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Jumping Ship and Going to the Other Side: Experiences of Nurses who retrain as Doctors

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Abstract

Aim: To gain an understanding of the experience of medical training for nurses who retrain as doctors.

Methods: Using a Constructivist Grounded Theory design, semi-structured interviews were conducted with thirteen medical students and residents who had completed nursing training prior to entering medical school. Interviews were audiotaped and professionally transcribed. Transcripts were coded and analysis in an inductive manner to construct central themes.

Findings: Many left nursing due to negative effects of a hierarchal system. As preclinical medical students they felt both advantaged and burdened by their advanced clinical knowledge. During clinical placements, they experienced social distress and role confusion whilst working in familiar environments and alongside former nursing colleagues. Nursing identity diminishes but is never lost.

Conclusions: The participants experienced complex social stressors as they moved from an oppressed group to a dominant group within a hierarchal system. These stressors are not likely experienced by other medical trainees.

Keywords

Career Transition, Hybrid Identity, Interprofessional Identity, Medical Hierarchy, Medical Training, Nurse-to-Doctor, Oppression

Summary for Lay Audience

Based on observations from a medical educator (AR), it was suspected that nurses who retrain as doctors have a different experience of medical training than their non-nursing peers. There were very few academic studies that examined nurses as medical trainees, although there were many online forums and published anecdotes about nurses who become doctors. This study was undertaken to explore the experiences of nurses during medical training.

Thirteen medical students and residents from one medical school in Ontario, who had completed nurses training prior to starting medical school, were interviewed. The transcripts from these interviews were reviewed by the researchers (AR, JB, and CW) to construct key themes.

Although some of the participants used nursing as a gateway to medicine, most left nursing due to untenable work environments, a lack of clinical autonomy, and a desire for more knowledge. During the early years of medical school, before their clinical placements, the participants felt both advantaged and burdened by their advanced clinical knowledge. When they were on clinical placements, they felt at home in the clinical settings but struggled with role confusion. This was especially true for those individuals who continued to work as nurses during medical school. Furthermore, working alongside former nursing colleagues sometimes lead to awkward moments.

Their professional identity did not simply transition from ‘nurse’ to ‘doctor’. Instead, they developed a hybrid identity in which their identity as a nurse persisted and was blended with their new identity as medical student or doctor. Moving from being a nurse to being a doctor was social complicated as it involved moving from an oppressed group within the medical hierarchy to the dominant group. Ultimately, the influence of this hierarchy was perceived at all stages of their transition and creates stressors that are likely unique to this population, even in comparison to other health professionals who retrain as doctors.

As doctors, these former nurses hope to change the culture of medicine for the better.

Co-Authorship Statement

The research for this thesis was conceived, planned, conducted and reported by the author. The following contributions were made:

Drs. Judith Brown and Chris Watling provided guidance and advice throughout the planning, execution, analysis, and writing of this research work. Both also contributed to the thematic analysis of the transcripts from the semi-structured interviews.

Dedication

For my father, Donald Ernest Robinson (1943 – 2015)

Thank you, Dad, for being the first scientist in my life, for role-modeling lifelong learning, and for showing me the value of stories.

I hope to honour your legacy in this retelling and analysis of stories here.

Acknowledgments

It takes a village to raise a child, and in my case, it takes a large city to write a thesis! I have so many people to thank for their patience and enduring support.

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Thank you to the medical students and residents who shared their stories with me and allowed a window into their lives for a brief time.

Ghislaine Attema provided support during recruitment of participants. Liz McInnis, and her predecessor Pam Eaton, were always friendly and helpful in my liaisons with Western University. Stacey Bastien rescued me in the 11th hour with her assistance with formatting! I am so thankful for all this support.

Finally, I am thankful for my two feline companions, Cooper and Daisy, for their cuddly stress-management services during long hours at the keyboard.

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List of Acronyms

Certain acronyms and phrases used by the participants are specific to the NOSM curriculum.

SCS **Structured Clinical Skills.** These sessions take place once a week during the first 2 years of medical school. Groups of 4-5 students are instructed in history taking and physical exam skills by a physician tutor using Standardized Patients.

TOS **Topic-Oriented Session.** These sessions take place twice a week during the first 2 years of medical school. Groups of 8-9 students work together on fictional patient cases. Using a problem-based learning format, the group generates a list of learning objectives, which they explore through independent research outside of the sessions. The sessions are facilitated by a variety of faculty members, not necessarily clinicians.

Theme 4 The basic sciences curriculum, which includes the disciplines of anatomy, physiology, pathology, pharmacology, genetics, microbiology, biochemistry, and immunology.

Theme 5 The clinical skills curriculum, which includes history-taking, physical exam, and procedural skills.

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Chapter 1

1 Introduction

Over the past several decades, there have been nurses who make a career transition to become physicians. It is not known how commonly this occurs in Canada. The Association of Faculties of Medicine of Canada (AFMC) does not collect data of this nature. However, a few medical schools include relevant data in their publicly accessible admission statistics, and review of that data shows no more than 5% of medical students entering those institutions have a nursing degree.[1-3] Looking to the U.S.A, the Association of American Medical Colleges reports just 0.5% of their medical school matriculants have a degree in nursing.[4] In contrast, over the past 10 years, students with a nursing degree have comprised 13% to 27% of the entering class at the Northern Ontario School of Medicine (NOSM) University (email communication with K. Biasiol, Director of Admissions and Learner Recruitment, NOSM University, on 2023 Sept 27). Hence medical educators at the NOSM University work with this student population on a regular basis.

While teaching junior medical students at NOSM University, I have observed that students who come from a background of nursing seem to be treated deferentially by their peers. During small group sessions, the group dynamic is often different when there is a former nurse in the group. These observations were the inspiration for this study.

There is a paucity of literature on this topic. In fact, only one topical paper[5] was found prior to the initiation of this study. A subsequent search found four additional studies[6-9] that directly or indirectly examined nurses or other health professionals who retrained as physicians. However, in reviewing the grey literature and online forums, it is evident that there is a significant interest regarding nurses who transition to medicine or aspire to do so.[10-24] We do not know much about what the experience of medical training is like for these individuals.

1.1 Thesis Overview

1.1.1 Thesis Purpose

The purpose of this study was to explore the experiences of medical education for nurses who retrain as physicians. At NOSM University, a large percentage of the class has a background in nursing and if these students do indeed have a unique experience of medical training, it may have relevance to medical educators.

1.1.2 Thesis Structure

This thesis is presented in four chapters.

Chapter one reviews the existing literature regarding nurses who enter medical training and includes some literature on medical students with previously developed professional identities from professions other than nursing.

Chapter two describes the qualitative methodology used for this study and the setting of the study.

Chapter three presents the findings as four major themes: 1) reasons for switching careers, 2) experiences as medical trainees, 3) identity transition, and 4) the influence of medical hierarchy.

Chapter four provides a synthesis and brief discussion of the first three themes, and then pursues an in-depth exploration of the influence of hierarchy as an overarching theme. Implications for these findings and areas for future research are postulated.

1.2 Literature Review

1.2.1 Introduction

There is a great deal of literature written about the professions of nursing and medicine. There is an abundance of scholarly literature regarding each of these professions in isolation, on topics such as education, professional identity, burnout, workload, health issues, and gender issues. There are also many studies of how these two professions

interact in terms of interprofessional education and collaboration, examining both the successes and challenges.

Yet few studies have focused on individuals who transition from nursing, or other health professions, to medicine. Table 1 provides a summary of relevant studies from the academic literature. In 1980, Gussman[6] surveyed nurses enrolled in medical school in the USA and analyzed 33 questionnaires completed by "nurse-medical students."[6(p180)] McLean[25] conducted a study on professional identity of medical students and during the analysis of transcripts she "was drawn to those of three female RNs."[5(p671)] Subsequently she went back and conducted a separate study on those three transcripts using an interpretative phenomenological analysis.[5] In follow up to questions raised by that analysis, McLean & Pecoraro[9] conducted a narrative analysis of interviews of 11 health professionals (5 nurses and 6 other allied health professionals) who were becoming doctors. A similar enquiry was published by Gallagher & Hoare[7] in 2016 wherein they interviewed 12 medical students who had been registered health professionals prior to medical school, although their cohort included only one nurse. Matthews et al.[8] took a broader view and interviewed 18 medical students who had entered medicine from a previous career, health-related or otherwise, but there were no nurses in this study. Numerous publications in the grey literature also have direct relevance to our research, and a sampling of those commentaries are included in our review.

The foci of the scholarly studies were varied, and included reasons for choosing nursing as a career, reasons for switching careers, experiences of being medical trainees, professional identity formation, hierarchy in healthcare, and intended field of medical practice. Of these topics, four are of particular interest to this masters' thesis: reasons for switching careers, experiences of being medical trainees, professional identity formation, and hierarchy in healthcare.

Table 1 Summary of extant literature regarding nurses or other health professionals who transition to medicine

	Study Population	Number of Nurses in the Study	Type of Study	Focus
Gussman[6] 1982	Nurses enrolled in 18 USA medical schools	33 (2 male, 31 female)	Open-ended questionnaires	Reasons for initially choosing nursing and reasons to subsequently study medicine. Also collected information about work experiences as nurses and projected specialty preferences as future doctors.
McLean[5] 2017	18 medical students at one Australian school.	3 (all female)	Post hoc qualitative analysis of a subset of interview transcripts from a previous study.	Initial study was a professional identity study. The post hoc analysis of the 3 transcripts of former nurses was to understand their lived experiences.
McLean & Pecoraro[9] 2020	11 former health professionals enrolled as medical students at one Australian school.	5 (1 male, 4 female)	Narrative analysis of transcribed interviews.	"How do health professionals, who belong to a professional community and presumably with personal and professional identities, 'become' doctors?"
Gallagher & Hoare[7] 2016	12 former health professionals enrolled as medical students at one New Zealand school.	1 (gender not disclosed)	Descriptive qualitative study of audio-recorded interviews.	To explore health professionals' experiences of being medical students.
Matthews et al.[8] 2020	18 medical students at one New Zealand school who had former careers	None	Narrative analysis of transcribed interviews.	Professional identity formation and "how mature medical students with varying backgrounds negotiate their way through medical school".

1.2.2 Reasons for switching careers

Gussman[6] found that most of the nurse-medical students in her study chose to enter medicine as they desired more responsibility; they wanted to have more control of patient care along with more independence as practitioners. More than half of her respondents indicated a desire for more knowledge; wanting to better understand pathophysiology and wanting to "diagnose and treat." [6(p181)] A similar proportion wanted to be able to better help patients. Other reasons cited included desiring a higher social status, wanting to meet a challenge, and having increased earning power.

The participants in Gallagher & Hoare's study[7] largely chose to leave their careers as health professionals as they felt limited in those professions and sought a greater challenge and larger scope for professional development.

McLean[5] found that of the three nurses in her initial study, two of them had originally intended to study medicine but for "various reasons" [5(p.673)] they became nurses instead. Ultimately, all three of them chose to enter medicine to better serve the patients and communities in which they practiced as nurses. They felt they needed a greater authority and autonomy to meet the needs of their patients.

Overall, these studies found that the key reasons their participants left nursing for medicine were a desire for more knowledge, more autonomy, and to better serve their patients.

The grey literature supports these findings. Numerous authors commented on the desire for more knowledge or a sense that a nursing career was too limiting.[10-13,15-17,20] Seeking more autonomy and control in patient care was cited as a frequent motivation for medicine.[11-13,15,19] As in the academic literature, some desired a greater income, but it is not a major theme.[10,11] Some saw nursing as a natural steppingstone to medicine while providing the security of having a career to fall back on.[16] Interestingly, many nurses who switched to medicine commented on how much they loved being a nurse and still maintained a deep respect for the career.[10,11,13,15,17]

Although there are strong themes regarding the reasons nurses have switched to medicine, it is still not clear why these individuals found nursing to be so limiting in the first place, particularly when so many continue to express a love of and respect for the career.

1.2.3 Experiences of being medical trainees

The former nurses in McLean's original study[5] had "expected some recognition for their experience and/or mature age (which did not transpire)."[5 (p.676)] They felt they were more advanced in their skills and knowledge than their medical school peers, and this was affirmed when classmates would seek assistance with clinical skills or instructors would make use of them as informal tutors for procedural skills training sessions. Some instructors would excuse them from clinical skills sessions and others would enroll them as tutors. These former nurses expressed some frustration with this. At the same time, they also expressed a desire to be treated like any other student. They felt that a higher standard was expected of them and that they might be assessed by different measures. Furthermore, they feared that assumptions were made about the extent of their knowledge and that instructors might omit content for them as a result. Similar comments were found in the grey literature, with reports that instructors would say things such as, "we don't need to teach her or tell her because she already knows about it."[16(para9)] There is an inherent contradiction in wanting recognition for their clinical experiences but fearing that this same recognition might disadvantage them in how they are taught or assessed.

McLean's[5] participants felt that their medical school classmates and instructors often had a negative bias towards them as former nurses. There was a perception of "snobbery" [5(p.679)] among their classmates whom they felt saw nurses as "too dumb or stupid or not in the right social group to do medicine." [5(p.680)] Additionally, they reported that some of their physician preceptors demonstrated a strong bias against nurses, going so far as to tell them that "(nurses are) often the worst student(s)" [5(p. 680)] or that "nurses are never any good at this." [5(p. 680)] This overt stigmatization of former nurses by their medical school peers or clinical preceptors may have been unique experiences of McLean's[5] participants, as this was not a finding reported in the other studies. Conversely, other studies found that during clinical placements, former health professionals (nurses and other health

professionals) could sometimes use their former identity as 'capital' to gain favor or credibility from nursing staff or preceptors.[7,9] In the grey literature there is typically reported a sense of admiration from their medical school peers and general high regard from their instructors,[13,17,21] although there was one comment about bias against nurses during the application process for medical school.[21] In general, having a nursing background was felt to be advantageous in medical school due to familiarity with medical terminology, confidence on the wards, ease with patients, and strong communication skills.[10,11,13,17,19,20]

It was common for health professionals to continue to work in their primary healthcare roles while attending medical school.[5,9,10,16,17,19] Some did this to help finance their education,[16,19] while others desired to maintain a connection to clinical practice.[10] Ongoing employment as non-physician healthcare professionals while training to be physicians created role-confusion at times which required those individuals to consciously focus on which "hat"[5(p677),9(p8)] they were wearing in any specific context. While functioning in either role, they had to consciously suppress the tendency to think or act as they would in the opposing role.[5,9] Further concerns about potential reprisal from nursing colleagues led some individuals to disguise their medical student status while working in a nursing role, and the desire to be treated like any other medical student led them at times to disguise their identity as a nurse.[5,9,16]

As expected, many stories comment on the challenges of being mature students. Juggling roles as spouses and parents, spending time away from spouses and children, financial pressures, and age prejudice were commonly cited concerns.[7,8,10,13,17-19] It was also difficult to become students again, to feel they are no longer treated as adults[5] and to transition from experts to novices.[7] It was daunting to take on a new career later in life and face many more years of training.[10,16,21] However, there seems to be some advantages to being mature students such as more life experience and better focus.[10,13,17,18]

As medical trainees, it seems that former nurses experience a range of contradictory or opposing concepts. They want both to be recognized as having advanced knowledge and skills, while also wanting no assumptions to be made about their knowledge base. There

seems to be both biases in favour and biases against nurses who enter medicine. At times it is desirable to be recognized simultaneously as both a nurse and a medical student, while at other times it is better to conceal one identity or the other. There are both advantages and disadvantages to being mature learners. Ultimately these contradictory or opposing elements must create a complex milieu for these nurses during their medical training.

1.2.4 Professional identity formation

McLean & Pecoraro[9] found that the development of professional identity for medical students who were former health professionals depended on which health profession they came from, how long they had worked in that role, whether they were still working in that role during their medical training, and the congruency between their former roles/identities and those of their emerging roles/identities as medical students and future doctors.

In general, former health professionals held onto their first professional identity throughout much of their medical training and transferred many of their skills to medicine.[7] Former nurses in particular expressed a strong desire to incorporate patient-centeredness into their practice as physicians, and this was seen as 'patching' an element from their former identity onto their future doctor identity, to address a perceived deficiency in medicine.[5,9] McLean's[5] participants expressed a desire to become 'different' doctors, meaning they wished to remain patient-centered and to fix the negative hierarchy in medicine. They did not want to be aligned with the stereotypical doctor identity. There was a desire to retain key elements of their nursing identities.

Overall, former health professionals continued to identify more strongly with their primary profession rather than as medical students well into their medical training and envisioned their ultimate professional identity to be a hybrid of their former health profession and physician – an 'interprofessional' identity.[5,9] The participants in McLean & Pecoraro's study[9] described their future professional identities as incorporating many elements of their former identity, not necessarily abandoning their former identity

entirely, which the authors claim “challenges the notion of a uniprofessional identity.” [9(p16)]

It was common to experience dual identities and role confusion during their medical training. As mentioned previously, working in their former healthcare professions during medical school often led to conflicts in roles, tasks, and identities, leading to use of the metaphor of wearing different hats whereby they compartmentalized their identities or group memberships.[5,9] Returning as a medical student to the same ward where they had worked as a nurse was anxiety-provoking and made it difficult to know their role.[9,16] Context played a role in cuing identity in that being on campus assisted the identity of medical student, whereas in clinical settings it was difficult or impossible for former health professionals to leave behind certain tasks or ways of thinking associated with their primary profession.[5,8-10]

The moment when a former health professional must give up their license to practice in that profession is significant and some express a sense of grief in letting it go.[9] Overall, it was common for former nurses to hang onto their nursing registration for as long as possible.[9-11]

It seems that professional identity formation for nurses in medical school is not merely a gradual transition from being a nurse to being a doctor. There are strong desires to hold onto at least some elements of a nursing identity, and a resistance to taking on some elements of a stereotypical doctor identity. Ultimately, most seem to settle on holding a hybrid identity of nurse and doctor.[5,9-11] En route to this hybrid or interprofessional identity, there are struggles with role confusion especially in clinical contexts. Those individuals who continued to work in their nursing profession were particularly challenged to be mindful of which “hat” they were wearing in any given situation.[5,8-10,16]

1.2.5 Hierarchy in healthcare

McLean’s[5] participants had expected that becoming doctors would be a “natural progression”[5(p.675)] from their roles as nurses, but found it was complicated by the culture and hierarchy in healthcare. All three of McLean’s[5] nurse participants described

"interprofessional rivalry"[5(p.680)] between nurses and physicians and a hierarchy in healthcare in which nurses hold a low position. Although they described nurses as being in the lowest position among the various health professions, they also described how nurses can abuse or intimidate medical learners. Overall, they felt that medical students were the lowest of the low and were bullied by physicians, residents, and nurses all, "If you think there's horizontal violence within nursing, the horizontal violence within doctors and registrars is ten times worse."[5(p.683)]

The phrase 'horizontal violence' is borrowed from oppression pedagogy,[26] and in general McLean[5] found the language used in describing the relationship between nursing and medicine and the overall hierarchy included "metaphors of oppression, aggression, and violence."[5(p681)] The grey literature also had many comments regarding "hostility"[11(p22),13(p23),] between doctors and nurses and a power hierarchy in healthcare.[11,13,15,19,21]

One participant in Matthews et al. study[8] had an Army career prior to entering medicine, but no nursing background. Her experience of the hierarchy in medicine was akin to that of the Army, and hence she transferred her adaptative strategies from her prior career to her medical training. She accepted that she was at the "bottom of the pile again" and she "doesn't question anyone" and does "what [she's] told," so she could "fly under the radar." [8(p. 617)]

Given this oppressive and intimidating environment, it would be expected that moving from one group in the hierarchy to another group would be socially complicated. There was a sense of guilt in some of the stories in the grey literature about leaving nursing and going to medicine; feeling like they were "abandoning"[16(para14)] or "turning their backs"[21(para2)] on something. As medical students, some experienced "awkward moments" and "coldness"[11(p22)] from nurses or passive aggressiveness.[16] Two of McLean's[5] participants "had been made to feel like deserters by some nurses,"[5(p681)] with comments such as, "Oh, are you too good for us now?"[5(p681)] and a perception of "moving to the evil side."[5(p.681)] All three learned that "while working casually as nurses, it was wise not to disclose their 'medical student' status and when they were 'medical students,' they

generally withheld the fact that they were nurses."[5(p683)] This strategy of hiding one's identity was also observed among nurses in the follow up study by McLean and Pecoraro[9] and was reported in the grey literature.[11,16,19] Notably, medical trainees from other health professions did not report that behaviour.[8,9]

1.2.6 Identifying the gaps in the literature

Overall, there are some limitations in the academic literature to date regarding the experiences of nurses who retrain as physicians. Apart from Gussman's[6] questionnaire data from 33 nurse-medical students, each study has included no more than five nurse participants. Furthermore, only one study[5] focuses solely on the experience of nurses in medical school (again, aside from Gussman's study[6]). McLean's[5] analysis of interview transcripts from three nurses in medical school was done in a post hoc manner on data collected for a prior study, and so the interviews were not constructed to specifically explore the experience of nurses in medical school. The three other relevant studies have looked at medical students from health professions and other careers in general, and those have included only five nurses,[9] one nurse[7] or no nurses.[8] A study designed to specifically explore the experiences of nurses who undergo medical training has not yet been conducted.

In reviewing the existing literature, there remain some elements that are not yet fully explored. It is not entirely clear why individuals who report a love of and deep respect for nursing should leave that career. The reasons cited by most nurses studied include a desire to have more control over patient care and to acquire more knowledge. Given the current emphasis on interprofessional collaboration and healthcare teams, the expectation would be that all team members have a voice regarding patient care. Are nurses' contributions not valued? Further, in what way are nurses limited in acquiring more knowledge?

Regarding the experiences of nurses in medical school, there are a few paradoxical findings in the current literature. For example, wanting to be acknowledged as advanced learners while still wanting to be taught and assessed in the same manner as their non-nursing peers. Also, choosing to be recognized simultaneously as both a nurse and a

medical student, while at other times concealing one identity or the other. These are curious findings that merit further investigation.

Some of the current studies examine professional identity formation and find that there is not a smooth transition from “nurse” to “doctor,” but rather some challenges with role and identity confusion along the way to an ultimate “hybrid” identity. However, it is evident that there are other complex issues at play during the process that relate to leaving one group for another within a hierarchal system. These social complexities are not yet explored.

It seems that nurses who undergo medical training may have experiences and stressors that differ from their non-nursing peers. Understanding these phenomena may provide guidance to medical educators to ensure this student population is adequately supported in their learning and may also provide insights to promote healthier interprofessional collaboration in healthcare.

1.2.7 Summary and Research Objectives

In summary, it is apparent that nurses who retrain as physicians experience medical training in ways that seem to differ from their non-nursing peers, and even from peers who come from other health professions. Our study aims to explore how nurses experience medical training, with the following specific objectives:

1. To explore the reasons for choosing to switch careers.
2. To examine how former nurses adapt to being medical students and residents.
3. To describe their perceived differences in the cultures of nursing versus medicine.
4. To examine how nurses navigate the process of reconstructing their identities as medical learners and future physicians.

Chapter 2

2 Methodology

This was a qualitative study using a constructivist grounded theory (CGT) methodology. This methodology seeks to generate theories directly from the data through an iterative process of data collection and analysis. It is an inductive reasoning process. CGT is particularly suited to the study of social phenomena and is commonly used by social scientists. Rather than beginning with a specific hypothesis, CGT begins with an open question.[27,28]

This method was selected for our study as we wished to better understand how the transition from nurse to doctor unfolds. We did not have a preconceived hypothesis about this process. Hence, we sought to build a theory from the collected data. An exploratory methodology was most appropriate for this study as there was very little in the literature about nurses retraining as physicians. Constructivist grounded theory (CGT) allows an open analysis of the data to discover novel themes and concepts. The aim is to develop theory that is rooted in empiric data. Theory here should be understood as a conceptual understanding of a social or psychological process, appropriate to the context in which this study is set.[27]

A CGT approach focuses on questions like "how?" and "why?" to build a theory from the data. The data and subsequent analysis are created through an iterative process which acknowledges the researcher's role as a co-creator.[27(p239)] This methodology is particularly suited to studies which endeavour to understand social processes, with the view that "social reality is multiple, processual, and constructed."[27(p13)] To generate a theory that describes a particular process, one must acknowledge that multiple interpretations of a process can exist and be equally valid. CGT studies provide rich stories that describe social phenomena in ways that other methods cannot.

2.1 Structure of the research activities

1. Initial background literature review.

2. Development of the initial interview guide.
3. Data collection and analysis (iterative).
4. Secondary literature search based on identified themes.

2.2 Participant recruitment

Participants were recruited from one Canadian medical school. The lead researcher (AR) is on faculty at this school. With permission from the school's administration (Appendices A, B), an invitation to participate was sent by email to the entire undergraduate student body and included in a postgraduate newsletter. (Appendices C, D) The recruitment invitation stated that any medical students or residents who had completed nurses' training prior to entering medical school were eligible to participate in an individual interview with the researcher. Work experience as a nurse was not required.

The initial email invitations included an attachment with a consent form (Appendix E) that outlined the details of the study. The participants who responded to the invitation in the postgraduate newsletter were provided the consent form by email. Furthermore, after their interviews, participants were asked to share the invitation with other nursing graduates that they knew at the medical school.

Due to potential or perceived influence of power that the researcher might have had with respect to the medical trainees, a third party was also listed as an initial contact for potential recruits so they could access additional information without contacting the researcher directly. This third party was a member of the research department at the school. Participants could also contact this third party after the interviews to withdraw from the study if they chose.

Written consent was obtained from the participants prior to or at the beginning of each interview.

2.3 Data collection

Data was collected through in-depth interviews conducted by the researcher (AR). Data collection occurred from April 2017 to June 2020. Each participant was interviewed by the researcher, either in person or by phone, and the interviews were audio recorded. A semi-structured interview guide was employed and small revisions to the guide were made over time to better explore themes that were identified in the concurrent analysis. (Appendix F) The researcher maintained a non-judgmental curiosity during the interviews to encourage the participants to openly share their stories.

2.4 Data analysis

Analysis was conducted by the researcher (AR) in conjunction with two other researchers (JB and CW). Data analysis occurred conjointly with data collection in an iterative process, aligned with the practices described by Charmaz.[27]

The audio recordings were transcribed verbatim by a professional transcription company. The transcriptions were read through for accuracy while listening to the original audio file. Any potentially identifying details were redacted or replaced with generic terms.

Data analysis began with open coding. Line-by-line coding using gerunds of the first three transcripts was conducted independently by each of the three researchers (AR, JB, and CW). Codes were constructed from the data in an inductive manner. After reviewing the first three transcripts, the researchers met to compare and discuss their coding. A rudimentary coding template was developed and referenced during the gerund style coding of subsequent transcripts. Codes and coding templates were revised as needed during data collection. The codes were organized into categories and then the categories were reviewed in a process of selective coding to identify central themes. This was an iterative process. The three researchers compared ideas and codes over the course of multiple meetings during the data collection process.

Data analysis influenced data collection and the interview guide was revised as needed to fully explore various themes as they emerged. A mind map diagram was created to organize the data into categories and themes.

Data analysis continued throughout the writing process as well. Through the writing process, the lead researcher was able to clarify connections between ideas and to develop a stronger conceptual understanding of the data.

2.5 Data sufficiency

Sufficiency of data as it applies to grounded theory research typically relies on a concept of "data saturation."

Charmaz defines saturation as the point at which 'your categories are robust because you have found no new properties of these categories and your established properties account for patterns in your data... you have defined, checked, and explained relationships between categories and the range of variation within and between your categories'.[27(p213)] She adds that if we define saturation as merely 'nothing new happening'[27(p213)] in our data then we may arrive at a false conclusion. The key criterion is whether categories are rich and have conceptual depth.[27(p215)]

Due to some of the confusion around the concept of data saturation, Nelson[29] suggests using "conceptual depth criteria"[29(p556)] when determining data sufficiency in grounded theory research. Nelson[29] proposes five criteria by which conceptual depth can be measured:

1. A wide range of evidence can be drawn from the data to illustrate the concepts.
2. The concepts must be demonstrably part of a rich network of concepts and themes in the data within which there are complex connections.
3. Subtlety in the concepts is understood by the researcher and used constructively to articulate the richness in its meaning.
4. The concepts have resonance with existing literature in the area being investigated.
5. The concepts, as part of a wider analytic story, stand up to testing for external validity.

In determining data sufficiency for this study, the author applied the first 4 criterion to the data. Criterion 5 as described by Nelson[29] requires the acquisition of data from other similar settings to allow comparison and validation. This was not practical for this study.

The conceptual depth of data for this study was found to be sufficient.

2.6 Reflexivity

In this process of data generation, the researcher is also a participant. The researcher is not an objective bystander to the data, but also participates in creating the theories derived from the data. The researcher's prior experiences and knowledge lend to the interpretive process.[27]

The lead researcher, AR, is a family physician who works in remote Indigenous communities in Northwestern Ontario, and she is an Associate Professor at the Northern Ontario School of Medicine University. Of further note, AR is the daughter of a retired nurse. As a clinician, she has become well-educated regarding colonialism and the pervasive effects of systemic oppression and racism on Indigenous peoples in Canada. This background may allow her to see evidence of oppression and hierarchy more keenly than the average person.

As a medical educator, she noted that when there was a former nurse in a small group session, the group dynamic differed from the norm. She thought that perhaps these students were under additional pressure to demonstrate more knowledge than their peers, especially in clinical skills sessions. Performance pressures or expectations can impede learning, due to undermining of the safe learning environment (an environment in which it is safe to make mistakes or admit knowledge deficits).

As the daughter of a nurse, AR grew up hearing stories about nurses, doctors, patients, and hospitals. She was advised by her mother to avoid nursing as a career and to pursue medicine instead. In general, AR is sympathetic towards nurses.

JB and CW served as co-supervisors for this study. JB holds a Ph.D. in social work and conducts research in the areas of patient-centered care, interprofessional teamwork and

teambuilding, physician well-being, physician practice behavior and health system change. CW is a physician (neurologist) with a Ph.D. in Health Professions Education. He conducts research in medical education exploring how learning unfolds in clinical settings and how professional culture shapes educational practices.

2.7 Setting

All participants in this study were medical learners (students and residents) at the Northern Ontario School of Medicine (NOSM), which until April 2022, acted as a faculty of medicine for two universities - Laurentian University in Sudbury and Lakehead University in Thunder Bay. As of April 1, 2022, NOSM became Canada's first independent medical university and took on the name of NOSM University.[30]

Founded in 2002 as a strategy to address the critical physician shortage in Northern Ontario, this school has an explicit social accountability mandate to improve the health of the people in the region. Using a distributed, community-engaged learning model, NOSMU provides training in more than 90 communities across a geographic expanse of 800,000 square kilometres. The goal is to instill a deep understanding of the complexities of rural health through an education grounded in the realities of community-based care. Teaching sites range from remote Indigenous villages (accessible only by air) to large northern urban centers, and everything in between.[31]

The admission requirements allow applicants from any background or discipline, provided they have a minimum 4-year undergraduate university degree (or equivalent). There are no specific course prerequisites, and the MCAT is not required. The aim is to admit a class whose profile reflects the demographics of the population of Northern Ontario. With this in mind, a "Context Score" is assigned to each applicant which incorporates certain geographic or cultural criteria: rural and/or northern background, Francophone identity, and Indigenous identity.[32]

The entering class size for the MD program at the time of the study was 64 students, with approximately 90% of those students originating from Northern Ontario.[33] In total, there are approximately 60 residents across all programs at NOSM.[34] Additionally,

approximately 60% of NOSM's graduates choose to train in family medicine, compared to an average of about 30% across all other Canadian medical schools.[35]

Whether the characteristics of this medical school account for the large percentage of nurses in each undergraduate medical class is not known.

2.8 Final sample and demographics

2.8.1 Protecting the identities of participants

Given the small size of each undergraduate class and residency programs at NOSM University, extra care has been given to protect the identities of the participants. The transcription company that was used to transcribe the audio files is based in Toronto, which is geographically far removed from the medical school in this study. The company also signed a confidentiality agreement.

Each participant is identified by a participant number and all names of individuals and communities have been changed or redacted. Gender neutral pronouns are used when referring to any of the participants. Some of the participants have additional healthcare qualifications or scope of practice beyond the level of a Registered Nurse. The specific details of these qualifications are not disclosed but referred to in general as "Advanced Healthcare Work." When quoting participants, terms like 'nurse' or 'nursing profession' are used at times in place of any terms that might reveal an individual's specific nursing profession.

2.8.2 The participants

The study participants were medical trainees (students or residents) who had completed prior education in nursing. Of the 13 participants, 12 were female and 1 was male. Their ages ranged from 22 to 37 years. Two participants had never practiced as nurses; three had practiced for one year or less; four had practiced for 2-6 years; and four had practiced for more than 10 years. Six were junior medical students at the time of the interview; three were senior medical students; and four were in their residency training. Tables 2 and 3 provide a summary of the participants' backgrounds and demographics.

Table 2 Summary of participants' level of medical training and years of nursing experience.

Participant Number	Medical Trainee Level	Years of Nursing Experience (including any Advanced HCW experience)
1	R1	3
2	R1	< 1
3	M3	< 1
4	M4	2
5	M2	10
6	M1	9.5
7	M1	< 1
8	M3	0
9	M2	14
10	M1	10
11	M2	0
12	R1	2
13	R2	6

Table 3 Aggregate demographics of the participants.

AGE		
≤ 25 yrs	26 – 34 yrs	≥ 35 yrs
4 participants	5 participants	4 participants

GENDER	
Female	Male
12 participants	1 participant

TYPE OF PRIOR NURSING EXPERIENCE			
No experience	Hospital-based	Community	Advanced HCW
2 participants	11 participants	5 participants	5 participants

2.9 Ethics approval

Ethics approval for this study was obtained from the Research Ethics Boards of both Lakehead and Laurentian Universities, and was renewed annually until the completion of the study. REB file numbers are 1465513 and 6009714, respectively. (Appendices G, H)

Chapter 3

3 Findings

Our analysis of the data brought forth four main themes, 1) reasons for switching careers, 2) experiences of medical training, 3) professional identity transition, and 4) the influence of hierarchy. In this section, each theme is reported in sequence.

3.1 From nursing to medicine: the impetus for change

Prior to entering nurses' training, about half of the study participants had an interest in pursuing medical school at some point in the future. For those individuals, nursing was meant to be a litmus test to see if they liked the healthcare field and/or nursing was meant to be a stepping stone directly to medicine. Some felt it was reassuring to have a career to fall back on in case medicine did not work out. The remaining half of the participants chose nursing as their intended career and had not considered medicine.

Regardless of why they chose nursing, almost without exception the participants "loved" being nurses. So why would they leave a career that they loved? There were various reasons, but the most common themes were burnout, craving more knowledge, and wanting more clinical autonomy. For some, a particular role model or encouraging person planted the seed or provided the motivation to apply to medicine.

3.1.1 Role of their nursing training

Six of the participants chose a career in nursing because they specifically wanted to be nurses and had no initial ideas or intent of being physicians: "I wasn't planning on applying to medicine. (...) For me it was 'I love nursing'." (P4) The remaining seven participants saw nursing as a good precursor to medical school. They "never went into nursing with the intention of being a nurse for the rest of [their lives]" (P2). Nursing allowed them to try out the healthcare field to see if it was a good fit:

> I remember thinking about being a doctor... but I honestly had no exposure so I didn't know, and that's kind of why I wanted to start with nursing, to see if I even, I don't know, could manage in a hospital

> setting and how I actually interacted with patients and if I was comfortable with that, because I just had no previous background.(P8)

In this regard, nursing was a lower stakes investment and would allow them to back out and change plans before they had invested too much time or money. Additionally, nursing was a good fallback career in case they did not get into medical school: “If medicine didn’t work out the first time, then I could work for a couple of years or if medicine didn’t work out at all then I would be quite happy as a nurse.” (P11) For some, it made more sense to undertake an education that would give them a definite job at the end, rather than a more open-ended degree like a Bachelor of Science which had nebulous job prospects:

> Well, nobody who’s graduating with four-year degrees in science are getting jobs right now. They all have to do additional training. So you’d be better served doing a different degree like nursing because you’d be guaranteed a job when you graduate. And then if you don’t get into medical school, you’d have the opportunity to at least work and pay off your debt and be able to support yourself. (P2)

A few of the participants who had intended to use nursing as a gateway to medicine found instead that they truly loved the career and settled in to practice as nurses for a while, only to have their interest in medicine rekindled later. For example, “When the time came, when I graduated my nursing, I still didn't want to apply to medical school and I enjoyed my job.” (P12) Another participant explained, “My plan was to go to med school after, but then I decided that I like nursing, so I ended up working in it.” (P6)

3.1.2 Love of nursing

By and large, the participants loved nursing. For the few individuals who did not espouse a strong passion for the career, they still described many aspects of the work that brought enjoyment. Above all, the time spent with patients was highly valued. One participant spoke specifically of the reward of building relationships with their patients:

> I love that you'd have 12-hour shifts with the same person for that whole shift and then often you take care of them the next day. So, you'd develop a real relationship with the person and get to know them. (P4)

Seeing their patients as individuals with “a back story [who are] interesting to talk to” (P12) enriched their work and grounded them in the value of the service they were providing.

There was great satisfaction in having the time to provide good care to a patient. Providing a bed bath that was soothing and relaxing, making sure their patient was comfortably arranged in bed, or ensuring their patient’s needs were attended to promptly were some of the professional activities described with fondness: “I love giving patients a bath because it’s just a quiet time where you actually get to talk to people.” (P9) Patients relied on them for some of the most basic needs, and it was an honour to be entrusted with that care: “It’s such a privilege to help people when it’s kind of the worst times of their lives and most vulnerable.” (P9) To be able to provide such intimate care, in a way that was both comforting and preserving of dignity, was viewed as important: “like the times that you spend holding a patient's hand or washing a patient and then going back to check and seeing that they've passed away comfortably. ... I think it's a very noble profession...” (P13)

Many of the participants spoke about how they loved the physical side of the job. There were tasks that required coordination and strength, and just the feeling of being on the go and moving throughout the workday: “I liked being on my feet.” (P7) It was “fun” having procedures to do, like IVs, catheters, and dressings: “I love stuff like procedural work where I could go in, speak to patients, assess them, do a procedure or something that was effective in helping them.” (P10)

Another aspect of the work that appealed to the participants was the challenge and intellectual stimulation: “I really liked decision-making on the fly and that sort of piece of nursing.” (P5) Every day presented different types of problems or dilemmas to solve, often requiring creative, patient-centered solutions:

> It was lots of fun. It was really challenging (...) it was a really good blend of being physically active and using your hands and being able to connect with patients and, at the same time, being able to use your brain and problem-solve. So it was a nice blend of physical and cognitive skills. (P1)

In some settings, like the emergency department, the pace and the variety were experienced as exciting: “I loved the pace of it and just how things can kind of go from zero to 120 in two seconds. ... I liked all the dramatic blood and guts and all that stuff as well.” (P10)

There was a sense that nursing afforded such a variety of different types of work that it would be hard to ever get bored: “If you got sick of a field you could move to a different field and you didn’t have to specialize in anything.” (P2)

Overall, the participants loved being nurses and having the opportunity to make a difference in people’s lives. Their role in patient care was viewed as enriching and satisfying on many levels.

3.1.3 Reasons for switching careers

So, if they loved nursing so much, why did they switch careers? The three prominent themes were burnout, quest for knowledge, and wanting more autonomy.

3.1.3.1 Burnout

The increasingly heavy loads in the workplace were apparent. They expressed how more and more time was being spent stocking shelves, learning new computer programs, adhering to stringent charting requirements, or other clerical duties: “I just found that like 50% of my work as a nurse was non-patient care. Like, I do the job so that I can help people and interact with people and make a difference.” (P10) Additionally, shiftwork was exhausting over the long-term: “I worked every other weekend for almost ten years and nights for two weeks of every month and I just needed a bit of a change and some more sleep.” (P9)

A bigger issue though, was how frequently they experienced being short-staffed and having to work overtime or carry a heavier patient load – experiences that participants described as “cumbersome” and “very taxing.” (P7) This often forced them to cut short their time spent with individual patients:

> You want to do the best you can but sometimes there are a lot of time constraints in which you can do things. So, for instance, if you've got to go in and give a bed bath or something, I would rather have time to let the water warm up and chat with them and not just wake them up and splash some water on them and get it all done. (...) And if I'm with one patient and my colleagues are all busy and another patient is ringing the bell, I may not have time to run over to them and then unfortunately they have to become incontinent because I didn't get there fast enough. And it's not because you don't want to be there, but it's because you can't be there.(P12)

Hence, understaffed work environments robbed them of the joy of their work. They no longer had the time to provide the quality of care they could take pride in, and they felt they were forced to shortchange their patients. This undermined one of the key things that they loved about nursing – caring for patients:

> I feel like as a doctor, I rather have the responsibility, the stress of the liability responsibilities, that type of thing, as compared to working short-staffed, running around like a chicken with your head cut off, a sore back, sore feet, and nobody's listening to you. As a doctor, you don't have any of that. (P12)

3.1.3.2 Quest for more knowledge

The next theme was a quest for more knowledge, for their own satisfaction but also to provide a higher level of care for patients. There was a sense that nurses should not need to understand “why?”, that they could carry out their tasks adequately without needing to know all the science or rationale behind things: “I don’t know why we do what we do... in nursing you just know you do it, no one cares to tell you why. You don’t need to know why the oxygen can’t go past six in nasal prongs, just that’s the number.” (P2) Some of the participants felt that they were doing things as a rote exercise or that they simply committed certain things to memory without truly understanding them:

> I always think back to when we were learning about heart failure. We had to learn the symptoms for left sided versus right sided heart failure and it felt like I was just trying to memorize, like, the different symptoms, but I was so frustrated because I didn't understand why. Like, why are we getting peripheral edema and why is this happening? (P8).

There was sense of a ceiling of knowledge in nursing that most of the participants wished to go beyond:

> One of the strongest reasons I've wanted to go into medicine is because I felt like I wanted and needed to know the answers to more and understand the pathology and the explanations to why this person was presenting the way they were. (P3)

3.1.3.3 Autonomy

The final theme is they desired more autonomy. Often, they felt constrained by needing to have a doctor's order for even trivial things, such as providing Tylenol: "It's kind of like you're working under a thumb." (P5) Participants explained how they wanted to have more input into the patient's plan of care and to make decisions in that regard. They found it frustrating to have to follow orders that they did not agree with: "Like sometimes the doctor would make a decision and I didn't think that it was appropriate, or one more thing could have been done better and I wanted to be that person." (P12) They often found that their opinions did not matter, or that they had trouble being heard:

> That's one of the down sides of nursing is when you feel like you are knowing this person and knowing what might be the next best course of action and not being able to provide that to the patient because the physician doesn't view that the same way that you do and you can't convey that to the physician. (P7)

One participant summed it up nicely, "Basically I wanted to be the boss. So I couldn't do that as a nurse. I wasn't getting anywhere with that. So that's why I went back to be a doctor." (P12)

Participants shared a number of stories of when they were severely distressed by a physician's indifference to their concerns about a patient. One participant described a

situation where they felt strongly their patient was seriously ill but they were unable to advocate for them:

> I didn't have the skills to interpret an ECG or really understand, like the medical stuff that I was looking for. So I just knew she was sick so I called the physician on-call. ... I would really like to have her evaluated by a physician just because of how extreme this is. And they disagreed. They wanted the patient to wait... I said, 'I don't think that's a good idea. You haven't seen the ECG. I can't tell you why it looks weird.' ... She ended up coding in the hospital and that was the kind of tipping point for me. (P13)

The participants' sense of powerlessness in those situations was a strong motivator for them to seek additional training:

> I want to be able to make my own decisions. And I'm not criticizing, I'm sure I'd make mistakes too. I mean I'm going to miss things as a doctor and I'd be arrogant to think that I'm never going to miss something. But at the same rate, I just wanted to know more and then have the ability to make the decision.(P13)

Ultimately, burnout, the quest for more knowledge, and the desire for more autonomy interfered with their job satisfaction and limited their ability to provide a higher level of care for their patients. Being overworked and short-staffed robbed them of the primary joy of their work. A thirst for knowledge and a desire for greater autonomy motivated them to make the change to medicine.

3.1.4 Additional impetus or support to make the change

For some participants, the factors described above were enough to prompt them to apply to medical school: "I think I probably just went home one day after the bull crap and said 'You know what? I'm going to do this or try to do this.'" (P10) However, others needed additional impetus to spur them to action. Some had contemplated medical school, but just never thought that they would get in. Others had never even considered medical school. For these participants who were contemplative, or even pre-contemplative, it took an outsider's encouragement for them to take a chance and apply to medicine.

Frequently, this outsider was a physician or a physician-in-training. For example, one participant described how a third-year medical student convinced them to apply to medical school. They were both working a night shift in obstetrics and had some time to chat:

> "You know, why don't you apply to medical school?"
>
> “I don't know, I just never even really thought about it.”
>
> "You should apply there. You should apply."
>
> And, so that night, they helped me open an online application. (P4)

Another participant described how the encouragement from physicians they worked with helped them realize they had potential to get into medical school:

> We all know how competitive it is to get in and how hard it is and for me who was someone who was in (their) 30s, you start to wonder if that ship has sailed. So, to have a few physicians who I really respected as really good doctors and good people, try and talk me in or persuade me into applying, I think was huge for me because I think that’s like a pat on the back from someone who’s been there and done it saying, ‘You can do it.’ (P10)

Maybe seeing a nursing colleague make the transition into medicine planted a seed for one participant:

> ... at the time that I was working full time, (they were) working casual because (they were) in [Medical School] as an undergrad med student. I think (they) might have maybe had a bit of influence too. ... Just maybe I probably admired (them). (P1)

3.1.5 Summary

Regardless of whether nursing was their primary career choice, or it was a stepping stone to medicine, on the whole participants spoke highly of their time as nurses. They valued their interactions with patients and the challenges of the job. However, they moved on to

medicine either as part of their original plan to become physicians, or because nursing had become dissatisfying or burdensome.

3.2 Being outstanding and standing out in medical school

As undergraduate medical students, the participants felt they had numerous advantages or privileges compared to their non-nursing peers. However, it seemed there were some strings attached. In their preclinical years, they felt that they stood apart from their peers due to their pre-existing clinical knowledge and experience. Although there were perceived advantages, some participants felt pressure to live up to certain expectations. As they moved into their clinical years, the participants enjoyed the familiarity of the clinical environment, although sometimes they got tripped up by falling back into nursing ways. Through it all, many of the participants had to balance the responsibilities and challenges of being 'mature students.' We will explore each of these three themes in turn: the preclinical years, followed by the clinical years, and finishing with the issues of being a mature learner.

3.2.1 Preclinical years

3.2.1.1 Trying not to stand out

Participants felt they stood out from their peers, even when they tried not to. Some participants tried to avoid revealing their former profession: "I generally never tell anyone I'm a nurse unless they ask." (P9) However, there were clues that gave it away, like "asking something that the average second year medical student wouldn't know." (P9)

A few of the participants felt that they were no different from their medical school peers. After all, they felt that everyone in their class had advanced knowledge in one field or another:

> Everyone in my medical program has so much to bring forth in terms of their knowledge and their bits, whether they chose chem, whether they

> do biomed or whether they were pharmacists before. We all just really have our strengths, and we bring it together and I see that, having taken nursing, I have a strength in the clinical environment. (P11)

However, it seemed that these former nurses held a complex position among their medical school peers, as we will demonstrate in this section. When it comes to being a medical student, a nursing background is different than a background in chemistry, or biomedicine, or pharmacy.

Most participants had the clear perception that they were treated differently than their non-nursing classmates in medical school. They sensed their peers envied them for their clinical experiences:

> I think they appreciate the fact that I do have experience, because a lot of them are here because they want all those experiences. So, they love to hear those things and they love to know that that's actually out there for the one thing. (P10)

Some of their peers seemed to be in awe of them: "I have actually had a couple of medical students actually say to me that I'm intimidating to them. More of, like a jokingly kind of thing, but ..." (P5) Generally though, their classmates sought them out and they felt appreciated by them in their roles as peer-teachers. For example, it seemed safer to ask dumb questions of a peer than of a potential future preceptor:

> We [medical students] have the staff that we're going to be working with during our clinical placements are there. So how embarrassing is it if I go up to you and I'm going to be at your clinic the next week for my placement and I ask you how to put my blood pressure cuff on. You're going to be like, 'What? You're coming to my clinic next week?' So, they [medical students] came to us. (P12)

Participants sometimes felt they received preferential treatment by instructors. They felt that when instructors realized they had a nursing background, "the teaching sort of changes:" (P7)

> It goes to a different level, and they're asking maybe a bit more advanced questions.... allowing (us) to do a few more practical skills

> than (they) might have entrusted a first year with a different background to do. (P7)

3.2.1.2 Having prior clinical knowledge

In general, the participants viewed a nursing background as a good pre-requisite to medical school: “Advantages? Definitely the clinical experience, the patient interactions, there’s just a lot of very practical advantages.” (P7) They felt there was a fair amount of overlap in the curricular content, “so it’s a little bit of a review.” (P7), and that nursing provided a “foundation to build off” and so there was not the pressure of “learning everything all at once.” (P7) They found it helpful to already be fluent in medical lingo: “Vocabulary for an advantage is huge. I’ve heard most of these words before.” (P9). Additionally, there were classes or sessions that the participants felt they did not need to prep for, especially clinical skills:

> I didn't even look at my SCS [Structured Clinical Skills] stuff. I didn't even have to even open my book. I would focus on Theme 4 pathophysiology while my friends were studying and worrying, ‘Oh my God. How do I do a blood pressure?’ I didn't even look at that. (P12)

They felt their real-life experiences with pharmaceuticals gave them an advantage in pharmacology:

> Knowing what the medications are. How they're working in the body. How they're prescribed. The different routes they’re taken. The different side effects. And being able to see how when you give, like a pain medication to your patient, how they react to that pain medication. The side effects from it. Just like that. That's a huge component. (P4)

They often had “the ability to relate (the science content) back to clinical experiences.” (P10), and they could take advantage of “the mental heuristics that you don't really acquire until you've been exposed to multiple patients.” (P13) For some of the participants, being able to see the clinical rationale of the science material helped them to focus their learning:

> When I'm given that list of objectives, I can say, ‘Oh, I know why they’re asking us to know this.’ I know why we need to know this,

> because I see it all the time, and that is exactly what the course of events is for people with COPD or whatever. (P3)

But sometimes it felt frustrating to spend so much time on scientific minutiae when they just wanted to move on to the clinical applications:

> I would find that I was fairly focused on learning the clinical attributes of different diseases and problems. I wanted to know about clinical presentation, and how to make the diagnosis and how to manage the problem. And there was often … there was a couple strong people in our class that would focus our group on, the cellular pathophysiology and physiology, and so I found that frustrating. (P1)

Some participants expressed a sense of being held back or stagnating because they were already comfortable with certain skills but had to participate in those learning sessions anyway. There was no provision of advanced standing to participants who felt they were already competent in some areas:

> I felt like I was expecting to put in my time, do the four years and get the piece of paper, and try to learn some new things along the way, and try not to get upset with the fact that I had to do it all over again...I have these skills and I should be learning and growing and instead I'm not. I'm just supposed to stay a flat line until it's my turn. To kind of let everyone catch up, so that we can all learn together. (P2)

They described other potential downsides to having advanced knowledge. At times, some participants feared that they would not get the teaching they needed due to assumptions about their knowledge and abilities:

> The clinical instructors would sometimes maybe leave me to my own devices a little bit more than they otherwise would have. ... I would sometimes ask if they wouldn't mind just kind of watching me do something, a procedure, or suturing or whatever it was, or observing a clinical interview, just to make sure that I wasn't dropping the ball. (P13)

It seemed to be a real challenge to try to position themselves as learners while also demonstrating their strengths. Some instructors might interpret them as being fully competent already:

> In my very first SCS [Structured Clinical Skills] session, the comment from the facilitator's notes was, 'Well I guess you'll already know everything. We don't have anything to teach you.' Which made me really uncomfortable, and it felt a bit unfair because it was my first week of med school too. I absolutely want to improve and want to do better, and I don't think I know everything. That's why I'm here and so I don't know, I think that the expectations change the minute somebody knows your background and not always in a positive way. (P9)

3.2.1.3 Expectations: theirs and others'

Many participants felt relieved that they did not need to spend much time studying the clinical skills so they could devote more time to the science content. Almost universally, the participants felt that the foundational sciences were the most challenging part of the curriculum. Some felt that they had minimal science background: "The stuff that I'm unfamiliar with the most is obviously the science stuff and that's what I struggle with most, because I have done only one science course in my whole career, and it was a very long time ago." (P6) Others echoed that the passage of time had made it difficult to recall their science knowledge: "What I struggle with the most in medicine is the sciences, because I took core sciences a really long time ago, ... like 17, 18 years ago I took that stuff." (P5)

The participants felt that the level to which the foundational sciences are taught in nursing school was different than what is expected of medical students. Some of them were bracing for a heavy science workload:

> I figured it was going to be like nursing, except ten times as more depth. The lecturer who taught me anatomy in nursing is the anatomy teacher at [Medical School X]. When [they] would give us nursing lectures in anatomy, [they'd] say, 'Okay as nurses you guys need to know this, this, and this. And, if you were my med students, you'd have to know all of this. So, just be glad you're not med students.'(P4)

However, others were taken by surprise:

> I never thought medical school would be easy. But I thought with my background it would be easier, workload-wise. ... I thought, really, am I going to have to study that much? I kind of know a lot of this stuff already. And I don't. So that's been a bit of a humbling moment for me. Yeah, it is really hard. (P5)

Regarding the science content, some participants sought out the expertise of other classmates, in a manner similar to how their peers sought them out for their clinical know-how: “The people that we put on a pedestal were people with some kind of biology or chemistry background.” (P1)

Sometimes they felt a great sense of pressure to live up to certain expectations, to be the expert in the room. It was generally acknowledged that the source of most of the pressure was internal: “I think it’s probably me putting crazy expectations on myself versus other people actually.” (P9) In some ways, they felt like ambassadors of their former nursing career, and they needed to represent it well:

> I’m constantly feeling like I should know. ... I’m always, like I should know this. I’ve been doing this. I should know this. Like, I need to look up that word, but I should know that word. So, I have many moments like that, where I’m almost embarrassed that they know my background. (P5)

These pressures may have made it difficult to assume the role of learner, where they could safely admit their knowledge deficits. Sometimes they did not want the burden of being an expert: “I just wanted to be on the same starting ground as everyone else.” (P8) One participant explained that if they could say to their instructors, “Assume I know nothing at this point,” then they felt “more comfortable just asking questions and learning.” (P9) Another participant described a similar strategy in managing the expectations from their classmates:

> I would tell them, ‘I don't know everything’... They would ask questions like, ‘So do you know this or that?’ I'd be like, ‘No I don't. I need to look it up too.’ If you're not the person that will say that, and you're trying to act like you know everything, then I can see that being hard, but I wasn't like that. (P12)

Also, some found it frustrating when classmates assumed that medical school was a cake walk for them. One participant recalled an exchange with a classmate:

> Another student said ‘Of course you know this. You’ve been a nurse forever.’ and I was like, ‘Man, I didn’t know that. I know that because I’ve been studying my butt off for the last couple of weeks.’... I still need to work really hard to know a lot of the stuff. (P10)

Some participants experienced a paradoxical sensation where they felt great anxiety during structured clinical skills (SCS) sessions, even though they had advanced knowledge and experience in this realm. Logically, they should have felt more comfortable in those sessions, yet that was not always the case:

> It made me really uncomfortable to fail, so for all of first year I absolutely dreaded SCS and would have insane anxiety going into it because that’s the place where you’re supposed to feel comfortable to try things and fail. Some of that’s probably my own pressure I was putting on myself, but I really felt like I needed to because my colleagues and my classmates expect that I know how to do these things, right? These are basic interviewing skills, and I should know how to do them. (P9)

Furthermore, there was described a tricky balance of trying not to dominate clinical skills sessions, but also wanting to demonstrate to the tutor (usually a physician) that they knew the material:

> Sometimes I struggle a little bit because I often know the answer and I don’t want to monopolise or anything ... I struggle a little bit with making sure that the facilitator knows that I have done my readings and I know the answer, and then not seeming like I know too much... I don’t want to be, like ‘I know that’, ‘I know that’, ‘I know that’, because I don’t want the other students to not be able to answer, and I don’t want them to think that I am a know-it-all. But I also ... like, I want to show I know this. I know my stuff. (P5)

Sometimes instructors would call out the nurses in the class and strategically place them in specific groups for small group work, or even put them in teaching roles:

> When we do group work, ... they'd say, ‘Okay. Nurses split up. Make sure there's one nurse in every group.’ We'd have our clinical skill sessions where you'd learn to do IVs. ... So, ... I can help teach my classmates. (P4)

For some participants this was not desirable, “I was worried that there would be an expectation that I would have to teach.” (P5). Some participants did not want that responsibility:

> I would be quick to flag someone down to help us out because the way that you're taught in nursing might be a little bit different than the way you're taught in medicine, and I don't want to be responsible for creating a gap there or something like that. (P8)

Some of the participants developed strategies to deflect expectations to teach, saying things like, “I'm equally as rusty. I would like to have a refresher on this too.” (P8) Whereas other participants enjoyed the teaching role, “I’m very happy to be almost a facilitator of the labs when they come along and nothing but proud of my background.” (P11)

3.2.2 Clinical years

3.2.2.1 Familiarity of clinical environments

Things felt quite different for the participants as they moved on into the clinical years of their MD program. Once they hit the wards as clerks, these former nurses felt they could really reap the benefits of their advanced knowledge and experience. They were already familiar with physical and cultural aspects of the clinical environment:

> Being someone who's worked at (Hospital X) before, going back to the hospital I used to be employed at, knowing the nursing floors, knowing how the floors were laid out, knowing where they kept the charts, knowing the paperwork, the organizations, the different levels of management. Being able to walk into that with previous knowledge and experience, compared to a classmate who had never been on that hospital floor before. That was a huge advantage for me. (P4)

They had already had a wealth of real patient experience: “I’ve been in situations where somebody’s swore at me, I’ve been in situations where people cry, I’ve been in situations where I have to ask really awkward questions and sensitive topics.” (P9) They felt their years of “just seeing things, and smelling things, and touching things and hearing them...” (P1) gave them a distinct advantage over their non-nursing peers. They “felt comfortable being in patients' environments, walking into their rooms, and even just simple things,

like how to move a tray and how to move a bed, if you don't have those basics, they can trip you up really quick" (P8)

Clerkship allowed more flexibility for preceptors to give them more responsibility and clinical work so the participants no longer felt so held back: "They would often recognize that I wasn't your typical medical student, ... that I had the ability to kind of hit the ground running in a way." (P2) So, at this stage of their education, they found it generally to their advantage to disclose their former nursing identities (at least to their preceptors):

> I think it's good when the preceptors ... know that I've been a nurse before so that they can challenge me like at the right level. So that they know I know some things, but I don't know everything. So, they'll challenge me to the point where I'm learning new things which is good. (P10)

However, participants came to realize that they had to "unlearn a few things." (P10) In familiar clinical environments, they found there was a tendency to fall back into their nursing ways. They were sometimes called out for "thinking like a nurse". (P1, P4, P13) "Meaning, I didn't think to diagnose. I thought about symptom management…symptom presentation. That was the challenge…was switching off my nurse brain and creating my doctor brain." (P4)

3.2.2.2 Still recognized as members of the nursing club

They felt they had an "in" with the nurses on the wards and were still recognized as "one of their own." (P1) They had a kind of "street cred" (P1) that they sensed gained them preferential treatment by the nurses. Once the nurses knew a participant was a former nurse, "suddenly they're more helpful" (P3) and the participants felt treated "with more respect." (P13) Having an insiders' connection to the nursing staff seemed to make life easier: "They know the basics. They'll take me through the computer system, they'll take me through what I need to know in terms of making sure that I can get my best foot forward on a clinical placement." (P11)

Sometimes the participants felt under scrutiny by the nurses: "I sort of felt a little bit like the nurses were sizing me up. 'Like, who is this (person)? What year (are they) in? And what's going on sort of thing?'" (P7) However, in these situations, participants found

they could play their "trump card" (P1) and reveal their identity as a formal nurse, "Listen, you can't give me a hard time, I used to be a nurse and leave me alone." (P1) "And then, the nurses right away were like, 'Oh, you did nursing? Oh, that's so cool. Oh, where did you work?' ... It sort of opened up this whole different dynamic to the relationship." (P7)

There seemed to be special value in coming back to work with nurses that participants had worked with during their nursing career –who had known them when they were nurses:

> Having already established those interpersonal relationships I think goes a really long way... it's those relationships where (the nurse) can be totally blunt and honest with the situation and I feel comfortable enough that I can admit my limitations or maybe her limitations, or just name the situation in an environment free of judgement. And at the end it just benefits patient care and patient safety. (P1)

Furthermore, those participants who had these kinds of pre-existing relationships described benefits like extra support in situations that classically make most medical students feel alone and insecure, like being on-call:

> Those shifts in the middle of the night where you feel so alone...there's probably a nurse working in the hospital that I have worked with, or graduated with or friends with, ... I don't feel so alone in the hospital, especially in the middle of the night. (P1)

However, being on placement where they had worked previously in a nursing role was also perceived as daunting: "People have expectations and know what I'm capable of, so definitely a little bit more pressure in that way." (P9)

Overall, being able to relate to nurses allowed the participants to have empathy for these colleagues:

> I understand the role that they have and what's challenging, like having to change people who are really smelly. Like, it sucks sometimes, and I've been there. So, I've shared that experience and – yeah, it's just nice to be able to be like, 'Yeah, I can relate.' (P3)

3.2.3 Mature learners

Many of the participants struggled with issues of mature learners. Although these issues are not unique to former nurses (there are mature students in any medical school class), a disproportionate number of our participants were mature students. In general, there are not standard criteria for what defines a 'mature learner'. For our purposes, a mature learner is a medical trainee over the age of 25 who has not been engaged in full-time post-secondary studies for at least one year prior to entering medicine. By this definition, nine out of the thirteen participants were mature learners.

Many of our participants had spouses and children. They felt they did not have as much time to devote to studying as their peers who were single or did not have children:

> Well obviously, my time management needs to be a little bit better than theirs. When I go home on the weekends, I get almost no homework done because when I'm home I want to be present. I want to go to hockey practice and do laundry and cook dinner and read bedtime stories and all that jazz. The odd time I obviously do need to do some work, but time management-wise I feel guilty so that weighs on me. My classmates I'm sure wouldn't have that on them. ... So, I want to be a doctor and stay married and not crush my children's mental health. (P9)

For those participants who had to relocate to attend medical school, they described an added strain on their families: "(A parent is) going to be gone for, you know, months and months and months. It's going to be a lot of work for my (spouse)." (P5) There was a sense of real sacrifice in this, "Losing time with what matters to me the most, my kids. That was part of the emotional kind of turmoil of taking that step." (P4)

In addition to these absences from family, the participants also expressed considerable financial concerns:

> I was the primary income earner. ... tough to give up [an annual] income to go back to school and pay $25,000 a year to tuition. ... I just paid off my student loans from my other education. Do I really want to take on more student loans?... I'm older. ... so, there's recognising that my ability to practice for so many years is limited after I finish this. So, I have to think about that and, is it worth it, money-wise? And then also knowing that I'm going to have to change things for my family, right? So, we have to live more frugally. (P5)

There was a real sense of sacrifice, of putting their lives on hold: “I'm giving up a lot of things to be here. A lot of my friends who were in nursing ...they’ve bought houses, they’re fully employed.” (P3) “I could have moved forward with my life so quickly. I would have been working, I would have been ... working Monday to Friday, and we would have had a happy life, and it would have been simple and easy.” (P8)

They found it hard to go from being independent professionals to being undergraduate students:

> It’s been a bit of a struggle being a full-time student. The school kind of treats us a little bit like children sometimes and as someone who’s been a grown up and have made my own destiny and kind of control over my own life, relinquishing control of my life is a bit challenging for me. Being told where I can and can’t go and what I can and can’t do is a little bit hard sometimes. (P9)

There was also some struggle with adapting again to a student’s workload of studying and learning: “I don’t know if it’s like my brain is really dusty, if it’s, like an age thing. Like, I wonder if I had done this ten years ago if that stuff would have been easier... probably.” (P5)

3.2.4 Summary

In summary, the participants found that during the pre-clinical years, they really stood out from their medical school peers. They felt high expectations put on them, and they were often put in teaching roles. Their nursing experience allowed them to ease off on studying the clinical elements of the curriculum, allowing them to devote more effort to the scientific portions. There was some frustration with the rigidity of the curriculum and a sense of having to bide their time doing things they already knew how to do. However, once they moved into the clinical years, they felt they could really hit their stride and spread their wings. Preceptors had more liberty to adapt their instruction to meet the participants’ needs. Familiarity of the clinical environment and being able to relate to the nursing staff were also seen as advantageous, but they had to be careful to avoid falling back into habits of nursing practice. All the while, a majority of the participants had to juggle various outside responsibilities of being mature learners.

3.3 Identity transition: wearing two hats

To transition from one professional identity to another is not a simple process. There are many elements at play: cognitive, behavioural, social, and emotional. Some participants continued to work in their nursing career even after starting medical school, and this may have served more than just a financial purpose. During the early years of medical school, most participants maintained a strong nursing identity. As they moved into the clinical environments, they faced strong cues to perform nursing tasks, which complicated things. Many described having a dual identity even in the later years of training. There did not seem to be a clear point at which their nursing identities were extinguished. In fact, it was common for the participants to feel that they would always be a nurse to some degree.

3.3.1 Continued nursing employment

Five of the participants chose to continue to work in their nursing careers during the early years of their medical training. Although "money is part of it" and the extra income was "a little bit of help" (P5), financial benefit was not the primary reason for continuing to work: "Now in hindsight, financially there was really no benefit to continuing to work. I didn't work very many shifts and the money that I made in the end, I had to claim. And it just … it didn't help." (P1) Additionally, "the debt load with medicine is so high that making a couple hundred bucks here and there really isn't going to make a big dent in that." (P9)

However, continuing to work in their nursing profession may have eased their transition out of the nursing profession. Instead of an abrupt exit from nursing, they "just melted into casual status" and did not completely "disappear." (P1) Continuing to work as a nurse may have served to assuage their guilt about "abandoning" their nursing colleagues:

> I worked casual for first year and second year. I think out of my guilt from leaving the department and I guess my guilt of abandoning the nursing profession. I just felt guilty that I was leaving nursing, that I didn't want anyone to think that I was going onto anything bigger and better, just that I was going onto something different, I guess. (P1)

For some, continuing to work in an old familiar role was a comfort. It provided affirmation of their competence while medical school highlighted their weaknesses or knowledge gaps:

> Part of it is feeling like I'm not an idiot. So, when I work [in my nursing profession] I feel competent and so it's like an ego boost. ...Whereas in medical school I feel like an idiot 90% of the time. …. So that's part of it, just feeling competent, ... It's like a comfort thing for me. (P5)

Continuing to work as a nurse also seemed to provide some security against the possibility of not being successful in medical school: "In the back of my mind I also thought, well, if this doesn't pan out, I can always fall back on nursing." (P1) Furthermore, one participant identified that there was an educational benefit of the extracurricular clinical experience: "I do actually find it reinforces what I'm learning:" (P5)

> It always works out. Whatever module I'm in that's all I see at walk-ins. It's so funny, like ... yeah, when we were at MSK [musculoskeletal] it was all joint stuff. When we were in GI [gastrointestinal] it was all GI stuff. I don't know why it works out that way. ... I find it's actually really helpful for my learning. (P5)

However, at some point they had to give up their nursing work. The decision was often made for them by the nature of their circumstances:

> It would have been inevitable I think anyways because in that fall I was going to do the third year in [another community]. And the stipulations that I had on maintaining casual status was that I needed to work one to two shifts a month. (P1)

Anyway, by that point in time, there "wasn't even a consideration" (P1) to continue nursing work, as it was no longer felt to be needed as a fallback option: "At that point I felt like I was going to pass med school, I didn't have to fall back on nursing." (P1) Also, they could let nursing go because they felt "emotionally and spiritually connected to med school at that point too." (P1)

3.3.2 Identified as nurses during preclinical years

Whether they continued to do nursing work or not, most participants maintained a strong nursing identity during the first two years of medical school – the preclinical years:

> Well mostly at the beginning where we had so little clinical exposure, I was just thirsting to kind of get back with patients. So, I think that was the period of my training where I felt still most strongly connected to my nursing background. (P13)

Some of the participants who were first-year students commented on how the cognitive tasks of their education created identity for them:

> With the practical skills, I feel a bit more like a nurse, because 99 percent of the time these skills are performed by nurses. And so, I feel like a nurse in those kinds of contexts. But with my observerships that I've done, it goes beyond the practical skills and then, it furthers my clinical reasoning. They probe me a little bit more about differentials, or what type of test you might order. So, I guess, in those contexts, I feel more like I'm working towards my identity as a physician. (P7)

3.3.3 Dual identities during the clinical years

As part of the transition process, it seemed common to hold two identities simultaneously, and numerous participants described having dual roles or "two halves:" (P5) both a medical student and a nursing professional at the same time. Some were comfortable to hold both identities simultaneously: "I'm an RN and a second-year medical student, that's how I would identify myself professionally. ... I'm happy to always identify myself as such" (P11) One participant even created the phrase "medical student nurse" to describe themselves to others. (P3) Others said they "haven't taken off that second hat yet," but they acknowledged that it "complicates things" to hold dual identities. (P5)

In particular, those participants who had worked in advanced healthcare roles found it very challenging to "go from that expert role into a role where as a student you're supposed to be like you know nothing, you're learning everything. It's really this huge

shift." (P6) On the one hand, they were "the person who people come to with all their questions," and on the other hand they were the ones "going with all the questions." (P6)

This experience of duality appeared most prevalent during the clinical clerkship years of their undergraduate training. During their early clinical placements, it seemed it was a comfort to take on nursing tasks because being a medical student felt awkward and the role felt ill defined:

> Patients would be there, and I'd be worried about giving them a pillow or getting them a drink or things that aren't my role. They're not bad things, they're just not my role. So, you kind of fall back to your habits and defaults. I think it's just because as a medical student you don't really feel that useful. (P9)

It may have also been comforting to the patients to know that the medical student assessing them was a former nurse:

> I find it actually puts a lot of patients at ease when I say, 'Oh, hi, my role today, I am a medical student and I've been sent here to ask you so and so, but I'm also a nurse.' So, you know, it kind of puts them at ease that I have that medical background. (P11)

3.3.4 Importance of context

Physical context would either help or hinder the participants in shedding their nursing identity. Simply being in a clinical setting could cue their nursing identity: "If I were to walk into a hospital tomorrow and like have a placement or something like that, I'd probably feel more like a nurse in the hospital than I would a medical student." (P10)

Those participants who did placements in locations where they had worked previously as a nurse found it quite challenging and they "had to consciously not do the nurse's work. " (P9) One participant was working as a nurse and doing a clinical placement as a medical student in the same location during one period of time:

> During that elective I was still working casual shifts. So, one day I was with [Dr. X] in street clothes and a red lanyard and then the next day I would be in scrubs working a shift. And then I was a mess! [laughs] I was still in this lost identity of I didn't know who I was or what my job was supposed to be. (P1)

When that same participant (P1) relocated to a completely new environment, it created a disconnect from their nursing identity:

> I think when I showed up in [Town A] it was an environment where I had never been a nurse before. Whereas in [City X] it was known that I had been a nurse before. And so, in [Town A], off the bat, I was identified as one of the medical students. And so, then that was it. It was like the end of this nursing identity. (P1)

Different clinical settings made it easier to switch roles for some who were still actively occupying dual roles:

> As far as my role as a [nursing professional], I'm pretty comfortable now just taking that off and stepping out of that role completely. Then when I'm a medical learner, I'm a medical learner and I'm quite comfortable taking a step back and go see the patient, do my assessment, do my history and everything and then report to my preceptor. But I'm not a [nurse professional] in those settings, for sure. Yeah, then when I'm in the clinic [working a] three-hour walk-in clinic, I'm a [nurse professional]. (P5)

3.3.5 Still performing nursing tasks

Beyond the subjective sense of identity, participants articulated how they struggled to relinquish many of the deeply engrained tasks of nursing. For various reasons, participants felt compelled to still perform tasks that typically fall in the nursing domain.

Sometimes, the boundary between nursing tasks and physician tasks was not clear, and it created cognitive dissonance: "One thing I struggled with at the beginning doing in first year is knowing where the responsibility switched from doctor to nurse. That is actually quite a bit challenge, I think, for nursing going to doctor." (P12)

Some participants could not in good conscience leave a patient waiting for their nurse:

> I went in and a patient had to use the bathroom. But he needed to go to the bathroom now. ... I don't know what your nurse looks like, ... I'm not going to go running around looking, so I just helped the person to the toilet. (P4)

Spending additional time on nursing tasks may have put some participants at a disadvantage in comparison to their non-nursing peers:

> Again, it depends on how you look at it, but the disadvantage was me spending a little bit too much time with patients. When I would go into a room if they would say, oh can you get me my urinal? Yeah, fine. Can you tell the nurse about my diet or whatever? OK, yeah, I would do it. If they were falling in the bed, I would call the nurse, wait for the nurse and help the nurse boost the patient. So, I was doing nursing things. (P12)

It was believed that their peers would not be distracted by these tasks, and they would not be spending that extra time: “Of course, my classmate, who never nursed before, wouldn't touch the patient.” (P4)

One participant describes how a preceptor helped them to recognize the importance of spending their time on tasks associated with their new role as a medical learner:

> He said, ‘What are you doing? You need to realize that now your time needs to be focused on different tasks and not nursing tasks, because the time that you spend getting sandwiches or warm blankets -- it’s very nice -- but it’s taking away from the time that you’re spending solving clinical problems or seeing patients as a physician.’ (P1)

3.3.6 Losing nursing skills

As the participants left behind those nursing tasks, some felt a sense of loss:

> I find doctors don't touch patients. I actually miss doing catheters and IVs and needles. I liked doing that stuff. I don't do any of that now. It's always, ‘Get the nurse’. I'm like, well let me do it. I can do it. (P12)

Another participant lamented, “I feel like I’ve lost all of my clinical skills from a nursing standpoint.” (P2)

Conversely, other participants felt that they would not be losing anything as they transitioned into medicine. They described it as a continuum, or a building upon knowledge and skills: “For the most part, all of my nursing skills were transferable into medicine. Medicine just swallowed them all up. Medicine just swallowed up my

nursing." (P4) For some, medicine felt like "just another step within the same sort of field" (P7), echoing a notion of medicine and nursing as "almost a continuum:" (P10)

> I probably don't think that nursing and being a physician are worlds apart. I just think of it almost as a continuum for me. I don't see myself even changing jobs. I know it sounds weird, but it's just me continually trying to get better at helping people. I know my title will change and a lot of things will change, but at the end of the day I'm going in somewhere, assessing a patient, trying to figure out what's wrong with them, and then trying to help them get better and that's what I did as a nurse too. I don't see it as a big change. I just see it more as continuing down the same track. (P10)

Overall, the biggest concern that the participants expressed was losing the close relationship with patients. Certainly, there was a sense of not having as much time to spend with patients, particularly in the hospital setting:

> Nurses spend a lot more time with your patients. Physicians have to see typically a lot more patients for shorter periods of time, but both roles get to know your patients really well. But I know some physicians who've gone from nursing and felt like, 'Wow, I don't get in on the patients anymore,' because it's… Like, you do, but you're not spending all that time and getting to share those experiences over days or weeks with them, so it's a bit different. (P3)

With less time to spend with patients, there is a sense that it will be harder to build a rapport:

> I guess I'm losing the ability to build a stronger rapport with my patients, especially in my medical training. Because you see a person for 15 minutes. So, instead of taking care of someone for 12 hours, I'm going to see you for 15 minutes. And, then I may not see you again for four weeks. So, the development of that therapeutic relationship takes longer. So, with nursing you tend to earn that relationship much faster. It's not the ability, because I can still establish it and often I will in just one visit establish it. But you don't get to know the patient as well, or as much information. (P4)

Many felt that the culture of medicine is distinctly not patient-centered, and most participants expressed a desire to hang onto the patient-centered approach from their prior nursing career. There was a fear that as they become indoctrinated as physicians that they will lose that special connection to the patient:

> One of the things I learned a lot over the years, is that nursing is really patient-centred. ... And then physicians I feel because there is so much other stuff to consider, like there is like the biology and pharmacology and all these different aspects that you learn about, I kind of worry that the patient is maybe going to get like shoved off a little to the side. That I might not have the same relationships with the patient as I have in the past. Hopefully if I find it's happening, I would notice it and maybe I would be able to put the patient back into the centre of the relationship. I just don't want to be a physician that racks through the numbers just to get paid. (P6)

Contrarily, one participant expressed an expectation that as a physician they would need to maintain emotional distance from their patients:

> I think being a physician requires a degree of creating a barrier, emotionally, between you and the patient. So, I think you lose a bit of that compassion, to protect yourself and to be efficient. At the end of the day, patients don't want to cry with their doctor. They want a doctor who's going to save their life and maybe the nurse can be there and provide the emotional support. It's just the transition going from being very empathetic and nurturing to a role that's a little bit more - It's just different. It's more you're thinking about the disease process, you're thinking about the pathology more than the person. But you are still thinking of the person, I don't want to say that you aren't, but you're just thinking more clinically than more emotionally. (P8)

3.3.7 When was the transition complete?

With all this push and pull of different roles, tasks, and identities, at what point did participants feel that they had crossed over from being a nurse to being a physician? Some felt that they left their nursing identity behind "quite quickly, quite easily" because they "didn't have a lot of time in [their] identity as a nurse, [and] didn't feel as attached to it." (P3) One participant felt they never identified as a nurse to begin with: "I felt like I couldn't really fully identify as a nurse. I identified more with, like, being a student and an academic." (P8) Generally, those participants who did not practice as nurses did not feel a strong identity as a nurse.

For most participants, it took more time. It seemed that the clinical placements of the third and fourth years were key to that transition: "I think that third year I got it out of me and fourth year I entered as a physician. " (P4) Or even a bit later for others: "Coming

back as a clerk in fourth year I was still struggling with it a little bit, just a little bit. To now coming back as a resident, I think I've finally made the transition." (P1)

By the time they had reached residency it seems that the strength of their nursing identity had waned: "Most of my nursing ways have sort of gotten to the background. By the time I hit residency, I think I was really mostly behaving as a physician. I don't think I revert back to my nursing very much." (P13)

The final act of giving up their nursing license and the title of 'nurse' was difficult for some:

> I still have a hard time with Nurses Week because I used to get to go to Nurses Week, and now I'm not allowed to say I'm a nurse and I had to give up my licence. So, losing that was hard. I kept my nursing licence the longest I was allowed to, because I didn't want to let it go. It very much was something that I prided myself in being. I was a nurse first. (P2)

For many participants, it was not clear if they had let go of their nursing identity, or even if they ever intended to: "I think I will always consider myself a nurse." (P10) Cognitive dissonance was apparent as they struggled to settle on either past or present tense to describe their nursing identity:

"I liked being a nurse. Yeah, I do like being a nurse, like I still am." (P5)

"But I did --I do, I still am a nurse --I do really love being a nurse." (P9)

As one participant put it:

> I don't really view myself as a nurse. I view myself as somebody who had a great experience as a nurse. I think there's a part of me, 'once a nurse always a nurse', will be what every nurse says, and to a degree that's true but that's only a part of who I was. (P13)

Another participant found a simple way to hold onto their nursing identity: "Now I identify as a resident and a retired nurse." (P1)

3.3.8 Summary

Early in their medical training, most participants still identified strongly as nurses. The exceptions were some of the participants who did not practice as nurses prior to entering medicine. The nursing identity was reinforced for some by continuing to work in the nursing field. Context was a strong identity cue, particularly when they were doing clinical placements in locations where they had worked as nurses. It was hard to leave the nursing role and its tasks behind; some participants expressed lament over the loss of nursing skills or the nursing title. Switching to a new environment was sometimes helpful in moving away from their nursing identity. It was common for the participants to have dual identities during medical training, and their nursing identity was still present for some even in their residency years. Many felt that they would always hold onto some element of a nursing identity.

3.4 The Influence of Hierarchy on Transition

The participants described a hierarchal system in healthcare, especially as it pertained to doctors and nurses. It is important to understand this context as it had significant effects on the participants' experiences as they transitioned from nurses to physicians. The influence of hierarchy was found across all the other themes in this study. As nursing students and as practicing nurses, the participants recounted negative consequences of the hierarchy in healthcare. Some of those experiences underpinned their decisions to leave nursing. As medical trainees, they described uncomfortable and stressful situations created by their shifting position within the hierarchy and the perceived re-aligning of allegiance from nursing to medicine. The context of the hierarchy added complexity to their professional identity formation as well.

Some participants felt confident to say, "there's a hierarchy in the health professions..." (P13), "there's always a hierarchy, like there always is." (P5) While others seemed reluctant to acknowledge it:

> I think there's definitely a power struggle there and, kind of, a hierarchy. ... It seemed like there's a lot of tension and it does seem like a lot of doctors feel that they're superior to nurses. And I have to be honest about that, and I hate to say it. (P8)

3.4.1 Being a nurse in the hierarchy

The participants shared many stories of what it was like to be nurses in this hierarchal system. These stories are important to understanding the complexities faced by nurses who transition to medicine. This section describes key experiences the participants had as nurses.

When they were nurses, the participants considered doctors to be at the top of this hierarchy. One participant laid out the basic hierarchal order: “It was like PSW, nurse, then doctor. And doctor was way above.” (P12) Doctors were described as “all knowing and all seeing.” (P1) and as “God-like entities that were geniuses and knew and would solve everything.” (P4) As nurses, many participants “found physicians fairly intimidating” (P5), or “cold and difficult to approach.” (P8)

Furthermore, some participants described a sense of inferiority as nurses, “I think I always felt like I was less than a physician” (P1), and “there’s definitely the ‘just a nurse’ mentality.” (P5) There was a sense that nurses were “just there to carry out the orders.” (P6) Doctors were described as authoritative: “Some physicians feel as though nurses are inferior to them and are more paternalistic and they should just do what they’re told.” (P9) When referencing the uniform worn by nursing students, one participant said, “I probably didn’t have the best relationship with my blue scrubs because [they] just make you feel like a number.” (P3) They described how their scrubs made them seem invisible to doctors: “I remember physicians who I personally know from the community would just walk right by me and not even notice who I was.” (P3)

Beyond feeling underappreciated or disrespected as nurses, participants described some unprofessional and even abusive behaviours of physicians. One participant described an encounter with a physician who was known “to throw temper tantrums”. (P9) The

participant was a new nurse at the time, “I don’t actually know what he wasn’t happy about but yeah, he threw x-rays, kicked a garbage can in my direction, ranted and raved, cursed and swore, and marched out of the unit.” (P9) Another participant witnessed an angry encounter between a physician and another nurse:

> He had to make a phone call and he got really upset, basically threw the phone at the nurse. ... And you can't report anything because you're working with them next week so you can't really do anything. So those are some experiences. (P12)

This “recurring pattern” (P7) of unprofessional behaviour was sufficient to create an environment in which many of the participants expressed feeling frightened to call a physician:

> You dread calling them. I remember being so, so nervous to have to page a physician because it’s this one physician that you know is just horribly abusive to nurses. Like, just not very nice at all. So, you would just dread it. But no, you have to call. (P5)

Another participant recounted how learning to overcome their fear of interacting with physicians was incorporated into their nurses’ training:

> I remember a huge part of my last year of nursing was my preceptor trying to give me the confidence to even call doctors on the phone. Like, ‘It's okay, if they get mad at you, don't take it personally.’ That was almost a huge component of nursing was learning how to interact with physicians. (P8)

As another participant explained, “When a doctor yells at you, you're not really inclined to call them back. So, my patient has a little bit of pain, oh it could wait until the morning for that Tylenol order. So, the patient's suffering when doctors yell at nurses over the phone.” (P12)

A particularly harrowing tale was shared by one of the participants:

> I got kind of berated on the phone after calling this physician to come in from home because I didn’t have the vitals and I didn’t have the sorts of things that they were looking for, like more objective findings, but what I did have was that I was very worried about the patient and I really needed them to be reassessed and that something was wrong.

> I felt very frustrated, I think I remember having to call that physician four times because they kept writing me off and having to say you know like – and charting so as well that I was – like I was scared. I didn't know what was going to go wrong but I knew something bad was going to happen because they kept deteriorating, but I didn't know how – I was so new I didn't know how to vocalize like what I was worried about, but it was enough that I felt like you know they needed to come and reassess.
>
> And the patient ended up being transferred out to a more tertiary hospital ultimately. But that fight to have to get the doctor to come in and to listen to me was not fun, and it's something I remember very vividly of being very scared and being kind of, 'Why won't you listen to me? You need to come in.' (P2)

One participant described a strategy they used when communicating with physicians that helped them to avoid direct conflict:

> Well, I always said there's two kinds of physicians. There's the kind that you can be direct with and call and say, 'Joe's been vomiting. May I give him some Gravol?' Or, 'I already gave him some Gravol.' So, then there's a type that you have to call and say, 'Joe's vomited 300 ccs of bilious emesis and is just extremely nauseated,' and lead them down the garden path. (P9)

Of note, "it's not necessarily just doctors mistreating nurses. ... it's even nurses mistreating other nurses or mistreating residents." (P13) There is a saying that "nurses tend to eat their young." (P1) Several of the participants endorsed that a bullying culture exists within nursing, typically perpetrated by senior nurses or "old-school nurses" (P4). As one participant described, they were:

> very, very mean. And worked you very, very hard. And would eat you. …like, any mistake you did, or come down on you. 'You didn't make the bed properly. The corner is not exactly straight. You need to do this better. You're not moving fast enough. What's taking you so long?' (P4)

For at least one participant, this sort of experience was "extremely stressful," and they described "crying on the kitchen floor. ... It was so anxiety-provoking going to the hospital, I just didn't want to go. It just really wasn't a positive learning environment. Definitely one of the most stressful experiences that I've lived to date." (P7) Another

participant labeled this behaviour as “instances of horizontal violence within nursing.” (P9)

3.4.2 Sharing the news of being accepted to medical school

Against this backdrop of hierarchy and power, some participants expressed mixed feelings about sharing the news of their intention to switch careers. Upon getting accepted to medicine, some participants conveyed feelings of guilt and wanted to downplay the significance of the change in career: “I just felt guilty that I was leaving nursing, that I didn’t want anyone to think that I was going onto anything bigger and better, just that I was going onto something different, I guess.” (P1)

Some found it hard to disclose the news to their nursing colleagues. One participant said it was “really awkward. Because of that whole hierarchy and because of the perception that nurses have of doctors.” (P8) They were sensitive to the possibility that their change in career might be interpreted as a judgement on the nursing profession: “I didn’t want them to feel like I was diminishing nursing by choosing to go somewhere else.” (P3) They received occasional sarcastic comments, like: “You are jumping ship and going to the other side.” (P5) Participants spoke of a sense of loyalty to their former profession: “being a [nursing professional] you have to spend a lot of time advocating for [the profession] and so you become bound to being a nurse.” (P5) Some felt they were betraying their colleagues: “I felt like such a traitor for leaving their club.” (P9)

Additionally, their nursing colleagues expressed concern that they would be forgotten or treated poorly once the participant became a doctor – that going to the other side would change them, generally for the worse: “Don’t forget your nursing background, and be nice to us, and don’t forget being on this side of it.” (P7) However, some of their nursing colleagues were optimistic and had faith that medicine would not change the participant and that the participant would come back as a good doctor who would treat them well: “They were very happy to see me back in that environment but in medicine. Because I feel like they’re like, ‘Finally, somebody gets it.’” (P3) There was optimism that a collegial relationship could be maintained:

> I think the fun thing about it is as a nurse and colleague, they can tell me what to do as a physician that's good and what not to do as a physician. So, it's always, Drew* when you're a doctor, make sure you don't do that. You know, Drew*, when you're a doctor, you're going to make sure you do this. You know, make sure you do things this way. So, the dynamic was the same. But it was fun because you get good points and build me up as a colleague. (P4) *Name changed to preserve participant anonymity.

3.4.3 Re-entering the hierarchy as medical trainees

During the preclinical years, although there were some elements of a hierarchal microcosm among medical students, they were somewhat sheltered from the harsher hierarchy of the larger healthcare environment. However, on the wards they felt immediately the difference of their position in the hierarchy:

> It was amazing. Upon starting medicine, you go from ... being the blue scrub nursing students ... to wearing your professional clothes and a red lanyard. Instantly the attention you get at the ward desks is so different. Instantly. (P3)

As medical students, sometimes the participants felt caught in the middle between physicians and nurses. There was concern that they would appear to have allegiance with their physician preceptor, even when their preceptor behaved in a manner that did not align with their own values. One participant describes a particularly distressing situation when they were witness to an encounter between their preceptor and a former nursing colleague:

> I might be working with a preceptor, and my preceptor might be a little bit short with them or something and I'm standing there beside the preceptor, also looking at them. I feel very awkward because I'm like, oh, this is my friend, I don't want them to view me differently. Like, I want them to view me as Alex* the way I've always been Alex*, but now they're viewing me as this medical student that's writing in the charts and might be working with a doctor that's not being super friendly with them, and so it's awkward. (P8) *Name changed to preserve participant anonymity.

3.4.4 Giving orders instead of following orders

Writing orders for nurses caused some emotional dissonance. They felt empathy for the nurse who had to carry out their orders and it gave them pause to consider what they were asking the nurse to do:

> It takes five seconds to write [the order] out and now, it's the nurse who has to do it for the next 12 hours or carry that task out. And that's hard. And so, even as I'm writing something, I'm aware that I'm not the one who has to do it. Now the nurse has to do it. So, you ought to take that into account a little bit too, right? (P8)

Sometimes they would do placements in locations were they had trained or worked as a nurse previously. Working with a former colleague, but in a different role, created a strange dynamic. One participant described some pushback from a former nursing colleague that, although it was interpreted as playful, demonstrated some of the awkwardness in giving orders to friends after taking on a different role in the hierarchy. While working as a resident with a nurse whom they had gone to nursing school with, they gave an order:

> 'Your IV on this arm is interstitial, we need to get another IV.' And [he] looked at me … and rolled his eyes. And I shut the IV and turned off the clamp and five minutes later I said, 'Jeff*, you need to take this IV out. It's interstitial.' And he ignored me and then I finally took it out myself." (P1) *Name changed to preserve anonymity.

The participant saw this as "collegial rapport" that allowed them to "tease each other." (P1) It was seen as evidence of a relaxed and friendly working relationship. However, this nurse's behaviour would likely have been seen as unprofessional and disrespectful by most physicians.

Another participant described how it was "a little bit of a struggle at times," and there was "just a little bit of tension" that left them wondering "Did I do something?" (P8) They elaborated:

> I think it's just because I went through school with some of these nurses and they've always seen me as Alex* and I think maybe now there's a bit of ...power struggle between nurses and physicians. Now they're struggling too because they're having to view me a little bit differently

> and maybe that makes them a little bit uncomfortable. I know it makes me a little bit uncomfortable." (P8) *Name changed to preserve participant anonymity.

3.4.5 Revealing or concealing their identity as a former nurse

As their role within the system shifted, it was confusing to know their place in the hierarchy. Previously, as nurses, some had felt a sense of inferiority. How they fit in as medical students and former nurses was complicated at times. It is not uncommon for seasoned nurses to give the average medical student a hard time. The participants generally found that if they played their nursing card in those moments, they could get "a little extra edge." (P12) Revealing their identity as a former nurse was often beneficial:

> I love being able to be the med student, but then be like, 'Yeah, I was a nurse,' because it's so helpful to have the nurses on your side. So, I can say that and kind of makes them friends, as a med student. (P3)

However, sometimes a participant would choose not to disclose their former nursing identity, and this created uncomfortable moments where nurses felt perhaps that the participant was arrogant or over-confident in their position as a medical student. One participant described a struggle trying to find their position in how to relate to the nurses: "The first month I didn't tell them I was a nurse because I didn't want to ... add more fuel to the fire." (P2) They sought advice from their preceptor, and he said:

> I think that what's going on is that they don't think that you know your place and they have an opinion of where you should be for your level and you're not there. You're behaving like you know more than they think you should and therefore they're trying to put you back in your place. (P2)

So, it was complicated. When they stand with a physician preceptor, they are aligned with them in the eyes of the nurses. If that preceptor treats nurses poorly, it puts the participant in an awkward position. Conversely, when they are on their own, they are taken down a notch by the nurses unless they can create an alliance with them, usually by playing their nurse card and revealing their identity as a former nurse.

3.4.6 Gaining an insider's view of the physician role

Over time, as they donned more of the roles and responsibilities of physicians, they came to realize that they'd had some misconceptions about the career. When they had been nurses, it was difficult to have an accurate or objective view of the roles and responsibilities of physicians.

Moving up in the hierarchy was not necessarily all it was cracked up to be. They had worked hard to get into medical school and that had been the goal – not many had considered much about what came after that: "I was working so hard just to be able to get into medical school and once you got in it was like, 'Now what?'" (P2) Now they were gaining some firsthand insight:

> When I was a nurse, I used to think of physicians as making lots of money, having lots of flexibility. I didn't necessarily recognize that they didn't take breaks or that they worked as long straight hours as they did because I would just see them for a moment here and there, and I think that I also underestimated the amount of studying and knowledge that they have. ... I didn't realize kind of the burden of the job. (P2)

"As a nurse, when something goes wrong, you call the doctor," (P4) but soon they will be that doctor. The realization that they are going to have that responsibility was like "a big, big ball to pick up" and was the "scariest thing." (P4) Some participants lamented:

> Maybe I'll go back down to nursing and the only other reason is the change of responsibility. ... Sometimes the overwhelming responsibility that we have as physicians will make me think, 'Oh why don't I be a nurse?' ... I think that thought might cross many people's minds. (P12)

As they shouldered more of the responsibilities of being a doctor, they started to have empathy with the doctor's position:

> I now understand the doctor's perspective. ...For instance, when I was a nurse before, I was scared to talk to the doctor because they would yell at me. Now I know why the doctor was yelling at them. If I have a nurse calling me at 3:00 a.m. and I literally just left the hospital and got to bed at 12:00 and you're calling me for a Tylenol order ... or something of the sort. And the patient doesn't even have a fever, why

> are you calling me? Or you know I just worked a 100-hour week and you're calling me for this? (P12)

They now have some insight into physician behaviour:

> When I used to see them swoop in and take over, I've recognised they're doing that for the patient. They're doing that because they want to do their own assessment and it's not that they think my assessment is not good. They just need to do that for themselves, and I see that now. (P5)

3.4.7 Working to create a more collaborative system

Ultimately, they wanted to strive for change in the system. Many participants had negative experiences that were borne out of a hierarchal system in which abuses of power occurred. They wanted a more collegial work environment and thought having genuine empathy for both nurses and physicians would likely aid interprofessional collaboration:

> Having gone through nursing myself, I know how difficult it is, so I think the way that I speak with nurses sometimes is a little bit more gentle because I have that understanding and I know where they're coming from. I know how hard it is to be there. (P8)

They described knowing how to work with nurses and valued their contributions: "I'm so grateful for their role because it's something I can't provide. And they also just spend so much time with the patients and can tell you so much. They really help me out." (P8)

> Nurses are your best friend. Nurses are your eyes and your ears and they're like your instruments. It's like, you have your medicine bag of all your instruments. They're like the most important instrument there. You need to listen to your nurses. Talk to your nurses. (P4)

Having been nurses and understanding the influence of power and control within a hierarchal healthcare system, the participants felt they were in good standing to influence change. Many participants described healthy work environments where the negative influences of the power hierarchy were mitigated. Often these were environments that fostered familiarity between physicians and nurses, such as small community hospitals, or special care units: "It depends on the environment, and it depends on the relationship and the time that you spend with the physicians." (P5) One participant, who previously described feeling invisible or "like a number" (P3) in the blue scrubs worn by nursing

students, found that those same scrubs made them stand out during a placement at a rural hospital: “Being the only nursing student, I was sought-after, and [physicians] wanted to find me to teach me things. ... So, it was a really positive experience.” (P3) Another participant described their experience of working as a nurse in a small rural hospital:

> It was just the physicians and the nurses most of the time and when you spend that much time together, they value your opinion. They ask you what you think. They involve you in healthcare decisions and they listen to you. You know, sometimes patients are very sick but there’s no concrete reason that you can say yet and you say, ‘I’m really worried. Someone’s sick.’ They trust you and they come and they assess things. (P9)

A similar collegiality was described in certain settings within large hospitals:

> The [special care unit] is a very focused specialized unit and they would do rounds. I found that was a very good experience because every day the doctor is one on one. So, every day, the doctor and his team would come, and you would have a conversation and talk about everything. I felt that that was a great thing because everybody knew what was going on, what was the plan, everybody had input. Everybody was listening to everybody. (P12)

Overall, it seems that when doctors and nurses are able to develop working relationships, it levels the hierarchy somewhat: “I think they saw me as a colleague versus just a nurse.” (P5) As medical trainees fostering safe collegial relationships with nurses, they found there could be more open communication, and this could promote better patient care:

> I see [nurses] as an invaluable part of our team. There are so many times that nurses that I’ve worked with, or I haven’t worked with, have had my back and have caught something that I’ve missed or let me know about something and they’re … I can’t put like a price on … they’re just … I just want to hug them and say, ‘Thank you, thank you for looking out for the patient.’ (P1)

3.4.8 Summary

The journey from being a nurse to being a doctor is not a simply a change in identity. The participants had to navigate socially and professionally challenging shifts in position within a complex hierarchy. They understood what it was like to be nurses in the system, and therefore had empathy and admiration for that role. Having experienced abuses of

power within the system, they did not want to be seen as aligning with those who wielded power – yet, sometimes they had no choice. Paradoxically, as medical students their position in the hierarchy seemed to shift to one that is beneath nurses, and at times they could be exposed to mistreatment by nurses. To avoid these uncomfortable encounters with nurses, they found sanctuary by revealing their former identity as nurses. However, there continued to be challenges and discomfort with writing orders for nurses who were former colleagues. Overall, the participants held onto a goal of becoming physicians who could work collaboratively as team members to provide compassionate and safe care to patients.

Chapter 4

4 General Discussion & Conclusions

The purpose of this study was to explore the experiences of medical education for nurses who retrain as physicians. Within that exploration, we identified four compelling thematic areas:

1. The reasons the participants chose to switch careers.
2. How these former nurses adapted to being medical students and residents.
3. The shift in professional identity.
4. The influence of the healthcare hierarchy on the participants throughout their journey from nursing to medicine.

The findings as they pertain to the first three topics will be briefly summarized in this section, with a deeper discussion at the end of the overarching theme of hierarchy.

4.1 Reasons for changing careers

Main finding: Some of the participants used nursing as a natural stepping stone to medicine. The remaining participants left their nursing careers due to untenable work environments and limitations of the nursing role in a hierarchal system.

Overall, there is a nursing shortage in Canada with reports of the loss of one third to two thirds of newly graduated nurses within the first two years of practice.[36] In fact, according to the World Health Organization, there is a shortage worldwide.[37] The Canadian Health Workforce Network and the Canadian Federation of Nurses Unions jointly published a report in which they state that "the nursing shortage of 2022 is most certainly a crisis."[38(p9)] They report some worrisome statistics for nurses: 50% wish to change jobs, 94% are burnt out, and 83% worry for patient care due to understaffing.[38] According to Statistics Canada, the vacancy rate in 2022 for nursing positions had more than tripled over the previous five years.[39]

Commonly cited reasons for leaving nursing include high patient loads, inability to provide high-quality patient care, poor job satisfaction, lack of support (managerial and collegial), social/personal impact of shift work, burnout, inadequate pay, low quality of teamwork, and few possibilities for career development.[40-42] The participants in our study cited many of those same reasons, although inadequate pay was not mentioned as a significant factor. Overall, they felt that nursing is a noble profession and generally carried a great deal of pride in being former nurses. However, they felt that the system does not value the work of nurses, specifically bedside patient care. Nurses are expected to do increasingly more non-nursing tasks that take them away from the bedside. An inability to provide the quality of care they feel patients deserve was a strong factor for our participants.

As nurses, the participants valued the time spent with patients and how well they got to know their patients. No other member of the care team spends as much time with patients, and they were frustrated by the lack of respect given to them and their role. They felt that they could have contributed more to patient care if they could have a say in patient management plans or make some of the minor management decisions on their own. This concept of clinical autonomy is noted to be valuable and important to nurses.[43] The expectation that they would follow orders, even if they did not agree with them, was infuriating to some of our participants. Furthermore, feeling powerless in situations where they feared for the patient's safety was highly distressing. Interestingly, this lack of clinical autonomy as a reason to leave nursing was not a common finding in the reviews by Goodare,[40] Flinkman et al.,[41] or Bahlman-van Ooijen et al.[42] Only one paper in the review by Flinkman et al.[41] cited it as a factor. Desiring more clinical autonomy was a strong reason among our participants for leaving nursing. It is possible that it is more relevant to the subgroup of nurses who leave the profession to pursue medicine, as it was also commonly cited in studies and grey literature involving that population.[5,11-13,15,19]

Some of our participants felt limited as nurses regarding the minimal level of knowledge they were expected to have. The reviews by Goodare[40] and Flinkman et al.[41] found that limited opportunities for career advancement were among the most common reasons for

dissatisfaction with nursing, although this was not specifically about attaining more medical knowledge. The participants in our study wished to have a greater understanding of medical science, for their own intellectual satisfaction, but also for the goal of providing better patient care. They perceived barriers for nurses to attain greater knowledge, and it was apparent that the level of knowledge they sought was that of a physician. Hence, it made sense to them to retrain as physicians.

Our participants shared many of the same reasons for leaving nursing as the general population of nurses who leave the profession. However, a desire for more clinical autonomy and more knowledge were particularly compelling reasons among our participants and these factors are not commonly cited as significant reasons in the larger population.

4.2 Adapting to being medical learners

Main finding: The participants were not like other medical students. They stood out from their peers due to their advanced clinical knowledge and comfort in clinical environments. This was both advantageous and discomforting.

As medical students these former nurses differed from their peers. At times they enjoyed the recognition of their advanced clinical skills and knowledge but at other times they wished that they could just blend in with everyone else. There was no avenue to allow advanced standing at their medical school. The participants desired formal acknowledgement of their advanced knowledge and experience, while simultaneously fearing that they might not receive as much instruction as their peers due to assumptions that they already knew everything. This same cognitive dissonance was expressed by participants in McLean's[5] study of three nurses in medical school and in the lay press.[16]

Our participants reported that they were often sought out formally and informally as peer teachers and not all of them were comfortable with that. McLean's[5] participants seemed to express some resentment at being called on to teach their peers, while at the same time not receiving credit for their advanced knowledge. Our participants did not express resentment in being called on to teach, but some of them developed strategies to avoid

this as they feared that they may not teach appropriately for what is expected of physicians.

At times our participants felt pressure to live up to expectations which made it difficult for them to just let down their guard and engage in learning like their peers. This was sometimes related to assumptions that they have already mastered certain topics, but some individuals felt that they were representing the field of nursing and did not want their performance to reflect poorly on the profession. Experiencing an increased awareness of performing to expectations erodes psychological safety.[44] Psychological safety empowers interpersonal risk-taking that is an important element of engaged learning.[45] So, some of our participants may have been disadvantaged by perceived expectations that they should demonstrate a certain level of competence or mastery above their peers. They may not have had the benefit of a psychologically safe learning environment.

However, our participants reported that having some prior knowledge in clinical skills allowed them more time to focus on the foundational sciences, which they almost universally found to be quite challenging. In comparison to their peers (some of whom come from non-science backgrounds), there should be no reason for the foundational sciences to be more challenging for former nurses. Perhaps it was the juxtaposition to their comfort in the clinical skills that made the participants feel disadvantaged in the sciences. Other possible explanations include their experience of returning to formal education as mature learners, or the self-directed nature of the curriculum at their medical school.

During clinical placements, the participants felt they benefited from their pre-existing clinical experience. This is no surprise and is certainly echoed in other reports.[10,11,13,19,20] The clinical realm was familiar to them, and they could take benefit from prior relationships with nurses on the wards. McLean & Pecoraro[9] also noted this use of prior identity as social ‘capital’, whereby their nursing identity provided leverage with nursing staff.

Our participants described awkward moments like giving orders to a former nursing colleague, or more distressing moments like standing by while a physician preceptor reprimanded a former colleague. There is some mention in the lay press of awkwardness when working with nurses in a new role as a medical trainee,[11] but specific examples are not provided.

Our findings provide a more nuanced understanding of the ambivalence nurses feel as medical students regarding their clinical knowledge and their status relative to their non-nursing peers. One moment they feel advantaged, and then the next moment they feel undue performance pressures or social distress.

4.3 Reconstructing a professional identity

Main finding: For those participants who had practiced as nurses prior to entering medical school, there is a phase in which they hold dual identities, and either identity may be cued in various contexts. Although the nursing identity eventually fades into the background, it is not fully extinguished during the course of medical training.

Among our participants, those who went directly from nursing school into medical school did not express a strong identity as a nurse and generally adapted a singular identity of medical student quite readily. McLean & Pecoraro[9] also found that how long an individual had worked in their former health profession was a factor in how readily they transitioned to an identity of medical student. In our study, most of the participants who had worked as nurses held on to their nurse identity throughout their medical training, and this was seen in other studies as well.[5,9] Matthews et al.[8] observed that medical students with a prior professional identity had to "hold back"[8(p613)] parts of their former identities. Similarly, many of our participants experienced having a dual identity of both nurse and medical student which required shifting from one to the other, hence the metaphor of changing hats. This same phenomenon was observed by McLean & Pecoraro.[9]

Physical or social contexts aided or hindered our participants in being able to take on the role or identity expected in any given setting. This was also noted by McLean &

Pecoraro.[9] Context plays a large role in identity. We take on different identities depending on social context.[46-48] For example, an individual may have a professional identity in their work environment, but then at home identify predominantly as a parent or a spouse, and whilst out shopping they may identify primarily as a customer. Similarly, the participants found certain social cues would reinforce their identity as a nurse, such as a patient needing assistance to the bathroom, working with former nursing colleagues, or simply being on the hospital ward. Conversely, being placed in an unfamiliar environment or working on school assignments made it easier to move away from the nursing identity and take on more of a medical student identity.

Ultimately, even as residents, the participants still held onto a nursing identity in some form. However, further along in their training, there seemed to be less need of changing hats and switching between roles or identities. Instead, there was a blending of identities or specifically bringing something from the old identity to the new one, a concept referred to as "patching" by McLean & Pecoraro.[9(p16)] This could be viewed as developing a "hybrid" identity[9(p15)] as opposed to a dual identity. There is potential for significant benefit in having a hybrid doctor-nurse identity as it pertains to the evolving field of interprofessional collaboration, and more specifically the concept of "interprofessional identity."[49(p2)]

4.4 Hierarchy as an overarching theme

Previous studies regarding nurses or health professionals who retrain as physicians have focused primarily on professional identity formation. In our study, using a grounded theory approach to the data, the theme that emerged more strongly was that of hierarchy and its influence on the participants before and during their medical training. This section of the discussion will focus on that overarching theme.

In the analysis of the data, the influence of hierarchy was everywhere, cutting across all the identified themes. Some of the effects of this system contributed to their decisions to leave nursing. As medical trainees on the wards, they faced discomfort and uncertainty as their position in the hierarchy shifted. Most significantly, this hierarchy complicates the development of their professional identities. Overall, the participants' prior experiences

as nurses within the medical hierarchy caused emotional and social dissonance for them as medical trainees.

4.4.1 The medical hierarchy

The existence of a hierarchal system in healthcare is well known.[50,51] Beyond the formally acknowledged ranking systems such as 'chief of staff,' 'division head,' 'chief resident,' etc., there is a tacit pecking order that is not formally documented or acknowledged, but it is the source of discussion in online forums for medical students[52,53] and portrayed in television shows and movies. In this unspoken hierarchy, nurses hold a position lower than physicians, but they seem to rank higher than medical students and sometimes higher than residents.[54] Unfortunately, dysfunction within medical hierarchies seems to be pervasive.[55-62] Tribalism is common and creates barriers to interprofessional collaboration as it creates an "us versus them" dynamic.[51(p2)]

Hierarchy creates power differentials across the ranks and historically nurses are placed in a subservient role to physicians.[50] In this context, a "doctor-nurse game" was described by Stein[63(p699)] in 1967 and appears to continue to this day.[64-66] This game is a means by which nurses make recommendations to physicians about patient management, disguised as questions or as a patient report.

The goal of the game is for the nurse to obtain a specific order from the physician without overtly stating what they feel is needed. It needs to look like it was the doctor's idea so as not to undermine their authority. One of the participants in Matthews et al.[8] study made specific reference to this game in describing the hierarchy in medicine and how their former experience in the Army helped them to cope with it. One of our participants also described their use of this strategy as a nurse when communicating with physicians. This 'doctor-nurse' game has been frequently criticized as evidence of a dangerous power differential in medicine that makes it difficult for subordinate individuals to speak up.[65,67,68] Darbyshire & Thompson[58] discuss how this "dysfunctional interprofessional communication"[58(p363)] was a factor in the deaths of more than 650 patients at Gosport War Memorial Hospital over the course of 11 years.[57,69]

Other negative impacts of dysfunctional medical hierarchies include moral distress, amplified burnout, decreased empathy, hampered learning, decreased job satisfaction, incivility, and endangered patient safety.[62,70,71] The data from our study shows evidence of many of these effects, and participants shared many stories illustrative of dysfunctional medical hierarchies. However, the data also contained stories of healthy workplaces and good teamwork. What factors help or hinder the maintenance of functional teams within the medical hierarchy?

The context of the workplace plays a large role in how individuals relate to one another. Braithwaite's team[51] was able to demonstrate that nurses, doctors, and allied health professionals can function collaboratively when removed from their clinical settings, suggesting that dysfunctional behaviours are not solely derived from differences between individuals in these professions. However, those individuals in leadership or in senior positions have power to influence the cultural and relational norms in a clinical workplace.[67,68,72]

Positive interpersonal relationships (friendships) across disciplines promote good teamwork. These cross-group friendships are considered by some to be crucial for successful intergroup relationships.[73] In our data, the participants often maintained amicable relationships with their former nursing colleagues during their medical training and therefore may be good ambassadors for interprofessional collaboration. Furthermore, the participants described positive work environments that existed when a sense of community is established. This often occurred in small community hospitals but was also described in certain in-patient settings such as special care wards (e.g., a neurosurgical ward, or a burn unit). In these circumstances, smaller groups and repeated exposures to the same individuals promote familiarity. Contrarily, we can appreciate how the transience of learners (nursing or medical students) or staff (nurses who are frequently relocated throughout the hospital) undermine the development of a sense of community and thereby hamper efforts to build functional teams.[65]

4.4.2 Oppression within the medical hierarchy

Dysfunctional medical hierarchies create an unhealthy power differential that subjugates nurses.[59,74,75] As a result, it is argued that nurses experience oppression within this system.[76,77] In our study, the participants described many examples of oppression and oppressed group behaviours.

In describing the medical hierarchy, it was not merely an acknowledgement of a chain of command. Our participants made many references to abuses of power by those in a higher position. In their careers as nurses, they experienced or witnessed abuse from physicians in the forms of physical violence such as the throwing of objects, or verbal abuse such as being yelled at or belittled. It is possible to have functional, healthy workplace hierarchies.[78] However, the stories shared by the participants and an abundance of evidence in the literature suggest that dysfunctional, oppressive hierarchies are common in medicine.[57,59,62,67,75,77]

An oppressive environment, such as the one described in medicine, promotes oppressed group behaviours. Paulo Freire[26] described the salient features of oppressed group behaviours: assimilation, marginalization, self-hatred, submissive-aggressiveness, and horizontal violence. I will define each of these behaviours and describe their presence in our data.

Assimilation, in the context of oppression, refers to the acceptance of the dominant group's values and norms as the 'right' way of knowing and being.[26] The oppressed group is unable to express or practice their own values and norms, sometimes to the point where they no longer know what those are. As the oppressed group is assimilated into the culture of the dominant group, they may feel that the only way to gain power is to become more like the members of the dominant group. In healthcare, the medical model, with an emphasis on curing, is held as the predominant view and all healthcare professions are subsumed under the physicians' control and direction.[56,76] This is most evident in hospital settings, where all patient care is directed by doctors' orders. The system is structured to support and reinforce the physician-centred, cure-focused medical model and undermines the 'care worldview' held by nurses.[56] For example, increasing

administrative demands on nurses and larger patient loads leave little time for bedside care. This was a common lament from our participants in describing why they left their nursing careers. It is also possible to interpret their leaving of nursing to join the ranks of physicians as a form of assimilation.

Marginalization, as a type of oppressed group behaviour, is experienced by individuals from the oppressed group who align themselves with the dominant group. They cannot become full members of the dominant group, because they retain identifiers of the oppressed group and because the system is structured and controlled by the dominant group to keep subordinates in their place.[26] So, they exist on the margins of the dominant group. At the same time, they are rejected by their own group because they exhibit behaviours of the dominant group and are seen as traitors. In hospital settings, the Charge Nurse or other nurse leaders experience marginalization of this nature. As they take on roles to assist in upholding the structure and function of the hospital system, they align themselves with the dominant worldview of physicians, and thereby are often held in disdain by the nurses they oversee.[76] This phenomenon may explain the discomfort that some of our participants described as medical students working alongside former nursing colleagues. They felt a sense of guilt and feared they would be seen as traitors. Some tried to hide their acceptance to medical school for as long as possible from their nursing colleagues.

Self-hatred and low self-esteem are also described as 'internalized oppression.'[26] As the dominant group's norms and values are internalized and seen as superior to their own, oppressed individuals develop low self-esteem and a silencing of the self. Nurses express low self-esteem when they describe themselves as 'just a nurse' or indirectly by supporting a view of physicians as 'superior' to them. They silence themselves when they hold back their ideas on patient care or they negate the contributions they make to patient care.[76,79] In our study, participants spoke of feeling inferior as nurses and even having negative associations with the uniform of nursing students because it made them feel invisible to doctors. As nurses there was a reluctance to speak up to doctors, and they would seek validation from nursing colleagues to ensure that a phone call to a doctor was warranted before making the call.

A submissive-aggressive syndrome is displayed as the oppressed group feels aggression toward the dominant group but cannot express those feelings due to fear of retaliation. Hence, they are submissive in the presence of the oppressor, but then release their frustration through bad-mouthing the oppressor in their absence, or their anger is released on other members of the oppressed group as horizontal violence.[26] Horizontal, or lateral, violence can be described as overt or covert acts of aggression towards other members of the oppressed group or towards those less powerful than themselves.[80] In nursing, this phenomenon is described as 'eating their young.'[80] It is also seen in the mistreatment of medical learners (students and residents) by nurses.[54,71] The participants in our study used phrases like 'eating their young' and 'horizontal violence' in describing instances of bullying among nurses. Many had been victims of this behaviour when they were nurses. Furthermore, some described being bullied by nurses as medical trainees whereby they found the strategy of revealing their identity as a former nurse gave some protection.

The 'doctor-nurse game'[63] can also be seen as a form of submissive-aggressive behaviour. It is a covert means of communication employed by nurses to avoid offending the physician's ego while voicing an idea or specific request. Ultimately, the game is to ensure that any plan of action appear to be the physician's autonomous decision and not that of the nurse. There was evidence in our data of this phenomenon as well.

Our participants' stories contained many references to oppression and many of their experiences can be understood through this lens, particularly when viewed as oppressed group behaviours.

4.4.3 Identity transition in the context of hierarchy

In understanding the medical hierarchy and the oppression of nurses within that system, we can appreciate that switching careers from nursing to medicine is socially and emotionally more complicated than other career changes might be. One way to interpret the identity transition of the participants is through social identity theory and the moving from one social group to another. This interpretation is further developed by also incorporating what is known about oppressed group behaviours.

According to social identity theory, part of our self-concept or our individual identity is formed by the social groups to which we belong (our 'in-groups').[48] We belong to numerous social groups simultaneously, based on identities such as gender, age, ethnicity, religion, employment, and even things like smoking status (smokers vs. non-smokers). It is apparent that some of these social identities are not fixed.[46] We frequently, even over the course of a day, experience fluctuations in which of our identities is strongest (identity salience). For example, while we are at work we associate strongly with our professional identity, however, at home we may more strongly associate with an identity of parent or partner. These short-term fluctuations generally do not threaten our overall self-concept. However, some social identities undergo long-term changes which can be more difficult. We may leave one in-group to become a member of a former 'out-group.' The degree to which these two groups are congruent or incongruent in their values, norms, and goals will determine the ease with which an individual can transition from one group to another, or potentially maintain membership in both groups simultaneously.[46,48,81] If there exists an intergroup hierarchy, this furthermore complicates movement from one group to the other.[48,81]

Cognitive dissonance theory states that an individual's "neural network"[46(p3)] will resist forming a strong association between the self and a social group when the new group has attributes that contradict the attributes associated with the self or with the individual's current in-group.[46] When an individual moves from one social group to an "incompatible"[46(p4)] social group, it creates cognitive, emotional, and moral dissonance. In addition, if the individual is moving between social groups within a hierarchy, there are additional stressors such as the risk of marginalization and feelings of guilt or shame in donning the identity of the oppressor.[26]

The participants in our study experienced complex social stressors due to shifting positions within an oppressive hierarchy and moving from an oppressed group (nurses) to a dominant group (physicians). These stressors seem to be unique to this population; surprisingly, these experiences are not reported by other medical learners who come from other health professions.[7-9] One would expect that other health professionals would report some similar experiences upon transitioning to medicine, given that the hierarchy in

healthcare includes disciplines beyond nursing and medicine. However, the specific relationship dynamics between nurses and physicians likely underpin the complexities seen in our study. Alternatively, it may be that studies to date have not set out to specifically examine this phenomenon and therefore it is not reported.

4.5 Strengths, Limitations, and Implications

4.5.1 Strengths

This study focused only on medical trainees who had a nursing background which provided a rich appreciation of the experiences of this group. Other similar studies did not focus solely on nurses and included fewer nurses.

A grounded theory approach allowed an open exploration of the experiences of this group, without preconceived notions about what medical training is like for them.

4.5.2 Limitations

All the participants were recruited from one medical school and some of the data may represent local cultural phenomena. For instance, our participants found that their medical school classmates generally held them in high esteem, whereas McLean (2017) found that the former nurses in her study felt they were treated as having lower status among their classmates. There may be cultural or social differences between schools during the preclinical years in particular, as students are sheltered somewhat from the broader culture of clinical settings. During clerkship and residency, the learners are immersed in a healthcare culture that seems to have some universal norms across many countries.

By happenstance, this study had only one male participant. Given the historical gender roles in healthcare, the predominantly female perspectives in our study might put greater emphasis on themes of oppression and dominance.

The inclusion of participants who had completed nurses' training but had not practiced as nurses did not seem to contribute as much to the data as those who had work experience.

Beyond age and gender, no other demographic data was gathered. In light of the relevance of ethnicity or minority status in oppressive systems, this would be an important factor to consider in any future studies.

The interviewer was known to some of the participants as a faculty member at the school. That familiarity may have aided or inhibited open storytelling.

4.5.3 Implications

4.5.3.1 Implications for medical educators

1. Nurses who enter medical school may benefit from some form of competency-based education that will allow them to focus on areas of knowledge deficit and avoid spending time on skills they have already mastered.
2. Educators should avoid assumptions about what prior knowledge any medical student may have, especially former nurses.
3. Specific or unique strategies may be needed to create psychologically safe learning environments for former nurses.
4. If former nurses are to be utilized as peer-tutors, it may be advantageous to do so in a formalized manner to avoid the mixed message whereby their advanced knowledge is not acknowledged but it is still utilized.
5. Nurses in medical school may benefit from specific mentors or support groups, particularly involving individuals who share the same experience.
6. Consideration should be given to possibly avoid placing nurse-medical students in clinical settings where they worked previously as nurses, or to openly discuss the potential role confusion or other conflicts that may arise.
7. Well-structured interprofessional education may help to improve the working relationships between nurses and physicians.
8. Medical students and residents may benefit from more explicit training in professionalism as it pertains to interprofessional communication skills.

4.5.3.2 Implications for healthcare institutions or healthcare management

1. There may be merit in seeking out individuals with this special nurse-doctor hybrid identity to help lead interprofessional collaboration and education.
2. There persists a deleterious hierarchy in healthcare that undermines interprofessional collaboration and puts patients at risk. More work is required to create psychologically safe workplaces, especially in hospital settings.
3. Creating opportunities for stability in team membership and promoting familiarity among team members may help to foster healthy working relationships.
4. Nurses should have an active voice in patient-care teams.
5. Professional development and educational opportunities for nurses should be diverse, with options for further education in pathophysiology or other medical sciences for those who desire it.
6. The administrative workload for nurses may be undermining their ability to provide patient care. It seems that the nursing profession is under significant strain and requires rehabilitation.

4.6 Future research

Given the historical role of gender in the professions of medicine and nursing, whereby nurses were predominantly female, and doctors were predominantly male, there are likely still some gender-related phenomena occurring for those individuals who move from nursing to medicine. However, our study had an insufficient sample of males to provide adequate data in this regard. Future studies could consider examining gender-related issues specifically as the experience of medical training may be different for former nurses who identify as male.

Also, there were some nuances in the transcripts of the former nurse practitioners that suggest this subgroup may have some unique stressors or challenges. Primary care nurse practitioners function essentially as family doctors, and there is some tension around this. The insights of nurse practitioners who retrain as physicians might be valuable to understand how these two professions relate.

Due to the limited number of studies regarding health professionals who enter medical school, there is likely still more to learn about how nurses differ from other health professionals in their experiences of medical training.

Although it is assumed that physicians who were nurses first will have good interprofessional skills and create collaborative working relationships with allied health professionals, this is still an area for exploration. Overall, how former nurses function as physicians and whether they differ from their physician peers is not known.

4.7 Conclusion

There exists a toxic hierarchy in medicine and the participants of this study experienced the effects of it as they transitioned from nursing to medicine. There was evidence of oppressed group behaviours in their experiences as nurses and during their medical training. There was a reluctance to leave a nursing career that they loved, but the system within which they worked did not allow adequate knowledge acquisition and clinical autonomy to provide optimal patient care or personal job satisfaction. As physicians, they felt they would be better positioned to direct patient care and improve the healthcare environment.

The stories from these 13 individuals demonstrate the persistence of a dysfunctional hierarchy in healthcare, and in particular an ongoing tension between nursing and medicine. Their narratives describe the social, cognitive, and emotional dissonance they experienced as they moved from an oppressed group (nurses) to a dominant group (physicians). These challenges seem to be unique to this population and have not been reported by other health professionals who transition to medicine.

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Appendices

Appendix A UME letter of approval

Research Project
Transformation: Experiences of nurses retraining as physicians
Dr. Anne Robinson Principal Investigator

Letter of Approval

I have reviewed the research proposal for this project and I grant approval that the undergraduate medical students at NOSM may be invited to participate, if the project has received approval from the Research Ethics Board. Each student who volunteers to participate will do so of their own will and must not be influenced by any staff or faculty member in this decision. The identity of participants will never be known to any of the staff or faculty at NOSM, with the exception of Dr. Robinson. Participation in this study will have no effect on the participant's academic standing, neither positive nor negative.

[redacted]

_____ 21 December 2016
_____

signature *date*

Dr. David Musson
Associate Dean, Undergraduate Medical Education
Northern Ontario School of Medicine

Appendix B PGE letter of approval

Northern Ontario
School of Medicine
École de médecine
du Nord de l'Ontario

November 24, 2016

Research Project
Transformation: Experiences of nurses retraining as physicians
Dr. Anne Robinson Principal Investigator

Letter of Approval

I have reviewed the research proposal for this project and I grant approval that, once appropriate ethics approval has been obtained for this project, that the postgraduate medical residents at NOSM may be invited to participate. Each resident who volunteers to participate will do so of their own will and must not be influenced by any staff or faculty member in this decision.

The identity of participants will never be known to any of the staff or faculty at NOSM, with the exception of Dr. Robinson. Participation in this study will have no effect on the participant's academic standing, neither positive nor negative.

[redacted] 2016 Nov 24
signature _date_

Dr. Catherine Cervin
Associate Dean, Postgraduate Education
Northern Ontario School of Medicine

Yours truly,

Catherine Cervin MD, FCFP, MAEd
Associate Dean Postgraduate Education

West Campus
Lakehead University
955 Oliver Rd
Thunder Bay ON P7B 5E1
Tel: (807) 766-7300
Fax: (807) 766-7370

East Campus
Laurentian University
935 Ramsey Lake Rd
Sudbury ON P3E 2C6
Tel: (705) 675-4883
Fax: (705) 675-4858

Appendix C Study invitation email

Subject line: Seeking former nurses who are now in medical training

Dear Medical Student or Resident,

Did you train as a nurse prior to entering medical school? If so, we would like to hear about your experiences during your medical training. We believe that nurses may have a unique experience of medical education.

You are invited to participate in a qualitative research study conducted by Dr. Anne Robinson, Associate Professor, Clinical Sciences Division, NOSM. The principal research question is "In what ways does a preexisting professional identity as a nurse influence the experience of medical training?"

Your participation in this study is completely voluntary, and it will have no effect, positive or negative, on your standing as a learner at NOSM. If you volunteer, you will have an individual interview conducted by Dr. Robinson that will take about one hour.

Please see the attached Consent Form for more information. If interested, please contact Dr. Anne Robinson at xxxxxxxxxxxxxxxxxxx or Chislaine Pilot-Attema at xxxxxxxxxxxxxx.

Appendix D Recruitment poster

Department of Family Medicine
University of Western Ontario

Masters of Clinical Science Thesis

PARTICIPANTS NEEDED FOR RESEARCH REGARDING

NURSES WHO RETRAIN AS PHYSICIANS

We are looking for volunteers to take part in a study regarding the experience of medical school and residency for nurses who retrain as doctors.

As a participant in this study, you would be asked to participate in a one hour individual interview, conducted by Dr. Anne Robinson, Associate Professor, NOSM The interview will be audiorecorded and transcribed.

You are eligible to participate if you completed nurses' training prior to entering medical school.

For more information about this study, or to volunteer for this study, please contact:

Dr. Anne Robinson
at
XXX-XXX-XXXX
Email: xxxxxxxxxxxxxxx

or

Ghislaine Pilot-Attema
at
XXX-XXX-XXXX
Email: xxxxxxxxxxxxxxx

This study has been reviewed by and received ethics clearance through the Research Ethics Boards of Lakehead University and Laurentian University.

Appendix D Consent form

Northern Ontario School of Medicine
École de médecine du Nord de l'Ontario

Lakehead UNIVERSITY

CONSENT TO PARTICIPATE IN RESEARCH

Nurses Retraining as Physicians Study

You are invited to participate in a research study by Dr. Anne Robinson, a faculty member at NOSM. Dr. Robinson is a family physician who is conducting this study for her Masters of Clinical Science thesis. Her thesis supervisors are Drs. Judith Belle Brown and Chris Watling, both at the University of Western Ontario.

Your participation in this study is entirely voluntary. Please read the information below and ask questions about anything you do not understand, before deciding whether or not to participate. You are being asked to participate in this study because you completed nurses' training prior to entering medical school.

PURPOSE OF THE STUDY
The purpose of this study is to explore the experience of nurses who are retraining to be physicians. This is a topic that has not previously been explored in the medical education literature. Nurses may have a significantly different experience of medical training when compared to their non-nursing medical trainee peers.

FUNDING
Funding for this study is provided by the University of Western Ontario Family Medicine Department Trust Fund.

ELIGIBILITY CRITERIA
Any NOSM medical student or resident who completed nursing training prior to their entry to medical school.

EXCLUSIONS
Students or residents who had medical education outside of Canada prior to entering NOSM.
Students or residents who did not complete nurses training prior to medical school.

PROCEDURES

If you volunteer to participate in this study, these are the actions that will take place:

1. You are asked to contact Dr. Robinson at [redacted] arrange an appointment for an interview. If you wish to get more information before contacting Dr. Robinson, please email Ghislaine Pilot-Attema at [redacted] Ghislaine is a research assistant at NOSM and she will maintain confidentiality. If you decide not to enter the study after speaking with Ghislaine, Dr. Robinson will not be aware of your query.
2. You will meet with Dr. Anne Robinson in person or by phone for an interview that will take approximately one hour. Interviews conducted in person will take place on campus.
3. The interview will be audio recorded and then later transcribed and encrypted. Identifying information will be removed from the transcription.
4. The transcripts will be analyzed by Dr. Robinson and her thesis supervisors.
5. There is a possibility you may be contacted again with further questions after your initial interview. You are not obliged to answer further questions if you do not want to.
6. The study will be completed within one year, after which time audiofiles and transcripts will be securely stored for five years and destroyed thereafter.
7. A copy of the final report will be made available to you if you wish to receive it.

POTENTIAL RISKS

It is impossible to know what the experience of medical training has been like for any given individual, and some may have had emotionally traumatic experiences. There is a possibility that the interview may bring up issues that are uncomfortable for you to discuss. Participants will be provided with a list of agencies that are available to them for counselling and support.

There will be a total of 12 – 18 participants in this study, and they will all be medical students or residents at NOSM (both campuses). Due to the small sample size from within a small professional community, there is a risk that participants could be identified in the final publication due to possible recognition of stories or situations described or quoted. All names and identifying information will be changed, and stories will be grouped into themes and presented in generic ways, to protect privacy as much as possible. However, given the small community, there remains a risk that others within that community may be able to deduce the identity of a participant.

CONFLICT OF INTEREST

As a faculty member at NOSM, Dr. Robinson is involved with medical education at both the undergraduate and postgraduate levels.

At the undergraduate level, she is a facilitator for Structured Clinical Skills (SCS) sessions, Topic Oriented Sessions (TOS), and Case Based Learning (CBL) sessions on the Lakehead Campus, but also at times by Teleconference during Integrated Community Experience (ICE) modules which would involve students from both the Lakehead and Laurentian campuses. She also serves as an examiner for OSCE exams in Phases 1 and 2. On occasion, she is a clinical preceptor for medical students.

At the postgraduate level, she is an occasional preceptor for family medicine residents and she may present at Academic Half-Days on occasion. She has recently been accepted as a member of the newly established Education Advisory Board (EAB) for Postgraduate Education. The EAB will serve as a resource to assist Program Directors and faculty members in developing remediation plans for residents in difficulty.

As a participant in this study, if you feel uncomfortable having Dr. Robinson as a facilitator, examiner, or preceptor at any time in the future, you may indicate a conflict of interest to school officials and you will be placed with a different faculty member.

POTENTIAL BENEFITS TO SUBJECTS AND/OR SOCIETY

You may find it beneficial to discuss your experiences as a medical trainee, and this may provide you with an opportunity to reflect on these experiences. For those individuals who have been experiencing significant stress, this may provide an opportunity to access further support.

The findings from the study may benefit future medical learners with a nursing background in that unique needs for support may be discovered. The findings may influence future faculty development with regards to how best to support the maximal learning for former nurses in small groups and in clinical settings. Additionally, insights may be gained that will influence the functioning of interprofessional teams within the realms of interprofessional education and interprofessional healthcare.

COMPENSATION FOR PARTICIPATION

You will not receive any payment or other compensation for participation in this study. There is also no cost to you for participation.

CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Information that can identify you individually will not be released to anyone outside the study. Confidentiality will be maintained by means of a code number. When the study is finished, we will destroy the list that shows which code number goes with your name. Your name will never be used in any reports or publications, and your participation in the study will not be disclosed.

Dr. Robinson will use the information collected in her dissertation and other publications, but it will be anonymized. Any information we use for publication will not identify you individually.

With the exception of the transcriptionist, the audio files that we make will not be accessed by anyone outside the study unless we have you sign a separate permission form allowing us to use them. Transcription of the audio files will be done by a professional company based in southern Ontario, and they will sign a confidentiality agreement as

well. All data will be kept on an encrypted USB memory stick and kept in a locked file cabinet during the study. The audio files and transcripts will be destroyed five years after the completion of the study.

LIMITS OF CONFIDENTIALITY

If information about abuse or severe neglect of minors is disclosed, Dr. Robinson is obliged to make a report to Child Protective Services.

If you disclose serious intent to harm yourself or another individual, Dr. Robinson has a duty to
seek help for you and this may include an involuntary psychiatric assessment. If another person is at risk, Dr. Robinson has a duty to warn that person, and to possibly notify police.

Dr. Robinson is bound by the Mandatory & Permissive Reporting Policy of the College of Physicians and Surgeons of Ontario. Full details on the limits of confidentiality defined by this policy can be found at http://www.cpso.on.ca/policies-publications/policy/mandatory-and-permissive-reporting.

PARTICIPATION AND WITHDRAWAL

You can choose whether or not to be in this study. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer. There is no penalty if you withdraw from the study, and you can request that your interview not be used in the study if you change your mind after participating. Your choice to participate in and/or to withdraw from this study will have no effect on your current or future relationship with the Northern Ontario School of Medicine or on your standing as a learner. If you wish to withdraw from the study and you are uncomfortable notifying Dr. Robinson, you may notify Ghislaine Pilot-Attema ([redacted]

IDENTIFICATION OF INVESTIGATORS

M.Cl.Sc. Graduate Student Investigator:

Anne Robinson, MD, CCFP
Associate Professor, NOSM
[redacted]
Phone: [redacted]
Fax: [redacted]

Thesis Supervisors:

Judith Belle Brown, PhD
Professor, Department of Family Medicine
Graduate Studies Program Director
Schulich School of Medicine and Dentistry
University of Western Ontario
[redacted]

Christopher J. Watling, MD, FRCP(C), MMedEd

Associate Professor, Departments of Clinical Neurological Sciences and Oncology
Associate Dean, Postgraduate Medical Education
Schulich School of Medicine and Dentistry
University of Western Ontario
[redacted]

RIGHTS OF RESEARCH SUBJECTS

This research study has been reviewed and approved by the Lakehead University Research Ethics Board and the Laurentian University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team, please contact the Research Ethics Board associated with your university campus. Alternatively, you may contact the Research Ethics Board of Western University, where Dr. Robinson is enrolled as a graduate student.

Lakehead University
Sue Wright, Research Ethics & Administration Officer,
Research Services
[redacted]
email: [redacted]

Laurentian University
Stephanie Harris, Research Ethics Officer,
Office of Research Services
Telephone: [redacted]
Toll Free: [redacted]
email: [redacted]

CONSENT

I have read and understand the procedures described above. I understand the potential risks and benefits of my participation. I understand that my participation is voluntary and I may withdraw from the study at any time and I may choose not to answer any question. I am aware that my status as a student or resident at NOSM will be completely unaffected by my participation in or my withdrawal from this study. I acknowledge that the data will be kept securely stored for five years and then destroyed, and that if I wish to receive a copy of the final report it will be made available to me. I will remain anonymous in all written reports and publications, unless I explicitly request to have my identity revealed.

My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____

Printed Name of Subject

_____ _____

Signature of Subject Date

_____ _____

Signature of Witness Date

Appendix E Interview guide

Interview Guide

Research Question

In what ways does a preexisting professional identity as a nurse influence the experience of medical training?

Ask if they have any questions about the consent form or the study before starting. Remind them that they can decline to answer a question and that they can stop the interview or withdraw from the study at any time (even after interview done).

Demographic Information:

Age:
Current year of training (if in residency, which specialty):
All Post-Secondary education:
Year of graduation from nursing:
Year of enrollment in medical school:
Work history:

a) as a nurse
b) other work history

Any paid employment while in medical training (what kind):

Pre-existing Nursing Identity

How did you choose to become a nurse?

- Was your decision to apply to nursing influenced by others?

What was the training like?

- Did you experience or witness bullying?
- Have you heard the phrase “nurses eat their young”? What does that mean?

What was it like to be a nurse?

- What were some of the things you liked/did not like about being a nurse?
- What is the culture of nursing?

How do you feel nurses are viewed by physicians?

- Tell me about some of your interactions with physicians when you were a nurse.

As a nurse, how did you view physicians?

Decision-Making Process to Enter Medicine

How did you choose to become a doctor?

- When did you realize you wanted to be a doctor?
- Was your decision to apply to medicine influenced by others?

What kinds of responses did you get from people when they heard that you were applying to medicine?

- What were your feelings when you were telling people?

Were there any barriers for you in applying to medicine?

Experience as a Medical Trainee

What did you expect medical training to be like?

How did you feel about telling your classmates and teachers about your nursing identity?

How do you feel your classmates perceive your nursing background? How about your teachers/preceptors?

- Did you feel expectations to be the 'expert'? Or, alternatively, did you feel your pre-existing knowledge was not respected?
- Do your classmates seek personal medical advice from you? If so, how do you feel about that?

What are the advantages/disadvantages to having a nursing background prior to medical training?

What has been most surprising to you about your experiences in medical school (and residency)?

- Did you experience/witness any bullying?
- Do "doctors eat their young?"

Identity Transition

How would you describe your professional identity at this time?

- Do you feel more like a nurse, or like a physician, a blend, or alternating?
- Can you describe situations where you felt more like a nurse, or more like a doctor?

Now, as a medical student/resident, how do you perceive physicians? How do you perceive nurses?

Do you feel there are things you have lost (or will be losing) in the transition from nurse to doctor?

- How do you feel about this?

How do you feel you relate to nurses now? How do they relate to you?

- Have you been on placement where you have had to work with former nursing colleagues? What was that like?

Closing:
What questions were you hoping I would ask you but didn't?

Appendix F Laurentian University REB approval

APPROVAL FOR CONDUCTING RESEARCH INVOLVING HUMAN SUBJECTS

Research Ethics Board – Laurentian University

This letter confirms that the research project identified below has successfully passed the ethics review by the Laurentian University Research Ethics Board (REB). Your ethics approval date, other milestone dates, and any special conditions for your project are indicated below.

TYPE OF APPROVAL ☐ New ☒ ☐ Modifications to project ☐ ☐ Time extension

Name of Principal Investigator and school/department	Anne Robinson, NOSM Supervisors, Christopher Watling, Judith Brown, Western
Title of Project	Transformation: Experiences of nurses retraining as physicians
REB file number	6009714
Date of original approval of project	January 16, 2017
Date of approval of project modifications or extension *(if applicable)*	
Final/Interim report due on: *(You may request an extension)*	January, 2018
Conditions placed on project	

During the course of your research, no deviations from, or changes to, the protocol, recruitment or consent forms may be initiated without prior written approval from the REB. If you wish to modify your research project, please refer to the Research Ethics website to complete the appropriate REB form.

All projects must submit a report to REB at least once per year. If involvement with human participants continues for longer than one year (e.g. you have not completed the objectives of the study and have not yet terminated contact with the participants, except for feedback of final results to participants), you must request an extension using the appropriate LU REB form. In all cases, please ensure that your research complies with Tri-Council Policy Statement (TCPS). Also please quote your REB file number on all future correspondence with the REB office.

Congratulations and best wishes in conducting your research.

[redacted]

Rosanna Langer, PHD, Chair, *Laurentian University Research Ethics Board*

Appendix G Lakehead University REB approval

Lakehead UNIVERSITY

Research Ethics Board
t: (807) 343-8283
research@lakeheadu.ca

February 9, 2017

Principal Investigator: Dr. Anne Robinson
Co-Investigator: Judith Belle Brown, Christopher Watling, Ghislaine Pilot-Attema
Faculty of Medicine West Campus
Lakehead University
955 Oliver Road
Thunder Bay, ON P7B 5E1

Dear Dr. Robinson and Research Team members:

Re: REB Project #: 116 16-17 / Romeo File No: 1465513
Granting Agency: University of Western Ontario Family Medicine Department Trust Fund (not administered through Lakehead University)
Agency Reference #: N/A

On behalf of the Research Ethics Board, I am pleased to grant ethical approval to your research project titled, "Transformation: Experiences of nurses retraining as physicians".

Ethics approval is valid until February 9, 2018. Please submit a Request for Renewal to the Office of Research Services via the Romeo Research Portal by January 9, 2018 if your research involving human participants will continue for longer than one year. A Final Report must be submitted promptly upon completion of the project. Access the Romeo Research Portal by logging into myInfo at:

https://erpwp2.lakeheadu.ca/

During the course of the study, any modifications to the protocol or forms must not be initiated without prior written approval from the REB. You must promptly notify the REB of any adverse events that may occur.

Best wishes for a successful research project.

Sincerely,

[redacted]

Dr. Lori Chambers
Chair, Research Ethics Board

/scw

5 Curriculum Vitae of Anne Robinson

EDUCATION

Master of Clinical Science	Dept. of Family Medicine, Western University	In Progress
Family Medicine North	McMaster University, Thunder Bay, ON	2002
Doctor of Medicine	University of Western Ontario, London, ON	2000
Bachelor of Science (Hon.)	University of Guelph, Guelph, ON	1996

ACADEMIC APPOINTMENTS

Northern Ontario School of Medicine University, Associate Professor, Division of Clinical Sciences	Promoted in 2016
Northern Ontario School of Medicine, Assistant Professor, Division of Clinical Sciences	2005 - 2016
McMaster University, Clinical Lecturer, Health Sciences Division	2005 – 2007

EXPERIENCE as an EDUCATOR

Clinical Preceptor (all levels of medical learners)	2002 - present
Remediation Tutor, occasional (assisting students in remediation)	2007 - present
UME Phase 1 Structured Clinical Skills (SCS) Tutor, Clinical Laboratory Tutor, Case-Based Learning (CBL) Facilitator, and Topic Oriented Session (TOS) Facilitator	2007 – present
UME Phase 2 Distributed Tutorial Sessions (DTS)	2009 - 2012
UME OSCE Examiner	2008 – present
PGE Family Medicine Practice SOOs	2007, 2008
PGE Family Medicine Residents, Academic Half-Day "Patient Centered Medicine" (2008, 2009) & "The Difficult Patient" (2016, 2017, 2019, 2021)	ongoing
Family Medicine Resident Supervisor, McMaster Family Practice	2005 - 2006
Clinical Preceptor for McMaster University medical students	2005 – 2006
Clinical Preceptor for Nurse Practitioner student, Sioux Lookout	2003/2004

NOSM UNIVERSITY ROLES

- UME Introduction to Clinical Medicine (Theme 5) Curriculum Committee Co-Chair 2020 - present
- UME Theme 5 Remediation Lead 2019 - 2021
- PGE Education Advisory Board Member (Chair from 2018 – 2020) 2017 - 2021
- Theme 5 Module Content Coordinator for Module 106 2021 - present
- Medical Student Faculty Advisor, Academic Coach, Remediation Tutor 2010 - present
- UME Objective Structured Clinical Examination (OSCE) Committee 2008 - present
- Phase 1 Medical Microbiology & Therapeutics Curriculum Development Group 2021- present
- Integrated Academic Support Program Project Lead 2019 – 2021
- Accessibility Advisor for medical student with disability 2017 - 2019
- Faculty Advisor, UME Family Medicine Interest Group 2014 - 2020
- Faculty Advisor, Compass North Clinic (Student-Led Clinic Initiative) 2014 - 2015
- Medical Director, Continuing Education & Professional Development (CEPD) 2009 - 2010
- Curriculum Development Committee for Physician Assistant Program 2009 - 2010
- UME Written Exam Committee 2008 - 2010
- UME Phase 2 Coordinator (Year 3, Comprehensive Clerkship) 2008 - 2009
- UME Theme 1 Curriculum Committee (Northern & Rural Health) 2005 - 2009

OTHER ADMINISTRATIVE ROLES

Reviewer for the Canadian Journal of Rural Medicine 2020

Project ECHO Chronic Pain & Opioid Stewardship Panel Member 2019

2019

Reviewer for the "PEER Simplified Guideline: Opioid Use Disorder in Primary Care" authored by PEER Team, Department of Family Medicine at the University of Alberta 2017

Reviewer for the "PEER Simplified Guideline: Prescribing Medical Cannabinoids in Primary Care" authored by PEER Team, Department of Family Medicine at the University of Alberta 2017 - present

2013 - 2017

PBSG Facilitator, Foundation for Medical Practice Education

Sioux Lookout Northern Practice Working Group

Sioux Lookout Local Education Group, Executive Member 2013 - 2019

Lead Organizer for Sioux Lookout Academic Days Annual CME Conference 2013 - 2018

Thunder Bay Medical Society, Continuing Education Committee 2008 - 2011

Simulated Office Orals (SOOs) Examiner, CFPC Exam	2003, 2004
Examiner for International Medical Graduates Qualifying Exam	2006
Keewaytinook Okimakanak Telehealth, Medical Co-Director	2003 – 2004

CLINICAL EXPERIENCE

Presently	Locum hospitalist for Meno Ya Win Health Centre, Sioux Lookout, ON
2021-2023	Family Physician at Superior Family Health Organization, Thunder Bay, ON *and* Hospitalist for Academic Family Medicine Inpatient Service at TBRHSC
2019-2021	Community Physician for Muskrat Dam First Nation, AMDocs
2014 - 2021	Addictions Medicine Physician for Sioux Lookout Regional Physician Services Inc (SLRPSI)
2018-2019	Community Physician for Deer Lake First Nation, SLRPSI
2015 - 2017	Community Physician for Cat Lake First Nation, SLRPSI
2010 – 2014	Community Physician for Nibinamik First Nation, SLRPSI
2007 – 2009	Lakehead University Student Health Centre
2005- 2006	Brantford General Hospital Emergency Department
2005 – 2006	Hamilton Urban Core Community Health Centre
2005	Physicians Replacement Group Walk-In Clinic, Hamilton, ON

2002 – 2004 Locums

Sioux Lookout General Hospital (Hugh Allen Clinic)	Sioux Lookout, ON
Sioux Lookout Zone Hospital (Northern Practice Group)	Sioux Lookout, ON
Red Lake Margaret Cochenour Memorial Hospital	Red Lake, ON
Geraldton District Hospital	Geraldton, ON
Weeneebayko General Hospital	Moose Factory, ON
Qikiqtani General Hospital	Iqaluit, NU
Fort William Clinic	Thunder Bay, ON

1996 – 2002 Rural & Remote Placements during Training

Sioux Lookout, ON, Geraldton, ON, St. Anthony, NL, La Ronge, SK, Uranium City, SK

1997 (Summer) International Experience as Medical Student

MedOutreach Team, Tanzania

AWARDS

Dr. Wm. Victor Johnston Award (MClSc) 2022 –- awarded annually to graduate students at the Masters or Doctoral level in Family Medicine, based on academic achievement and research merit.

Dr. John F. Sangster Graduate Studies Family Medicine Award (MClSc) 2018– awarded to a MClSc student who practices comprehensive Family Medicine incorporating the nine principles of Family Medicine as defined by Dr. Ian McWhinney

The Class of 1951 Frank R. Clegg Memorial Award (MD) 1999 This award is given to year 3 clerk achieving the best balance of high academic standing and those qualities of compassion and personal commitment generally regarded as essential to fulfillment of a role as a good physician,

PROFESSIONAL DEVELOPMENT & CME HIGHLIGHTS

- Project ECHO, Ontario Bariatric Network, Obesity Medicine (12 weeks, in progress)
- Project ECHO, Trans and Gender Diverse Healthcare Program CME (16 weeks, in progress)
- National Board of Medical Examiners (NBME) Item-Writing Workshop (Nov 2022)
- Team-Based Learning Collaborative Fundamentals Program (Oct 2022)
- San'yas: Indigenous Cultural Safety Training (2021)
- Learning How to Learn, online course (McMaster University & UC San Diego, Jan 2021)
- Trauma-Informed Care (Teresa Marsh, Sept 2020)
- College of Family Physicians of Canada Fellowship Designation, FCFP (2019)
- Certificate of Added Competence in Addiction Medicine, CCFP (2019)
- Ongoing maintenance of certification in ACLS, ATLS, and NRP (2000 – present)
- Practice Based Small Group (PBSG) Facilitator Training (2017), Foundation for Medical Practice Education, McMaster University
- Opioid Dependence Treatment Certificate (2017), Centre for Addiction and Mental Health
- Self-Awareness and Effective Leadership (2011), Physician Management Institute
- Transformative Mediation Training (2009), Conflict Resolution Centre, University of North Dakota
- Palliative Care: Medical Intensive Course (2007), Victoria Hospice, BC
- Lactation Consultant Course (2005), Hamilton, ON

PROFESSIONAL ASSOCIATIONS

College of Family Physicians of Canada (Certificant)

College of Physicians and Surgeons of Ontario (Independent Practice Certificate)

Ontario College of Family Physicians

Canadian Medical Association

Ontario Medical Association

Licentiate of the Medical Council of Canada

NOSM Local Education Groups – Sioux Lookout & Thunder Bay

PUBLICATIONS

Anne Robinson, Fred Carlson, Len Kelly. The occasional treatment of opioid use disorder. Can J Rural Med 2017;22(2):69-75.

SLFNHA Buprenorphine/Naloxone (Suboxone®) Physicians' Guidelines for Maintenance Therapy in the Treatment of Opioid Use Disorder. Commissioned by Sioux Lookout First Nations Health Authority. December 2015.

Jazmyn Balfour-Boehm, Sara Rea, Janet Gordon, Joe Dooley, Len Kelly, Anne Robinson. The evolving nature of narcotic use in northwestern Ontario. Can J Rural Med 2014;19(4):158-60

Michelle Addison, Anne Robinson, Chris Winn. "Steps of Sam" (a man learns to walk again) Learning Module. Pathways for Interactive Narrative Education.

Anne Robinson. Family Medicine North: This is the life! Canadian Family Physician 2001;47:1817.

Anne Robinson and Gard Otis. Bee Venom: Concerns about Variability. American Bee Journal 1996;136 (8).

RESEARCH

MClSc Thesis (in progress): "Jumping ship and going to the other side: Experiences of Nurses who retrain as Doctors"

Family Medicine Resident Research Project: "Lemierre's Syndrome: Case Report and Review of the Literature"

PRESENTATIONS

Faculty Development

2019 Sioux Lookout Academic Days, Sioux Lookout, ON
"Failing to Fail Medical Learners" and "Layered Learning in Clinical Teaching"

2016 NOSM Northern Constellations, Thunder Bay, ON
"The Problem Learner"

2016 NOSM Northern Constellations, Thunder Bay, ON
"Facilitating Small Groups: Key concepts and practical strategies"
Co-presenters: Nicole Cardinal & John Dabous

2015 Sioux Lookout Academic Days, Sioux Lookout, ON
"Faculty Development: Avoiding Preceptor Burnout"
Co-presenter: Dr. Barbara Russell-Mahoney

2015 Thunder Bay Faculty Development Symposium, Thunder Bay, ON
"Small Group Learning: Fundamentals & Principles"

2015 NOSM Northern Constellations, Sudbury, ON
"Small Group Learning: Fundamentals & Principles"
Co-presenters: Jeff Bachiu, Tim Dube

2013 NOSM Northern Constellations, Sudbury, ON
"Orienteering the NOSM landscape: A field guide for faculty"
Co-presenter: Dr. Tara Baldisera

2009 NOSM Faculty Affairs Retreat, Thunder Bay, ON
"How to Facilitate Small Group Learning"
Co-presenter: Dr. Bob Chaudhuri

2008 NOSM CEPD Webcast
"Constructing Appropriate Multiple Choice Exam Questions"
Co-presenters: Dr. Jacques Abourbih, Dr. Bob Chaudhuri

Substance Use Disorders

2022 & 2019 Society of Rural Physicians of Canada, Rural & Remote Medicine Course
"Introduction to the Management of Opioid Use Disorder" and "Case Discussions in the Management of Opioid Use Disorder" – workshops

2019 (June) Chronic Pain & Opioid Stewardship ECHO, Thunder Bay, ON
"Low & slow: Micro-dosing Induction and other Buprenorphine/naloxone clinical pearls"

2019 (March) Sioux Lookout Meno Ya Win Health Center Grand Rounds, "Updates & Reviews in the Treatment of Opioid Use Disorder"
2018 Society of Rural Physicians of Canada, Rural & Remote Medicine Course
"Rural Treatment of Opioid Use Disorder" - workshop

2018 Dryden Regional Health Centre Northwest Survival Skills
"Buprenorphine/Naloxone Prescribing in the North" - Presentation
"Buprenorphine/Naloxone Workshop" - Small Group Interactive Session

2016 Manitoba College of Family Physicians Annual Scientific Assembly, Winnipeg, MB
"The Development of a Community-Based Suboxone Maintenance Program for Narcotics Dependence in First Nations"

2015 Sioux Lookout Academic Days, Sioux Lookout, ON
"Peer-to-Peer Session: Suboxone in the ER"
Role: Facilitator and scribe for group discussion

General Clinical Practice

2018 (April) First Nations and Inuit Health Branch Northern Nurses Educational Rounds
"When is High BP an Emergency?" – teleconference presentation

2017 Sioux Lookout Academic Days, Sioux Lookout, ON
"Tylenol is Safe in Liver Disease"
2014 Sioux Lookout Academic Days, Sioux Lookout, ON
"Developing an Approach to Hyperglycemic Emergencies in our Region, A Collaborative Workshop"
Role: Facilitator and scribe for group discussion

2011 Thunder Bay Medical Society Summer School, Thunder Bay, ON
"Breastfeeding 101"

2009 Thunder Bay Medical Society Summer School, Thunder Bay, ON
"Interprofessional Collaboration: More than just the latest "catch phrase"
Co-presenter: Sue Berry

2008 NOSM CEPD Webcast
"Using an Interpreter."

2005 & 2006 McMaster Family Medicine Interest Group Open House
"A Day in the Life of a Family Physician: Panel Presentation"
Role: panel member (brief presentation on rural & remote practice