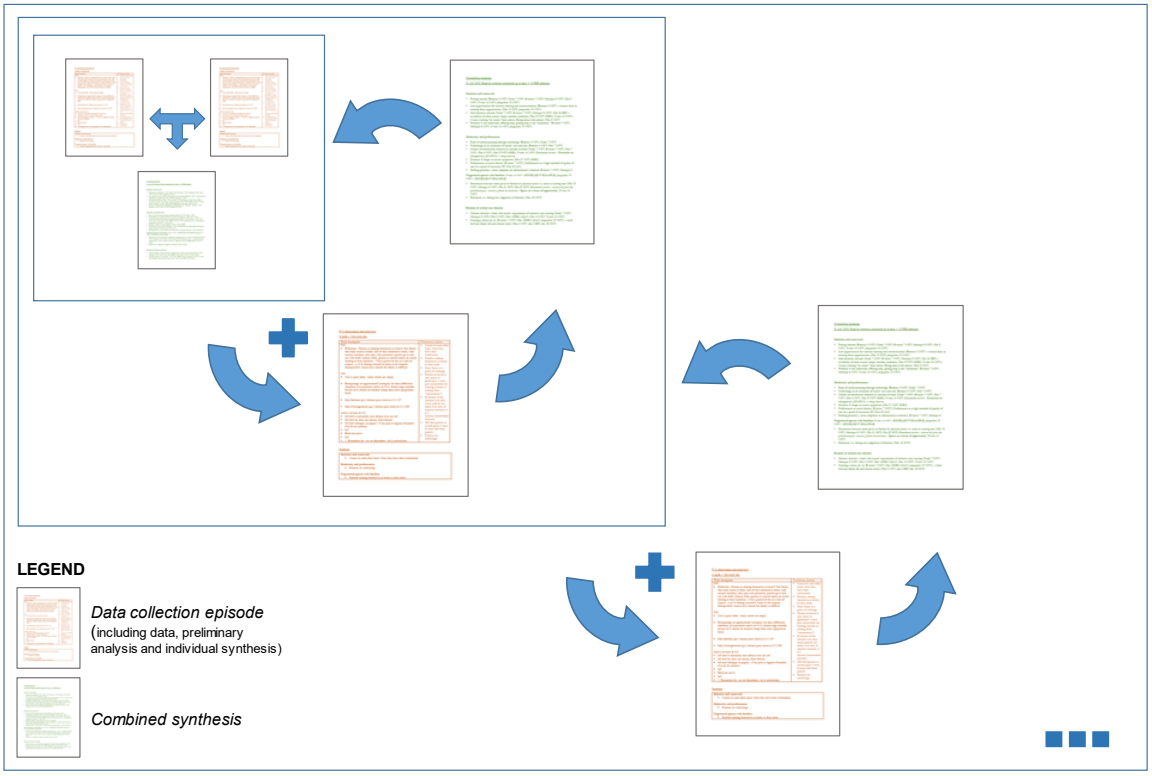
Synthesis

Interpretations – What are the central meanings elicited?

In constructing the syntheses, the researcher(s) "move in and out of the detail [of the transcripts and field notes] in an iterative manner, asking repeatedly, "What is happening here?" (Benner, 1994a; Thorne, Reimer Kirkham, & O'Flynn-Magee, 2004, p. 14). From a hermeneutical tradition, the following questions are used to dialogue with the texts (Gadamer, 1981): How is the phenomena being expressed in this encounter? What is the meaning for the interviewee and the researcher about this element in relation to the studied phenomena and why? "What do I now know or see that I did not expect or understand before I began…?" (Benner, 1994a, p. 101) The first constructed narrative synthesis provides a paradigm case from which other narrative syntheses can then be examined: "in its own terms and in light of the first paradigm case ... for comparison of similarities and differences" (Benner, 1994a, p. 114). In the PICU study, a back-

and-forth movement between synthesized and discrete pieces of data occurred (hermeneutic circle) until no new key meanings emerged from the interchange with the data (see Figure 3).

Figure 3. Data analysis process



Phenomenological analysis necessarily immerses the researcher in the study data – listening to interview recordings and reading observation, document and interview transcripts/notes on multiple occasions in their entirety and then zooming in to key sections (hermerneutic circle). The data, preliminary analyses and syntheses for the exemplar study were entered in the *NVivo 12 Pro* software to facilitate this back-and-forth movement from part to whole. Moreover, participants can be called to validate interpretations (Carnevale, 2002; Guba & Lincoln, 2005) through follow-up interviews, for example, as was also done in the PICU study.

3. Conclusion

In conclusion, the interpretive phenomenological tradition takes root in a rich understanding of **being** that opens methodological possibilities for researchers. Interpretive phenomenology presents a unique way of orienting research that allows in-depth exploration of the lived experience. Interpretive phenomenology provides researchers elements of reflection concerning their *being-in-the-world* as a researcher, their horizon of significance and their embodiment – for enhanced reflexivity and presence. Moreover, this methodology allows for pointed definition of research questions and objectives, as well as guidance in recruiting a diverse sample which can offer a rich account of the phenomenon. Researchers' understanding of interpretive phenomenology can enrich their selection of data collection methods and how these methods are operationalized (e.g., observing for what is hidden). An interpretive phenomenological methodology calls for data analysis that truly moves beyond description, to interpretation, in getting at the "so what?" The main methodological contribution of this paper is its detailed articulation of how research methods can be developed in coherence with the interpretive phenomenological tradition. It aims to bring to the fore taken-for-granted practices by qualitative researchers and make them explicit in light of the interpretive phenomenological philosophical foundations.

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In summary, Manuscript 2 showed how this doctoral study's methods were designed in coherence with the interpretive phenomenological tradition. The next sections will present the strategies that were put in place to ensure a rigorous and ethical research process.

Methodological Rigor

Overall, methodological rigor was promoted through oversight by senior researchers who have expertise in qualitative research as well as nursing and management (Benner, 1994). Early on during the interviewing phase, the senior researchers reviewed audio-recorded interviews in order to "help uncover blind spots or systematically avoided questions" (Benner, 1994, p. 107). Moreover, methodological decisions were systematically documented in a methodological log that was discussed with senior researchers. Comprehensive documentation, including a diary, where I documented my feelings as well as my values and uncertainties concerning my role as a researcher, also ensured a rigorous process (Sandelowski, 1986). The interviews and fieldwork were held in French and the data translated in English for analysis; Quotes integrated in the manuscripts were translated from French to English by the PI and back translated for accuracy. Based on the works of many qualitative researchers, Carnevale (2002) suggested four criteria for evaluating rigor in qualitative nursing studies: credibility, confirmability, saturation and transferability.

Credibility

Credibility refers to the faithfulness of the research results in relation to participants' experiences, the truth value or believability of the findings (Carnevale, 2002; Lincoln & Guba, 1985). Triangulation, through multiple data collection methods, helped foster credibility (Carnevale, 2002). Moreover, preliminary findings were presented to experts in the field, thesis committee members, in order to challenge/confirm the initial analysis (Carnevale, 2002). A

selection of transcripts and field notes were read by senior qualitative researchers in relation to the narrative summaries and analysis of the PI; this ensured that the summaries and analysis followed logically from the data. In addition, the "prolonged engagement" in the field allowed for a better understanding of the "context in which [the phenomenon] is embedded" (Lincoln & Guba, 1985, pp. 301-302).

Confirmability

Confirmability describes the rigorous process by which data is collected and analyzed so that another researcher could arrive at similar conclusions (Carnevale, 2002). To support confirmability of the findings, member checking was done (Carnevale, 2002; Giacomini & Cook, 2000); the PI returned to the participants, if they were available and consenting, to provide input about evolving interpretations and understandings. Member checking also allows the demonstration of credibility of the findings (Lincoln & Guba, 1985). In addition, confirmability was enhanced by an audit trail through detailed field notes and verbatim transcriptions of interviews (Carnevale, 2002; Lincoln & Guba, 1985; Sandelowski, 1986). This audit trail will be preserved in order to be able to trace back the interpretation process to its sources and made available should any request be made concerning the findings and discussion.

Saturation

"Saturation refers to the thoroughness of the data collected" (Carnevale, 2002, p. 126). Data was generated until new data did not contribute significantly to understanding of the phenomenon (Carnevale, 2002). Versus a more conventional focus on collecting data until it becomes "repetitive and redundant" (Polit & Beck, 2017, p. 60), Carnevale (2002)'s definition of saturation, with its emphasis on the richness of data and understanding, fits well with the interpretive nature of phenomenological inquiry. In this study, flexibility in sample size, quantity

of data collection measures (number of hours of observation, number of interviews, etc.) and multiple data collection methods facilitated saturation.

Transferability

Transferability seeks the applicability of research findings to similar contexts; to have the results speak to others within similar situations (Carnevale, 2002; Lincoln & Guba, 1985). The multiple data collection methods allowed the context to be described in great detail, so readers can judge of the possible transferability (Lincoln & Guba, 1985). In phenomenological studies, the primary objective is not generalizability or transferability, but to illuminate the context within which the phenomenon is studied.

Ethical Considerations

Ethical approval was obtained from McGill University's and the hospital's ERBs prior to the study's start (Canadian Institutes of Health Research et al., 2014). Written informed consent was sought from adults participating in formal interviews (see appendix A). The consent process was reiterated throughout as circumstances evolved, and documented in the field notes (Canadian Institutes of Health Research et al., 2014; Moore & Savage, 2002)[3]. As recommended by the Tri-Council policy statement concerning qualitative research involving humans, ethical considerations were not only considered prior to the beginning of the study, these were documented throughout in the methodological log and addressed accordingly (Canadian Institutes of Health Research et al., 2014; Mulhall, 2003)[4]. Senior researchers ensured overview of the work of the PI. While the study presented minimal risks for participants, two main ethical issues will be further discussed: confidentiality and participant observation. Patients were not directly involved in this study. Participants were also informed that if they experienced any

[3] Moore & Savage (2002) focus on the consent process within the healthcare setting and ethical issues that may arise.
[4] Mulhall (2003) offers a critical perspective about observation in the field and associated ethical implications.

distress during or following the interview, they could contact the CHU Ste-Justine Employee Assistance Program.

Confidentiality

Due to the nature of the study, anonymity – "when the researcher cannot link participants to their data" was not possible (Polit & Beck, 2017, p. 147). In this case, efforts were deployed to ensure confidentiality was respected (Polit & Beck, 2017). Many mechanisms were put in place to protect the participants' identity: a sealed box or envelope to deposit their recruitment form, individual contact for the consent process and discretion when meeting at the hospital. Protection of the participant's identity could not be guaranteed if they consented to be shadowed or interviewed during work hours. Whenever possible, results are presented in aggregated form (Polit & Beck, 2017). As this may not always be possible in hermeneutic research, confidentiality was preserved through the use of fictitious names and generic identifying information (i.e., PICU nurse instead of 39-year-old nurse with 10 years of experience in the PICU) (Polit & Beck, 2017). The perceived risk of organisational reprisal for providing negative feedback about the organisational transformation (e.g., loss of employment, etc.) was minimized by ensuring study results are presented confidentially. A fictitious name was assigned to each participant at the time of the signature of the consent form and this identifier was attached to the data from this point on. The list of pseudonyms and their identifying data is kept in a double-locked cabinet at the McGill University Ingram School of Nursing (cabinet one). Interview recordings, verbatims and field notes were only accessible to my supervisors and committee members. Data is stored, in double-password protected files, on my laptop computer. This laptop is registered with a software that allows remote deletion of files in the case the laptop is stolen or lost. Data is backed-up on a double-password USB drive that is kept in a second double-locked

cabinet in a different office at Ingram School of Nursing McGill University (cabinet two). Only the research team have access to these two cabinets. Documents printed in the process of data analysis were either shredded or stored in the second cabinet. In this way, confidentially is maintained since the participant identifiers are not stored in the same place as the data. Data will be stored in this way for 7 years after the last publication.

Participant observation

For the participant observation, since units get very busy with a multitude of different individuals, it is highly "impracticable" to solicit written consent from all participants (Carnevale, Macdonald, Bluebond-Langner, & McKeever, 2008, p. 27). The PI put posters on the unit (see appendix E) detailing the current study with a large picture of the researcher; a note indicated the PI's contact information should someone wish further information about the study (Carnevale et al., 2008). The researcher wore a customized sweater saying "Recherche en cours/Research in progress" in large lettering (Carnevale et al., 2008). Verbal consent was also sought whenever possible; as I was introduced to a new person, I informally identified myself as a researcher and asked permission to observe (Carnevale et al., 2008). In addition, people were informed they could contact me if they do not wish to be part of the participant observation (n=0). Participants were reminded that they could withdraw from the study at any point in time and request any data concerning them, in part or in whole, be removed from the study. According to Canadian Institutes of Health Research et al. (2014, p. 146), "observation that does not allow for the identification of the participants in the dissemination of results, that is not staged by the researcher, and is nonintrusive should normally be regarded as being of minimal risk".

Preface to Chapter IV

Chapter IV will cover the main study results. Two central meanings were revealed in this study concerning PICU nurses' lived experience of a major hospital transformation:

1) a complex negotiation process of clinical and environmental spheres with families (***Manuscript 3*** *– When the pediatric intensive care unit becomes home: A hermeneutic-phenomenological study*), and
2) an erosion of PICU nurses' critical care identity (***Manuscript 4*** *– A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: lessons learned for managers*).

Manuscripts 3 and 4 present literature review, methodology, results and discussion sections. Both manuscripts address the main study objective of uncovering PICU nurses' lived experience of a major hospital transformation, including specific inquiry concerning *existentialia* or conditions of possibility for PICU nurses' experience (Research question 1), and PICU nurses' lived experience of environmental changes (Research question 2) and quality improvement projects in their workplace (Research question 3). Manuscript 3 is published in the *Nursing in Critical Care* journal and was awarded the *Canadian Journal of Nursing Research Award for Writing Excellence* which evaluates both the rigour of the academic writing, as well as the contribution to the advancement of the discipline of nursing. Manuscript 4 is published in the *Journal of Nursing Management*.

Chapter IV. Results

Manuscript 3 – When the pediatric intensive care unit becomes home: A hermeneutic-phenomenological study

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Acknowledgements: The authors would like to thank Dr. Monique Aubry and Dr. Alfons van Marrewijk for their feedback concerning a preliminary version of this manuscript. The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support. This research is part of a larger study exploring PICU nurses' lived experience of physical environment and quality improvement changes following a major hospital transformation – this manuscript focuses on family care, while others with explore other facets of the lived experience such as professional identity and teamwork (RNexpMHT[5]).

Conflict of interest: The authors declare no conflict of interest.

Reference: Frechette, J., Lavoie-Tremblay, M., Kilpatrick, K., Bitzas, V. (2020). When the paediatric intensive care unit becomes home: A hermeneutic-phenomenological study. *Nursing in Critical Care*, *25*(3), 140–148. doi:10.1111/nicc.12491

[5] For greater transparency, this is a distinctive project acronym that will be used consistently in future publications to identify the same study.

Abstract

Aim: This study examined pediatric intensive care unit nurses' lived experience of caring for families following a major hospital transformation project, which included the construction of a new unit and quality improvement changes.

Background: Family-centered care is the dominant model for providing nursing care in pediatrics. Unit layout has been shown to impact nurses' ability to provide family centered-care. Little is known about the meanings and experiences of pediatric intensive care unit nurses concerning the care they provide to families within their unique physical setting.

Study design: A hermeneutic-phenomenological design was selected to study a pediatric intensive care unit in a large Canadian pediatric teaching hospital.

Methods: Data was collected over a six-month period through individual interviews, photographs, participant observation, and document review. The sample consisted of 15 pediatric intensive care unit nurses who experienced the unit both pre and post transformation. Data was analysed in an ongoing fashion using Benner's method to identify common and divergent meanings.

Results: Despite pride in offering a family-friendly environment, nurses' practice prejudiced a family focus in favour of patient-centered care. Nurses in this study negotiated physical and practice spaces with families by interpreting that nurses do not belong in the home-like patient room, and exhibiting gatekeeping comportments.

Conclusion: Although similar nurse comportments have been identified in prior works, no previous studies have identified these as forming a pattern of negotiating spaces with families.

Relevance to clinical practice: This study provides insights into the lived experience of pediatric intensive care unit nurses in relation to family care, which can stimulate reflections at an

organizational level about creating environments where nurses and families can both feel at home.

1. Introduction

Family-centered care (FCC) is recognized as the gold standard in nursing, particularly in the pediatric setting [1-3]. The FCC movement evolved in pediatrics in response to mounting evidence in the 50's that hospitalised children fared better when their parents were present [4]. Changes were slow to appear in the hospital setting (70-80's), as nurses needed to learn new skills to respond to the increasing presence of parents [2, 4]. Challenges in implementation of FCC continue to be witnessed in healthcare settings today [1, 2, 5] – highlighting the importance of understanding how nurses perceive and enact relationships with families in their practice.

2. Background

Some debate exists surrounding the definition of FCC, but most authors recognize it as being about the creation of partnerships between healthcare professionals, patients, and families, as well as a mutual respect for each other's unique expertise [1, 4, 6, 7]. Despite controversy concerning difficulties in implementation of FCC and the risk of obscuring the child's voice [1, 5], FCC is generally recognized as leading to positive patient, family, and provider outcomes [3, 4].

Little research has focused on FCC in the pediatric intensive care unit (PICU) [8, 9]. Macdonald, Liben [8]'s ethnographic PICU study showed how families experience care through a dialectic between an office and a bedroom. Healthcare professionals and the physical environment of the PICU in this study revealed office-like qualities, such as small talk, while families perceived the patient room as a bedroom [8]. Similarly, Vasli, Dehghan-Nayeri [9] reported forms of paternalism in the delivery of FCC in the PICU. More research is warranted to

identify the mechanisms by which dynamics of care with families are interpreted and experienced by nurses, who are central to the provision of FCC.

More specifically, unit design has also been shown to play a role in families' experience of care, and nurses' ability to provide FCC. Many studies have shown that single family rooms promote family privacy and FCC in critical care settings (Adult intensive care unit and neonatal intensive care unit (NICU)) [10 -12]. Others have indicated the potential risks of isolating families away from nurses (pediatric hospital and NICU) [13, 14]. In a study of seven open-bay NICUs, Al-Motlaq [15] found that unit design hindered the provision of FCC. A knowledge gap still exists concerning the mechanisms by which physical environment impacts healthcare professionals' ability to offer FCC [15], especially in the PICU where no previous studies have examined the effects of physical spaces on FCC. It is therefore crucial to study how PICU nurses attribute meaning to and experience family nursing within physical spaces where patient and family care occurs.

3. Aim

The aim of this study was to examine PICU nurses' lived experience of caring for families following a major hospital transformation project.

4. Design and methods

This study used a hermeneutic-phenomenological design, inspired by the works of German philosopher Heidegger [16], and nurse researcher Benner [17]. A hermeneutic-phenomenological design was selected because it allows for in-depth inquiry into human lived experience [18]; including how people interpret and attribute meaning to their experiences [19].

4.1. Setting and sample

The study site is a 32 single-patient intensive and intermediate care bed PICU, in a large Canadian pediatric hospital located in an urban setting employing 125 nurses. This PICU admits 1,000 patients yearly and offers tertiary and quaternary care in medical and surgical specialties. This PICU had undergone a major transformation two years prior to data collection for this study, which included the construction of a new unit and associated quality improvement projects. The architecture and design centered on children and families, with a vision for parent-partnership in care.

The study participants were 15 PICU nurses who experienced both the old and the new infrastructure of the unit (see Table 1). A purposive maximum variation sampling strategy was used [20, 21]. Following ethics review boards (ERB) approval, all eligible nurses were simultaneously informed of the study through an email from their Head Nurse, giving them equal opportunity to participate. Following this email, the principal investigator (PI; first author) attended nursing meetings held at the beginning of all shifts to recruit participants (not part of the participant observations). Recruitment unfolded on a "first-come-first-served" basis until a sample size of n=15 had been attained (if saturation had not been reached following data collection, a second recruitment wave would have subsequently occurred). The demographic information of the emerging sample was continually analysed, and the recruitment "pitch" adjusted to obtain maximum variation of demographic characteristics (i.e. emphasizing importance of having night nurses represented).

Table 1. Participant socio-demographics

Demographic characteristics	**Participants (frequency)**
Sex	
Female	11
Male	4
Age (yrs.)	
25-30	3
31-35	8
36-40	1
40+	3
Nursing experience (yrs.)	
0-5	3
6-10	5
10-15	4
15+	3
Education	
College (technical)	3
University	12
Job status	
Full-time	6
Part-time (2/wk.)	2
Part-time (4/wk.)	7
Shift	
Day (8h)	4
Evening (8h)	2
Night (8h)	3
Day-Evening (12h)	5
Evening-Night (12h)	1

4.2. Data collection

The data collection methods for this study consisted of individual interviews, photographs, participant observation, and document review. Multiple data collection methods, method triangulation, allows for a rich understanding of the phenomenon [21, 22]. Each data collection method informed the other through a back-and-forth movement; information retrieved in the document review allowed more pointed questioning in the interviews, and narratives during the interviews provided greater focus for the participant observation, etc. Data was

collected over a six-month period (September 2018 – March 2019) by the PI, under the supervision of senior qualitative researchers (who offered hands-on guidance in the conception and design of the study, acquisition, analysis and interpretation of data). Semi-structured audio-recorded individual interviews were conducted with nurses in a private room on the unit outside their work hours[6] (n=15; mean duration of 58 minutes/interview; see supplementary file for more interview details); interviews are ideal to elicit the experienced meaning [23]. Nine facultative follow-up interviews were also conducted to further validate preliminary findings (member checking; mean duration of 15 minutes/interview). Open-ended questions such as "Can you tell me about the changes you experienced to your nursing practice?" were used to elicit nurses' narrative. All audio-recordings were transcribed verbatim with the support of a professional transcriber; the PI listened to all interviews to ensure fidelity of transcription. Following photovoice methodology [24], participants were asked to take pictures of the PICU that they considered meaningful (n=28 photographs presenting environmental features of the unit or representational pictures (i.e. a painting) that express an emotion related to the transformation). Photovoice uses photographs "to elicit, draw out, evoke responses from participants" [25]. Photos were used to stimulate discussion during the interviews. Participant observation was also conducted on average twice a week, in three-hour blocks (91.5h of 24/7 observation, and 46 informal interviews in the field – used to clarify observed elements); this included more general observations of the PICU, as well as shadowing nurses (general observations focused on all team members present, whereas shadowing included only interview participants). Observation is also important since phenomenon can be veiled [16] and mostly located at the level of taken-for-granted practices [17]. An embodiment epistemology was followed, the PI paid close attention to

[6] One full interview and one partial interview were conducted during work hours (please consult interview details table in supplementary file for precisions).

her own and the participants' emotions and bodies, and documented these states in a reflective log [26, 27]. Available documents about the major hospital transformation were reviewed including presentations, project charters, etc. (142 documents and 47 files). Document review allowed for better understanding of the chronology of changes, and if any concerns for nurses were previously raised during the transformation process. Data collection continued until saturation was reached [22].

4.3. Data analysis

According to interpretive phenomenology, a pre-suppositionless stance is not possible [28, 29]; researchers bring with them ideas and embodied experiences, their "horizon of significance" [30, 31]. The PI is conscious that she continually carries her own horizon of significance from being a nurse, a mother, and a doctoral student, as well as having professional experience as a clinician and a manager. The PI had previously worked at the study setting as a research assistant in another department; the PI had no prior relationships with participants before the study's start. The PI documented reflections about how her own horizon of significance interfaced with her work as a researcher in a reflective log.

The hermeneutic data analysis method described by Benner [17] was used in this study, supported by the NVivo 12 Pro software. The PI noted preliminary analyses in an ongoing fashion in analytic notes. Narrative syntheses were created for each data collection episode, and compared and contrasted, through a back and forth movement from part-to-whole (hermeneutic circle), to identify common and divergent meanings [16-17, 32]. Through this hermeneutic circle, preunderstandings were repeatedly questioned until a bridge of understanding or "fusion of horizons" is created between the researcher's and the participant's "horizon of significance" [18, 31, 33].

5. Ethical considerations and research approvals

Independent ethical approval was obtained from the university's and the hospital's ERBs prior to the study's start. Written informed consent was sought for interviews, and reiterated throughout as circumstances evolved [34, 35]. For the participant observation, since units get very busy with a multitude of individuals, it is highly "impracticable" to solicit written consent from all participants [36]. The PI put posters on the unit that provided details of the study and indicated the possibility of abstaining from participation in the observation through contacting the PI (n=0) [36] – posters were accessible & visible to all on the unit. To be identifiable, the PI wore a customized "Research in progress" sweater while conducting the fieldwork [36]. Verbal consent was sought whenever possible (for example, during shadowing observations directly involving patients and families, or other team members). Ethical considerations were considered throughout the study and documented in a methodological log [35, 37].

6. Findings[7]

The major hospital transformation led to multiple PICU changes in relation to families (Table 2; See photo 1 in supplementary file).

Table 2. Pre-post transformation changes in relation to families

Elements of change	Pre-transformation	Post-transformation
Organizational vision	Excellence in care of children	Excellence in care of children Parent-partnership
Bed configuration	Mostly multi-patient beds (4-5 patients) – smaller one corridor unit	All single-patient beds – larger U-shaped unit
Nurse-patient ratios	1:1 or 1:2	1:1 or 1:2 (nurses report heavier patients, that would have been 1:1 before, are now often 1:2)
Presence of parents at bedside (day)	Constantly asked to leave (medical rounds, nursing handovers, certain clinical interventions – for confidentiality reasons)	Can stay at all times (included in medical rounds)
Presence of parents at bedside (night)	Straight chair at bedside	In-room sofa bed for parents
Other visitors (i.e. siblings, other relatives)	Not encouraged due to lack of space (evaluated case by case)	Encouraged (nurses report more grandparent and sibling involvement)
Patient and family belongings	Minimal – stored under the bed	Adequate – in-room storage cabinet; room can be personalized
Privacy	Closure of curtains between beds	Private rooms – frosted glass doors and sound proofing
Family room	One shared with another unit; Small size – only sofas and chairs	Two reserved for PICU; large size – fully equipped for resting and eating
Note: data synthesized from document review, participant observations, photographs and interviews		

[7] All names of participants are pseudonyms. […] means words have been omitted to make reporting more succinct. [text] is used by the authors to contextualize the data. Quotes have been translated from French by the PI.

6.1. Family nursing – pride and prejudice

6.1.1. Pride

Nurses take pride in being able to offer an environment more conducive to family life. The current environment facilitates the presence of parents since the room is more inviting for them, with their own dedicated space, and the new norm that they can stay all the time.

> "Your presence in your child's room is reassuring. That's why we offer you a sofa-bed so that you can be with him/her at any time of the day or night." Document review – Unit code of life (a document given to parents at the beginning of the hospitalization detailing unit functioning and rules).
>
> "I find that parents are much more satisfied with their care experience here compared to the other unit where, you know, because of confidentiality, for all medical rounds, we had to get them out of the room because they could not hear information about other patients [...] I'm proud that parents have a great experience." Interview Evelyne
>
> *Analytic note:* "Mood: Pride in providing families with a better experience" – in hermeneutic-phenomenology, mood is seen as revealing of lived experience [16].

Nurses feel families have a better experience in the new unit, with single-patient rooms allowing the creation of a life milieu for children – rooms that can be personalized with patient and family belongings to look more like home. The physical layout of the unit also enables a redefinition of family beyond the parents, since single-patient rooms allow for siblings, grandparents and others to be an integral part of the hospitalisation. Hence, key relationships the child entertains in the home setting can be preserved.

6.1.2. Prejudice

Despite a physical environment that favours the presence of families, nurses remain reluctant about the provision of FCC. Nurses value the nursing role in family care, but continue to demonstrate more child-centered practices – prejudicing FCC.

> "It's good to care for parents too because parents live one of the worst moments of their lives and we are aware of that, but it can't take the whole space because first and foremost, we are here to look after their child and we have to do our job properly. So, sometimes it's hard to do our care when some parents are there." Interview Fabienne
>
> *Reflection about what is considered sacred by nurses [38]:* "The child, the child's bed" Field Note 20 FEB

The well-being of families is not perceived as a whole; the child comes first, and families second. On the one hand, nurses recognize that by being the closest professional to the child, they have a role in responding to parental questions or worries, in supporting parents and in hearing their suffering. On the other hand, nurses will often exhibit contrary behaviours such as: relegating family matters to other team members (i.e. unit agent, assistant head-nurse, and social worker), judging families (i.e. a good mother, a difficult family, etc.) and contributing to the implicit norm that parents come out of the patient's room only for precise requests (i.e. to question a nurse at her workstation located at an alcove just outside the patient room).

> "[Father exits the patient room and speaks to the nurse at the alcove]
>
> Father – he dived (mimes diving)
>
> Nurse – huhuh
>
> Father – I was there just before .... He knows how ... he usually goes the other way, but ...

Nurse – yes ...

Father – he's fine all Summer, and he goes back to school and it starts going wrong ... he was good, and school started, and he was bad ... (discouraged, sad tone)

Nurse – Ah ... you can take your time ... [referring to the time the man can leave the bedside]

Man walks away and looks for the exit […]

I look in the room (patient with a bandage around the head, teen?)" Field Note 18 OCT (Nurse is not an interview participant)

*Analytic note for the participant observation: "*Father who opens up to nurse about his son, nurse does not take up the opportunity to talk about family issues"

In this exchange, the nurse fails to respond to the distress expressed by the father, keeping the conversation at a more transactional level. This transactional exchange exhibits the implicit norm that parents reach out to nurses working at the alcove for specific demands versus emotional support, which is integral to FCC.

6.2. Negotiated spaces with families

6.2.1. When the PICU becomes home

As previously mentioned, much effort is deployed to make families and patients feel at home in the PICU setting, including personalizing their room, as well as decorating the unit to the season's holiday. They have been so successful in this endeavour, that nurses now perceive the patient room as being the family's home.

"Reflection - One family that really seems at home (lots of toys scattered in room, […] chat/play with personnel, […] parents in relaxed stance on couch looking at their I-

> phones) - I have perceived this as a lack of respect - is it? Is making yourself at home at the hospital disrespectful?, nurses have coined this family as difficult" Field Note 5 MAR
>
> "It seems that since the rooms are individual, and that the parents cohabit more, it becomes more like a life milieu and we do not want to too much... we have the impression of entering their home every time. […] So sometimes, you forget that you are even in a hospital room at all, since they have placed so many personal belongings. […] It felt like we were entering people's homes when in fact, they are the ones in our home." Interview Rolland

This excerpt from one of the participants shows how nurses articulate the belonging of space on a spectrum going from clinicians' home to families' home; negotiating what is "theirs" versus "ours". In this particular PICU, nurses' have moved so far on this spectrum towards interpreting the patient's room as a family home, that they express a discomfort about going in and staying in the room. Nurses often mention leaving the bedside as soon as the patient is stable, to go to their alcove workstation.

> "Well before, we were constrained in the same space as the parent who was present, it was not easy, but we couldn't flee from the situation of listening to them. While today, they are on their side [patient room] and we are on our side of the window [alcove workstation]. And sometimes, that works well for us." Interview Bernadette
>
> *Analytic note for the interview:* "Nurses as having a role in supporting & hearing the suffering of parents – by being the closest professional to their child; now nurses play this role less by being outside the room (when patient is stable, leave room); expectation that parents come out of room for precise requests"

The physical barriers (distance and window) between families and relieves nurses, in a certain sense, of their family nursing duties. The interpretation of the design features of the PICU – the home-like patient room as a no-entry zone, and the window as a shield from families – actually inhibits deep engagement with families. The interpretive negotiation of the physical environment of the PICU, intended to support FCC, actually erodes clinician's ability to care for families.

6.2.2. Gatekeeping

One mechanism by which nurses negotiate spaces with families is gatekeeping – controlling access to physical and clinical spaces. Nurses perceive themselves as having a role in enforcing the code of conduct on the unit, with a certain latitude to adjust rules according to their judgement of a situation. Enforcing rules, such as restricting number of visitors and inhibiting families from eating in the room, allows nurses to keep a sense of control over a shared environment with families. As gatekeepers, nurses also exert forms of control over parents' involvement in clinical care. Nurses find it facilitating to have parents involved in basic care, such as hygiene and comfort measures, as it allows them to focus on the more technical aspects of care versus "babysitting" (Interviews Monique, Henri and Carole). Nurses also value the unique expertise parents bring to the clinical encounter, often soliciting information from parents concerning their child's baseline or prior medical history. The difficulty arises with the possibility of parents doing clinical care, tasks nurses clearly see as belonging to them. Nurses recognize that parents have the ability to gain sufficient knowledge to be involved in these nursing activities, yet they see themselves as gatekeepers in regulating parental access to them.

> "Honestly, if a parent has the skills, he'll have to show me that he has the skills though, you know. It will make me happy to give him that place because, it comes down to the

> vision that we want to involve the parent as much as possible, and it is a vision that I find both difficult and so interesting." Interview Rose

Although nurses rationalize gatekeeping as a way of safeguarding patient safety, it also serves the purpose of protecting nursing turf. Through these gatekeeping comportments, nurses negotiate the different spatial realms that overlap with families.

7. Discussion

7.1. Providing a healing environment for patients and families

Nurses' role in offering a healing environment for patients and families is certainly not new, as this was a key premise for the foundation of modern nursing – Nightingale 1820-1910 [39]. More recent definitions of nursing continue to highlight the importance of nurses in creating social and physical environments that support patient and family well-being [40, 41]. It is therefore not surprising that PICU nurses in this study felt pride in being able to offer families and children a more comfortable physical environment. More specifically, the new PICU environment was more home-like, which has been shown to be comforting for hospitalized children [42, 43]. Children's ability to personalize their room with their own belongings, and to maintain significant relationships have been reported to improve their care experiences [42, 43]. PICU nurses in this study appreciated that the new unit was more resource-rich for families, allowing nurses to connect parents to more resources, such as areas to sleep, store belongings, and eat their own food, as well as access to timely information at medical rounds. Connecting patients and families to resources is a key role in Strengths-Based Nursing [40, 41]. The design and construction of new physical care units therefore has immense potential in creating healing environments.

7.2. From child-centered to family-centered care: Aligning vision and practice

Despite new features of the PICU supporting nurses in the provision of a healing environment for families and children, nurses continued to be much more child-centered in their practice. In the PICU studied, the new physical environment was designed with a vision for parent-partnership, but no interventions were undertaken to transform nursing practice specifically. Consequently, a gap was noticeable between the possibilities for FCC provided by the physical environment (i.e. privacy for families, dedicated space in the patient room, etc.) versus the more child-centered nursing care. Project teams and nursing leaders involved in transforming healthcare environments must be conscious that changing physical features of a unit are insufficient to ensure a vision is enacted in care. Multidimensional interventions are needed over time for change to materialize, including a shared visioning process, a unit design coherent with the vision, personnel training and change management initiatives [44]. Unfortunately, the reality of the healthcare field, with its pluralistic viewpoints and power dynamics [45, 46], often fails to offer the multidimensional interventions needed for successful implementation of change – resulting in discrepancies at the point-of-care. Instead of interpreting these discrepancies (i.e. between the family-centered environment and the child-centered nursing practice) as failures, the physical environment can be used by nursing leaders as a springboard to accelerate the evolution of nursing care – creating alignment with the vision.

7.3. Negotiating spaces with families

Previous research has highlighted tensions between the needs of clinicians and the needs of families in the PICU [8, 9], but no studies have articulated how nurses attribute meaning and navigate the relationship with families in a changing PICU environment. Whereas the home-like feel of the patient room benefits the child and family, nurses' interpretation of patient's room as

the family's home makes them reluctant to go in. This can have consequences for quality of care since nurses are mostly nursing at a distance, limiting certain means of evaluation, like touch, and inhibiting profound engagement in family life. This finding is novel, as merits of the home-like single patient room are widely acclaimed [10-12, 42, 43], with the current study showing the potential downfall of the patient room becoming home.

Despite parents' desire to be implicated in care, parental involvement has remained parsimonious [1, 9, 47, 48]. Shaw, Suonpera [48]'s study of neonatal intensive care unit documentation is a good example as it revealed minimal attention was given to parental involvement in nurses' notes. Although the lack of parental involvement as an outcome has strong evidence in the literature [1, 9, 47, 48], little is known about the process by which parents are advertently or inadvertently excluded from care [9]. The current study sheds light into this process by articulating nurses' experience of negotiating spaces with families and their associated gatekeeping comportments.

Nurses actually engage in a complex process of negotiating the physical and care environments with families. They constantly interpret and reinterpret where each party belongs in terms of physical spaces, as well as their involvement in clinical care. Macdonald, Liben [8]'s PICU study shows how healthcare professionals' interpretation of the patient bed as belonging to staff and associated comportments (i.e. relaxed stance, occupying the right side of the bed, etc.), control families' physical access to the child. In the context of the current study, where nurses interpreted families as encroaching on nurses' space, nurses similarly engaged in gatekeeping comportments. Nurses protected what they identified as belonging to them through enforcing rules and controlling access to clinical care. Baird, Davies [1] in their study of implicit and explicit rules in the PICU setting report similar findings in how rule-enforcement behaviours by

nurses fosters a certain form of territorialism. Whereas Baird, Davies [1] interpret this behaviour as a way for nurses to ascertain dominance over parents, we perceive nurses' gatekeeping comportments as a natural mechanism to delimit their own vital space. This is also true of the control PICU nurses in this study exerted over parents' access to clinical care, a similar finding to Vasli, Dehghan-Nayeri [9]'s PICU study where parents' involvement in care was incumbent on nurses' permission.

8. Limitations

While attention to methodological rigor suggests the study results can be applicable to other PICUs, the phenomenological nature of this study makes the findings ungeneralizable beyond the immediate setting. Nonetheless, the multiple data collection methods allow the context to be described in great detail, so readers can judge of possible transferability [22, 49]. Furthermore, as the main objective of the research project was to elicit nurses' perspectives, patients and families were not directly included in the study beyond participant observations. Their perspectives could have enriched our understanding of the social dynamics involved in providing nursing care to families, as well as explore how nursing comportments are interpreted by patients and families.

9. Implications for practice

FCC is embedded in a complex process of negotiating spaces between nurses and families. These insights can be used as a more neutral point of departure from which nurses can reflect about their practice, how they negotiate spaces with families, what types of gatekeeping comportments they demonstrate, how these comportments are rationalized, how these comportments are serving nurses, serving the client, serving the family, etc. These reflections taken at an organizational level can go a long way in jumpstarting a movement towards care

environments where nurses and families can both feel at home. Moreover, physical healthcare environments often provide a locus of opportunity to change nursing practice, but nurses need to be supported in order for a change in practice to materialize.

10. Conclusion

In this study, PICU nurses' lived experience of caring for families in the context of a major hospital transformation project was seen through the lens of pride and prejudice concerning family nursing. Despite pride in offering a family-friendly environment, nurses' practice prejudiced a family focus in favour of patient-centered care. Nurses in this study negotiated physical and practice spaces with families through interpreting that they do not belong in the home-like patient room, and exhibiting gatekeeping comportments. This study raises awareness concerning the potential downfalls of the home-like single patient room – contributing to the reflection about the current trend towards all single patient room hospitals. Although similar gatekeeping comportments have been reported in previous studies, none have identified these as forming a pattern of negotiating spaces with families. More research is needed to better understand these patterns of negotiation of spaces within healthcare, as well as how physical environments impact clinical practice.

IMPACTS

What is known about the subject?

- Family-centered nursing care is recognized as the gold standard in pediatrics
- Family-centered care is difficult to implement in pediatric intensive care units
- Unit design impacts healthcare professionals' ability to offer family-centered care

What this paper contributes?

- Pediatric intensive care unit nurses experience the provision of family care in a transformed PICU through the lens of pride and prejudice
- Nurses experience family care through an ongoing negotiation of spaces (physical, practice, etc.) intersecting with families
- Although solely changing the physical environment is insufficient to transform nursing practice, physical environments have an influence on nursing care and more specifically on the provision of family-centered care

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Supplemental Files

Photo 1. Photograph by Yollanda (study participant)

Table supp. 1 – Interview details				
Pseudonym of participant	***Date & time***	***Duration***	***Timing***	***Location***
Béatrice	5 NOV 2018 14:41	42 minutes	Before shift	Research room
Evelyne	7 NOV 2018 11:48	41 minutes	Lunch break	Research room
Cindy	7 NOV 2018 14:07	55 minutes	During shift (replaced by other nurse)	Research room
Monique	8 NOV 2018 14:18	54 minutes	Day off	Research room
Yvette	16 NOV 2018 17:20	52 minutes	Dinner break	Research room
Jacqueline	19 NOV 2018 12:14	43 minutes	Lunch break	Family room
Rolland	20 NOV 2018 16:20	85 minutes	After shift	Family room
Fabienne	22 NOV 2018 16:17	52 minutes	After training day	Research room
Paul	27 NOV 2018 12:02	44 minutes	Lunch break	Family room
Bernadette	28 NOV 2018 18:18	69 minutes	Dinner break	Research room
George	3 DEC 2018 7:01	81 minutes	After shift	Research room
Carole	13 DEC 2018 16:40	23 minutes + 45 minutes obs. = 68 minutes	Break + during shift (nursing stable patients)	Research room + rest as field observation at alcove
Henri	15 DEC 2018 14:10	41 minutes	Lunch break	Research room
Rose	10 JAN 2019 7:51	67 minutes	After shift	Family room
Yollanda	16 JAN 2019 8:03	69 minutes	After shift	Family room
Summary	Interviews: NOV 2018 – JAN 2019, total of 863 minutes, range of 41 minutes-85 minutes, **average duration: 58 minutes/interview**			
Note: both the research room and family room are located in a private area on the unit				

In sum, manuscript 3 illustrates how PICU nurses experience both pride and prejudice concerning family nursing in their re-designed setting; a lived experience embedded in an overarching process of negotiating physical and clinical spaces with families. Manuscript 4 presents another facet of PICU nurses' lived experience of a major hospital transformation concerning how changes to unit configuration and admission criteria interacted with contextual variables to erode nurses critical care identity.

Manuscript 4 – A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: lessons learned for managers

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Acknowledgements: This study is part of a larger research endeavour examining nurses' lived experience of a major hospital transformation (RNexpMHT). The authors would like to thank Dr. Alfons van Marrewijk and Vrije Universiteit colleagues for their feedback concerning a preliminary version of this manuscript. The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Quebec Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

Conflict of interest: The authors declare no conflict of interest.

Reference: Frechette, J., Bitzas, V., Kilpatrick, K., Aubry, M, & Lavoie-Tremblay, M. (2020). A hermeneutic-phenomenological study of pediatric intensive care unit nurses' professional identity following hospital re-design: lessons learned for managers. *Journal of Nursing Management*. doi: 10.1111/jonm.13012

Abstract:

Aim: With the intent of providing insights for healthcare managers, this study explored pediatric intensive care unit nurses' lived experience of professional identity in the context of organizational change.

Background: While professional identity improves retention of nurses and the provision of quality care, outcomes of importance for managers, organizational change perturbs this identity.

Method: The study used a hermeneutic-phenomenological design. Data was collected via individual interviews, photographs, participant observation, and document review. A purposive sampling strategy was used to recruit pediatric intensive care unit nurses (n=15) in a large Canadian pediatric hospital.

Results: Nurses' critical care identity eroded in this organisation due to the interplay between hospital re-design and new eligibility criteria for patient admissions.

Conclusion: Interactions between multiple projects and the unit context, as well as nursing professional identity need to be considered early on during project planning. This study fills an important gap in research concerning the management challenges brought about by the intersection of multiple changes.

Implications for Nursing Management: The results from this study bring to light three important lessons for nurse managers: 1) the specific unit context should be evaluated before a project is initiated, 2) the physical environment needs to be considered when determining staffing requirements, and 3) identity transitions need to be managed.

Key words: Social Identification, Hermeneutics, Nurse Administrators, Intensive Care Units – Pediatric, Organizational Innovation

Main text:

1 – Introduction

Globally, construction is booming in healthcare (Adam, Lindahl, & Leiringer, 2019; Russell, 2018). In their research programming, the authors found that hospital administrators often seize the opportunity to optimize clinical and administrative practices, in parallel to their infrastructure renewal projects (Aubry, Richer, Lavoie-Tremblay, & Cyr, 2011). The resulting organizational transformations incur distinct challenges for hospital leadership, with widespread repercussions for all those involved (Aubry, Richer, & Lavoie-Tremblay, 2014; Lavoie-Tremblay et al., 2017; Slosberg, Nejati, & Evans, 2018). Organizational change can create misalignments between employees' image of who they are as professionals and their experience at work, affecting the safe provision of patient care and the well-being of healthcare providers (Bochatay, 2018; Kira, Balkin, & San, 2012). Managing organizational change is a key leadership function.

2 – Background

2.1 – Nursing professional identity

At its most basic level, professional identity can be defined as the answer to the question, "Who am I at work?" (Ashforth, Harrison, & Corley, 2008; Kira et al., 2012, p. 34). More specifically for nursing, a recent integrative literature review by Rasmussen, Henderson, Andrew, and Conroy (2018) offers a threefold definition of nursing professional identity: *the self* (who am I?), *the role* (what I do?), and *the context* (where I do it?) (p.230). Essentially, this definition includes perceptions of self at work, role enactment, and situatedness within an organizational context, concepts also salient in organizational behavior literature (Ashforth et al., 2008; Kira et al., 2012).

Professional identity is crucial for management as it has been linked with improved retention of nurses, as well as the provision of quality care (Piil, Kolbæk, Ottmann, & Rasmussen, 2012; Rasmussen et al., 2018; Zhang, Wu, Fang, & Wong, 2017). Indeed, Zhang et al. (2017) found that professional identity was strongly linked with intention to leave among new nurses. Moreover, Piil et al.'s (2012) study of nurses in advanced practice roles suggests that professional identity encourages nurses to engage others in providing quality care.

2.2 – Pediatric intensive care unit nursing

Nursing practice in the pediatric intensive care unit (PICU) holds many unique features that make it an interesting area to study professional identity. No studies to date have explored the professional identity of PICU nurses. The PICU is a complex hospital service for children with severe illnesses who require close monitoring and treatment (Namachivayam et al., 2010). While nursing in the PICU inevitably requires advanced clinical skills and proficiency with medical technology (Dixon & Crawford, 2012), caring for critically ill children is also particularly emotional. Compared to those practicing in other specialties, critical care nurses report the highest frequency and intensity of moral distress (Dyo, Kalowes, & Devries, 2016). Recently, many PICU units have undergone *major hospital transformations*, mega-projects necessitating complex management of construction and quality improvement initiatives (Aubry et al., 2014; Lavoie-Tremblay et al., 2017). Since changes to both physical space and the organization contribute to shaping identities (Bochatay, 2018; Kira et al., 2012; Stephenson, 2019), major hospital transformations present unique opportunities to explore nursing identities.

3 – Method

3.1 – Research design

This study therefore aims to explore PICU nurses' lived experience of professional identity in the context of a major hospital transformation. A hermeneutic-phenomenological design was used to uncover this phenomenon (Benner, 1994; Frechette, Bitzas, Aubry, Kilpatrick, & Lavoie-Tremblay, 2020; Heidegger, 1927).

3.2 – *Study setting*

The study site is a 32-bed PICU in a large Canadian pediatric teaching hospital that underwent a major transformation two years prior to data collection. The PICU layout changed from a majority of multi-patient rooms to all single-patient rooms in order to enhance privacy and comfort for families, as well as infection prevention. Moreover, since the PICU capacity increased significantly, the eligibility criteria was revised to allow for more admissions of patients with chronic conditions. In terms of staffing, the unit dealt with nursing shortages both pre- and post-transformation, with participants sharing this shortage intensified post-transformation.

3.3 – Recruitment and data collection

Following ethics review boards' approvals, the Head Nurse emailed information about the study to PICU nurses. Participants were recruited by the Principal Investigator (PI; first author) during team meetings for each shift. A purposive maximum variation sampling strategy was used (Polit & Beck, 2012) to recruit 15 PICU nurses who experienced both the old and the new unit (see Table 1). This sampling strategy is most commonly used in phenomenological research as it allows selecting participants who have rich knowledge of the phenomenon (Mapp, 2008). Demographics concerning gender, age, educational background, work experience as well

as experience with the project were included as these are anticipated to shape the lived experience of professional identity. The PI had no prior relationships with participants.

Table 1. Participant demographics

Demographics	**Nurse participants (n)**	**(%)**
Gender		
Female	11	73
Male	4	27
Age (yrs.)		
25-30	3	20
31-35	8	53
36-40	1	7
40+	3	20
Nursing experience (yrs.)		
0-5	3	20
6-10	5	33
11-15	4	27
16+	3	20
PICU nursing experience (yrs).		
0-5	8	53
6-10	2	13
11-15	3	20
16+	2	13
Education		
College (technical)	3	20
University	12	80
Job status		
Full-time	6	40
Part-time (2/wk.)	2	13
Part-time (4/wk.)	7	47
Shift		
Day (8h)	4	27
Evening (8h)	2	13
Night (8h)	3	20
Day-Evening (12h)	5	33
Evening-Night (12h)	1	7
Involvement in transformation		
Active role	3	20
Passive role (orientation)	8	53
Not involved	4	27

The PI collected data between September 2018 and March 2019 through individual interviews, photographs, participant observation, and document review (see Table 2), until data saturation was reached (Carnevale, 2002).

Table 2. Details – Data collection methods

Data collection method	Details	Number; duration
Individual interviews	▪ Semi-structured and audio-recorded ▪ Private room on the unit ▪ Ideal to elicit the experienced meaning (Kvale, 1996)	n = 15 nurses; average duration of 58 minutes/interview
Follow-up interviews	▪ In-situ ▪ Facultative ▪ Form of member checking	n = 9 nurses; average duration of 15 minutes/interview
Photographs	▪ Photovoice methodology (Wang & Burris, 1997) ▪ Participants took pictures of changes they considered meaningful or images that reminded them of these changes	n = 28 photographs
Participant observation	▪ Observation of day/evening/night shifts in the PICU and shadowing of nurses ▪ Observation is also important since phenomenon can be veiled (Benner, 1994; Heidegger, 1927)	n = 91.5h; average twice a week, in three-hour blocks n = 46 informal interviews in the field
Document review	▪ Available documents about the major hospital transformation ▪ Included presentations, project charters, progress reports, etc.	n = 142 documents and 47 files (when files were reviewed globally, documents were not counted)

A provisional interview guide was used to capture multiple facets of PICU nurses' lived experience of a major hospital transformation (Benner, 1994). Specific questions used to elicit nurses' narratives concerning professional identity in this context were "What brought you to the PICU?", "What does it mean for you to be a PICU nurse?" and "What has this changed for you as a PICU nurse?". All audio-recordings were transcribed verbatim with the support of a professional transcriber; all transcripts were reviewed by the PI to ensure fidelity of transcription.

Four types of notes were written throughout the study (Bernard, 2002): jottings, field notes (thick descriptions and analytical notes), a reflective log, and a methodological log.

3.4 – Data analysis

Data was analysed in an ongoing fashion using the hermeneutic method described by Benner (1994). Narrative syntheses were created for each case and compared and contrasted through a back and forth movement from part-to-whole (hermeneutic circle) to identify common and divergent meanings (Benner, 1994; Gadamer, 1976). The analysis was supported by the NVivo 12 Pro software, and oversight was ensured by two senior qualitative researchers; they reviewed narrative syntheses and a sample of interview transcripts and field notes to support the interpretative process. In accordance with hermeneutic philosophy, the PI documented reflections about how her own horizon of significance (i.e., experience as a nurse, healthcare manager, doctoral student, mother, etc.) interfaced with her work as a researcher in her reflective log (Benner, 1994; Gadamer, 1976). Carnevale's (2002) four criteria for rigour in qualitative nursing studies, credibility, confirmability, saturation and transferability were used to guide this study (see table 3).

Table 3. Strategies to ensure rigour

Carnevale (2002)'s criteria for rigour	Strategies used in the study
Credibility	▪ Method triangulation – use of multiple data collection methods ▪ Discussion of analysis/findings with experts (PICU research group, nursing researchers, etc.) ▪ Prolonged engagement in the field (6 months) ▪ Reflexivity (reflective log)
Confirmability	▪ Member checking (follow-up interviews) ▪ Audit trail (detailed field notes and interview transcripts)
Saturation	▪ Flexibility in sample size ▪ Flexibility in quantity of data collected (number of hours of observation, number of interviews, etc.) ▪ Method triangulation
Transferability	▪ Method triangulation ▪ Description of context in great detail

4 – Results[8]

PICU nurses' lived experience of professional identity in the context of a major hospital transformation can be portrayed through the heuristic of erosion of their critical care identity. Indeed, the higher proportion of patients with chronic versus acute illnesses and the human resource-environment interplay undermined their sense of being critical care nurses. Moreover, the coping mechanisms used to mitigate challenges engendered by the transformation further accentuated the erosion of their identity. Table 4 presents the elements PICU nurses experienced as constitutive of their PICU identity. Nurses' constant monitoring of patients is particularly central to their critical care identity, as participants in this study reacted defensively to questions about the necessity for incessant monitoring (e.g., "this is critical care").

[8] All names of participants are pseudonyms. […] means words have been omitted to make reporting more succinct. [text] is used by the authors to contextualize the data. Quotes have been translated from French by the PI and back-translated for accuracy.

Table 4. Elements of PICU nurses' identity

Professional identity typology (Rasmussen et al., 2018)	PICU identifiers	PICU identity details	Interview and field notes excerpts
Self – who am I?	ID1 - Specialized nurse	Offer cutting-edge care for unstable children	"You are not a nurse if you don't want to save your patients... being specialized helps to do more complex care that saves more lives." Yollanda (I) "We come to Intensive Care to do critical care… they [patients with chronic conditions] do not need intensive care … they are not necessarily unstable" Fabienne (I)
	ID2 - Value children's quality of life	Possibility for patients to return to normal life or have a quality of life after their hospitalization	"What stimulates me is a patient who is equipped (ID6), and that there is hope […] for him to have a return to his normal life." Bernadette (I)
Role – what I do?	ID3 - Constant monitoring	Necessity for constantly monitoring of patients	"What I like is that, I'm going to speak for myself about critical care, my patient is always monitored, and […] questioning myself all the time in relation to my knowledge. (ID4)" Henri (I)
	ID4 – Ongoing learning	Unpredictability of clinical situations stimulate nurses to develop and maintain integrated expert knowledge	"The reality of PICU, it's that a patient is going to change in an instant (ID5)... It's data [concerning patient condition] that if taken individually does not mean anything, but when you accumulate it and it's not necessarily that you've seen this situation before, but you know it [patient condition] can turn to such and such a thing." Rose (I)
Context – where I do it?	ID5 - Adrenaline-driven environment	Patient instability and quick nursing interventions required keep nurses on their toes	"I think nurses who work in critical care are people who need a little adrenaline" Cindy (I) "It's not minutes, it's just seconds, but often it makes the difference between – he [patient] starts to move as he

			wakes up and he pulls a little on his stuff … versus I see him move, he begins to fidget, I arrive, he's in a panic, he has a pulse of 200, he is in diaphoresis, all his dressings peel off…" George (I)
	ID6 - High presence of technology	Equipment for specialized and urgent care is readily accessible	"We work in a safe environment, meaning we know where all our tools are, the ambu, and all the things when we need to do something fast (ID5)" Rose (I)
Legend: ID: Identity elements, I: Interview, FN: Field Notes			

4.1 – Increased proportion of patients with chronic versus acute illnesses

As a result of changes to PICU eligibility criteria, more patients with chronic conditions were being cared for on the new unit. PICU nurses reported that these patients were less stimulating since they require more basic versus specialized care (ID1):

> "The nurses get a little annoyed because […] when you decide in your career to say 'I want to be a pediatric intensive care nurse', you want to do pediatric intensive care. […] I am not saying that we don't like long-term patients or more chronic [patients], but I think that's another specialty in itself […] Patients [with chronic conditions] are taking nursing resources that were trained in critical care, it's expensive because we have a residency program, and there is a whole investment on the part of the organization to train a critical care nurse who after six months decides to leave because she is tired of not progressing, because she always has chronic patients. Then again, we realize that we are canceling more surgeries because we are understaffed and the nurses who are trained are with patients who have trachs, who are chronic, who could be on the floor." Interview Rolland

The frustration generated by working outside the scope of what nurses consider the critical care specialty is compounded by their perception that this clientele monopolises scarce

specialized nursing resources and accelerates their depletion. Indeed, nurses do not find in caring for these patients with more chronic conditions the adrenaline-driven atmosphere and ongoing learning that define critical care nursing (ID5; ID4), the absence of which feeds their desire to leave the PICU. As Rolland's interview excerpt attests, participants report a vicious cycle whereby this clientele with chronic conditions push critical care nurses to leave their jobs, with a resulting increased nursing shortage, and ultimately limited spaces for critical care admissions, further eroding critical care nursing identity. PICU nurses also express higher moral distress in caring for this clientele as they often doubt the likelihood of these children returning to normal life or having a quality of life after their hospitalization (ID2).

Moreover, patients with chronic conditions, who are generally more stable, challenge the necessity for constant patient monitoring in the PICU (ID3). PICU nurses often cannot continually monitor patients with chronic conditions due to a higher patient load, with the rationale that these patients were previously cared for on pediatric floors, where nursing monitoring is less frequent. While PICU nurses recognize that certain patients with chronic conditions can be left alone, they remain uncertain as to the clinical risks posed by leaving PICU patients unmonitored. Night nurses are additionally torn by the challenge of adequately monitoring patients, as parents of patients who require prolonged hospitalizations often wish clinicians to prioritize sleep over care. Participants mentioned parents often voiced dissatisfaction (e.g. "sighs" and "whining" (Interview Rose)) when nurses monitored patients at night. In sum, PICU nurses struggle to maintain what they feel is adequate monitoring in the PICU against the downward pull of chronic-patient stability and parents advocating for their child's sleep.

4.2 – Physical environment-human resource interplay

In addition to chronic-patient stability, the interplay between physical environment and human resources further fractures nurses' capacity for sustained patient monitoring (ID3). With the all single-patient room design and increased room size of the new PICU (See Figure 1), nurses do most of their monitoring from an alcove situated outside the patient room, about five meters away from the following patient room on either side (Document Review, Floor plan of new unit).

Figure 1. Photograph taken by Evelyne

These new features of the physical environment are problematic for constant monitoring, especially when critical care nurse-patient ratios of 1:1 or 1:2 are not upheld, which is often the case due to a nursing shortage and during breaks and meals when nurses cover each other's patients:

> "When you [...] cover each other for breaks, it's really big [referring to the distance between patients] because when you're in a room, you do not quite see your patients next door. [...] So you end up with four patients, five patients, that you don't see, that's difficult. [...] So we are always running around like headless chickens, going from one room to another [...] I don't

always feel good because I don't feel like I'm doing my role as a nurse in terms of safety." Interview Jacqueline

Compared to monitoring in multi-patient rooms where nurses can easily see several patients simultaneously, monitoring multiple patients over larger separated spaces requires nurses to rely more heavily on technology (i.e. scopes) and run around from room to room to check on patients. PICU nurses in this study express feeling powerless and not fully accomplishing their role of critical care nurses because of their inability to constantly monitor patients, a difficulty they associate with increased safety risks for patients.

4.3 – Coping mechanisms

Although much problem-solving occurs with assistant head nurses in order to alleviate monitoring challenges faced by nurses, three recurring coping mechanisms can be witnessed: nurses punctually transfer surveillance responsibility to parents, patients' rooms are switched, and ultimately nurses rely on faith that everything will be all right.

When monitoring multiple patients during their shift or during breaks and meals, nurses will often rely on parents to observe children and report any abnormal occurrence. Although nurses recognize that parental surveillance does not afford the same quality monitoring that a nurse would, they feel stuck because they themselves cannot constantly monitor as many patients:

> "It's stressful and a bit frustrating to realize that you have a professional responsibility to ensure monitoring of patients and to make sure that they are safe, but that you are unable to accomplish it adequately. Then, sometimes, it's even embarrassing in front of parents because […] I'll tell them 'does it bother you to stay in the room for one hour because I'm on my own to monitor patients.' So you impose on parents that they monitor their own child because you are not able to monitor them properly." Interview Evelyne

Evelyne speaks eloquently of the dilemma faced by nurses who enlist parents to support patient monitoring, perceiving parental supervision as a lesser evil than leaving patients alone. Nurses are not lulled by the punctual transfer of surveillance responsibility to parents; they are aware that this responsibility never truly escapes them, and feel the burden of not fully accomplishing their duty as a critical care nurse, further chipping away at their critical care identity.

Moreover, patients, whom PICU nurses consider "sacred" (Field Notes 20 FEB), are frequently changed rooms to allow for patient pairings and reduce overtime requests. As patients change conditions, are admitted, or discharged, children are moved rooms to allow each nurse to care for more patients. PICU staff have coined this recurrent moving of patients "*Le Clan Panneton"* [home moving company] (Field Notes 4 SEP). Undeniably, changing rooms for reasons other than medical necessity, with the associated image of *Le Clan Panneton*, clashes with the critical care ideal (ID1) and the sanctity accorded to patients.

When nurses have done their best to mitigate the risks associated with monitoring more patients over longer distances, all they have left to do is hope, have faith that everything will be all right and that someone will be there if needed:

> "There was one [patient] who was supposed to go home and finally he didn't leave because he had started to vomit. Then, I was in the room, busy taking care of him, but there was no one taking care of the other patient. It was not easy. […] Well, I relied on others, they'll hear him ring if there's something. […] You must trust others and have faith." Interview Cindy

In a critical care environment dominated by multiple forms of control over practice (i.e., constant monitoring, precise equipment, etc.) (ID3; ID6), relinquishing control in favour of faith further erodes PICU nurses' critical care identity.

5 – Discussion & implications for nursing management

This study illuminates how a unit transformation within a context of nursing shortage factored into the erosion of PICU nurses' critical care identity, revealing potential ways in which managers can provide support. The higher proportion of patients with chronic versus acute illnesses challenged nurses' critical care identity by threatening their provision of specialized care, their adrenaline-driven environment and their professional learning, as well as calling into question constant monitoring and their contribution to children's quality of life. Moreover, the configuration of patients over longer distances did not allow nurses to constantly monitor patients, as they believed one should in critical care. Furthermore, the coping mechanisms to deal with the difficulties in monitoring further undermined PICU nurses' critical care identity, requiring managerial attention.

5.1 – Management lesson 1: projects cannot be evaluated in isolation

The study's findings are particularly enlightening for nurse managers, as they provide ammunition to advocate for evaluating changes to one's unit with a multi-factorial approach, including anticipated impacts to nursing professional identity. Although it was expected for organizational change to create misalignment between identity and work (Kira et al., 2012), the current study provides new insights into how environmental features, human resources, and clinical practice dynamically interact in this alignment. Indeed, this study showed how a change to the clientele, a new patient-bed configuration, and a nursing shortage synergistically contributed to PICU nurses' erosion of critical care identity. This study fills an important gap in research concerning "the interconnectedness between the different types of change and the unique challenges these junctions represent" (Tucker, Hendy, & Barlow, 2014, p. 970). Furthermore, these findings reinforce the idea that projects cannot be evaluated and executed in

isolation (Engwall, 2003; Tucker et al., 2014); they must be considered in light of complex project portfolios (groupings of projects/changes), as well as the organizational contexts in which they are embedded. Similarly, Taylor, Card, and Piatkowski (2018) conclude from their literature review concerning single-patient beds that design features are best evaluated "alongside related issues, such as … patient populations, staffing models, and inherent trade-offs" (p. 85). In this way, the interactions between multiple changes, the context, and their impact (including threats to nursing identity) can be considered before initiating a project and hence, either lead managers to decide to withhold a project or build-in mechanisms to mitigate identified risks.

At the planning phase, a profound reflection concerning these interactions must occur, including questions such as "How will this design impact nursing (and others') activities?" and "What can we do in this design if staffing is inadequate?". In the studied PICU, one coping mechanism used to deal with the nursing shortage was moving patients' from room to room, this option is disruptive for patients, as well as resource-costly for organizations (Gallant & Lanning, 2001). Had this option been brainstormed at the planning phase, the design could potentially have been adapted to better respond to this reality. In America, nursing shortages have been recurring in a cyclical fashion for the past 70 years (Blouin & Podjasek, 2019), it is time to recognize that budget cuts and nursing shortages are a chronic condition of healthcare and integrate it within infrastructure design considerations. The financial implausibility of increasing staffing with re-design further highlights the importance of tending early on to potential issues influencing nursing practice, such as walking distance and visibility (Hamilton, Swoboda, Jin-Ting, & Anderson, 2018; Maben et al., 2016). Technology (e.g., video monitoring) can be one option considered in these instances to palliate, to a certain extent, the difficulties in monitoring patients over longer distances (Hamilton et al., 2018).

5.2 – Management lesson 2: physical environment influences staffing requirements

Nurse staffing is a primordial consideration for nurse managers as it highly influences the provision of safe patient care (Aiken et al., 2012; Blouin & Podjasek, 2019; Halm, 2019). Blouin and Podjasek (2019) further purport that nurses undergo a cycle of disillusionment whereby frequent understaffing leads nurses to feel tired and burnt-out, causing many of them to leave the bedside, multiplying situations where nurse staffing is inadequate for the safe provision of quality care. More specifically to the PICU, unrealistic staffing to care adequately for complex patients was identified by nurses as a stress factor influencing their desire to leave their jobs (Foglia, Grassley, & Zeigler, 2010). Nurse managers therefore expend much of their time trying to fill nursing positions in order to meet the needs of their clinical settings, while balancing economic constraints. Many factors have been identified as influencing nurse staffing requirements, such as the intensity of patients, an aging population, etc. (Blouin & Podjasek, 2019), but few studies have identified the physical environment as a staffing consideration (Maben et al., 2016). The current study contributes to a small body of knowledge suggesting that single-patient bed configurations lead to increased nurse staffing requirements (Maben et al., 2016; Walsh, McCullough, & White, 2006). Although more studies are needed to consolidate the link between different unit configurations and staffing needs, the current study highlights how physical environment should enter into mainstream considerations for nurse staffing requirements.

5.3 – Management lesson 3: manage identity transitions

This study highlights how nurses experience frustrations during identity transitions, and how managers can play a role in making these smoother through anticipating identity issues prior to the change. Two human resource strategies are suggested: offering educational programs for

nurses, and rethinking recruitment criteria. Indeed, educational programs have been shown to positively influence nursing professional identity (Miskelly & Duncan, 2014; Sabancıogullari & Dogan, 2015). More research is needed to investigate if educational programs can have these same impacts when identities are challenged by organizational change. In addition, nurse managers faced with these situations must consider the evaluation criteria of new hires, potentially favouring nurses who have a better fit with new unit characteristics. Congruence between employee and work environment attributes is linked with higher job satisfaction, commitment, engagement, as well as lower turnover (Boon & Biron, 2016; Kristof-Brown, Jansen, & Colbert, 2002). In the studied unit for example, the head nurse could favour nursing applicants who prefer a mix between high acuity and chronicity, so as not to constantly fall into a cycle of disappointment for nurses that fed their intention to leave. The PICU investigated provided nurses an opportunity to experience the new patient population on a small scale prior to the move, but participants reported that this was insufficient to prepare them for the drastic change in proportion of patients with chronic versus acute illnesses.

5.4 – Limitations

While attention to methodological rigor suggests the study results can apply to other PICUs, the phenomenological nature and context (e.g., the specific organizational changes experienced) of this study makes the findings ungeneralizable beyond the immediate setting. Nonetheless, this illuminating story of one major hospital transformation experienced by PICU nurses, can enrich nurse managers' reflection concerning organizational change. Moreover, although the study lasted for six months, a more prolonged inquiry would have captured the transition process itself versus a snapshot.

6 – Conclusion

This study uncovers PICU nurses' lived experience of professional identity in the context of a major hospital transformation through the heuristic of erosion of their critical care identity. It illuminates how elements of an organizational transformation and context dynamically interact to undermine nurses' sense of being critical care nurses. Identity misalignment can have dire human resources consequences, and this paper suggests interesting management strategies to support nursing professional identity through changing times. Nurse managers need to advocate for nursing identity to be considered early on during project planning, and to anticipate potential interactions (positive and negative) between suggested changes and the unit context. Moreover, nurse managers must be aware that the interplay between unit design and availability of nursing resources may challenge a unit's ability to maintain standards of care. This study also furthers the understanding of PICU professional identity, a gap currently identified in the existing research. Research is needed to further identify and evaluate strategies for managing professional identity in the context of hospital redesign.

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In summary, manuscript 4 raises awareness concerning the interactions between multiple change initiatives and the context in which these are embedded. In the PICU studied, nurses felt their critical care identity had eroded due to the unit transformation. This manuscript highlights the important role nurse managers can play in managing transitions.

Preface to Chapter V

In the spirit of putting the pieces together, Chapter V will synthesize doctoral study results and their significance, as well as implications for nursing management, education and research. As can be witnessed, implications have been partially addressed in the preface of this thesis through the contributions of this work (see Figure 1). Chapter V will also address limitations and conclude with future research avenues. This chapter aims to bridge the current work with future advancements in nursing management, education and research.

Chapter V. Implications, limitations and future research

Summary of findings and their significance

The main objective of this interpretive phenomenological study was to illuminate PICU nurses' lived experience of a major hospital transformation, including the conditions of possibility for their experience (research question 1), as well as their experience of environmental changes (research question 2) and quality improvement projects (research question 3). This research project answered the three research questions and hence, achieved its overall aim.

Firstly, PICU nurses' lived experience of caring for families in the context of a major hospital transformation project was seen through the lens of pride and prejudice concerning family nursing. On the one hand, nurses felt pride in being able to offer a family-friendly environment. On the other hand, although the organizational vision called for parent-partnership in care, nurses' clinical practice continued to be patient-centered post-transformation, prejudicing the envisioned family focus. Nurses in this study negotiated physical and practice spaces with families through interpreting that they do not belong in the home-like patient room, and exhibiting gatekeeping comportments – controlling access to physical spaces and clinical care. These findings are significant and offer a unique contribution, as no found studies have linked these gatekeeping comportments to a higher pattern of negotiating spaces with families. This new understanding situates specific comportments within a process, which allows healthcare leaders to take a step back to look at the bigger picture and consider actions at a higher order level than the individual.

Secondly, this study also uncovers PICU nurses' lived experience of a major hospital transformation through the heuristic of erosion of their critical care identity. It illuminates how

elements of an organizational transformation and context dynamically interact in undermining nurses' sense of being critical care nurses. These results further the understanding of professional identity, as no found research previously focused on PICU nurses' identity. Furthermore, this study is significant in that it illuminates the interplay between multiple changes and associated challenges – a gap identified in the scholarly literature.

Lastly, this study fills an important gap in research concerning major hospital transformations (multidimensional hospital projects involving construction of new physical environments and quality improvement projects), as no known research has focused on the perspective of point-of-care nurses. This contribution is crucial since nurses are at the heart of successful project implementation and are highly impacted by changes resulting from project work.

Implications for nursing (management, education, and research)

Management implications

Nursing management

As hospitals are transformed, so is the face of nursing. Nurses are central to healthcare change and in order to promote their engagement, it is important to explore their perspective and take into consideration what is important for them. This respect of nurses' perspective can motivate them to be active players in healthcare projects and early adopters of change, ultimately contributing to improved patient care. Nursing managers play an important role in supporting positive healthcare change, while protecting the essence of nursing practice and identity in changing times. Exemplars such as the one presented in this study, give nurse managers ammunition to advocate for more consideration to be given to the nursing perspective if real change is to occur. This can take many forms, such as liberating point-of-care nurses from

clinical duties to participate in project work at every phase of the project, considering impact on nursing practice early on in the process, and offering extra support for nurses at the implementation phase.

These initiatives can potentially avoid a disconnect between a projected vision, such as parent-partnership in care, and a reality that comes short of materializing this vision – offering a physical environment responsive to families, but a reluctance to family nursing practices. Nursing managers can picture a physical environment change as a locus of opportunity to change nursing practice, that needs to be supported by other change initiatives over time (i.e. training, problem-solving, revision of nursing workloads, etc.). More specifically for family nursing, since the study findings suggest family care is embedded in a complex process of negotiating spaces between nurses and families, managers can use this understanding to jumpstart reflections about how environments and practices can be aligned in such a way that nurses and families can both feel at home.

Furthermore, this doctoral study raises awareness for managers concerning potential interactions (positive and negative) between implemented changes, and the unit context. Nursing managers are often the closest management level to the units, and they can play a key role in informing project teams about the specific unit context (i.e. team dynamics, staff shortages, etc.). Moreover, nursing managers can raise a red flag about certain unit designs that are more nursing-resource consuming to maintain the same standards of care – advocating for a plan to mitigate risks for employees, and clients (e.g., increasing recurring operational budgets). In sum, the study findings suggest nursing managers need to play an active role before, during and after transitions.

Project management

The understanding from this study contributes to healthcare project management and change management. Firstly, the integrative review concerning major hospital transformations calls project management teams to consider creating a project management office to support the organization undergoing major change. Secondly, the findings highlight the importance of considering the interactions or junctions between different projects and the context in which they are situated. This calls for project management that is much more integrative versus in silos – suggesting the integrating role usually left to project managers alone may be best suited to interdisciplinary teams that have knowledge of clinical settings. Thirdly, the extra challenges major hospital transformations present in terms of integrating multiple changes suggest support is needed post-project implementation – justifying budgets for providing extra resources to help with the transition (i.e., can take the form of prolonging the mandate of the project management office with dedicated nursing resources, or decentralizing expert nursing resources to the clinical units to support nurses in transforming their practice). Lastly, this exemplar illuminates the profound human impacts projects can have, reinforcing the need for an ethical perspective of project management, where a more balanced decision-making matrix (considering human, economic and other dimensions) is valued.

Education implications

The exemplar unit presented in this study can be used to stimulate reflection in project management and nursing management education through the development of a case study. Much grey literature presents healthcare projects, but very few case studies based on empirical work are available to support student learning and teachers have voiced the need for more teaching cases (Vega & Aubry, 2018). Moreover, the findings concerning the provision of family care as

seen through the lens of pride and prejudice and an ongoing negotiation of spaces (physical, practice, etc.) intersecting with families, can be used in nursing education to help students be more reflective about their family nursing practices.

Research implications

As previously mentioned, this study contributes to advancing knowledge about:

- the perspective of point-of-care nurses concerning major hospital transformations,
- methodological considerations for aligning research methods and the philosophy of interpretive phenomenology,
- the intersections and challenges of multiple organisational changes, and
- family nursing and PICU nurses' identity in the context of change.

The substantive and methodological research knowledge extended in this study can serve as new building blocks for future research. Moreover, the innovative methodology refined in this study, combining interpretive phenomenology and *photovoice*, can be used by qualitative researchers to advance the study of healthcare management phenomena. One of the most important implications of this study for scholarly work is to start bridging the fields of nursing and project management – highlighting how interdisciplinary studies can offer a rich understanding of complex healthcare phenomenon.

Limitations

While attention to methodological rigor suggests the study results can be applicable to other PICUs, the qualitative nature of this study make the findings not generalizable beyond the immediate setting. Since the objective of phenomenological research is to illuminate context-specific experience, in this case PICU nurses' lived experience of a major hospital transformation, this limitation is not critical. Moreover, the rich description of the context,

allotted by method triangulation, allows the reader to judge of possible transferability of the findings to their settings (Lincoln & Guba, 1985). van der Hoorn (2015), a project management researcher with a strong interest in lived experience, specifies that the "lived" experience, as it is remembered, provides a different perspective from "in-the-moment experience" (p. 1019); some may suggest memory may provide an inaccurate depiction of reality, but van der Hoorn (2015) specifies that it is not problematic to study recollection of events ("lived" in the past), as the meaning that these hold are reinterpreted through time and provide a different facet of the phenomenon. Another limitation concerns the study sample, which is composed solely of nurses; whereas their perspective is very important to the object of study, other perspectives such as patients' and families' could have enriched the understanding of the larger context of hospital transformations. As was previously mentioned, the use of a novel research methodology represented greater inconvenience or risk for patients and families, compared to healthcare professionals. In addition, the integrative review of major hospital transformations, which was very focused for the purpose of the doctoral thesis (articles that included both construction and quality improvement dimensions), could have been enriched by extending the inclusion criteria. For example, including other types of transformations, such as organizational restructuring, could have allowed comparing and contrasting study results with other types of organizational change – better situating our understanding of major hospital transformations.

Future research avenues

As major hospital transformations present a relatively new research endeavour, more research is warranted to understand these complex interdisciplinary phenomena. As different physical unit configurations create more or less dispersion between team members, an area that would be interesting to explore is teamwork following a major hospital transformation.

Moreover, the transitions inherent to major hospital transformations call for more process research that taps into the unique temporality of these transformations. As previously mentioned, many stakeholder perspectives still need to be illuminated concerning major hospital transformations, particularly those of patients and families. In addition, this doctoral study begins to illuminate the richness that diverse project junctions represent, calling for more research examining the intersections that multiple changes and context create.

More specifically for project management, through illuminating the complex and social nature of projects, this study calls for more research of its kind – offering an emancipatory perspectives in project management (Geraldi & Soderlund, 2018; Padalkar & Gopinath, 2016). To push the argument further, the profound human impacts of projects brought to the fore in this study, suggest a line of inquiry that is not only rooted in an emancipatory perspective, but an ethical and moral debate concerning project management.

For nursing management, more research would be needed to better understand the patterns of negotiation of spaces between different healthcare actors. Indeed, the complexity of the healthcare system and its associated human interactions create a unique setting to study these dynamics. Furthermore, physical healthcare spaces, as "lived" places, need to be further studied in order to better understand how to better create healing microclimates within hospital walls, and beyond.

Chapter VI. Conclusion

In conclusion, this interpretive phenomenological study explored pediatric intensive care unit nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation. The organisational changes and the meanings that these hold for nurses were brought to the fore through individual interviews, photographs, participant observation, document review and a hermeneutic analysis. The findings revealed PICU nurses' lived experience of a major hospital transformation could be portrayed through a complex pattern of negotiating physical and clinical spaces with families, as well as a heuristic of erosion of nurses' critical care identity. This study makes important contributions to nursing and project management research, education and practice, as well as enriching the integration of these two domains of practice, in service of complex healthcare situations. More research is needed to better understand how healing can be translated in hospital designs, and the social realities that inhabit them.

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Appendices

Appendix A – Consent form (English version)

APPROUVÉ PAR LE COMITÉ D'ÉTHIQUE
5 JUIN 2019
#2019-1997
CHU SAINTE-JUSTINE

CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant

Université de Montréal

McGill

PEDIATRIC RESEARCH INFORMATION AND CONSENT FORM

Title : PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation

Persons responsible:

Julie Fréchette, PhD (candidate), Ingram School of Nursing McGill University (principal investigator)

Dr. Melanie Lavoie-Tremblay, Associate Professor and Director of Research, Ingram School of Nursing McGill University (co-supervisor)

Dr. Vasiliki Bitzas, Head Nurse Palliative Care Unit of the Jewish General Hospital and Chair of the MBM Research Ethics Committee, Integrated Health and Social Services University Network for West-Central Montreal & Assistant Professor, Ingram School of Nursing McGill University (co-supervisor)

Dr. Johanne Déry, Assistant Director of Nursing (Research Development), CHU Ste-Justine & Associate Professor, Faculty of Nursing, University of Montreal (local investigator)

Collaborators:

Claude Fortin, Transition Director, Director of Nursing and Executive Co-Director of Academic Care, CHU Ste-Justine

Dr. Monique Aubry, Professor, Department of Management and Technology, UQAM

Dr. Kelley Kilpatrick, Associate Professor, Faculty of Nursing, University of Montreal

Funding Source: Doctoral funding was awarded from the Fonds de recherche du Québec - Santé (FRQS) and Quebec Nursing Intervention Research Network (RRISIQ).

WHY ARE YOU BEING INVITED TO TAKE PART IN THIS STUDY?

Today, we are inviting you to take part in a research study concerning pediatric intensive care unit (PICU) nurses' lived experience of changes that resulted from a major hospital transformation: the project *Grandir en santé* (Growing up healthy), *la Grande Traversée*. Please read this information to help you decide if you want to participate in this research project. It is important that you understand this information. We encourage you to ask questions. Please take all the time you need to make your decision.

WHY IS THIS STUDY BEING DONE?

Much public funding is being invested in building new healthcare infrastructure. Hospitals who take part in building new facilities often take this opportunity to improve their practices through quality improvement projects. The organizational transformations that result create a lot of changes for all individuals who work, visit and receive care in these hospitals. Nurses, as recognized experts in leading change, are often solicited to participate in projects and are often impacted professionally and personally by the changes that these projects bring about. To date, no known research has explored the perspective of nurses concerning the changes resulting from major hospital transformations.

The main objective of this research study is to explore PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation. The research questions are:

1. What are PICU nurses' lived experience of a major hospital transformation?
2. What are PICU nurses' lived experience of environmental changes?
3. What are PICU nurses' lived experience of changes resulting from quality improvement projects?

HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

10-15 nurses from the PICU of this hospital will take part in this study.

WHAT WILL HAPPEN IN THIS RESEARCH STUDY?

PICU nurses who have experienced both the "old" and the "new" unit following the *Grande Traversée* will be invited to take part in this study. Your participation in this study is voluntary and you can withdraw from the study at any time.

If you agree to participate in this study, you will be asked to:

- Sign a written consent form.
- Complete a socio-demographic survey – you will be asked to disclose your age, gender, education, employment status and experience. You can choose to omit a question if you do not wish to respond.
- Engage in a one-on-one audio-recorded interview – it will take approximately 60 minutes and will take place during or outside work hours (at your preference) in a private room at your organization at a time that is most convenient for you.
- Facultative – Take pictures to illustrate your experience and to discuss during the interviews (with your phone or a camera leant by the research team).
- Facultative – Agree to be shadowed by the researcher during your work shift.
- Facultative – Engage in 1-2 follow-up interviews to validate initial findings (about 30 minutes and can be done in person in a location of your choice at your organization, by phone or by text/email)

These data collection methods will allow the researcher to note changes that have occurred following the hospital transformation and their meaning for nurses.

FOR HOW LONG WILL YOU PARTICIPATE IN THIS STUDY?

Participant observation will be conducted for a period of 3-6 months. The interviews will be completed during this period.

WHAT ARE THE RISKS?

There are no known risks in participating in this study other than the time it takes to engage in the interview(s). While there are no expected risks associated with participating in the study, in the event that you experience any distress during or following the interview, the CHU Ste-Justine Employee Assistance Program will be available to assist you at 1-800-567-2433.

ARE THERE BENEFITS TO TAKING PART IN THE STUDY?

There is no direct benefit to you for participating in this research. We hope that what we learn from doing this study will help us better manage healthcare projects in the future and contribute to creating environments that are supportive of nurses.

IS ANY COMPENSATION BEING OFFERED?

If you take part in this study, you will receive a gift card for a coffee shop (20$).

HOW IS PRIVACY ENSURED?

During your participation in this study, the principal investigator (Julie Fréchette) will collect and record information about you in a study file. The PI will only collect information required to meet the scientific goals of the study. The study file may include information from your socio-demographic survey, the recordings from your interview(s) and the pictures you take for the purpose of this study. Participants are asked not to take pictures of individuals, as well as identifiable objects (i.e. staff identification card, patient chart, etc.). All the information collected during the research project will remain strictly confidential to the extent provided by law. All appropriate measures will be taken during the study to ensure that the confidentiality of the data we collect will be protected. This will be done by securing the data via double-password protected files on the PI's computer. You will only be identified by a pseudonym. The key to the code linking your name to your study file will be stored and accessible only by the PI in a double-locked cabinet at the McGill University Ingram School of Nursing. Following the end of your participation in this study, the study data will be stored for 7 years after the end of the study by the Mélanie Lavoie-Tremblay (co-supervisor) to ensure that the data is accurate following publication. The data may be published or shared during scientific meetings, however it will not be possible to identify you. In no case will individual results identifying you be communicated to your manager, employer or colleagues. However, in order to verify the proper conduct of the research and ensure your protection, it is possible for the PI's co-supervisors or a delegate from the CHU Sainte-Justine Research Ethics Board consult the research data. All these individuals and organizations adhere to policies on confidentiality. Moreover, protection of your identity cannot be guaranteed if you consent to be shadowed or if you choose to be interviewed during work hours. You have the right to consult your study file in order to verify the information gathered, and to have it corrected if necessary.

IS YOUR PARTICIPATION VOLUNTARY AND CAN YOU WITHDRAW?

Your participation in this research project is voluntary. Therefore, you may refuse to participate. You may also withdraw from the project at any time, without giving any reason, by informing the study PI; refusing to participate or withdrawing from the study will in no way affect your relationship with your manager or your employer, nor your employment or your participation in other research projects. In case of withdrawal of your participation, no new data will be collected concerning you. The data collected and not yet analyzed will be destroyed; data already analyzed will be kept. You may also choose to withdraw or correct any recorded information in your study file. Any new information that could influence your decision to stay in the research project will be shared with you as soon as possible.

WHOM DO I CALL IF I HAVE QUESTIONS OR WOULD LIKE TO GET MORE INFORMATION?

If you have any questions about this research project or if you suffer any problems you believe are related to your participation in this research, you can contact the researcher responsible for the project: Julie Fréchette, 514-718-2965 or julie.frechette2@mail.mcgill.ca

If you would like information about your rights related to your participation in the research, you may contact the CHU Sainte-Justine's Ombudsman (Patient Representative): 514-345-4749.

You will receive a signed copy of this consent form. At any time, you can ask questions to the research team.

RESEARCH ETHICS COMMITTEE

The Research Ethics Board of the CHU Ste-Justine approved this research and is responsible for the monitoring of the study.

CONSENT FORM

Title of this research project: **PICU nurses lived experience of environmental and quality improvement changes in the context of a major hospital transformation**

I have been explained what will happen on this study. I read the information and consent form of 5 pages and was given a copy to keep. I was able to ask my questions and they were answered to my satisfaction. After thinking about it, I agree to participate in this research project.

By agreeing to participate in this research project, you are not waiving any of your legal rights nor discharging the study investigators, nor the institution, of their civil and professional responsibilities.

Name of participant (18 years +) (Print)	Signature	Date

I have explained to the participant all the relevant aspects of this study. I answered any questions they asked. I explained that participation in a research project is free and voluntary and that they are free to stop participating at any time they choose.

Name of Person obtaining consent (Print)	(signature)	Date

Appendix B – Information leaflet (English version)

APPROUVÉ PAR LE COMITÉ D'ÉTHIQUE
5 JUIN 2019
#2019-1997
CHU SAINTE-JUSTINE

CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant
Université de Montréal

McGill

Study Title: PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation

Persons responsible: This study is being conducted by a McGill University doctoral student who is also a nurse, Julie Fréchette. She is supervised by two senior researchers from McGill University, Dr. Melanie Lavoie-Tremblay and Dr. Vasiliki Bitzas (Head Nurse Palliative Care Unit, Jewish General Hospital). At Ste-Justine, Claude Fortin, Director of Nursing, and Johanne Déry, Assistant Director of Nursing (Research Development), support this study.

WHY IS THIS STUDY BEING DONE? The main objective of this research study is to explore PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation (*Grandir en santé* (Growing up healthy), *la Grande Traversée*). Much public funding is being invested in building new healthcare infrastructure. Hospitals who take part in building new facilities often take this opportunity to improve their practices through quality improvement projects. The organizational transformations that result create a lot of changes for all individuals who work, visit and receive care in these hospitals. Nurses as recognized experts in leading change are often solicited to participate in projects and are often impacted professionally and personally by the changes that these projects bring about. To date, no known research has explored the perspective of nurses concerning the changes resulting from a major hospital transformation.

WHAT WILL HAPPEN IN THIS RESEARCH STUDY? PICU nurses who have experienced both the "old" and the "new" unit following the *Grande Traversée* will be invited to take part in this study; no patients will be directly involved. Data will be collected through interviews (about 1 hour), observation of the unit and photographs. These methods will allow the researcher to note changes that have occurred following the hospital transformation and their meaning for nurses. You will see me on the PICU for a period of 3-6 months.

WHAT ARE THE RISKS AND BENEFITS? There are no known risks in participating in this study other than the time it takes to engage in the interview(s). We hope that what we learn from doing this study will help us better manage healthcare projects in the future and contribute to creating environments that are supportive of nurses.

IS ANY COMPENSATION BEING OFFERED? Participants will receive a gift card for a coffee shop (20$).

CONFIDENTIALITY AND VOLUNTARY PARTICIPATION? Participation in this research project is voluntary and participants can withdraw from the project at any time. All appropriate measures will be taken during the study to ensure that the confidentiality of the data I collect will be protected. The Research Ethics Board of the CHU Ste-Justine approved this research and is responsible for the monitoring of the study.

If you have any questions about this research project, would like more information or would like to be omitted from unit observation, you can contact the researcher responsible for the project: Julie Fréchette, 514-718-2965 or julie.frechette2@mail.mcgill.ca

Version 2 – May 31st, 2018
Study number: 2019-1997

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Appendix C – Study form for recruitment (English version)

APPROUVÉ PAR LE COMITÉ D'ÉTHIQUE
5 JUIN 2019
#2019-1997
CHU SAINTE-JUSTINE

CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant
Université de Montréal

McGill

Study Form

Study Title: PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation

Please see study information hand-out for more details.

If you have any questions about this research project, would like more information or would like to be omitted from unit observation, you can contact the researcher responsible for the project: Julie Fréchette, 514-718-2965 or julie.frechette2@mail.mcgill.ca

May I contact you to discuss the possibility of participating in this study? (circle one)

YES NO

If yes, please indicate:

Name: _____

Best way to reach you:

❑ Phone: _____

❑ Text message (phone): _____

❑ Email: _____

❑ Come and see me on the unit when I am working

Version 1 – May 7th, 2018
Study number: 2019-1997

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Appendix D – Socio-demographic questionnaire (English version)

CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant
Université de Montréal

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Socio-demographic questionnaire

PARTICIPANT PSEUDONYM: _____ (to be completed by researcher)

A. General Information

Sex: _____ Age: _____ years

B. What is your highest educational background in Nursing (circle one)?

a. Technical/college diploma
b. Bachelor's
c. Master's
d. Doctorate (PhD)
e. Other: _____

C. Other degrees? Please specify the degree and domain of study _____

D. How many years of experience do you have as a nurse?

_____ years (or if less than a year, _____months)

E. What is your current position (circle one)?

a. Nurse
b. Nurse clinician
c. Other: _____

F. How many years have you been in this position on this unit?

_____ years (or if less than a year, _____months) If less than 3 years, have you worked on this unit before (circle one): YES NO If yes, When and for how long?_____

G. What is your current employment status (circle one)?

a. Full-time
b. Part-time, please specify number of days / week: _____
c. Full-time replacement
d. Part-time replacement, please specify number of days / week: _____

H. What shift do you work most often (can circle more than one if half/half)?

a. Day
b. Evening
c. Night
d. Other (i.e. 12h):_____

G. How have you been involved in the *Grandir en santé* or *Grande Traversée* projects (circle as many that apply)?

a. Working groups / project team / project
b. Mock patient rooms
c. Change agent
d. Appropriation and simulation activities in new unit
e. Other: _____
f. I was not involved

Version 1 – MAY 7th, 2018
Study number: 2019-1997

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Appendix E – Poster for participant observation (English version)

APPROUVÉ PAR LE COMITÉ D'ÉTHIQUE
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#2019-1997
CHU SAINTE-JUSTINE

CHU Sainte-Justine
Le centre hospitalier universitaire mère-enfant
Université de Montréal

McGill

Study Title: PICU nurses' lived experience of environmental and quality improvement changes in the context of a major hospital transformation

Data Collection Today

Julie Fréchette, nurse and doctoral student at McGill University, will observe the unit today to note changes that have occurred following the *Grandir en Santé* and *Grande Traversée* projects that have touched nurses.

No personal or patient information will be collected.

Please advise me if you do not want to be included in data collection.

Persons responsible: This study is being conducted by a McGill University doctoral student who is also a nurse, Julie Fréchette. She is supervised by two senior researchers from McGill University, Dr. Melanie Lavoie-Tremblay and Dr. Vasiliki Bitzas (Head Nurse Palliative Care Unit, Jewish General Hospital). At Ste-Justine, Claude Fortin, Director of Nursing, and Johanne Déry, Assistant Director of Nursing (Research Development), support this study.

The main objective of this research study is to explore PICU nurses' experience of changes resulting from a major hospital transformation. PICU nurses who have experienced both the "old" and the "new" unit following the *Grande Traversée* will be invited to take part in this study; no patients will be directly involved.

The Research Ethics Board of the CHU Ste-Justine approved this research and is responsible for the monitoring of the study. All appropriate measures will be taken during the study to ensure that the confidentiality of the data I collect will be protected.

If you have any questions about this research project, would like more information or would like to be omitted from unit observation, you can contact the researcher responsible for the project: Julie Fréchette, 514-718-2965 or julie.frechette2@mail.mcgill.ca

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Study number: 2019-1997

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Appendix F – Preliminary interview guide (English version)

APPROUVÉ PAR LE COMITÉ D'ÉTHIQUE
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CHU SAINTE-JUSTINE

Interview guideline[1]

Introduction:

- The interview will last approximately 60 minutes and will involve answering questions about changes brought about by the projects *Grandir en santé* and *La Grande Traversée*
- I will do my best to assure that any information you provide will remain confidential.
- Participation is voluntary and you can choose to withdraw at any time[2]. You may also wish not to answer a specific question.
- By accepting to participate in this project, you are not waiving any legal rights nor discharging the researchers nor the institution of their civil and professional responsibility.
- If you have brought any pictures, can you please provide these for me (*Download pictures to computer and erase them from phone/camera*)?
- Please answer the questions to the best of your ability, there is no right or wrong answer.
- The interview will be audio-recorded if you still agree (Wait for verbal or non-verbal cue). We will now begin. *(Recorder will be turned on)*

Part 1 - PICU nurses lived experience of environmental changes in their workplace

- Can you tell me about the changes you have experienced to the physical environment where you practice?
  - ✓ How was it before? How is it now?
  - ✓ How did you feel when you first experienced this change? How does the environment currently make you feel?
- What would you say are the most important changes to the physical environment?
  - ✓ What is significant about these changes for you, for nurses in general?

[1] The questions presented are used as a starting point to elicit participants' narratives, they may not all be covered and others may be added as needed. The questions are ordered in this way, starting with more tangible changes and broadening out, in order to facilitate the discussion with participants during the interviews. The order of the questions will not be followed strictly.

[2] Particular attention will be given to the nurse's verbal and non-verbal expressions that he/she wants to stop the interview, which will be respected.

Version 1 – MAY 7th, 2018
Study number: 2019-1997

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- ✓ What does this change mean for you on a day-to-day basis?

Part 2 - PICU nurses lived experience of changes resulting from quality improvement projects

- Can you tell me about other changes you experienced as part of the *Grandir en santé* or *Grande Traversée* project?
  - ✓ How was it before? How is it now?
  - ✓ How did you feel when you first experienced this change? How do you feel about this change now?
- If needed, prompt with: Have you experienced any projects to harmonize and improve your clinical practice (*practice project*)? Have you experienced any projects to improve team dynamics or people's role (*people projects)?* Have you experienced any projects that touched clinical or administrative processes (*process projects*)? (Richer, Marchionni, et al., 2013) If so, can you describe these in more detail?
- What would you say are the most important changes you experienced?
  - ✓ What is significant about these changes for you, for nurses in general?
  - ✓ What does this change mean for you on a day-to-day basis?

Part 3 - Photovoice (inspired by questioning strategy recommended by Evans-Agnew et al. (2017))

- Can you tell me about what you see in this picture?
- What made you choose to take this picture?
- How does this relate to the changes you experienced as part of the transformation project? How has this affected your life, your nursing?

- What emotion does this picture elicit for you?
- What is the most meaningful detail in this picture for you? What about this is important?
- If you had to choose a title for this picture, what would it be?
- Globally: Which photograph is most meaningful to you? What does this photograph uncover about your experience?

Part 4 – Open discussion about nurses lived experience of a major hospital transformation

- What else have you experienced as part of the *Grandir en santé* or the *Grande traversée* project?
- What about this is important to you?
- As we are speaking about it, what emotion is elicited from our discussion?
- What else?
- Is there anything you would like to ask me?
- Is there anything that you might not have thought about before that occurred to you during this interview?

Additional prompts: What does it mean for you now? What about this matters for you? What is significant about this? What do you mean by the word "X"? Tell me more about… Can you elaborate on… What happens when…. Can you give me an example of … What organizational value/s do you feel this change demonstrates/holds? How does that relate with your own values?

Follow-up: As I listen to the transcript of this interview, I may have questions about what was said or may want to clarify my understanding. If so, may I call you back for a brief follow-up?

Appendix G – Participant observation guide

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Observation guideline[1]

(elements in black are taken directly from the observation criteria suggested by Polit and Beck (2012, pp. 546-547); elements in blue are inspired by the works of Benner (1994c); Gadamer (1981); Heidegger (1927b); Mulhall (2003))

1. *The physical setting*.
   - What are the key features of the setting?
   - What characterizes the physical environment?
   - How do nurses interact with the physical environment?
   - What is the context within which human behavior unfolds?
   - What behaviors and characteristics are promoted (or constrained) by the physical environment?
   - What features are similar/different than what I am used to in clinical settings?
   - What can be noted of the elements nurses talk about during the interviews?
   - How is the physical environment in relation to the floor plans (document review)?
   - How is the environment supporting/hindering nurses' practice (look for non-verbal cues– sighs, discomfort, smile, etc.)?
   - How do nurses interact with the technology?
2. *The participants*.
   - What are the characteristics of the people being observed?
   - How many people are there? What are their roles?
   - Who is given free access to the setting – who "belongs"?
   - What brings these people together?

[1] The questions presented are used as a starting point to stimulate embodied observation, they may not all be covered and others may be added as needed.

3. *Activities and interactions.*
    - What are people doing and saying? What are their comportments?
    - Is there a discernable progression of activities?
    - How do people interact with one another? What can be noted of the social interactions of teams? How do nurses interact with the team? Does this seem facilitated/hindered by the changes associated with the hospital transformation?
    - How – and how often – do they communicate?
    - What type of emotions do they show during their interactions?
    - How are participants interconnected to one another or to activities underway?
    - Are quality improvement projects, noted from document review, still active on the unit? Do they appear to have been completed (i.e. procedure X is followed according to plan)? Have people reverted to other ways of doing? If so, why?
    - Do the changes from these projects seem to be working or not working for nurses (look for non-verbal cues– sighs, discomfort, smile, etc.)?
    - What can be noted about the projects nurses mention during the interviews?
4. *Frequency and duration.*
    - When did the activity or event begin, and when is it scheduled to end?
    - How much time has elapsed?
    - Is the activity a recurring one, and if so, how regularly does it recur?
    - How typical of such activities is the one that is under observation?
5. *Precipitating factors.*
    - Why is the event or interaction happening?
    - What contributes to how the event or interaction unfolds?

6. *Organization*.
    - How is the event or interaction organized?
    - How are relationships structured?
    - What norms or rules are in operation?
7. Intangible factors.
    - What did *not* happen (especially if it ought to have happened)?
    - Are participants saying one thing verbally but communicating different messages nonverbally? Are participants communicating different things in the interview and through the observations?
    - What types of things were disruptive to the activity or situation?
    - What does this uncover about the phenomenon? How is the phenomenon being expressed?
    - In what way is the phenomenon veiled?
    - What elements seem to be taken-for-granted by the nurses, by the PI?
    - What else appears to have resulted from the transformation? How do nurses interact/live with this?
8. *Photovoice*.
    - How do the pictures fit in with the bigger unit context?
    - What is within the picture frame and what is left out (i.e. what is right next to the object of focus)? *(I will situate the picture locations with the help of participants)*.

Prompts

- Describe the context where nurses work (physically, emotionally, on a practice level, experience of leadership, etc.)
- What processes are at play?
- How does this fit within the bigger picture (part-to-whole)?
- "What is happening here?" (Benner, 1994a; Thorne et al., 2004, p. 14)
- What is the meaning for nurses and the researcher about this element in relation to the studied phenomena and why?
- "What do I now know or see that I did not expect or understand before I began…?" (Benner, 1994a, p. 101).

Appendix H – Article presenting hermeneutic orientation to nursing (Candidate as first author)

TITLE PAGE

(i) *Title*: Title: Exploring a hermeneutic perspective of nursing through revisiting nursing health history

(ii) *Short running title:* Hermeneutic nursing health history

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(v) *Acknowledgments*: The authors would like to thank Dr. Marjorie Montreuil and Corinne Lajoie for their suggestions concerning revision of the manuscript.

(vi) *Conflict of Interest statement for all authors*: The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

(vii) *Details of funding*: The first author would like to thank the Fonds de recherche du Québec – Santé (FRQ-S), the Quebec Network on Nursing Intervention Research (RRISIQ), the Ministry of Education, the Institut universitaire en santé mentale de Montréal – Research Center, Mitacs, and McGill University for their doctoral financial support.

Title: Exploring a hermeneutic perspective of nursing through revisiting nursing health history

Abstract:

In this article, the nursing health history is revisited with a hermeneutic lens to uncover means by which this tool can better serve nursing practice. It is argued that further distanciation from the developmental and medical model is necessary to accurately uncover health and history in the nurse-client encounter. Based on the works of prominent hermeneutic philosophers, such as Heidegger, Gadamer, Merleau-Ponty, Ricoeur, and Taylor, four orientations to health history and nursing are explored: orientation to caring, orientation to narrative, orientation to time, and orientation to the body. The nursing health history is used as a vehicle for illuminating the usefulness of a hermeneutic perspective in everyday nursing practice. This article reveals views of health, history, and health history that are already known to nurses and the nursing milieu but are concealed by more dominant outlooks. The hermeneutical perspective presented in this article can help to reveal the important dimensions of everyday nursing practice and foster a richer attunement with the complex health experiences of individuals.

Keywords:

Health history, nursing, hermeneutics, caring, narrative

Main text:

Introduction

Nursing health history provides an opportunity for nurses to learn more about their client. However, traditional health history often obscures our[9] understanding of the person and their family in front of us. This article argues that a hermeneutic perspective on nursing health history can provide a better means of genuinely knowing people and can enlighten our nursing practice. Although hermeneutic inquiry can uncover important elements of clinical realities, few articles have explored clinical practice hermeneutically (Benner, 1991; Carnevale, 2019; Schultz & Carnevale, 1996). In particular, it is important to revisit nursing health history because this tool is introduced early on in nursing education, and therefore presents a unique opportunity to shape a new vision for the future of nursing.

What is a nursing health history?

Nursing health history is defined in mainstream practice as a tool used to collect data regarding past and present health problems, in addition to the client's health promotion behaviors and health risks (Dillon, 2007). This tool is used at the beginning of a nurse–client encounter to collect information concerning client condition and previous medical history; elements such as childhood illnesses, previous surgeries, family disorders, reason for seeking care, and nutrition can all be included in an individual's health history (Dillon, 2007). Rudimentarily, nursing health history can be defined as a tool used to get to know one's client. Although this tool aims to offer a holistic perspective of the client situation, it narrowly defines the individual and their health by

[9] Since the authors are nurses, the pronouns "our/we/us" refers to nurses and is used to provide an inclusive tone to the article.

exploring them from the perspective of physical and psychological illness. This is unsurprising as most nurses work in settings where the medical/illness model and disengaged care predominate (Schultz & Carnevale, 1996). Disengaged care occurs when clinicians refuse to connect on a human level with clients, making abstraction of the client's suffering (Schultz & Carnevale, 1996). A flagrant example of medical dominance in healthcare is the preponderance of advanced practice nurses replacing or helping physicians as opposed to supporting "a patient-centered, health-focused, holistic nursing orientation to practice that is complementary to existing models of care delivery" (Bryant–Lukosius, DiCenso, Browne, & Pinelli, 2004, p. 524). Dillon (2007) claims that medical history differs from nursing history in that physicians focus on illness and nurses focus on coping with illness. A fine line exists between medical and nursing histories as similar modes of inquiry are used, and both have illness as their starting point. This article calls for further distanciation from this disengaged medical and illness model in order for the unique contribution of nursing to be brought to light.

What is nursing?

In the same way that Heidegger (1962) defines the question of being as a prerequisite to uncovering any phenomena, the question of being a nurse must be brought to light before any nursing phenomena can be examined. In her seminal work *Notes on Nursing*, Florence Nightingale (2010, p. 253) compared the roles of physicians and nurses as follows: "medicine, so far as we know, assists nature to remove the obstruction, but does nothing more. And what nursing has to do in either case is to put the patient in the best condition for nature to act upon him." As can be observed in this excerpt, the primary concern of nurses is not illness but to create conditions conducive to healing. Nightingale (2010) conceived of nursing in a much broader sense than medicine, which still finds resonance in current conceptualizations of nursing.

One such example is strengths-based nursing, which "reaffirms nursing's goals of promoting health, facilitating healing, and alleviating suffering by creating environments that work with and bolster patients' capacities for health and innate mechanisms of healing" (Gottlieb, 2014, p. 24). Standing on the shoulders of these nursing giants, we broadly define nursing as promoting health – with health being defined in partnership with clients and families (Gottlieb, 2013, 2014). Indeed, this article makes a clarion call for the rethinking of the nursing profession as going beyond physical and mental health. For example, if a client's main priority is financial health (economic well-being), the nurse should play an active role in supporting the client. We are not suggesting that a nurse become an expert financial planner. However, a nurse should work with their client to identify resources that can support this priority as opposed to not considering it as their responsibility. This shows a genuine partnership with the person and respect for who they are and what it means to be healthy for them (Arman, Ranheim, Rydenlund, Rytterström, & Rehnsfeldt, 2015). Based on hermeneutic philosophy, four orientations will be presented to stimulate reflection regarding nursing practice and health history more specifically: orientation to caring, orientation to narrative, orientation to time, and orientation to the body.

Orientation to caring

Caring in the hermeneutic sense refers to *circumspective concern* or a cautious state of worry (Heidegger, 1962) – not in the sense of showing concern for someone, which is a more common definition, but in *being* concerned for the other person. There is a nuance in that showing concern qualifies a visible act without the requirement of a predisposing state, as opposed to being concerned, which refers to a way of *being* that manifests itself in various ways, some of which are seamless or invisible. Bringing a glass of water to a person who has asked for one is an act of caring in a more commonplace understanding. However, looking out for signs of dehydration

with the person's well-being in mind is a cautious worry that manifests itself. Schultz and Carnevale (1996) have characterized this way of being as engaged caregiving or suffering clinical presence where the clinician is predisposed to being touched by the client's humanity, and suffering. Nurses can truly be touched by their client's life if they are predisposed to being touched. Heidegger's chair-and-wall metaphor can philosophically inspire our way of being in this sense: "If the chair could touch the wall, this would presuppose that the wall is the sort of thing 'for' which a chair would be encounterable" (1962, p. 81). The nurse can only encounter the other if they can create a space within themselves for this touching encounter to occur, cultivating their "'soul's' relationship to the world" (Heidegger, 1962, p.85). This existential perspective is captured well by Schultz and Carnevale (1996) as the space that the nurse creates within themselves to allow for feelings of fragility and mortality that are evoked by the suffering of others. To be touched, the nurse must be open to the world of others, shedding the protective armor of emotional disengagement.

A caring perspective to health history

A caring perspective to health history is guided by a genuine concern for the individual. The traditional health interview, structured on disease, can be transformed into a semi-structured encounter wherein the objective of getting to know the person is at the fore. The hermeneutic inquiry makes it possible to uncover the true nature of people amidst all that seems or appears to be (Heidegger, 1962). In this type of inquiry, a list of questions about past and current health concerns is replaced by a stance of openness to an individual's health story – with the nurse allowing herself to be touched by the client's story. The common health history question "What brings you here?" can still be used as an opening. However, the nurse does not listen for a diagnosis, but for meaning, constantly reflecting with the client regarding ways in which details

are important or significant in light of the client's lifeworld. The hermeneutic tradition places central importance on meanings attributed, and offers insights into the bridging process that can lead to a better understanding of one another.

Bridging horizons of significance. To illuminate the existential dimension of nursing, we must first understand nurses and clients in view of their humanity (Arman, et al., 2015). Taylor (1987), a hermeneutic philosopher, portrayed human beings as being self-interpreting, suggesting a continual attribution of meaning to situations that humans encounter (Ricoeur, 2016). These meanings we ascribe to situations are always interpreted or shaped by what matters to us, what Taylor refers to as our "horizon of significance" (Carnevale & Weinstock, 2011; Taylor, 1987; 1991, p. 39). Hermeneutics reminds us that listening to the meaning attributed by others does not require the dissolution of our own perspective, but rather, it is our own horizon, from which we distance ourselves that serves as a backdrop of understanding (Ricoeur, 2016). Our own perspective, in coexistence with the other person's horizons, opens the possibility for transposing ourselves into a foreign horizon (Gadamer, 2004). To listen hermeneutically is to "recognize one's own in the alien, to become at home in it" (Gadamer, 2004, p. 13; Ricoeur, 2016) – bringing what is near to what is far, back and forth (Ricoeur, 2016). Through this hermeneutic circle, preunderstandings are repeatedly questioned until a bridge of understanding can be created between the horizons of significance of a nurse and a client (i.e., Carnevale & Weinstock, 2011; Gadamer, 1976, p. 39; Ricoeur, 2016; Rodgers, 2005; Taylor, 1991); this is referred to as the "fusion of horizons" (Gadamer, 1976, p. 39; Rodgers, 2005). As Schultz and Carnevale (1996) highlight, becoming at home in what may seem alien to us requires a degree of openness to admit our own fragility, mortality, and even darkness. For example, it must have been difficult for a nurse to care for Dr. Guy Turcotte after he killed his two young children

(Richer, 2011) and have the strength to acknowledge, and to delve into, his suffering. As nurses, can we allow ourselves to recognize the difference in significance without judgment and push past it, in our attempt to understand another person? It is certainly not always easy to bring closer what is far from us; sometimes, it is even more challenging when we find nearer what we thought was far, such as the loss of control or the fear of dying for example.

Therefore, before a single word or gesture is exchanged, nursing health history calls for this openness and genuine caring, not simply for the other but for the self as well. Health history can create a special space where lived experience is suspended "to signify it" (Cameron, 2004; Ricoeur, 2016, p. 76) – where nurses become witnesses of human existence. Thus, the following questions arise: when are our lives ever truly witnessed? Would this not be a unique nursing contribution?

Orientation to narrative

Our fast-paced lives make us apt to forget to signify the lives of our clients and instead focus on the present episode: the broken leg, the drug-induced delirium, the hip surgery, etc. We must remember that the present episode is always situated within a larger narrative for the client. Nurses can benefit from Ricoeur's emphasis on the importance of understanding prior histories that shape our current experience: "We suddenly arrive, as it were, in the middle of a conversation which has already begun and in which we try to orientate ourselves in order to be able to contribute to it" (Ricoeur, 2016, p. 69). The conversation that we are a part of does not start with our first exchange of words with the client; it is actually the running thread of their lives that continues to roll as we enter it (we represent one small drop of water in the sea of a person's life). Our attempts to understand our client and identify where we are at in their history is a way of contributing to more than just their illness episode, but rather to make a difference in

their life narrative. Ricoeur (2016) argued that history is a narrative with two dimensions that contribute to its forward movement: the chronological sequence of episodes and the construction of "meaningful totalities out of scattered events" (p. 240). The chronological dimension, which is already present in health history, will be further discussed in the section on orientation to time. The second dimension refers to making sense of episodes within someone's whole story; as we know, health history as usually enacted does not quite measure up on this second dimension.

As designed traditionally, health history takes into consideration the collection of data on scattered events (i.e., childhood immunizations, past surgeries, allergies, etc.). This information is undeniably important when it comes to shedding light on preventive and risk factors associated with the present illness episode. Unfortunately, only the events that are medically important in assuaging the current illness episode are generally considered. Consequently, the collected information remains unused for the most part and is in detached pieces – with the client left feeling unheard as they repeat information over and over again to different professionals. A narrative focus on health history can provide nurses with a means to putting these pieces back together so as to better understand the client's health experience in its totality.

Narrative focus on health history

Events only derive their importance from their configurations within a narrative – their "contribution to the development of a plot" (Ricoeur, 2016, p. 239). For example, Marcus underwent emergency surgery for a ruptured appendix, and the traditional health history allows the nurse to obtain data such as "Marcus' last medical consultation dates back to 1 month ago." This information in isolation does not provide any significant information for nursing – having an open discussion with Marcus can be much more revealing. Marcus lost faith in the healthcare system after waiting for over two hours for his medical appointment and missing half a day of

paid salary (which is essential for him to pay his rent), only to be told by the physician that everything was fine and that the abdominal pain he was feeling would surely pass with time. Perhaps, this experience can explain the reason why he waited so long to consult that his appendix ruptured. When nurses see beyond the first order reference in front of them (i.e., the ruptured appendix and past healthcare services received), they can attempt to grasp the lifeworld of the client (Ricoeur, 2016). What does it mean for Marcus to be in this situation and how can I contribute to his healing, such that it is meaningful for him?

A narrative focus on health history can take on different forms. After an initial question (such as "What brings you here?") is asked to start a conversation, the nurse can encourage the client to tell their story with open-ended questions, including: Can you tell me more about that? How is this meaningful to you? What do you feel has contributed to this situation? These questions and nonverbal actions, such as head nodding and sustained eye contact, are significant when they express a true desire to hear (Cameron, 2004). The reliance of traditional health history on verbal exchange limits its use in multilingual contexts and in cases involving nonverbal clients. However, a true desire to hear does not only rely on our auditory sense. Jimmy, an Inuit boy who sustained severe burns and received care in a specialized hospital far from home, could not communicate verbally with his caregivers (Schultz & Carnevale, 1996). In an attempt to hear Jimmy's story and gain access to his inner world, the nurse used music, mental imagery, and storybooks:

> "My first three encounters with Jimmy were discouraging. I was not able to engage any eye contact or to get Jimmy's attention. On the third day, however, I used a different approach. I offered to read a couple of Inuit stories to him. At that point, his entire face lit up with approval. These were short folk tales of children successfully overcoming

> adversity. Jimmy focused attentively on the illustrations in the books and seemed fully engaged in the stories. The stories seemed to enable him to escape to a more familiar, more comfortable place. After the stories, Jimmy and I spoke for several minutes about his home life. We established a method of discourse whereby I could easily read Jimmy's facial expressions. I quickly learned that he enjoyed traditional ice fishing and hunting. He was terrified of most doctors and nurses, particularly those who did things to him quickly without first checking with him to see how he was feeling. Jimmy missed home deeply and was very scared that he would never be able to go back" (Schultz & Carnevale, 1996, pp. 200–201).

This shows that our desire to hear transcends any form of language; the nurse must be creative in finding ways to access a client's narrative. The nurse must let go of the standardized questionnaire, which is, at times, comforting to rely on, so as to truly get to know the person holistically.

Holistic care. Hermeneutics provides an interesting perspective, that of examining holistic care, in relation to the narrative. The structure of the human being is always whole, and primacy must be given to this whole (Heidegger, 1962). Reinforcing the primacy of the "whole" human being can never be emphasized enough in a field where compartmentalization has always been present (i.e., body systems, medical specialties, physical versus mental health, etc.). To piece together parts of the client's life story, the hermeneutic circle indicates a back-and-forth movement from the part, to the whole, and other parts of the story (Taylor, 1987). The part is never detached from its relationship with the whole, and how it makes sense in light of other partial expressions (Taylor, 1987). The whole must be kept in constant view for elements to truly stand out (Heidegger, 1962).

Foregrounding. Foregrounding is a technique that a nurse can utilize to bring to the fore one part with respect to other elements (Gadamer, 2004). As a client is telling their story, which paints for the nurse a picture of the person's horizon, the nurse can ask the client to pause and ask a question about one element of the picture. This brings forward one element, which is then further explored but always in view of the scene from which it was temporarily extracted. This technique is often used in theater when a scene is occurring and an actor steps forward to talk to the audience directly (the fourth wall). This allows the spectator to better understand the character's intentions and perspective. Similarly, a nurse can ask a client to further elaborate on what being here means to them – unveiling yet another important piece of the client's horizon of significance.

Orientation to time

The client and nurse's horizons of significance are also temporal, fusing the past, the present, and the future. Parts never exist by themselves in the same way that the past, the present, and the future never exist independently. "Understanding is always the fusion of these horizons" (Gadamer, 2004, p. 305). To understand the situation of the client, the nurse must do so with time as a standpoint. According to Heidegger (1962), "Time must be brought to light and genuinely conceived" (Heidegger, 1962, p. 39). We present two ways in which time within the nursing health history is engrained in the medical model and then deconstruct temporality by hermeneutically defining the past, the present, and the future.

First, the health history portrays time through the developmental phases of a person over their lifespan. When perceived this way, a nurse does not necessarily see Katie before their eyes; rather, they will see the 25-year-old young adult presenting with abdominal pain. Katie is depersonalized to a neat developmental box, the young adult, which automatically stimulates the

nurse to assess certain areas, such as sexual health. While sexual health can be an important element of inquiry for the nurse in this situation, these developmental triggers of practice can often obscure the person in front of us. Katie may have concerns that are more urgent to address (i.e., suicidal ideations), and the nurse's vision may be obscured from the essence by giving primacy to the developmental model.

Second, the health history of a client is still widely used to record a chronological list of illness episodes and risk factors. While chronology is essential to health history, as previously mentioned, it is insufficient without ties to the significance of these events in time (Ricoeur, 2016). Moreover, the use of health history in nursing must tell the story of health set against the story of illness. Similarly to the way Gadamer (2004) questions the legitimacy of truth claims as "measured by a standard foreign to it [human sciences]" (p. 21), it is reasonable to question the legitimacy of information that is derived from a perspective, such as the illness model, that is far from that of nursing. Health must become the central mode by which nursing operates.

Temporal health history

In considering temporality hermeneutically, the aim is not to downplay the importance of risk factors and illness, but to promote a health-centered outlook that aligns with nursing. What does it mean for Katie to be healthy? For Katie, being healthy signifies being able to party with her friends and have a strong relationship with her boyfriend. The client's definition of health serves as another horizon from which understanding can emerge. That is to say, hermeneutic temporality to health history allows the nurse to uncover the following:

1. *Present*: what is happening right now and what it means to the client (i.e., Katie says "I can't be with my boyfriend because I am stuck in the hospital").

2. *Past*: how a person's previous experiences, socialization and culture have brought them to this predicament (i.e., binge drinking, a desire to feel accepted, etc.).
3. *Future*: how a person projects this event and themselves into the future (i.e., Katie mentions "I worry that my boyfriend will think I am a weakling for not tolerating alcohol. Will he leave me?").

Present. As can be observed, there is a place for illness and risk in health history and a relative place in a person's historicity. Hermeneutically, historicity is defined as threefold in "…that we make history, that we are immersed in history, [and] that we are historical beings" (Ricoeur, 2016, p. 236). This perspective regarding historicity indicates that the present moment cannot be isolated as we are creating the future and carrying the baggage of our past and of those who lived before us. Conventional health history often fails to connect events together, working under the assumption that each event can make sense in isolation. The nurse cannot isolate what is happening right now and must establish the current event on the basis of a client's story. The nurse must remember that the present symptoms indicate "something which does not show itself" (Heidegger, 1962, p. 52) and that the present simply creates a unique window of opportunity for the nurse to uncover something of significance that is hidden. In the works of Heidegger (1962), the root structure of the word present is waiting-toward, indicating again a strong association between the present and future. Projection into the future, where we see ourselves, is so deep-seated within us that the present cannot stand on its own.

Future. Health history in a traditional sense has been moderately successful in compiling past and present occurrences. However, little attention has been provided to the future (i.e., discharge planning, hopes for future life, anticipation of death, etc.). A nurse must obtain a clearer sense of the client's aspirations for the future, and health is often described as a vision of the present and

future states. For example, Katie sees health as spending time with her boyfriend, and this indicates what she wishes for the future. Even in the more traditional definition of health as the absence of disease, the client is waiting-toward a different future state that they anticipate will be brought about by the present action of seeking medical care. The nurse can play an important role in helping the client identify their wishes, which inevitably contain an expression of their desire for tomorrow. The nurse can then tailor their own care and advocate for care to be aligned with the client's aspirations – even if these aspirations fall outside the nurse's own definition of health. In suspending their judgement, nurses can collaborate with clients where they are at, and build a partnership for improving client's present and future wellbeing (Uhrenfeldt, Sørensen, Bahnsen, & Pedersen, 2018). For example, if circumstances allow, special arrangements can be considered for Katie's boyfriend to be allowed to stay with her during her hospitalization to promote her definition of health. Fréchette (2019) has indicated that nurses are in an ideal position, on account of the trust vested in them, to encourage clients to envision a desired future. Through brainstorming and exercises aimed at imagining their future, clients can reveal their ownmost desires and the significance of these for current action and care.

Past and social existence. As we are "cultivated" into our future, we carry our past in who we are and who we become (Gadamer, 2004, p. 10). Past events, people, and things change us – "nothing disappears, but everything is preserved" (Gadamer, 2004, p. 10). Gadamer (2004) speaks of acquired *bildung*, describing human development as a process that is similar to that of a flower, growing under the careful manipulations of gardeners (social lives), and taking root in a soil that carries traces of past cultures (previous history). Therefore, uncovering a person's past is also an important exercise to get to know who they are today. Furthermore, the cultures and

traditions that we are born into (Gadamer, 2004) and the social imaginaries that we share (Taylor, 2004) influence who we are. Taylor (2004) defines social imaginaries as:

> "the ways people imagine their social existence, how they fit together with others, how things go on between them and their fellows, the expectations that are normally met, and the deeper normative notions and images that underlie these expectations… the social imaginary extends beyond the immediate background understanding … [to]… a wider grasp of our whole predicament: how we stand to each other, how we got to where we are, how we relate to other groups, and so on" (p. 23–25).

Understanding an individual is inevitably social. Hermeneutics reminds us that an "individual is never simply an individual because he is always in understanding with others" (Gadamer, 2004, p. 303). The nurse must show interest in the social lives and imaginaries of their clients as these are essential building blocks of human existence.

In hermeneutics, time is never static or fixed. It is always in movement with the individual and their social worlds. Health history changes with time as people's horizons of significance evolve and each event is observed against a different backdrop. Health history can never be complete, and it must be uncovered differently in each encounter. This does not indicate that the same questions should be asked during each meeting. Rather, it means that a nurse can listen with a new ear every time. The nurse must be cautious not to jump to conclusions overly quickly about what situations mean to others: "recognizing the potential for… imposing our perceptions" (Gadamer, 2004; Sharma, Reimer-Kirkham, & Cochrane, 2009, p. 1645). The body can also be a powerful tool to make allowance for authentic listening.

Orientation to the body

In the nurse-client encounter, the bodies of the nurse and the client have an important place. In traditional health history, the nurse's body is absent, and the body of the client is narrowly represented by their physical body or particularly the part of their body that is "defective".

Nurse's body

The body is more than a physical object. That is to say, it is a sentient being (Merleau-Ponty, 1986). Bodily reactions are our connection to our horizons of significance. Every bodily event, no matter what reveals it, is set "against a background of significance" (Merleau-Ponty, 1986, p. 174). As nurses, our bodies sense differences, commonalities, and absences in our own horizons of significance that are elicited by the narratives of clients (Sharma et al., 2009); being attuned to our body offers a window to our own and the client's horizons of significance. Sharma et al. (2009) have presented the case of Marie, a nursing researcher, who is confronted with a client narrative that elicits anger at what she believes is poor care. We would argue that the anger Marie feels (nature of the feeling and its intensity) has a direct relationship with the importance of good care within her horizon of significance. If good care was absent from Marie's horizon of significance, she may have felt bored or nothing. The absence of feelings must also be observed, as indifference gives us insight into what lies outside our horizon of significance. Through our emotions or the lack of emotions in light of others' narratives, our body offers an opening to our horizons of significance. In nursing health history, the nurse should stay attuned to what their body senses as it uncovers not only their own horizon of significance but also moments where bridging of horizons with the client is possible. A nurse can train herself to be more receptive to these bodily cues by maintaining a reflective journal where they can recollect client encounters, their reactions, and the possible significance to them and the client. More studies that examine

the use and interpretation of nurses' bodies in practice are needed to better understand its role in care.

Client's body

By seeing, touching, and being, the nurse and the client play a dual role in the encounter: the spectator of the body and being the body (Merleau-Ponty, 1986). Thinking of the body hermeneutically, the nurse can picture it as a work of art (Merleau-Ponty, 1986, p. 174); this can open alternative ways of contemplating the body above the more rational and scientific ways associated with modern medicine, such as curiosity, fascination (Heidegger, 1962), admiration, and emotion. These are the same stances that one would have in approaching a painting and contemplating it in silence for an indeterminate period. In what is similar to a work of art, the body is a grouping of lived-through meanings with the distinct difference that the body is always in a dynamic state, cultivating meanings and moving "toward its equilibrium" (Merleau-Ponty, 1986, p. 177). A nurse, as described by Florence Nightingale (2010), favors this movement.

In addition, in rethinking of the body in a hermeneutic health history, bodily aids must be considered differently as well. For example, a blind man's stick should be considered "an extension of the bodily synthesis" (Merleau-Ponty, 1986, p. 176), as a part of the body from the client experience perspective. In their study of the symbolic value of walking, Gibson and Teachman (2012) wrote about David, a person who re-imagined his "walker, a common symbol of disability,… into an expression of masculinities [cars, motorbikes]" (p. 479). This example shows that the body and its aids can be perceived in unique ways and that the nurse can play a role in deconstructing arbitrary conceptions of normality concerning the ways in which the "body looks, moves, and mobilizes" (Gibson & Teachman, 2012). As mentioned previously, a

stance of curiosity and openness can achieve considerable success in understanding a person's own self-perceptions.

Nursing health history: a hermeneutical conception of nursing inquiry

This article has brought to light how traditional health history presents major barriers to optimal nursing care: a focus on medicine instead of nursing, an overreliance on verbal language, and a narrow vision of time and the body. The four orientations to caring, narrative, time, and the body, outlined above reveal these barriers and provide reflections on new ways of *being* a nurse. Through caring hermeneutically, the nurse is open to be touched by the client's story and to better understand this story – bearing in mind the client's horizon of significance. The client's narrative serves as a means to situate the meaningfulness of the situation in the client's life. Orientation to time allows the past, the present, and the future to be explored as a whole by the nurse, providing more richness to our understanding of the client experience. The nurse can also change their perceptions of the body, their own and that of their client, to be more attuned to the subtle meanings that they reveal.

In the nurse-client encounters, the client "is (provisionally) opaque to us; we cannot understand him or her" (Taylor, 2016, p. vii). Health history, redefined hermeneutically, provides a great opportunity to begin this encounter with the necessary openness for getting to know the person in front of us. Upon consulting this article, a reader could question why the term health history is preserved when it is substantially transformed from its original form. Health and history are powerful words in nursing; hermeneutics simply allows the unveiling of these two concepts in ways that are closer to nursing's essence. Hermeneutic engagement reveals holistic and humanistic dimensions of nursing (Arman, et al., 2015; Uhrenfeldt, et al., 2018) – that the dominant medical model has concealed to the detriment of optimal client care. By uncovering

these views of health, history, and health history that are taken-for-granted by nurses, this article reflects on four pillars of hermeneutic philosophy that foreground the uniqueness of nursing contributions to care. Through an exploration and application of hermeneutic concepts to everyday nursing practice, this article illustrates the usefulness of a hermeneutic perspective in nursing that extend beyond the health history. The hermeneutic perspective articulated in this article can inspire nurses in their everyday practice by fostering richer attunement with the complex health experiences of clients. The questions of how to articulate and promote this hermeneutical conception of nursing in nursing education, practice, management, and research requires further inquiry.

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